

Cascade Water Alliance Conservation Potential Assessment



December 7, 2005
FINAL DRAFT



HDR

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1.0 Introduction

This Conservation Potential Assessment (CPA) was undertaken by Cascade Water Alliance (Cascade) to analyze conservation opportunities as a precursor to developing its long range conservation plan. The CPA estimates water savings and costs associated with various conservation measures. In addition, it provides screening information to help Cascade select which measures are most appropriate to include in its conservation program.

The CPA is a powerful tool for conservation planning. However, it must be viewed in the context for which it is intended; that is, for allowing relative comparisons between measures and showing the technical potential for water savings. The CPA should be thought of as a toolbox of possible conservation tools that Cascade can draw upon as it develops its conservation plan. Additional decisions regarding Cascade's conservation goals and program funding levels will be combined with the technical results of the CPA to determine which measures are selected for implementation.

The actual savings and costs of Cascade's conservation program will depend on program design decisions. The actual savings will presumably be less than shown in the CPA since the CPA model front-loads savings as much as possible, whereas the eventual Cascade conservation plan will probably spread out implementation over a longer time period. The costs included in the analysis include only direct costs such as rebates, costs of hardware, and labor costs for audits. Indirect costs such as staff time, marketing, and distribution are not included in the spreadsheet analysis since they depend heavily on program design decisions. Cascade staff members estimate that indirect costs will be approximately 30 percent of total program costs.

This CPA report is comprised of the following:

- **Introduction:** Provides an overview of the project.
- **Key Findings:** Summarizes the key findings.
- **Measure Definitions:** Defines each measure, including documenting the primary savings calculation.
- **Measure Analysis Methodology:** Explains how the spreadsheet model estimates savings and costs.
- **Measure Screening Criteria:** Describes each screening criterion and its best performing measures.
- **Conclusion:** Summarizes how the CPA will be used to create a conservation plan.
- **Appendix A Market Research Survey:** Documents a market research survey performed for the CPA.
- **Appendix B Literature Review Summary:** Summarizes the findings of a literature review performed for the CPA.
- **Appendix C Analysis of Savings and Costs:** Provides individual spreadsheets for each of the eight Cascade members analyzing savings and costs.

The CPA analyzes 22 conservation measures and includes the single family; multifamily; and/or industrial, commercial, and institutional (ICI) sectors, as shown in Table 1. When the measures

and sectors are combined, there are 49 unique combinations. For the residential sector, there is a fairly limited number of end uses and associated measures. For the ICI sector, the numbers of end uses and associated measures is much broader, including customized industrial end uses. The ICI measures analyzed by the CPA focus on the more standard end uses in order to provide broader applicability across the members' service areas and to streamline the analysis.

| Table 1 - Conservation Measures Analyzed | | | | |
|---|---------------------------------------|---------------|-------------|---------------------------------------|
| # | Measure | Sector | | |
| | | Single Family | Multifamily | Industrial, Commercial, Institutional |
| 1 | 1.6 gpf toilets | X | X | X |
| 2 | Dual flush toilets | X | X | X |
| 3 | Toilet leak detection and repair | X | X | X |
| 4 | Decrease toilet flushes | X | X | |
| 5 | 1.0 gpf urinals | | | X |
| 6 | Waterless urinals | | | X |
| 7 | 2.5 gpm showerheads | X | X | |
| 8 | 2.0 gpm showerheads | X | X | |
| 9 | Decrease shower use | X | X | |
| 10 | 1.0 gpm faucet aerators - bathroom | X | X | |
| 11 | 0.5 gpm faucet aerators - bathroom | | | X |
| 12 | 2.5 gpm faucet aerators - kitchen | X | X | |
| 13 | Decrease faucet use | X | X | |
| 14 | Efficient clotheswashers | X | X | X |
| 15 | Eliminate partial clotheswasher loads | X | X | |
| 16 | Pre-rinse sprayheads | | | X |
| 17 | Air cooled ice machines | | | X |
| 18 | Audits for automatic irrigation | X | X | X |
| 19 | Audits for manual irrigation | X | X | X |
| 20 | ET controllers | X | X | X |
| 21 | Limited lawn/low water use plants | X | X | X |
| 22 | Allow lawn to go dormant | X | X | X |

The analysis was primarily performed using a spreadsheet model developed by HDR. The methodology for determining water savings and costs was to compile community demographic and fixture information; estimate the participation rate based on those demographics and assumptions; calculate the savings achieved by shifting to more efficient hardware or behavior; and calculate the costs for those shifts.

The initial results of savings and costs from the spreadsheet analysis were further analyzed relative to a set of screening criteria established in conjunction with Cascade's Conservation Work Group.

The analysis was done for two different planning periods, which match the 6-year and 20-year time periods for Cascade's 2005 *Transmission and Supply Plan*. The first planning period is from 2004 to 2009 (6 years) and the second planning period is from 2004 to 2023 (20 years).

There are five main sources for the information provided in this report:

1. Demographic and sales data provided by Cascade members.

2. Demographic data obtained from the Puget Sound Regional Council (PSRC).
3. Market research survey by Dethman & Associates, performed as part of this project.
4. Literature review of local research, performed as part of this project.
5. Estimates based on professional knowledge of national and regional conservation information.

As mentioned above, the market research survey was performed by Dethman & Associates. The purpose of the survey was to provide Cascade with reliable information about residential customer knowledge, attitudes, equipment, and behaviors related to water conservation. Much of the information gathered from the survey was used directly in the spreadsheet analysis. Additionally, the survey serves as a baseline against which conservation progress can be tracked (e.g., equipment and behavioral changes) and can help in planning viable water conservation programs. Approximately 600 single family and multifamily customers throughout Cascade's service area were surveyed by telephone during May and June 2005. The phone calls were conducted by Gilmore Research Group, under subcontract to Dethman & Associates. The complete market research survey report is provided in Appendix A. Appendix A-1 is the report from Dethman & Associates. Appendix A-2 contains the data tables produced by Gilmore Research Group.

Key research questions from the market research survey included:

- How many and what type of indoor and outdoor water-consuming devices do customers currently have?
- What steps have customers already taken to reduce water use, both indoors and outdoors?
- What level of interest and willingness do customers have in changing their water using behaviors and/or equipment to conserve water?
- What are motivations and barriers to taking conservation actions?

The literature review performed as part of this project entailed reviewing 11 local studies in order to draw on local research and knowledge regarding conservation measures. Results of the literature review were incorporated into the spreadsheet analysis where appropriate. Where the literature review and the market research survey covered the same topic, the survey results were used because they were specific to Cascade's service area. Appendix B contains a summary of the literature review.

Acronyms used in this report include the following:

- | | |
|-----------|-----------------------------------|
| • Cascade | Cascade Water Alliance |
| • ccf | hundred cubic feet |
| • CPA | Conservation Potential Assessment |
| • EPA | Environmental Protection Agency |
| • ET | evapotranspiration |
| • gpd | gallons per day |
| • gpf | gallons per flush |
| • gpl | gallons per load |
| • gpm | gallons per minute |

- HH households
- ICI industrial, commercial, and institutional
- MF multifamily
- PSIU peak season increased use (peak season use above base use)
- PSRC Puget Sound Regional Council
- SF single family
- WD Water District
- WSD Water and Sewer District

2.0 Key Findings

The results for each screening criterion, for each measure, are shown in Tables 2 and 3. Table 2 presents the information for the 6-year planning period and Table 3 is for the 20-year planning period. These results are for the collective Cascade service area. The tables are sorted by Column 12, which is the cost per hundred cubic feet (ccf) of water saved over the planning period (without free-riders). Therefore, the tables provide a ranking of measures by cost effectiveness.

The total annual savings potential at full implementation (based on column 4 in Tables 2 and 3) is 3,298,433 gpd for the 6-year planning period and 4,039,529 gpd for the 20-year planning period. The total peak season savings potential at full implementation (column 6 in Tables 2 and 3) is 5,281,020 gpd for the 6-year planning period and 6,561,622 gpd for the 20-year planning period. These numbers are slightly less than the sum of the respective columns, since some of the measures are mutually exclusive. For each mutually exclusive grouping, the most cost-effective measure was included in this savings total and the others were omitted from the total.

The following are mutually exclusive measure groupings: 1.6 gpf toilets and dual flush toilets; 2.5 gpm showerheads and 2.0 gpm showerheads; 1.0 gpf urinals and waterless urinals; allow lawn to go dormant and all other outdoor measures; audits for automatic irrigation and ET controllers; and limited lawn/low water use plants and portions of all other outdoor measures.

The savings totals should be viewed as the technical potential for water savings. They do not necessarily reflect what Cascade would design a conservation program to achieve. This is because: (1) The model assumes participants that are existing customers in the first year all participate in the first year of the planning period. While this methodology results in the highest potential for savings, Cascade may find it necessary to implement measures more slowly. (2) The cost effectiveness of some of the measures may not be favorable when compared to other supply options. (3) The total and/or annual average cost may be prohibitive.

Summary results for the top performing measures for each quantitative screening criterion are provided in Tables 4 and 5. All measures that ranked in the top ten for any of the quantitative criteria (e.g., magnitude of annual water savings) are included in these tables, along with their ranking. Information about their qualitative criteria (e.g., longevity of savings) is also provided. A check mark in the qualitative criterion column is shown if the measure met the most favorable qualitative category (e.g., is only implemented once). Tables 4 and 5 focus on the top performing measures for the quantitative screening criteria. The top performing measures for all screening criteria, both quantitative and qualitative, are provided in Section 5.

Table 2 - Detailed Screening Results - 6 Year (sorted by column 12)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
|-------------------------------------|--------|---------------------------------------|-------------------------------------|--------------------------------|--|--------------------------------|-----------------------------------|--------------------------------|---|----------------|------------------------------------|-------------------------|--------------------------------------|------------------------------|----------------------|---------------------------|--------------------|
| # | Sector | Conservation Measure | Savings Criteria | | | | | | Direct Cost Criteria (Only includes rebates, hardware, audits) | | | | Other Criteria | | | | |
| | | | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Total Planning Period ccf | | Total Planning Period | Average Annual | Per ccf Saved Over Planning Period | | Times Implemented in Planning Period | Hardware (H) or Behavior (B) | Certainty of Savings | Administrative Complexity | Participation Rate |
| | | | w/ free riders (inflated savings) | w/o free riders (true savings) | w/ free riders (inflated savings) | w/o free riders (true savings) | w/ free riders (inflated savings) | w/o free riders (true savings) | | | w/ savings free riders | w/o savings free riders | | | | | |
| 1 | SF | Decrease toilet flushes | 95,186 | 95,186 | 95,186 | 95,186 | 265,199 | 265,199 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 2 | SF | Decreased shower use | 81,251 | 81,251 | 81,251 | 81,251 | 226,991 | 226,991 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 3 | SF | Decrease faucet use | 98,978 | 98,978 | 98,978 | 98,978 | 280,810 | 276,517 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 4 | SF | Eliminate partial clotheswasher loads | 45,807 | 45,807 | 45,807 | 45,807 | 127,981 | 127,981 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 5 | SF | Allow lawn to go dormant | 687,676 | 687,676 | 2,057,392 | 2,057,392 | 1,929,904 | 1,929,904 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 6 | MF | Decrease toilet flushes | 53,702 | 53,702 | 53,702 | 53,702 | 150,440 | 150,440 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 7 | MF | Decreased shower use | 29,982 | 29,982 | 29,982 | 29,982 | 83,982 | 83,982 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 8 | MF | Decrease faucet use | 36,523 | 36,523 | 36,523 | 36,523 | 102,305 | 102,305 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 9 | MF | Eliminate partial clotheswasher loads | 6,313 | 6,313 | 6,313 | 6,313 | 17,681 | 17,681 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 25% |
| 10 | MF | Allow lawn to go dormant | 96,846 | 96,846 | 289,744 | 289,744 | 271,471 | 271,471 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 10% |
| 11 | ICI | Allow lawn to go dormant | 210,850 | 210,850 | 630,823 | 630,823 | 589,647 | 589,647 | \$0 | \$0 | \$0.00 | \$0.00 | 6 | B | Lower | Low | 10% |
| 12 | ICI | Toilet leak detection and repair | 38,455 | 38,455 | 38,455 | 38,455 | 108,746 | 108,746 | \$97 | \$16 | \$0.001 | \$0.001 | 1 | Both | Lower | Moderate | 25% |
| 13 | SF | Toilet leak detection and repair | 204,156 | 204,156 | 204,156 | 204,156 | 570,327 | 570,327 | \$5,330 | \$888 | \$0.01 | \$0.01 | 1 | Both | Lower | Moderate | 25% |
| 14 | MF | Toilet leak detection and repair | 69,911 | 69,911 | 69,911 | 69,911 | 195,830 | 195,830 | \$1,830 | \$305 | \$0.01 | \$0.01 | 1 | Both | Lower | Moderate | 25% |
| 15 | MF | 1.0 gpm faucet aerators - bathroo | 143,042 | 128,738 | 143,042 | 128,738 | 400,618 | 360,556 | \$58,224 | \$9,704 | \$0.15 | \$0.16 | 1 | H | Higher | Moderate | 50% |
| 16 | SF | 1.0 gpm faucet aerators - bathroo | 388,282 | 349,454 | 388,282 | 349,454 | 1,083,729 | 975,356 | \$158,546 | \$26,424 | \$0.15 | \$0.16 | 1 | H | Higher | Moderate | 50% |
| 17 | SF | 2.0 gpm showerheads | 201,620 | 201,620 | 201,620 | 201,620 | 564,254 | 564,254 | \$100,012 | \$16,669 | \$0.18 | \$0.18 | 1 | H | Higher | Moderate | 50% |
| 18 | MF | 2.0 gpm showerheads | 102,646 | 102,646 | 102,646 | 102,646 | 288,395 | 288,395 | \$54,679 | \$9,113 | \$0.19 | \$0.19 | 1 | H | Higher | Moderate | 50% |
| 19 | ICI | Pre-rinse sprayheads | 6,984 | 6,286 | 6,984 | 6,286 | 20,445 | 18,401 | \$7,953 | \$1,325 | \$0.39 | \$0.43 | 1 | H - Code | Higher | Moderate | 75% |
| 20 | ICI | Limited lawn/low water use plants | 8,892 | 8,003 | 26,604 | 23,944 | 24,547 | 22,092 | \$9,983 | \$1,664 | \$0.41 | \$0.45 | 1 | B | Lower | High | 10% |
| 21 | ICI | 1.0 gpf urinals | 105,960 | 79,470 | 105,960 | 79,470 | 310,188 | 232,641 | \$115,674 | \$19,279 | \$0.37 | \$0.50 | 1 | H - Code | Higher | Moderate | 50% |
| 22 | ICI | Waterless urinals | 50,374 | 50,374 | 50,374 | 50,374 | 142,451 | 142,451 | \$77,622 | \$12,937 | \$0.54 | \$0.54 | 1 | H | Higher | Moderate | 10% |
| 23 | ICI | Dual flush toilets | 76,850 | 76,850 | 76,850 | 76,850 | 217,472 | 217,472 | \$118,640 | \$19,773 | \$0.55 | \$0.55 | 1 | H | Higher | Moderate | 10% |
| 24 | MF | Limited lawn/low water use plants | 3,955 | 3,559 | 11,832 | 10,649 | 11,021 | 9,919 | \$5,711 | \$952 | \$0.52 | \$0.58 | 1 | B | Lower | High | 10% |
| 25 | MF | ET controllers | 37,382 | 33,644 | 111,841 | 100,657 | 105,070 | 94,563 | \$80,850 | \$13,475 | \$0.77 | \$0.85 | 1 | H | Higher | High | 25% |
| 26 | ICI | 1.6 gpf toilets | 292,029 | 219,022 | 292,029 | 219,022 | 854,892 | 641,169 | \$593,200 | \$98,867 | \$0.69 | \$0.93 | 1 | H - Code | Higher | Moderate | 50% |
| 27 | MF | Efficient clotheswashers | 57,071 | 42,803 | 57,071 | 42,803 | 159,849 | 119,887 | \$115,332 | \$19,222 | \$0.72 | \$0.96 | 1 | H | Higher | Moderate | 25% |
| 28 | ICI | ET controllers | 73,892 | 66,503 | 221,071 | 198,964 | 206,902 | 186,212 | \$207,957 | \$34,660 | \$1.01 | \$1.12 | 1 | H | Higher | High | 25% |
| 29 | ICI | Efficient clotheswashers | 32,601 | 24,451 | 32,601 | 24,451 | 91,479 | 68,610 | \$87,324 | \$14,554 | \$0.95 | \$1.27 | 1 | H | Higher | Moderate | 25% |
| 30 | MF | Audits for automatic irrigation | 37,382 | 37,382 | 111,841 | 111,841 | 105,070 | 105,070 | \$189,377 | \$31,563 | \$1.80 | \$1.80 | 2 | Both | Lower | High | 25% |
| 31 | ICI | Air cooled ice machines | 12,728 | 11,455 | 12,728 | 11,455 | 35,745 | 32,171 | \$63,940 | \$10,657 | \$1.79 | \$1.99 | 1 | H | Higher | Moderate | 25% |
| 32 | ICI | Audits for automatic irrigation | 73,892 | 73,892 | 221,071 | 221,071 | 206,902 | 206,902 | \$489,700 | \$81,617 | \$2.37 | \$2.37 | 2 | Both | Lower | High | 25% |
| 33 | MF | 2.5 gpm showerheads | 10,265 | 7,698 | 10,265 | 7,698 | 30,049 | 22,537 | \$54,679 | \$9,113 | \$1.82 | \$2.43 | 1 | H - Code | Higher | Moderate | 50% |
| 34 | SF | Dual flush toilets | 159,534 | 159,534 | 159,534 | 159,534 | 446,134 | 446,134 | \$1,116,165 | \$186,027 | \$2.50 | \$2.50 | 1 | H | Higher | Moderate | 10% |
| 35 | MF | Dual flush toilets | 64,775 | 64,775 | 64,775 | 64,775 | 181,533 | 181,533 | \$454,837 | \$75,806 | \$2.51 | \$2.51 | 1 | H | Higher | Moderate | 10% |
| 36 | SF | 1.6 gpf toilets | 594,527 | 297,263 | 594,527 | 297,263 | 1,740,428 | 870,214 | \$2,194,092 | \$365,682 | \$1.26 | \$2.52 | 1 | H - Code | Higher | Moderate | 50% * |
| 37 | SF | Efficient clotheswashers | 209,315 | 156,986 | 209,315 | 156,986 | 585,697 | 439,272 | \$1,331,752 | \$221,959 | \$2.27 | \$3.03 | 1 | H | Higher | Moderate | 25% |
| 38 | MF | 1.6 gpf toilets - \$80 rebate | 246,146 | 184,610 | 246,146 | 184,610 | 720,573 | 540,430 | \$1,819,347 | \$303,225 | \$2.52 | \$3.37 | 1 | H - Code | Higher | Moderate | 50% |
| 39 | SF | 2.5 gpm showerheads | 20,162 | 10,081 | 20,162 | 10,081 | 59,023 | 29,511 | \$100,012 | \$16,669 | \$1.69 | \$3.39 | 1 | H - Code | Higher | Moderate | 50% |
| 40 | ICI | Audits for manual irrigation | 33,102 | 33,102 | 99,035 | 99,035 | 92,396 | 92,396 | \$354,573 | \$59,095 | \$3.84 | \$3.84 | 2 | Both | Lower | High | 25% |
| 41 | MF | 1.6 gpf toilets - \$100 rebate | 295,376 | 221,532 | 295,376 | 221,532 | 864,688 | 648,516 | \$2,729,021 | \$454,837 | \$3.16 | \$4.21 | 1 | H - Code | Higher | Moderate | 60% |
| 42 | MF | Audits for manual irrigation | 12,909 | 12,909 | 38,621 | 38,621 | 35,997 | 35,997 | \$179,163 | \$29,861 | \$4.98 | \$4.98 | 2 | Both | Lower | High | 25% |
| 43 | SF | ET controllers | 47,810 | 47,810 | 143,039 | 143,039 | 133,772 | 133,772 | \$1,471,090 | \$245,182 | \$11.00 | \$11.00 | 1 | H | Higher | High | 25% |
| 44 | SF | Limited lawn/low water use plants | 37,479 | 33,731 | 112,129 | 100,916 | 103,507 | 93,156 | \$1,080,552 | \$180,092 | \$10.44 | \$11.60 | 1 | B | Lower | High | 25% |
| 45 | SF | Audits for automatic irrigation | 47,810 | 47,810 | 143,039 | 143,039 | 133,772 | 133,772 | \$1,963,097 | \$327,183 | \$14.67 | \$14.67 | 2 | Both | Lower | High | 25% |
| 46 | SF | Audits for manual irrigation | 75,576 | 75,576 | 226,108 | 226,108 | 212,366 | 212,366 | \$3,281,593 | \$546,932 | \$15.45 | \$15.45 | 2 | Both | Lower | High | 25% |
| 47 | ICI | 0.5 gpm faucet aerators - bathroo | 0 | 0 | 0 | 0 | 0 | 0 | \$10,233 | \$1,705 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |
| 48 | SF | 2.5 gpm faucet aerators - kitchen | 0 | 0 | 0 | 0 | 0 | 0 | \$21,887 | \$3,648 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |
| 49 | MF | 2.5 gpm faucet aerators - kitchen | 0 | 0 | 0 | 0 | 0 | 0 | \$15,024 | \$2,504 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |
| * Expend 25% for Skyway and Tukwila | | | | | | | | | | | | | | | | | |

* Except 25% for Skyway and Tukwila.

Table 3 - Detailed Screening Results - 20 Year (sorted by column 12)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
|----|--------|---------------------------------------|-------------------------------------|--------------------------------|--|--------------------------------|-----------------------------------|---|-----------------------|----------------|------------------------------------|-------------------------|--------------------------------------|------------------------------|----------------------|---------------------------|--------------------|
| # | Sector | Conservation Measure | Savings Criteria | | | | | Direct Cost Criteria (Only includes rebates, hardware, audits) | | | | Other Criteria | | | | | |
| | | | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Total Planning Period ccf | | Total Planning Period | Average Annual | Per ccf Saved Over Planning Period | | Times Implemented in Planning Period | Hardware (H) or Behavior (B) | Certainty of Savings | Administrative Complexity | Participation Rate |
| | | | w/ free riders (inflated savings) | w/o free riders (true savings) | w/ free riders (inflated savings) | w/o free riders (true savings) | w/ free riders (inflated savings) | w/o free riders (true savings) | | | w/ savings free riders | w/o savings free riders | | | | | |
| 1 | SF | Decrease toilet flushes | 115,116 | 115,116 | 115,116 | 115,116 | 981,232 | 981,232 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 2 | SF | Decreased shower use | 97,422 | 97,422 | 97,422 | 97,422 | 835,540 | 835,540 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 3 | SF | Decrease faucet use | 118,678 | 118,678 | 118,678 | 118,678 | 1,017,840 | 1,017,840 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 4 | SF | Eliminate partial clotheswasher loads | 55,055 | 55,055 | 55,055 | 55,055 | 472,193 | 472,193 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 5 | SF | Allow lawn to go dormant | 867,890 | 867,890 | 2,596,556 | 2,596,556 | 7,542,332 | 7,542,332 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 6 | MF | Decrease toilet flushes | 67,282 | 67,282 | 67,282 | 67,282 | 567,723 | 567,723 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 7 | MF | Decreased shower use | 37,582 | 37,582 | 37,582 | 37,582 | 317,023 | 317,023 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 8 | MF | Decrease faucet use | 45,782 | 45,782 | 45,782 | 45,782 | 386,191 | 386,191 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 9 | MF | Eliminate partial clotheswasher loads | 8,269 | 8,269 | 8,269 | 8,269 | 69,694 | 69,694 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 25% |
| 10 | MF | Allow lawn to go dormant | 128,084 | 128,084 | 383,202 | 383,202 | 1,084,128 | 1,084,128 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 10% |
| 11 | ICI | Allow lawn to go dormant | 270,262 | 270,262 | 808,571 | 808,571 | 2,275,989 | 2,275,989 | \$0 | \$0 | \$0.00 | \$0.00 | 20 | B | Lower | Low | 10% |
| 12 | ICI | Toilet leak detection and repair | 49,681 | 49,681 | 49,681 | 49,681 | 425,374 | 425,374 | \$336 | \$17 | \$0.001 | \$0.001 | 3 | Both | Lower | Moderate | 25% |
| 13 | SF | Toilet leak detection and repair | 244,794 | 244,794 | 244,794 | 244,794 | 2,099,363 | 2,099,363 | \$17,306 | \$865 | \$0.01 | \$0.01 | 3 | Both | Lower | Moderate | 25% |
| 14 | MF | Toilet leak detection and repair | 87,635 | 87,635 | 87,635 | 87,635 | 739,239 | 739,239 | \$6,163 | \$308 | \$0.01 | \$0.01 | 3 | Both | Lower | Moderate | 25% |
| 15 | SF | 1.0 gpm faucet aerators - bathr | 488,279 | 439,451 | 488,279 | 439,451 | 4,169,931 | 3,752,938 | \$370,596 | \$18,530 | \$0.09 | \$0.10 | 2 | H | Higher | Moderate | 50% |
| 16 | MF | 1.0 gpm faucet aerators - bathr | 190,041 | 171,037 | 190,041 | 171,037 | 1,601,543 | 1,441,388 | \$143,479 | \$7,174 | \$0.09 | \$0.10 | 2 | H | Higher | Moderate | 50% |
| 17 | SF | 2.0 gpm showerheads | 201,620 | 201,620 | 201,620 | 201,620 | 1,755,257 | 1,755,257 | \$187,179 | \$9,359 | \$0.11 | \$0.11 | 2 | H | Higher | Moderate | 50% |
| 18 | MF | 2.0 gpm showerheads | 102,646 | 102,646 | 102,646 | 102,646 | 875,337 | 875,337 | \$100,660 | \$5,033 | \$0.11 | \$0.11 | 2 | H | Higher | Moderate | 50% |
| 19 | ICI | Limited lawn/low water use plants | 27,419 | 24,677 | 82,031 | 73,828 | 227,156 | 204,440 | \$24,667 | \$1,233 | \$0.11 | \$0.12 | 1 | B | Lower | High | 10% |
| 20 | ICI | Waterless urinals | 65,079 | 65,079 | 65,079 | 65,079 | 557,215 | 557,215 | \$99,654 | \$4,983 | \$0.18 | \$0.18 | 1 | H | Higher | Moderate | 10% |
| 21 | ICI | Dual flush toilets | 76,850 | 76,850 | 76,850 | 76,850 | 661,435 | 661,435 | \$118,640 | \$5,932 | \$0.18 | \$0.18 | 1 | H | Higher | Moderate | 10% |
| 22 | MF | Limited lawn/low water use plants | 12,085 | 10,876 | 36,156 | 32,540 | 101,374 | 91,237 | \$16,446 | \$822 | \$0.16 | \$0.18 | 1 | B | Lower | High | 10% |
| 23 | ICI | Pre-rinse sprayheads | 2,095 | 1,886 | 2,095 | 1,886 | 20,445 | 18,401 | \$7,953 | \$398 | \$0.39 | \$0.43 | 1 | H - Code | Higher | Moderate | 75% |
| 24 | ICI | 1.0 gpf urinals | 31,788 | 23,841 | 31,788 | 23,841 | 310,188 | 232,641 | \$115,674 | \$5,784 | \$0.37 | \$0.50 | 1 | H - Code | Higher | Moderate | 50% |
| 25 | MF | ET controllers | 52,515 | 47,264 | 157,116 | 141,404 | 445,499 | 400,949 | \$200,067 | \$10,003 | \$0.45 | \$0.50 | 2 | H | Higher | High | 25% |
| 26 | MF | Efficient clotheswashers | 149,444 | 112,083 | 149,444 | 112,083 | 1,259,873 | 944,905 | \$547,392 | \$27,370 | \$0.43 | \$0.58 | 2 | H | Higher | Moderate | 50% |
| 27 | ICI | ET controllers | 99,823 | 89,841 | 298,652 | 268,787 | 842,415 | 758,174 | \$539,171 | \$26,959 | \$0.64 | \$0.71 | 2 | H | Higher | High | 25% |
| 28 | ICI | Efficient clotheswashers | 83,709 | 62,782 | 83,709 | 62,782 | 709,816 | 532,362 | \$408,241 | \$20,412 | \$0.58 | \$0.77 | 2 | H | Higher | Moderate | 50% |
| 29 | ICI | 1.6 gpf toilets | 102,210 | 76,658 | 102,210 | 76,658 | 997,374 | 748,030 | \$593,200 | \$29,660 | \$0.59 | \$0.79 | 1 | H - Code | Higher | Moderate | 50% |
| 30 | SF | Dual flush toilets | 159,534 | 159,534 | 159,534 | 159,534 | 1,386,037 | 1,386,037 | \$1,116,165 | \$55,808 | \$0.81 | \$0.81 | 1 | H | Higher | Moderate | 10% |
| 31 | MF | Dual flush toilets | 64,775 | 64,775 | 64,775 | 64,775 | 548,761 | 548,761 | \$454,837 | \$22,742 | \$0.83 | \$0.83 | 1 | H | Higher | Moderate | 10% |
| 32 | MF | Audits for automatic irrigation | 52,515 | 52,515 | 157,116 | 157,116 | 445,499 | 445,499 | \$470,902 | \$23,545 | \$1.06 | \$1.06 | 4 | Both | Lower | High | 25% |
| 33 | ICI | Audits for automatic irrigation | 99,823 | 99,823 | 298,652 | 298,652 | 842,415 | 842,415 | \$1,269,442 | \$63,472 | \$1.51 | \$1.51 | 4 | Both | Lower | High | 25% |
| 34 | ICI | Air cooled ice machines | 13,938 | 12,544 | 13,938 | 12,544 | 118,430 | 106,587 | \$187,190 | \$9,359 | \$1.58 | \$1.76 | 3 | H | Higher | Moderate | 25% |
| 35 | SF | Efficient clotheswashers | 500,950 | 375,712 | 500,950 | 375,712 | 4,310,614 | 3,232,961 | \$5,837,437 | \$291,872 | \$1.35 | \$1.81 | 2 | H | Higher | Moderate | 50% |
| 36 | SF | 1.6 gpf toilets | 208,084 | 104,042 | 208,084 | 104,042 | 2,030,499 | 1,015,250 | \$2,194,092 | \$109,705 | \$1.08 | \$2.16 | 1 | H - Code | Higher | Moderate | 50% * |
| 37 | MF | 2.5 gpm showerheads | 3,079 | 2,310 | 3,079 | 2,310 | 30,049 | 22,537 | \$54,679 | \$2,734 | \$1.82 | \$2.43 | 1 | H - Code | Higher | Moderate | 50% |
| 38 | ICI | Audits for manual irrigation | 39,022 | 39,022 | 116,747 | 116,747 | 327,448 | 327,448 | \$811,629 | \$40,581 | \$2.48 | \$2.48 | 4 | Both | Lower | High | 25% |
| 39 | MF | 1.6 gpf toilets - \$80 rebate | 86,151 | 64,613 | 86,151 | 64,613 | 840,668 | 630,501 | \$1,819,347 | \$90,967 | \$2.16 | \$2.89 | 1 | H - Code | Higher | Moderate | 50% |
| 40 | MF | Audits for manual irrigation | 15,022 | 15,022 | 44,944 | 44,944 | 126,488 | 126,488 | \$387,341 | \$19,367 | \$3.06 | \$3.06 | 4 | Both | Lower | High | 25% |
| 41 | SF | 2.5 gpm showerheads | 6,049 | 3,024 | 6,049 | 3,024 | 59,023 | 29,511 | \$100,012 | \$5,001 | \$1.69 | \$3.39 | 1 | H - Code | Higher | Moderate | 50% |
| 42 | MF | 1.6 gpf toilets - \$100 rebate | 103,381 | 77,536 | 103,381 | 77,536 | 1,008,802 | 756,602 | \$2,729,021 | \$136,451 | \$2.71 | \$3.61 | 1 | H - Code | Higher | Moderate | 60% |
| 43 | SF | Limited lawn/low water use plants | 80,534 | 72,481 | 240,943 | 216,849 | 668,466 | 601,620 | \$2,238,589 | \$111,929 | \$3.35 | \$3.72 | 1 | B | Lower | High | 25% |
| 44 | SF | ET controllers | 66,426 | 66,426 | 198,734 | 198,734 | 571,002 | 571,002 | \$3,628,836 | \$181,442 | \$6.36 | \$6.36 | 2 | H | Higher | High | 25% |
| 45 | SF | Audits for automatic irrigation | 66,426 | 66,426 | 198,734 | 198,734 | 571,002 | 571,002 | \$4,899,398 | \$244,970 | \$8.58 | \$8.58 | 4 | Both | Lower | High | 25% |
| 46 | SF | Audits for manual irrigation | 91,324 | 91,324 | 273,223 | 273,223 | 797,821 | 797,821 | \$7,106,327 | \$355,316 | \$8.91 | \$8.91 | 4 | Both | Lower | High | 25% |
| 47 | ICI | 0.5 gpm faucet aerators - bathr | 0 | 0 | 0 | 0 | 0 | 0 | \$10,233 | \$512 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |
| 48 | SF | 2.5 gpm faucet aerators - kitch | 0 | 0 | 0 | 0 | 0 | 0 | \$21,887 | \$1,094 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |
| 49 | MF | 2.5 gpm faucet aerators - kitch | 0 | 0 | 0 | 0 | 0 | 0 | \$15,024 | \$751 | n/a | n/a | 1 | H - Code | Higher | Moderate | 50% |

* Except 25% for Skyway and Tukwila.

Table 4 - Selected Top Performers - 6 Year
(sorted by cost effectiveness)

| # | Sector | Measure | Quantitative Criteria | | | | | | Qualitative Criteria | | | | |
|----|--------|---------------------------------------|-----------------------------------|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------|------------------------|------------------|---------------------------|----------------------------------|
| | | | Magnitude of Annual Water Savings | Magnitude of Peak Season Water Savings | Absolute Direct Cost | | Cost Effectiveness | | Longevity of Savings | | Certainty | Administrative Complexity | Customer Acceptance |
| | | | | | Including \$0 Direct Cost Behavior | Excluding \$0 Direct Cost Behavior | Including \$0 Direct Cost Behavior | Excluding \$0 Direct Cost Behavior | Only Implemented Once | Focus Only on Hardware | Higher Certainty | Low | Participation Rate 50% or Higher |
| 1 | SF | Decrease toilet flushes | | | ✓ | | ✓ | | | | | ✓ | |
| 2 | SF | Decreased shower use | | | ✓ | | ✓ | | | | | ✓ | |
| 3 | SF | Decrease faucet use | | | ✓ | | ✓ | | | | | ✓ | |
| 4 | SF | Eliminate partial clotheswasher loads | | | ✓ | | ✓ | | | | | ✓ | |
| 5 | SF | Allow lawn to go dormant | 1 | 1 | ✓ | | ✓ | | | | | ✓ | |
| 6 | MF | Decrease toilet flushes | | | ✓ | | ✓ | | | | | ✓ | |
| 7 | MF | Decreased shower use | | | ✓ | | ✓ | | | | | ✓ | |
| 8 | MF | Decrease faucet use | | | ✓ | | ✓ | | | | | ✓ | |
| 9 | MF | Eliminate partial clotheswasher loads | | | ✓ | | ✓ | | | | | ✓ | |
| 10 | MF | Allow lawn to go dormant | | 5 | ✓ | | ✓ | | | | | ✓ | |
| 11 | ICI | Allow lawn to go dormant | 6 | 2 | ✓ | | ✓ | | | | | ✓ | |
| 12 | ICI | Toilet leak detection and repair | | | | 1 | | 1 | ✓ | | | | |
| 13 | SF | Toilet leak detection and repair | 7 | 10 | | 3 | | 2 | ✓ | | | | |
| 14 | MF | Toilet leak detection and repair | | | | 2 | | 3 | ✓ | | | | |
| 15 | MF | 1.0 gpm faucet aerators - bathroom | | | | 9 | | 4 | ✓ | ✓ | ✓ | | ✓ |
| 16 | SF | 1.0 gpm faucet aerators - bathroom | 2 | 3 | | | | 5 | ✓ | ✓ | ✓ | | ✓ |
| 17 | SF | 2.0 gpm showerheads | 8 | | | | | 6 | ✓ | ✓ | ✓ | | ✓ |
| 18 | MF | 2.0 gpm showerheads | | | | 7 | | 7 | ✓ | ✓ | ✓ | | ✓ |
| 19 | ICI | Pre-rinse sprayheads | | | | 5 | | 8 | ✓ | ✓ | ✓ | | ✓ |
| 20 | ICI | Limited lawn/low water use plants | | | | 6 | | 9 | ✓ | | | | |
| 21 | ICI | 1.0 gpf urinals | | | | | | 10 | ✓ | ✓ | ✓ | | ✓ |
| 22 | MF | Limited lawn/low water use plants | | | | 4 | | | ✓ | | | | |
| 23 | ICI | 1.6 gpf toilets | 5 | 9 | | | | | ✓ | ✓ | ✓ | | ✓ |
| 24 | ICI | Air cooled ice machines | | | | 10 | | | ✓ | ✓ | ✓ | | |
| 25 | ICI | Audits for automatic irrigation | | 8 | | | | | | | | | |
| 26 | MF | 2.5 gpm showerheads | | | | 8 | | | ✓ | ✓ | ✓ | | ✓ |
| 27 | SF | Dual flush toilets | 10 | | | | | | ✓ | ✓ | ✓ | | |
| 28 | SF | 1.6 gpf toilets | 3 | 4 | | | | | ✓ | ✓ | ✓ | | ✓ |
| 29 | MF | 1.6 gpf toilets - \$80 rebate | 9 | | | | | | ✓ | ✓ | ✓ | | ✓ |
| 30 | MF | 1.6 gpf toilets - \$100 rebate | 4 | 7 | | | | | ✓ | ✓ | ✓ | | ✓ |
| 31 | SF | Audits for manual irrigation | | 6 | | | | | | | | | |

| Table 5 - Selected Top Performers - 20 Year (sorted by cost effectiveness) | | | | | | | | | | | | | |
|---|--------|---------------------------------------|-----------------------------------|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------|------------------------|------------------|---------------------------|----------------------------------|
| # | Sector | Measure | Quantitative Criteria | | | | | | Qualitative Criteria | | | | |
| | | | Magnitude of Annual Water Savings | Magnitude of Peak Season Water Savings | Absolute Direct Cost | | Cost Effectiveness | | Longevity of Savings | | Certainty | Administrative Complexity | Customer Acceptance |
| | | | | | Including \$0 Direct Cost Behavior | Excluding \$0 Direct Cost Behavior | Including \$0 Direct Cost Behavior | Excluding \$0 Direct Cost Behavior | Only Implemented Once | Focus Only on Hardware | Higher Certainty | Low | Participation Rate 50% or Higher |
| 1 | SF | Decrease toilet flushes | | | ✓ | | ✓ | | | | | ✓ | |
| 2 | SF | Decreased shower use | | | ✓ | | ✓ | | | | | ✓ | |
| 3 | SF | Decrease faucet use | 10 | | ✓ | | ✓ | | | | | ✓ | |
| 4 | SF | Eliminate partial clotheswasher loads | | | ✓ | | ✓ | | | | | ✓ | |
| 5 | SF | Allow lawn to go dormant | 1 | 1 | ✓ | | ✓ | | | | | ✓ | |
| 6 | MF | Decrease toilet flushes | | | ✓ | | ✓ | | | | | ✓ | |
| 7 | MF | Decreased shower use | | | ✓ | | ✓ | | | | | ✓ | |
| 8 | MF | Decrease faucet use | | | ✓ | | ✓ | | | | | ✓ | |
| 9 | MF | Eliminate partial clotheswasher loads | | | ✓ | | ✓ | | | | | ✓ | |
| 10 | MF | Allow lawn to go dormant | 9 | 4 | ✓ | | ✓ | | | | | ✓ | |
| 11 | ICI | Allow lawn to go dormant | 4 | 2 | ✓ | | ✓ | | | | | ✓ | |
| 12 | ICI | Toilet leak detection and repair | | | | 1 | | 1 | | | | | |
| 13 | SF | Toilet leak detection and repair | 5 | 9 | | 5 | | 2 | | | | | |
| 14 | MF | Toilet leak detection and repair | | | | 2 | | 3 | | | | | |
| 15 | SF | 1.0 gpm faucet aerators - bathroom | 2 | 3 | | | | 4 | | ✓ | ✓ | | ✓ |
| 16 | MF | 1.0 gpm faucet aerators - bathroom | 7 | | | | | 5 | | ✓ | ✓ | | ✓ |
| 17 | SF | 2.0 gpm showerheads | 6 | | | | | 6 | | ✓ | ✓ | | ✓ |
| 18 | MF | 2.0 gpm showerhead | | | | 10 | | 7 | | ✓ | ✓ | | ✓ |
| 19 | ICI | Limited lawn/low water use plants | | | | 6 | | 8 | ✓ | | | | |
| 20 | ICI | Waterless urinals | | | | 8 | | 9 | ✓ | ✓ | ✓ | | |
| 21 | ICI | Dual flush toilets | | | | | | 10 | ✓ | ✓ | ✓ | | |
| 22 | MF | Limited lawn/low water use plants | | | | 4 | | | ✓ | | | | |
| 23 | ICI | Pre-rinse sprayheads | | | | 3 | | | | ✓ | ✓ | | ✓ |
| 24 | ICI | ET controllers | | 8 | | | | | | ✓ | ✓ | | |
| 25 | SF | Dual flush toilets | 8 | | | | | | ✓ | ✓ | ✓ | | |
| 26 | ICI | Audits for automatic irrigation | | 6 | | | | | | | | | |
| 27 | SF | Efficient clotheswashers | 3 | 5 | | | | | | ✓ | ✓ | | ✓ |
| 28 | MF | 2.5 gpm showerheads | | | | 7 | | | ✓ | ✓ | ✓ | | ✓ |
| 29 | SF | 2.5 gpm showerheads | | | | 9 | | | | ✓ | ✓ | | ✓ |
| 30 | SF | Limited lawn/low water use plants | | 10 | | | | | ✓ | | | ✓ | |
| 31 | SF | Audits for manual irrigation | | 7 | | | | | | | | | |

3.0 Measure Definitions

The 22 measures analyzed by the CPA are defined below. Each definition includes a full description and the assumptions for the primary savings calculation. The footnotes used in the savings assumptions appear at the end of this section.

3.1 Toilets - 1.6 GPF Standard

Provide partial rebates for customers to replace less efficient toilets with standard 1.6 gpf toilets; 1.6 gpf is the maximum amount allowed under the plumbing code. The target audience is existing customers with pre-code toilets. The target audience excludes new customers because their facilities will be built to include 1.6 gpf models due to the plumbing code. This measure was analyzed for SF, MF, and ICI sectors.

Savings Calculation for SF and MF:

3.5 gpf pre-code toilets¹
- 1.6 gpf toilets
* 5.1 flushes per person per day²
= 9.7 gallons per person per day

Savings Calculation for ICI:

3.5 gpf pre-code toilets¹
- 1.6 gpf toilets
* 2.2 flushes per person per day³
= 4.2 gallons per person per day

3.2 Toilets - Dual Flush

Provide partial rebates for customers to replace single flush toilets with dual flush toilets. Dual flush toilets have two flush options: a super low flush (0.8 gpf) for liquid-only waste and the standard 1.6 gpf for solid waste. The target audience is existing customers with pre-code toilets. This measure was analyzed for SF, MF, and ICI sectors.

Savings Calculation for SF and MF:

3.5 gpf pre-code toilets¹
- 1.0 gpf weighted avg for dual flush toilets⁴
* 5.1 flushes per person per day²
= 12.8 gallons per person per day

Savings Calculation for ICI:

3.5 gpf pre-code toilets¹
- 1.0 gpf weighted avg for dual flush toilets⁴
* 2.2 flushes per person per day³
= 5.5 gallons per person per day

3.3 Toilets - Leak Detection and Repair

Provide free toilet leak detection tablets for customers to determine if their toilets leak and provide detailed information on how to fix leaks. The target audience is existing and new customers with tank-style toilets that do not already check for leaks. Only tank-style toilets are targeted since most leaks occur in that type of toilet, usually via flapper leaks. This measure was analyzed for SF, MF, and ICI sectors.

Savings Calculation:

= 9.5 gallons per person per day⁵

3.4 Decrease Toilet Flushes

Encourage customers to flush one less time per day by not using the toilet as a trash can and/or by not flushing every time the toilet is used for liquid waste. The target audience is SF and MF customers that flush more than the average number of times. ICI customers are not targeted since this behavior is not appropriate for that customer class.

Savings Calculation:

2.6 gpf avg for all toilets⁶

* 1.0 less flushes per person per day

= 2.6 gallons per person per day

3.5 Urinals - 1.0 GPF

Provide partial rebates for customers to replace pre-code urinals with 1.0 gpf urinals; 1.0 gpf is the maximum amount allowed under the plumbing code. The target audience is existing ICI customers with pre-code urinals. The target audience excludes new customers because their facilities will be built to this standard due to the plumbing code.

Savings Calculation:

2.8 gpf avg for non-code urinal⁷

-1.0 gpf urinal

* 1 flushes per person per day⁸

= 1.8 gallons per person per day

3.6 Urinals – No Water

Provide partial rebates for customers to replace water utilizing urinals with urinals that do not require water for flushing. The target audience is existing and new ICI customers.

Savings Calculation:

2.1 gpm avg for all urinals⁹

* 1 flushes per person per day⁸

= 2.1 gallons per person per day

3.7 Showerheads - 2.5 GPM

Provide free 2.5 gpm showerheads for customers to replace less efficient showerheads; 2.5 gpm is the maximum allowed under the plumbing code. The target audience is existing customers with pre-code showerheads. The target audience excludes new customers because their facilities will be built with 2.5 gpm models due to the plumbing code. This measure was analyzed for SF and MF.

Savings Calculation:

3.25 gpm avg rated flow for non-code showerheads¹⁰
- 2.5 gpm rated flow for new showerheads
* .67 since actual flow is only 2/3 of rated flow¹¹
* 5.3 minutes per person per shower per day¹²
= 2.7 gallons per person per day

3.8 Showerheads - 2.0 GPM

Provide free 2.0 gpm showerheads for customers to replace less efficient showerheads. The 2.0 gpm showerheads are more efficient than the 2.5 gpm maximum showerheads allowed under the plumbing code. The target audience is existing customers with pre-code showerheads. This measure was analyzed for SF and MF.

Savings Calculation:

3.25 gpm avg rated flow for non-code showerheads¹⁰
- 2.0 gpm rated flow for new showerheads
* .67 since actual flow is only 2/3 of rated flow¹¹
* 5.3 minutes per person per shower per day¹²
= 4.4 gallons per person per day

3.9 Decreased Shower Use

Encourage customers to shorten their showering time by 1 minute. The target audience is SF and MF customers who shower longer than the average showering time.

Savings Calculation:

2.2 gpm avg for all showerheads¹¹
* 1.0 less minute per person per day
= 2.2 gallons per person per day

3.10 Faucet Aerators Bathroom - 1.0 GPM

Provide free 1.0 gpm bathroom faucet aerators for customers to replace less efficient aerators; 1.0 gpm bathroom faucet aerators are more efficient than the 2.5 gpm maximum faucet aerators allowed under the plumbing code. The target audience is existing and new SF and MF customers. This measure was not analyzed for ICI since the maximum allowed under the plumbing code for ICI is 0.5 gpm.

Savings Calculation:

2.88 gpm avg rated flow for replaced faucets¹³
- 1.0 gpm rated flow for new faucet
* .67 since actual flow is only 2/3 of rated flow¹⁴
* 8.1 minutes per person per faucet per day¹⁴
* 1/3 since 1/3 of faucet time is for bathrooms and 2/3 is for kitchens¹⁵
= 3.4 gallons per person per day

3.11 Faucet Aerators Bathroom - 0.5 GPM

Provide free 0.5 gpm bathroom faucet aerators for customers to replace less efficient aerators. This measure was analyzed for the ICI sector. For ICI, this measure is equivalent to code and therefore the target audience is only existing customers.

Savings Calculation for ICI:

2.88 gpm avg pre-code rated flow for faucets¹³
- 0.5 gpm rated flow for new faucet
* .67 since actual flow is only 2/3 of rated flow¹⁴
* 8.1 minutes per person per faucet per day¹⁴
* 1/3 since 1/3 of faucet time is for bathrooms and 2/3 is for kitchens¹⁵
= 4.3 gallons per person per day

3.12 Faucet Aerators Kitchen - 2.5 GPM

Provide free 2.5 gpm kitchen faucet aerators to customers to replace pre-code aerators; 2.5 gpm is the maximum allowed under the plumbing code. The target audience is existing customers with pre-code aerators. The target audience excludes new customers because their facilities will be built with 2.5 gpm models due to the plumbing code. The target audience is existing SF and MF customers.

Savings Calculation:

2.88 gpm avg rated flow for pre-code faucets¹³
- 2.5 gpm rated flow for new faucet
* .67 since actual flow is only 2/3 of rated flow¹⁴
* 8.1 minutes per person per faucet per day¹⁴
* 2/3 since 1/3 of faucet time is for bathrooms and 2/3 is for kitchens¹⁵
= 1.4 gallons per person per day

3.13 Decreased Faucet Use

Encourage customers to shorten their combined bathroom and kitchen faucet use by 2 minutes. The target audience is all SF and MF customers who run the faucet longer than the average time.

Savings Calculation:

1.34 gpm avg actual flow for all faucets¹⁶
* 2.0 less minutes per person per day
= 2.7 gallons per person per day

3.14 Clotheswashers - Efficient

Provide partial rebates for customers to replace less efficient residential-capacity clotheswashers with more efficient models. This measure targets customers who are ready to purchase a new machine. It is not intended to accelerate replacement before the normal life span ends. Therefore, participation rates were intentionally decreased, especially in the 6-year planning period, to reflect the fact that only a portion of the target customers will purchase a new machine during the planning period.

This measure was analyzed for SF, MF, and ICI sectors. For MF, the measure targets clotheswashers both in individual units and common laundry areas. For ICI, the measure targets laundromats. It should be noted that industrial-capacity clotheswashers were not included in this analysis.

All clotheswasher measures apply to both existing and new customers. A new water efficiency standard for coin-operated machines will become effective January 1, 2007. The standard is a water factor of 9.5. Generally, measures that are associated with a code requirement are not applied to new customers since those customers will already have equipment meeting the new code requirement. However, a different approach is applied to clotheswasher measures. The 9.5 water factor is not necessarily considered the height of reasonably achieved efficiency, as evidenced by two movements. First, in order to achieve the Energy Star label, a water factor more efficient than 9.5 is expected to be required within the next year or so. Second, as part of passing the new 9.5 water factor standard, the U.S. government is required to perform additional reviews to determine whether to tighten that standard. Therefore, the clotheswasher measures were modeled to apply to both existing and new customers.

Savings Calculation for SF and MF:

41 avg gpl for non-efficient washers¹⁷
- 27 gpl for efficient washers¹⁷
* 0.37 loads per person per day¹⁸
= 5.2 gallons per person per day

Savings Calculation for ICI:

41 avg gpl for non-efficient washers¹⁷
- 27 gpl for efficient washers¹⁷
* 8 loads per day¹⁵
* 12 machines per laundromat¹⁵
= 1,344 gallons per business per day

3.15 Eliminate Partial Clotheswasher Loads

Encourage customers to eliminate all partial loads of laundry. The target audience is SF and MF customers with clotheswashers who wash partial loads. ICI customers are not targeted since it is assumed they are relatively efficient.

Savings Calculation SF:

34 gpl avg for all washers¹⁹
* 0.37 loads per person per day¹⁸
* 10% not done efficiently and could be eliminated by eliminating partial loads¹⁵
= 1.3 gallons per person per day

Savings Calculation MF:

34 gpl avg for all washers¹⁹
* 0.37 loads per person per day¹⁸
* 5% not done efficiently and could be eliminated by eliminating partial loads¹⁵
= 0.6 gallons per person per day

3.16 Pre-Rinse Sprayheads

Provide free 1.6 gpm pre-rinse sprayheads (and their installation) to customers with less efficient models. The target audience is existing ICI customers. New ICI customers are excluded since 1.6 gpm sprayheads will be code beginning January 1, 2006.

Savings Calculation:

50,000 gallons saved per year per sprayhead²⁰
/ 365 days
= 137 gallons per business per day

3.17 Ice Machines - Air Cooled

Provide partial rebates for customers to replace water cooled ice machines with air cooled models. The target audience is existing and new ICI customers.

Savings Calculation:

166 avg gpd for non-efficient model (per 100 lbs of ice)²¹
- 16.7 gpd for efficient model (per 100 lbs of ice)²¹
= 149 gallons per business per day

3.18 Audits for Automatic Irrigation

Provide free landscape water use audits to customers to identify hardware and scheduling improvements, and other techniques such as lawn maintenance, mulching, and soil amendments that could conserve water. To help ensure savings, the audit includes reprogramming irrigation system controllers based on audit results and installing a free rain

shutoff device if the system does not already have one. The target audience is all customers with in-ground irrigation systems with automatic controllers.

Savings Calculation:

PSIU Landscape Water for appropriate sector²²

* percent weighted average of customers with automatic irrigation systems²³

* measure participation rate²⁴

* 15% savings²⁵

* (1-% free-riders)

= annual gallons per year savings for entire sector, excluding free-riders

3.19 Audits for Manual Irrigation

Provide free landscape water use audits to customers to identify hardware and scheduling improvements, and other techniques such as lawn maintenance, mulching, and soil amendments that could conserve water. To help ensure savings, the audit includes providing an automatic shutoff timer for sprinklers attached to hoses and providing a rain gauge to help customers determine if enough rain has fallen to eliminate the need for supplemental watering. The target audience is all customers who water with any method other than in-ground irrigation systems with an automatic controller.

Savings Calculation:

PSIU Landscape Water for appropriate sector²²

* percent weighted average of customers with manual irrigation systems²³

* measure participation rate²⁴

* 10% savings²⁵

* (1-% free-riders)

= annual gallons per year savings for entire sector, excluding free-riders

3.20 ET Controllers

Provide partial rebates for evapotranspiration-based controllers, which link irrigation to weather conditions. The target audience is all customers with in-ground irrigation systems with automatic controllers.

Savings Calculation:

PSIU Landscape Water for appropriate sector²²

* percent weighted average of customers with automatic irrigation systems²³

* measure participation rate²⁴

* 15% savings²⁵

* (1-% free-riders)

= annual gallons per year savings for entire sector, excluding free-riders

3.21 Limited Lawn / Low Water Use Plants

Encourage customers to limit lawn to functional areas and/or to landscape with low water use plants. The target audience is new construction and customers redoing their landscaping. A

financial incentive of up to \$300 would be offered to help offset the cost of plants, lawn removal, etc.

Savings Calculation:

PSIU Landscape Water for appropriate sector²²

* percent targeted customers²⁶

* measure participation rate²⁴

* 20% savings²⁷

* (1-% free-riders)

= annual gallons per year savings for entire sector, excluding free-riders

3.22 Allow Lawn to Go Dormant

Encourage customers to not water their lawn in the summer, and instead let it go dormant. It should be noted that allowing lawns to go dormant during the summer does not eliminate lawn watering completely. Dormant lawns still require some water to stay alive. The target audience is all customers who currently irrigate their lawn.

Savings Calculation:

PSIU Landscape Lawn Not Needed If Dormant for appropriate sector²²

* measure participation rate²⁴

* 100% savings

* (1-% free-riders)

= annual gallons per year savings for entire sector, excluding free-riders

3.23 Footnotes for Savings Calculations

The following footnotes apply to the measure savings calculations described in Sections 3.1 through 3.22.

¹ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 25, and professional knowledge. Vickers presents a range of pre-code flush rates based on various time periods. This number is the flush rate just prior to the current code.

² 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 25.

³ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 27, and professional knowledge. This number is the weighted average of flushes between men and women given percent of tank-style versus flushometer-style toilets. Women always use toilets 3 times; men use toilets 1 time if a urinal is present and 3 times if no urinal is present.

⁴ Based on 2003 *Dual Flush Toilet Fixtures – Field Studies and Water Savings* by John Koeller and professional knowledge. This is the weighted average of flushes between liquids and solids. Liquid flushes use 0.8 gpf and represent 75 percent of flushes. Solid flushes use 1.6 gpf and represent 25 percent of flushes.

⁵ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 67.

⁶ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 25, and

professional knowledge. Average of pre-code toilets at 3.5 gpf and post-code toilets at 1.6 gpf.

⁷ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 77, and professional knowledge. Vickers presents a range of pre-code flush rates based on various time periods. This number is an average of the flush rates between 1980 and 1993.

⁸ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 77, and professional knowledge. This number is the average of flushes between men and women. Women use urinals 0 times and men use urinals 2 times.

⁹ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 77, and professional knowledge.

¹⁰ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 88, and professional knowledge. Vickers presents a range of pre-code flow rates based on various time periods. This number is an average of the flow rates between 1980 and 1993.

¹¹ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 88.

¹² 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 88. Actual average shower length is 8.2 minutes; however, 5.3 minutes incorporates the number of people who do not shower but bathe instead.

¹³ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 103, and professional knowledge.

¹⁴ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 103.

¹⁵ Estimate based on professional knowledge.

¹⁶ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 103.

¹⁷ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 118, and professional knowledge. Vickers presents a range of gallons used per load based on various time periods. The gallons per load from the most recent time period was considered the efficient version and the gallons per load from the previous time period was considered the non-efficient version.

¹⁸ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 118.

¹⁹ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 118, and professional knowledge. Vickers presents a range of gallons used per load based on various time periods. This number is the average of the two most recent time periods.

²⁰ July 30, 2004 *Draft U.S. EPA Market Conditions Report: High-Potential Water Using Products*, page 23.

²¹ July 30, 2004 *Draft U.S. EPA Market Conditions Report: High-Potential Water Using Products*, page 35.

²² Based on sales data provided by each Cascade member. See individual member CPA spreadsheets ("PSIU Calcs" and the "% of PSIU Saved" worksheets) for details.

²³ Based on Cascade CPA market research study performed as part of this project.

²⁴ Based on Cascade CPA market research study performed as part of this project and professional knowledge.

²⁵ Based on 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 152, and professional knowledge. Vickers says that audits can save at least 10 to 15 percent and that systems with automatic controllers yield the largest savings. Therefore, a 15-percent savings is used for automatic systems and ET controllers, and 10-percent savings for manual systems.

²⁶ For this measure, the percent of targeted customers is the percent of new customers (new customers/total customers) plus the percent of existing customers who plan to re-do their landscaping ((existing customers * percent re-doing landscaping)/total customers).

²⁷ 2001 *Handbook of Water Use and Conservation* by Amy Vickers, page 176.

4.0 Measure Analysis Methodology

4.1 Overview

The spreadsheet model used to analyze savings and costs is comprised of the following six worksheets, each of which is described in detail in the subsequent sub-sections:

1. **Demographics and Fixtures** - Contains demographic and fixture assumptions.
2. **Participation** – Contains participation assumptions and calculates the number of participants.
3. **Savings** – Contains savings assumptions and calculates the total water savings.
4. **Costs** - Contains cost assumptions and calculates the total costs.
5. **PSIU Calculation** – Calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base amount used year-round. The PSIU is used in the savings formula for each outdoor measure.
6. **Percent of PSIU Saved** - Calculates the percentage of the PSIU saved by each outdoor conservation measure. These percentages were used in the savings formulas for each outdoor measure.

The analysis was performed independently for each Cascade member and then the results were aggregated to create results for the collective Cascade service area. The analysis was done for two different planning periods, which match the 6- and 20-year time periods for Cascade's 2005 *Transmission and Supply Plan*. The first planning period is from 2004 to 2009 (6 years) and the second planning period is from 2004 to 2023 (20 years). Spreadsheets for each member and for both time periods are provided in Appendix C. There is a separate appendix (C1 through C8) for each of the eight Cascade members.

Please note the following about the spreadsheets:

- Numbers in bold text were derived from the market research performed by Dethman & Associates. The associated survey question number(s) from the survey is indicated as well (e.g., "Q11").

- Shaded cells contain data entered specifically for Cascade.
- Unhighlighted cells contain calculations or fixed data.
- The savings and cost columns cannot be summed because several measures are mutually exclusive (e.g., 1.0 gpf urinals and waterless urinals).

4.2 Demographics and Fixtures Assumptions Worksheet

The Demographics and Fixtures Assumptions worksheet, which is part of Appendix C, includes demographic data and fixture assumptions that were used in the Participation worksheet to calculate the number of customers anticipated to participate in each conservation measure.

Demographic data is a key element of the CPA. The main demographic categories used in the analysis were single family households, multifamily households, and employment. A summary of this data is shown in Table 6. Sources for this data include information provided directly from members as part of this project and estimates based on analysis of PSRC data.

| Table 6 - Demographics | | | | | | | | | |
|------------------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|----------------|
| Member | SF HH | | | MF HH | | | Employment | | |
| | 2004 | 2009 | 2023 | 2004 | 2009 | 2023 | 2004 | 2009 | 2023 |
| Bellevue | 31,004 | 31,248 | 31,909 | 23,862 | 25,887 | 31,310 | 105,577 | 112,566 | 133,048 |
| Covington WD | 14,153 | 16,728 | 23,012 | 206 | 268 | 517 | 4,101 | 5,285 | 7,651 |
| Issaquah | 3,812 | 3,913 | 4,207 | 2,986 | 3,164 | 3,512 | 14,133 | 15,037 | 18,014 |
| Kirkland | 9,508 | 9,672 | 10,611 | 7,534 | 8,432 | 10,913 | 29,371 | 30,400 | 34,099 |
| Redmond | 11,755 | 13,800 | 17,800 | 12,697 | 13,600 | 16,900 | 72,432 | 77,827 | 95,564 |
| Sammamish Plateau WSD | 13,954 | 16,977 | 22,356 | 2,239 | 2,724 | 3,732 | 12,265 | 14,922 | 20,446 |
| Skyway | 3,088 | 3,285 | 4,000 | 651 | 692 | 843 | 953 | 1,100 | 1,208 |
| Tukwila | 1,194 | 1,225 | 1,368 | 1,987 | 2,299 | 3,736 | 40,622 | 42,706 | 58,630 |
| Total | 88,468 | 96,848 | 115,264 | 52,162 | 57,066 | 71,463 | 279,455 | 299,843 | 368,660 |

Fixture-related assumptions include the percent of customers who have certain water-using fixtures (e.g., toilets, irrigation systems, ice machines) and the remaining life for code-related fixtures. Sources for this data include the market research survey, the Conservation Work Group, the U.S. Census, and estimates based on professional knowledge.

4.3 Participation Worksheet

The Participation worksheet, which is part of Appendix C, contains participation assumptions and calculates the number of participants for each measure.

For the “Not Already Implemented”, “Not Implemented Naturally”, and “Participation Rate” fields, exact numbers from the market research survey were used if available. Otherwise, the following guidelines were employed:

- 90 percent signifies very high
- 75 percent signifies high (“very likely” from the CPA survey)
- 50 percent signifies moderate (“somewhat likely” from the CPA survey)
- 25 percent signifies low (“not too likely” from the CPA survey)
- 10 percent signifies very low (“not likely at all” from the CPA survey)

Total household or business participation for each conservation measure was determined by beginning with the number of eligible households or businesses, reducing that to the target households or businesses, and reducing that to the participating number. Definitions of these terms are important:

- **Eligible:** Households or businesses that have the appropriate fixture or behavior for the measure. For example, those with a toilet.
- **Target:** Eligible households or businesses that have not already implemented the measure. For example, those households with a toilet that do not already have an efficient 1.6 gpf model.
- **Participating:** Target households or businesses estimated to actually implement the measure during the planning period. For example, those with a toilet that do not already have an efficient 1.6 gpf model, and who are estimated to purchase an efficient 1.6 gpf model due to the conservation program. It should be noted that participation rates can increase or decrease the value of implementing measures. For example, while waterless urinals save more water per flush than low volume urinals, the participation rate for waterless urinals is usually much lower than for low volume urinals, thus making the overall savings for waterless urinals lower than for low volume urinals.

The concept of free-ridership reduces the participation number further. Free-riders are customers who implement a measure, even without encouragement from Cascade's conservation program. For example, they are households that were planning to replace a toilet anyway, and simply take the utility money because it is available. The important point is that the utility money does not motivate the customer to implement the measure. Therefore, the utility is spending money on savings that would occur anyway. This is generally considered an unavoidable problem in water conservation programs.

This CPA bases its analysis on figures incorporating the concept of free-ridership, since this results in the true cost effectiveness of conservation. Incorporating the concept means excluding the savings from free-riders, while including their costs. It should be noted that savings numbers including free-riders are also provided because they can be useful for other purposes such as demand forecasting, budgeting, and comparing with other utilities that do not incorporate free-ridership.

A similar issue is plumbing code savings. Certain conservation measures may duplicate water savings that would occur eventually due to the plumbing code. While investing in "code-related" measures spends money on actions that will occur eventually without that expenditure, it has the positive effect of accelerating savings. For example, Cascade could wait until the customer naturally replaces a showerhead, or it can accelerate the savings by offering free, efficient showerheads.

The following measures bring hardware up to code:

- 1.6 gpf toilets (for SF, MF, and ICI)
- 1.0 gpf urinals (for ICI)
- 2.5 gpm showerheads (for SF and MF)
- 2.5 gpm faucet aerators – kitchen (for SF and MF)
- 0.5 gpm faucet aerators – bathroom (for ICI)
- Pre-rinse sprayheads (*note: code effective Jan 2007*) (for ICI)

It is important to understand the full interplay between code savings and the CPA. For code related measures, the plumbing code has the potential to affect existing customers who have not already upgraded to code fixtures. This is represented by Column 7 "Not Already Implemented" on the Participation worksheet. For example, in Bellevue, 44 percent of existing single family houses do not have 1.6 gpf toilets. That 44 percent can be split into the following five groups:

1. **Do not upgrade to code.** This group has no savings or costs and is therefore not represented in the CPA model.
2. **Upgrade to code due to the conservation program, take rebate/equipment.** These are the "code accelerators" and the model claims both savings and costs.
3. **Upgrade to code due to the conservation program, do not take rebate/equipment (e.g., never turn in rebate form).** This group is not represented in the model. Technically, Cascade could claim these savings; however, this number is difficult to estimate and a conservative approach is to assume that this number is zero.
4. **Upgrade to code, naturally, take rebate/equipment.** These are the "free-riders" and the model claims the costs, but not the savings. This is appropriate to show the cost effectiveness of the conservation program. However, if Cascade wants to know how much savings it can expect, regardless of what can be attributed to the conservation program, the model provides this number as well.
5. **Upgrade to code, naturally, do not take rebate/equipment.** This group is part of the traditional "code savings" and is intentionally excluded from the modeled savings because it is not associated with the conservation program.

In the spreadsheet, measures that bring hardware up to code requirements are handled differently than non-code measures in several ways. First, only existing customers are targeted, because new customers will already have hardware meeting code requirements. Second, savings are counted only for the remaining life of the hardware, which may be shorter than the planning period. This is done to take credit only for the years that a measure accelerates code savings. Third, the measure is implemented only once, even if the measure's life is shorter than the planning period, because when the hardware expires, only code-meeting replacements are available.

Key results from the Participation worksheet were generated as follows (using single-family 1.6 gpf toilets from Bellevue's 6-year planning period spreadsheet as an example):

- **Participating Households (without free-riders):** This number is important because it is a key factor in calculating both water savings and costs. The number of existing target households (13,642) was calculated by starting with the number of existing SF households (31,004) and multiplying it by the eligibility rate (100 percent, since 100 percent of SF households have toilets) and by the percent of existing customers that have not already implemented the measure (44 percent). The number of future target households is zero since all future households will be built with 1.6 gpf toilets due to code. The number of total target households (13,642) is calculated by adding the existing (13,642) and future (zero) target households. The number of participating households without free-riders (3,410) was calculated by multiplying the total target households (13,642) by the participation rate (50 percent) and by the free-ridership (50 percent). The result is 3,410 households.

4.4 Savings Worksheet

The Savings worksheet, which is part of Appendix C, contains savings assumptions and calculates the total savings.

Water savings were estimated by determining the unit savings of the conservation measure compared with previous hardware or behaviors, and then using participation results to calculate total savings.

Key results from the Savings worksheet were generated as follows (using single family 1.6 gpf toilets from Bellevue's 6-year planning period spreadsheet as an example):

- **Savings - Annual Gallons per Year (at full implementation; without free-riders):** This calculation is the gallons saved per household per year (10,257) multiplied by the number of participating households from the Participation worksheet (3,410). For non-code related measures, the formula stops there. For code-related measures, the result is then multiplied by a factor to ensure that the savings are counted only for the years that code savings are accelerated, which may be less than the entire planning period. This accelerated code savings factor is the lesser of either: (1) the number of years remaining in the hardware's life divided by the number of years in the planning period; or (2) 100 percent. The result is 34,976,370 gallons. Note that this is slightly different than the number that appears in the spreadsheet due to rounding.

It is important to note that this number represents savings at full implementation, which occurs at the end of the planning period. The definition of "full implementation" is important. The CPA assumes that participants who are existing customers in the first year all participate in the first year of the planning period. It also assumes that participants who are new customers added over the planning period are gained evenly across the planning period. This methodology allows for participation as soon as possible. This is in keeping with the intent of a CPA, which is to determine the highest potential for savings. Cascade may find it necessary to implement measures more slowly. However, that is a program design decision separate from the CPA analysis.

- **Savings - Hundred Cubic Feet per Plan Period (without free-riders):** This number is important because it is used later when calculating the unit cost per hundred cubic feet (ccf) of saved water. It is calculated by multiplying the annual gallons saved per year at full implementation (34,980,423) by the number of years in the planning period (6), and then dividing by 748.1 to convert to ccf. The result is 280,554 ccf.

It should be noted that the example above uses the code-related formula. For non code-related measures, the annual gallons saved per year at full implementation is multiplied by the number of years in the planning period, and then multiplied by a reduction factor. The reduction factor essentially backs out savings from new customers for certain years because new customers do not exist in every year of the planning period, and therefore cannot generate savings for every year.

4.5 Costs Worksheet

The Costs worksheet, which is part of Appendix C, contains cost assumptions and calculates total costs.

Costs were estimated by determining the unit cost of each conservation measure, and then using participation results to calculate total costs.

It should be noted that only direct costs experienced by the water utility were included in this analysis. This includes rebates, costs of hardware, and labor cost for audits. Indirect costs such as utility staff time, marketing, and distribution are not included in this analysis since they depend on how a conservation program is designed. Indirect costs will be addressed during the process of creating Cascade's conservation plan. Cascade staff members estimate that indirect costs are approximately 30 percent of total program costs. This estimate is based on analysis of previous years' program costs, roughly apportioned as 70 percent direct costs, 15 percent outreach, and 15 percent administrative. Both direct and indirect costs are ultimately borne by customers through rates.

In addition, some measures require that additional costs be borne directly by customers. All measures where Cascade pays a rebate imply that the customer will pay the remaining cost of the fixture and any installation costs. For example, single family 1.6 gpf toilets were modeled based on a \$40 rebate paid by Cascade, but that cost does not include the remaining cost of the toilet and any installation costs paid by the customer.

Key results from the Costs worksheet were generated as follows (using single-family 1.6 gpf toilets from Bellevue's 6-year planning period spreadsheet as an example):

- Total Cost over Plan Period (with free-riders):** This number is important because it is the amount of money Cascade will have to spend to achieve the savings from the measure. It is derived by starting with the number of participating single family households with free-riders (6,821 – note that using the number with free-riders is necessary since the costs for these customers must be budgeted) and multiplying by the cost per toilet (\$40) and by the number of toilets per SF household (2.8 – note that this number assumes all toilets in participating households must be replaced; it does, however, reflect the percent of toilets that are efficient via the “not already implemented” field) and the number of times the measure must be implemented over the planning period (1) in order to retain savings. The result is \$763,952. Note that this is slightly different than the number that appears in the spreadsheet due to rounding.

It should be noted that the example above uses the code-related formula. For non code-related measures, the formula takes into account the phasing in of new customers over the planning period and the periodic repetition of measures if the measure's life is shorter than the planning period.

- Cost per CCF Saved over Plan Period:** This number is important because it is used to compare cost-effectiveness between measures. It is derived by starting with the total cost over the planning period with free-riders (\$763,939) and dividing it by the ccf saved over the planning period without free-riders from the Savings worksheet (280,554). The result is \$2.72.

4.6 Peak Season Increased Use Calculation Worksheet

The Peak Season Increased Use (PSIU) Calculation spreadsheet, which is part of Appendix C, calculates the amount of water used in the peak season above the base amount used year-round. The PSIU is used in the Percent of PSIU Saved worksheet, which ties into the savings formulas for each outdoor measure on the Savings worksheet.

The following six-step process was used to calculate the PSIU (using single family numbers from Bellevue's 6-year planning period spreadsheet as an example):

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern because we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month (233,964 ccf).
4. The non-peak monthly average (233,964 ccf) is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season (935,856 ccf).
5. The total amount of water used during the peak season is calculated (1,774,293 ccf).
6. The base use during the entire peak season (935,856 ccf) is subtracted from the total use during the peak season (1,774,293 ccf) to arrive at the PSIU (838,437 ccf).

It should be noted that the process described above was used for Cascade members who provided billing data that combined both irrigation and non-irrigation water. For members that provided billing data separately (e.g., via irrigation meters), the irrigation water was taken directly from that data. Finally, the analysis required a hybrid approach for a few members where irrigation water was billed both through irrigation meters and combined meters.

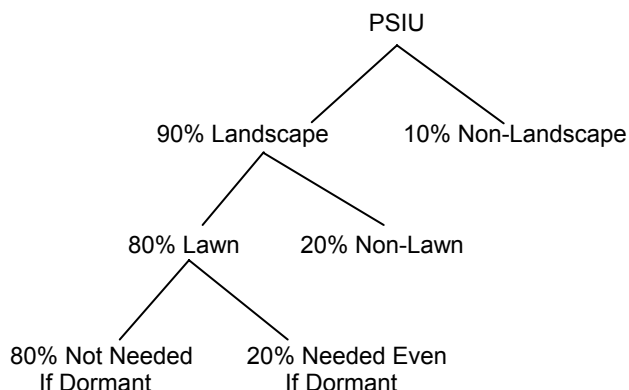
4.7 Percent of PSIU Saved Worksheet

The Percent of PSIU Saved worksheet, which is part of Appendix C, calculates the percentage of the PSIU saved by each outdoor conservation measure. These percentages were used in the savings formulas (on the Savings worksheet) for each outdoor measure.

The total PSIU was allocated to the following 12 categories:

1. SF Non-Landscape
2. SF Landscape Non-Lawn
3. SF Landscape Lawn Not Needed If Dormant
4. SF Landscape Lawn Needed Even If Dormant
5. MF Non-Landscape
6. MF Landscape Non-Lawn
7. MF Landscape Lawn Not Needed If Dormant
8. MF Landscape Lawn Needed Even If Dormant
9. ICI Non-Landscape
10. ICI Landscape Non-Lawn
11. ICI Landscape Lawn Not Needed If Dormant
12. ICI Landscape Lawn Needed Even If Dormant

That allocation was performed using the guidelines shown in the diagram below:



The worksheet shows the current volume of PSIU that is allocated to the 12 categories. It also does this for the volume of PSIU expected at the end of the planning period, which is calculated by increasing the current PSIU volume by each member's demand growth rate over the same period from Cascade's 2005 *Transmission and Supply Plan*.

Each measure targets one or more of the 12 categories and has an assumed percent of water savings. For example, the measure SF Limited Lawn/Low Use Plants targets three components of PSIU: SF Landscape Non-Lawn, SF Landscape Lawn Not Needed If Dormant, and SF Landscape Lawn Needed Even If Dormant. These three components collectively represent the SF Landscape portion of the PSIU. For this measure, a 20-percent savings was assumed.

5.0 Measure Screening Criteria

5.1 Overview

The initial results from the spreadsheets were further analyzed using the screening criteria established in conjunction with Cascade's Conservation Work Group. The screening analysis is intended to allow relative comparisons between measures and is based on a set of assumptions aimed at treating all measures equally. The actual results Cascade would experience for individual measures depend on decisions made during the long range planning process and final program design. As Cascade moves forward with crafting its long range conservation program, the results from the screening analysis will be used in conjunction with the goals of Cascade's conservation program to guide the selection of measures.

The nine quantitative and qualitative screening criteria are as follows:

1. Magnitude of annual water savings
2. Magnitude of peak season water savings
3. Absolute direct cost
4. Cost effectiveness
5. Longevity of savings
6. Certainty of savings
7. Proportionate applicability to each member
8. Administrative complexity
9. Customer acceptance

The following subsections discuss each criterion in detail including its definition, relevance, and the best performing measures under the criterion.

5.2 Magnitude of Annual Water Savings

The magnitude of annual water savings is represented by the annual savings in gallons per day (gpd) at full implementation, which is listed in Columns 3 and 4 of Tables 2 and 3. The ten measures that save the largest volume of water on an annual basis (Column 4) are shown in Table 7.

| Table 7 Top 10 Measures - Annual Savings | | |
|---|---------------------------------------|---------------------------------------|
| Ran k | 6-Year Planning Period | 20-Year Planning Period |
| 1 | SF Allow lawn to go dormant | SF Allow lawn to go dormant |
| 2 | SF 1.0 gpm faucet aerators - bathroom | SF 1.0 gpm faucet aerators - bathroom |
| 3 | SF 1.6 gpf toilets | SF Efficient clotheswashers |
| 4 | MF 1.6 gpf toilets - \$100 rebate | ICI Allow lawn to go dormant |
| 5 | ICI 1.6 gpf toilets | SF Toilet leak detection and repair |
| 6 | ICI Allow lawn to go dormant | SF 2.0 gpm showerheads |
| 7 | SF Toilet leak detection and repair | MF 1.0 gpm faucet aerators - bathroom |
| 8 | SF 2.0 gpm showerheads | SF Dual flush toilets |
| 9 | MF 1.6 gpf toilets - \$80 rebate | MF Allow lawn to go dormant |
| 10 | SF Dual flush toilets | SF Decrease faucet use |

5.3 Magnitude of Peak Season Water Savings

The magnitude of peak season water savings is represented by the peak season savings in gallons per day at full implementation, which is listed in Columns 5 and 6 of Tables 2 and 3. The ten measures that save the largest volume of water on a peak season basis (Column 6) are shown in Table 8.

| Table 8 Top 10 Measures - Peak Season Savings | | |
|--|---------------------------------------|---------------------------------------|
| Ran k | 6-Year Planning Period | 20-Year Planning Period |
| 1 | SF Allow lawn to go dormant | SF Allow lawn to go dormant |
| 2 | ICI Allow lawn to go dormant | ICI Allow lawn to go dormant |
| 3 | SF 1.0 gpm faucet aerators - bathroom | SF 1.0 gpm faucet aerators - bathroom |
| 4 | SF 1.6 gpf toilets | MF Allow lawn to go dormant |
| 5 | MF Allow lawn to go dormant | SF Efficient clotheswashers |
| 6 | SF Audits for manual irrigation | ICI Audits for automatic irrigation |
| 7 | MF 1.6 gpf toilets - \$100 rebate | SF Audits for manual irrigation |
| 8 | ICI Audits for automatic irrigation | ICI ET controllers |
| 9 | ICI 1.6 gpf toilets | SF Toilet leak detection and repair |
| 10 | SF Toilet leak detection and repair | SF Limited lawn/low water use plants |

5.4 Absolute Direct Cost

Absolute cost is represented by the total cost over the planning period, which is listed in Column 9 of Tables 2 and 3. The total cost over the planning period was also converted to an average annual cost (see Column 10) by dividing by the number of planning years. The average annual cost is useful to compare with annual budget parameters.

Two issues are important to understanding the cost numbers. First, as stated previously, assumptions have been made to allow relative comparisons between measures and therefore the actual costs incurred by Cascade, whether total or average, depending on program design decisions. Second, the costs included in the spreadsheet analysis are only direct costs such as rebates, costs of hardware, and labor costs for audits. Indirect costs such as staff time, marketing, and distribution were not included in the spreadsheet analysis since they depend heavily on program design decisions. Cascade staff members estimate that indirect costs are approximately 30 percent of total program costs. Including only direct costs makes the behavioral measures the most attractive from a cost standpoint because most of them have zero direct costs. It should be remembered that the behavioral measures do have indirect costs and therefore are not really zero cost measures.

Two versions of the ten measures with the lowest direct costs (Column 9 in Tables 2 and 3) are provided. Table 9 includes the zero direct cost behavioral measures, and in fact only includes zero direct cost measures, while Table 10 excludes those measures.

| Table 9 Top 10 Measures - Absolute Direct Cost (including zero direct cost behavioral measures) | | |
|---|--|--|
| Rank | 6-Year Planning Period | 20-Year Planning Period |
| 1 | SF Allow lawn to go dormant | SF Allow lawn to go dormant |
| 1 | ICI Allow lawn to go dormant | ICI Allow lawn to go dormant |
| 1 | MF Allow lawn to go dormant | MF Allow lawn to go dormant |
| 1 | SF Decrease toilet flushes | SF Decrease toilet flushes |
| 1 | SF Decrease faucet use | SF Decrease faucet use |
| 1 | SF Decreased shower use | SF Decreased shower use |
| 1 | MF Decrease toilet flushes | MF Decrease toilet flushes |
| 1 | SF Eliminate partial clotheswasher loads | SF Eliminate partial clotheswasher loads |
| 1 | MF Decrease faucet use | MF Decrease faucet use |
| 1 | MF Decreased shower use | MF Decreased shower use |

| Table 10 Top 10 Measures - Absolute Direct Cost (excluding zero direct cost behavioral measures) | | |
|--|---------------------------------------|---------------------------------------|
| Rank | 6-Year Planning Period | 20-Year Planning Period |
| 1 | ICI Toilet leak detection and repair | ICI Toilet leak detection and repair |
| 2 | MF Toilet leak detection and repair | MF Toilet leak detection and repair |
| 3 | SF Toilet leak detection and repair | ICI Pre-rinse sprayheads |
| 4 | MF Limited lawn/low water use plants | MF Limited lawn/low water use plants |
| 5 | ICI Pre-rinse sprayheads | SF Toilet leak detection and repair |
| 6 | ICI Limited lawn/low water use plants | ICI Limited lawn/low water use plants |
| 7 | MF 2.0 gpm showerheads | MF 2.5 gpm showerheads |
| 8 | MF 2.5 gpm showerheads | ICI Waterless urinals |
| 9 | MF 1.0 gpm faucet aerators – bathroom | SF 2.5 gpm showerheads |
| 10 | Air cooled ice machines | MF 2.0 gpm showerheads |

5.5 Cost Effectiveness

Cost effectiveness is represented by the cost per ccf of reduced water usage over the planning period, which is listed in Columns 11 and 12 of Tables 2 and 3. Cost effectiveness is used for two purposes.

First, it provides a relative ranking of the measures in terms of their cost to save a unit of water. For example, one measure might cost \$0.10 per ccf of saved water, while another measure costs \$5.00 per ccf. The first measure would be implemented before the second measure if cost effectiveness is the only desired screening criterion. Usually additional criteria are incorporated into the decision as to which measures to implement.

The second purpose of cost effectiveness is for comparison to a threshold at which it is economical to do conservation. Measures that are cheaper than the threshold are deemed to be cost effective, while measures that are more expensive are not considered cost effective. Determining the threshold depends on the driver for conservation. There are four common conservation drivers: avoiding the need for additional supply; delaying capital costs; reducing operations and maintenance costs; and/or reducing environmental impacts. Calculations of the thresholds will take place during creation of the conservation plan in conjunction with developing the conservation goals.

Two versions of the ten measures with the lowest direct cost per ccf of saved water over the planning period (Column 12 in Tables 2 and 3) are provided. Table 11 includes the zero direct cost behavioral measures, and in fact only includes zero direct cost measures, while Table 12 excludes those measures.

| Table 11 Top 10 Measures - Cost Effectiveness (including zero direct cost behavioral measures) | | |
|---|--|--|
| Rank | 6-Year Planning Period | 20-Year Planning Period |
| 1 | SF Allow lawn to go dormant | SF Allow lawn to go dormant |
| 1 | ICI Allow lawn to go dormant | ICI Allow lawn to go dormant |
| 1 | MF Allow lawn to go dormant | MF Allow lawn to go dormant |
| 1 | SF Decrease toilet flushes | SF Decrease toilet flushes |
| 1 | SF Decrease faucet use | SF Decrease faucet use |
| 1 | SF Decreased shower use | SF Decreased shower use |
| 1 | MF Decrease toilet flushes | MF Decrease toilet flushes |
| 1 | SF Eliminate partial clotheswasher loads | SF Eliminate partial clotheswasher loads |
| 1 | MF Decrease faucet use | MF Decrease faucet use |
| 1 | MF Decreased shower use | MF Decreased shower use |

| Table 12 Top 10 Measures - Cost Effectiveness (excluding zero direct cost behavioral measures) | | |
|---|---------------------------------------|---------------------------------------|
| Rank | 6-Year Planning Period | 20-Year Planning Period |
| 1 | ICI Toilet leak detection and repair | ICI Toilet leak detection and repair |
| 2 | SF Toilet leak detection and repair | SF Toilet leak detection and repair |
| 3 | MF Toilet leak detection and repair | MF Toilet leak detection and repair |
| 4 | MF 1.0 gpm faucet aerators - bathroom | SF 1.0 gpm faucet aerators - bathroom |
| 5 | SF 1.0 gpm faucet aerators - bathroom | MF 1.0 gpm faucet aerators - bathroom |
| 6 | SF 2.0 gpm showerheads | SF 2.0 gpm showerheads |
| 7 | MF 2.0 gpm showerheads | MF 2.0 gpm showerheads |
| 8 | ICI Pre-rinse sprayheads | ICI Limited lawn/low water use plants |
| 9 | ICI Limited lawn/low water use plants | ICI Waterless urinals |
| 10 | ICI 1.0 gpf urinals | ICI Dual flush toilets |

Individual measures are more cost effective during the 20-year period than during the 6-year period due to the relationship between the number of planning years and the measure life span. For example, if a measure only needs to be implemented once, the cost effectiveness calculation divides the cost by 6 years of savings for the 6-year period, but by 20 years of savings for the 20-year period.

5.6 Longevity of Savings

The longevity of savings is addressed in two ways: (1) the number of times a measure is implemented, and (2) whether the measure addresses hardware or behaviors.

The number of times a measure is implemented over the planning period is listed in Column 13 of Tables 2 and 3. Some measures are implemented only once over the planning period, while others must be repeated in order to maintain their savings. The general guideline is that a measure will be repeated if its life span is shorter than the planning period. An exception is for measures that bring a fixture up to code, such as the 2.5 gpm aerators measure. In those cases, the measure is only implemented once, since when the hardware expires customers cannot purchase a less efficient fixture.

The measures that are implemented only once, and therefore have longer guaranteed savings, are shown in Table 13. The results apply regardless of sector. The measures in italics are code-related measures; therefore, only a portion of the savings are attributed to the conservation program if the planning period is longer than the remaining life of the hardware. There are more measures listed under the 6-year planning period than under the 20-year period because several measures have life spans longer than 6 years, but less than 20 years.

| Table 13 | |
|---|--|
| Measures Implemented Only Once | |
| 6-Year Planning Period | 20-Year Planning Period |
| <i>2.5 gpm faucet aerators - kitchen</i> | <i>2.5 gpm faucet aerators - kitchen</i> |
| <i>0.5 gpm faucet aerator - bathroom</i> | <i>0.5 gpm faucet aerator - bathroom</i> |
| <i>2.5 gpm showerheads</i> | <i>2.5 gpm showerheads</i> |
| <i>1.6 gpf toilets</i> | <i>1.6 gpf toilets</i> |
| <i>1.0 gpf urinals</i> | <i>1.0 gpf urinals</i> |
| <i>Pre-rinse sprayheads</i> | <i>Pre-rinse sprayheads</i> |
| <i>Waterless urinals</i> | <i>Waterless urinals</i> |
| <i>Limited lawn/low water use plants</i> | <i>Limited lawn/low water use plants</i> |
| <i>Dual flush toilets</i> | <i>Dual flush toilets</i> |
| <i>2.0 gpm showerheads</i> | |
| <i>1.0 gpm faucet aerators - bathroom</i> | |
| <i>Efficient clotheswashers</i> | |
| <i>ET controllers</i> | |
| <i>Toilet leak detection and repair</i> | |
| <i>Air cooled ice machines</i> | |

The second way to view longevity is whether the measure focuses on hardware or behavior, which is indicated in Column 14 of Tables 2 and 3. Measures achieve savings by either improving the efficiency of hardware (e.g., upgrading to 2.5 gpm showers) or by changing behavioral practices (e.g., shortening the length of showers). Once a measure is implemented, it is assumed to maintain its savings over its life span. However, it is possible that customers could decide to revert back to their original (and less efficient) hardware or behavior before the measure life span expires. Reverting back is more difficult for hardware measures since it requires re-installing equipment. This is especially true for measures that bring fixtures up to code because less efficient fixtures are not available in the marketplace. Customers can revert back more easily on behavior measures.

The measures that focus exclusively on hardware are shown in Table 14. The results apply regardless of sector or planning period.

| Table 14 |
|--|
| Measures Focused Only on Hardware |
| 1.0 gpm faucet aerators - bathroom |
| 2.5 gpm faucet aerators - kitchen |
| 2.0 gpm showerheads |
| 2.5 gpm showerheads |
| 1.6 gpf toilets |
| Dual flush toilets |
| 1.0 gpf urinals |
| Waterless urinals |
| Efficient clotheswashers |
| Air cooled ice machines |
| ET controllers |
| Pre-rinse sprayheads |

5.7 Certainty of Savings

Certainty of savings is qualitatively described in Column 15 of Tables 2 and 3.

Some measures have a higher certainty of achieving the estimated savings compared with other measures. The degree of certainty is associated with: (a) whether the measure is a hardware or behavior measure, (b) existence of documented savings from similar programs, (c) confidence levels in the participation rate estimates, and (d) confidence in the ability of customers to properly install and use certain hardware. Taken together, these issues address the question “how confident is the planning group that the measures will achieve the desired savings?”

Each measure was assigned a relative certainty of savings of either “lower” or “higher” given the following assumptions. Most behavioral measures were designated as “lower” since encouraging behavior change is often difficult, savings are easily reversed, and documenting savings from behavior change is challenging. Most hardware measures were designated as “higher” since there is a large body of documentation, including that of Cascade members, validating the ability to obtain savings. The three measures that focus on both hardware and behavior were designated as “lower” for various reasons. The “audits for automatic irrigation” measure was given a “lower” level of certainty because programming of automatic controllers, which is central to the measure, can be reversed. The “audits for manual irrigation” measure was given a “lower” level of certainty since it relies primarily on behavioral practices. The “toilet leak detection and repair” measure was deemed to have a “lower” certainty level since it relies on the ability of customers to properly diagnose and fix toilet leaks.

The measures that have a higher level of certainty are shown in Table 15. The results apply regardless of sector or planning period. The results are identical to Table 14.

| Table 15 Measures With Higher Certainty of Savings |
|---|
| 1.0 gpm faucet aerators - bathroom |
| 2.5 gpm faucet aerators - kitchen |
| 2.0 gpm showerheads |
| 2.5 gpm showerheads |
| 1.6 gpf toilets |
| Dual flush toilets |
| 1.0 gpf urinals |
| Waterless urinals |
| Efficient clotheswashers |
| Air cooled ice machines |
| ET controllers |
| Pre-rinse sprayheads |

5.8 Proportionate Applicability to Each Member

Proportionate applicability to each member was chosen as a screening criterion because it is anticipated that Cascade might choose to incorporate this concept into the development of its conservation program. It should be noted that selection of program elements based on proportionate applicability may in some cases run counter to other criteria such as overall cost

effectiveness. Therefore use of this criterion should be considered a matter for policy discussion.

Each measure was analyzed for proportionate applicability by comparing the percent of the measure's savings for each member to the percent of Cascade's total demand for each member. For example, for the 6 year planning period, 32% of the savings from the "SF 1.6 gpf toilets" measure comes from Bellevue. Bellevue's demand is projected to be 35% of Cascade's total demand at the end of the 6 year planning period. Therefore, this measure is considered proportionate for Bellevue since the percent of savings (32%) is similar to the percent of demand (35%). However, this measure is not proportionate for other members and is therefore not considered proportionate overall. For example, 20% of the savings from the measure come from Covington, while Covington's demand is only 10% of Cascade's demand.

Using this definition, nearly all of the measures were found to be not proportionate. This is due primarily to the diverse nature of Cascade's service area and the fact that each measure focuses on a single sector. Some Cascade members are more heavily weighted toward the single family sector (such as Covington Water District), other members are more heavily weighted toward the commercial sector (such as Tukwila), and many members are somewhere in between. While most individual measures were not proportionate, the overall conservation program could be designed to be proportionate if it includes a balanced mix of measures targeted at all sectors. If Cascade decides proportionate applicability to each member is important, this issue can be incorporated at the program design level.

5.9 Administrative Complexity

Administrative complexity is qualitatively described in Column 16 of Tables 2 and 3. This criterion is important because it affects the workload and staffing requirements of the conservation program.

While some of the administrative complexity will be determined by program design decisions made later, relative levels of effort can be established based on the nature of the measures and general assumptions about program design. Each measure was assigned an administrative complexity of low, moderate, or high given the following assumptions. Most behavioral measures were designated as "low", assuming they would need little more than management of an outreach campaign. Most indoor hardware measures were designated as "moderate", assuming staff would need to coordinate rebate payments. Most outdoor measures were designated as "high", since encouraging participation, conveying the techniques to achieve the savings, and management of irrigation audits requires more time than other measures.

The measures with low administrative complexity are shown in Table 16. The results apply regardless of sector or planning period.

| Table 16 |
|--|
| Measures with Low Administrative Complexity |
| Decrease faucet use |
| Decreased shower use |
| Decrease toilet flushes |
| Eliminate partial clotheswasher loads |
| Allow lawn to go dormant |

5.10 Customer Acceptance

Customer acceptance is represented by the participation rate, which is listed in Column 17 of Tables 2 and 3. The participation rate is the number of customers that are expected to implement a measure as a percent of the number of customers that could implement the measure. Estimated participation rates are based on the market research survey results, literature reviews, and professional judgment, using the following guidelines:

- 90 percent signifies very high customer acceptance
- 75 percent signifies high customer acceptance (“very likely” from the CPA survey)
- 50 percent signifies moderate customer acceptance (“somewhat likely” from the CPA survey)
- 25 percent signifies low customer acceptance (“not too likely” from the CPA survey)
- 10 percent signifies very low customer acceptance (“not likely at all” from the CPA survey)

The measures with a participation rate of 50 percent or higher are shown in Table 17. The threshold of 50 percent was chosen because it is the highest participation rate of all measures, except for “pre-rinse sprayheads” at 75 percent and “MF 1.6 gpf toilets - \$100 rebate” at 60 percent. The results apply regardless of sector or planning period, except for clotheswashers, which have a 50-percent participation rate in the 20-year planning period, but only a 25-percent participation rate in the 6-year planning period.

| Table 17 |
|--|
| Measures With Participation Rates 50% or Higher |
| 1.0 gpm faucet aerators - bathroom |
| 2.5 gpm faucet aerators - kitchen |
| 2.0 gpm showerheads |
| 2.5 gpm showerheads |
| 1.6 gpf toilets |
| 1.0 gpf urinals |
| Efficient clotheswashers (20 year only) |
| Pre-rinse sprayheads |

6.0 Conclusion

This Conservation Potential Assessment provides Cascade with a powerful tool for conservation planning, allowing relative comparisons between measures and calculating the technical potential for water savings. It is a toolbox with conservation tools that Cascade can draw upon as it develops its long range conservation program. In 2006, Cascade intends to update the Conservation Plan included in its 2005 *Transmission and Supply Plan*. Additional decisions regarding Cascade’s conservation goals and program funding levels will be combined with the technical results of the CPA to determine which measures are selected for implementation.

Appendix A-1

Market Research Survey

Report from Dethman and Associates

**Final Report
Cascade Water Alliance**

**2005 Residential Conservation
Potential Assessment Survey**

Submitted to

**Cascade Water Alliance
C/O Mike Brent**

Submitted by:

DETHMAN & ASSOCIATES 
**Linda Dethman
David Thomley**

**Under contract to
HDR/EES**

August 2005

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Acknowledgements

We wish to thank the members of the Conservation Work Group of Cascade Water Alliance for their support and guidance on this survey. In addition, many thanks to HDR/EES for making sure we met the goals of the larger conservation potential assessment. Finally, Cascade customers who took the time to participate in the study deserve special credit for contributing their time, information, and opinions.

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| | |
|--|----|
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EXECUTIVE SUMMARY

Study Background and Purposes

The eight municipalities and water utility districts that make up the Cascade Water Alliance (Cascade) provide water and related services to more than 300,000 people living in 128,000 residential households. The overall purpose of this study is to provide Cascade with reliable information about residential consumer knowledge, attitudes, equipment, and behaviors related to water conservation issues. This information will be used to formulate a conservation potential assessment, serve as a baseline against which conservation progress can be tracked (e.g., equipment and behavioral changes), and help plan viable water conservation programs. Key research questions include:

- How many and what type of indoor and outdoor water-consuming devices do consumers currently have?
- What consumer behaviors are related to water use?
- What steps have consumers already taken to reduce water use, both indoors and outdoors?
- What level of interest and willingness do consumers have in changing their water using behaviors and/or equipment to conserve water?
- What are motivations and barriers to taking conservation actions?

Study Methods

Cascade staff and its member representatives worked closely with the consultant team to design and conduct the research. Telephone interviews, lasting about 15 minutes each, were conducted by professional interviewers during May and June 2005. Data were analyzed using standard data reduction and statistical methods.

Random sampling across Cascade member areas was used, but presented some challenges due to the incongruence of sampling frames (e.g., zip codes) and service territories, and the inability of respondents to provide accurate names for their water supplier (see Chapter 1 for further details on this point). Table 1 shows the overall and sub-sample sizes and their margins of error, the percent of the actual population in each sub-sample, the percent of the sample falling in each of the sub-samples, and the weight applied to each sub-sample so that the overall sample would reflect population proportions. The overall sample of 604 reliably estimates the population and carries a plus or minus 4% margin of error in 95 out of 100 similarly drawn samples. The sub-sample sizes, while also reliable, vary in their margins of error. The sub-samples grouped together areas with compatible demographic and household characteristics.

Table 1: Sample and Sub-Sample Sizes & Margins of Error

| | | Error Margin | % of Population | % of Sample | Weight Applied to Overall Results¹ |
|---|-----|---------------------|------------------------|--------------------|--|
| Overall | 604 | +/- 4.0% | | | |
| Bellevue/Redmond/Kirkland/Issaquah | 399 | +/- 4.9% | 72 | 66 | 1.083 |
| Covington/Sammamish | 100 | +/- 9.7% | 23 | 17 | 1.38 |
| Skyway/Tukwila | 105 | +/- 9.7% | 5 | 17 | .286 |

Key Findings

Key population findings, as well as notable differences among the three sub-samples are highlighted in this Executive Summary. More detailed information can be found in the table of key findings at the end of this summary, in the main body of the report, and in Appendix A. HDR/EES (the prime consultant) and Cascade also have the survey data in an electronic file.

Demographics and Household Characteristics

- Overall, most respondents own their homes, live in homes built before 1994 (when the plumbing code change that requires low-flow toilets and other water saving devices went into effect), and are Caucasian. Other overall characteristics vary more.
- Still, almost all demographic and household characteristics differ significantly across the three sub-samples, supporting the similarity within each sub-sample and also the diversity and lack of homogeneity of customers and households across the three sub-samples. See Table 1 for a complete breakdown of demographic and household characteristics.

Indoor Water Use Characteristics and Behaviors

Toilets

- Overall, Cascade households average 2.51 toilets, with 16% having one toilet in their homes, 29% having two, 45% having three, and 10% having four or more toilets.
 - Households in Covington/ Sammamish have significantly more toilets than households in the other two areas.
- While most households in Cascade service areas have at least one-low flow toilet (71%), 39% of all homes built prior to 1994 have no low-flow toilets, and many homes have a mix of low-flow and high-flow toilets.
 - Bellevue/Kirkland/Redmond/Issaquah respondents living in pre-1994 homes report the smallest incidence of no low-flow toilets (35%) compared to significantly high incidences of no low-flow toilets in Covington/Sammamish (50%) and Skyway/Tukwila (47%).

¹ The weights are applied by multiplying the weight by the percent in the sample. For instance, 1.083 X 66% = approximately 72%

- Among homeowners who reported having at least one high flow toilet (42% of households), 19% said they planned to replace a high flow toilet in their homes within the next year.
 - When asked if they would change out a toilet at various incentive levels (\$40, \$60, or \$80), 39% overall said they would “very likely” do so, with interest varying by incentive levels and sub-samples (see Table 8 for more details).
- Overall, only 18% of households report they have checked their toilets for silent leaks using dye tabs or food coloring. Of those who checked for leaks, however, 38% found one, and almost all of these households either repaired or replaced their toilets.
- Just over half of respondents (54%) reported that toilets in their households were flushed with every use.

Showers and Faucets

- Overall, 24% of households have one shower.
 - The number of showers varies significantly across the sub-samples. Covington/Sammamish has the lowest proportion of homes with one shower (15%), compared to 25% in Bellevue/Kirkland/ Redmond/ Issaquah, and 52% in Skyway/Tukwila.
 - About a quarter of households with showerheads installed before 1994 report they have no low-flow showerheads.
- The majority of households (81%) report that most showers in their homes last five minutes or more, with about a quarter saying most showers last 11 minutes or more.
- Virtually all households have multiple faucets inside their homes, with just over half (56%) reporting they have four or fewer faucets.
 - Consistent with other findings, households in Covington/Sammamish have the most faucets (30% with six or more), Bellevue/Kirkland/ Redmond/Issaquah have somewhat fewer (22% with six or more), and Skyway/Tukwila homes have the least (10% with six or more).
- When those living in homes built before 1994 were asked about the incidence of low-flow faucets, 28% overall said they had none.
- 18% overall reported having found a leaking or dripping faucet in their home in the past year; of these, 75% said they had fixed the leaks they found.

Clothes Washing

- Almost all households within Cascade territories have clothes washers (93%).
 - The incidence of clothes washers varies significantly by sub-sample, but still is high in each area. Skyway/Tukwila has the lowest incidence at 86%; Bellevue/Kirkland/Redmond/Issaquah has 93% incidence and Covington/Sammamish has 98% incidence.
- Among homes with washers, 40% report having a resource efficient washer.
 - The penetration of resource efficient washers did not vary significantly by sub-sample but did follow the similar pattern to other findings, with Skyway/Tukwila having the lowest penetration (34%), Bellevue/Kirkland/Redmond/Issaquah in the middle (39%), and Covington/Sammamish having the highest penetration (43%).
 - 42% said they received a rebate from their water or energy utility when they bought their washers, with proportions significantly higher in

- Bellevue/Kirkland/Redmond/Issaquah homes (47%) than in Skyway/Tukwila (32%) or Covington/Sammamish (29%) homes.
- Just 9% with resource efficient washers report they use the suggested manufacturer approach to realizing optimal savings from their washers – packing clothes in tightly to the top of the drum. The most common approach is to pack clothes loosely and not to fill to the top, which is consistent with the approach advised for non-resource efficient washers (which most consumers had prior).
- Among households with non-resource efficient washers, 12% say they would be very likely to replace their current washer with a resource-efficient one if offered a \$100 rebate.

Outdoor Water Use Characteristics and Behaviors

Landscaping

- Landscaping questions were asked only of respondents living in one-to-four family homes (79% of respondents). Most of these households have both lawn and garden areas (79%), although 9% report they have only lawn, and another 9% report they have only garden areas and no lawn.
 - Skyway/Tukwila households are significantly more likely to report they have only lawn (26%) than the other two sub-samples which mirror the overall proportion of about 9%.
- About one in five households say they are very likely to make major landscaping changes within the next two years.
 - Covington/Sammamish households are significantly more likely to be engaged in major landscape changes (39%), compares to Bellevue/Kirkland/Redmond/Issaquah (17%) or Skyway/Tukwila (9%).

Watering and Watering Systems

- Of households with lawns, 35% overall report they water once a month or less (equals no watering) during the dry summer months, while 29% report they water at least every three days.
 - The frequency of lawn watering varies significantly by sub-sample with Skyway/Tukwila households watering the least often and Covington/Sammamish households watering the most often. (See Table 28 for details)
- Of households that water their lawns, the most common watering systems are moveable sprinklers (49%) and in-ground sprinklers with automatic controllers (32%).
 - About one-third of Bellevue/Kirkland/Redmond/Issaquah and Covington/Sammamish households have automatic in-ground systems while only 3% of Skyway/Tukwila households have them.
 - 32% watering their lawns with in-ground automatic systems report they have rain shut-off devices. Of those without such devices, 41% say they would be likely to buy and install a shut-off device if they received a \$100 rebate (covering two-thirds of the cost of the device).

- Over half watering with in-ground automatic systems report they either just schedule their systems once a season (23%) or they don't know how often they schedule it (23%).
- Of homeowners with in-ground systems, 11% said they very likely purchase a weather-sensitive controller if they received a utility rebate for just over half of the purchase price of \$650.
- Just about half (48%) of these respondents said they have a professional inspect their in-ground systems each year to identify and fix problems. About half of this same group would be very likely to use a free, utility-sponsored inspection service.
- About a quarter of households currently watering their lawns say they would be willing to let their lawn go dormant and turn brown.
- About 10% of homeowners who water their lawns say they are very likely to reduce the amount of lawn they have within the next two years.
- Homeowners watering their lawns were asked about their interest in three “offers” to help them reduce landscape water use.
 - 32% would find a rebate of up to \$300 for water conservation measures very helpful
 - 28% thought educational materials would be very helpful
 - 26% thought an on-site audit would be very helpful.
- Of respondents with non-lawn planting areas, 18% report they water these areas once a month or less; 45% report watering at least every three days. Moveable sprinklers are most often used for this type of watering (38%), followed by “by hand with a hose” (27%), and using an in-ground automatic sprinkler system (23%).
 - Again, watering methods vary by sub-sample (see Table 33).
- About 11% of homeowners watering their non-lawn areas report they are very likely to redo all or part of their landscaping in the next two years with plants that need less water.

Use of Landscape Professionals

- About a quarter of respondents living in single to four-family homes use a landscape professional.
 - Bellevue/Kirkland/Redmond/Issaquah residents are significantly more likely to make use of these professionals (27%) than residents in Covington/Sammamish (18%) or Skyway/Tukwila (13%).
 - Respondents report that landscape professionals sometimes to advise them on water saving gardening methods, including:
 - 56% getting advice on water saving lawn care
 - 49% getting gotten advice on water scheduling
 - 30% getting advice about improving soil for water efficiency
 - 28% getting advice about choosing water efficient plants.
- Most households using a landscape professional report they usually mulch their planting beds (65%), but fewer report usually adding compost to their soil (38%), aerating their lawns (37%), choosing drought-tolerant plants (31%), or leaving grass clippings on their lawns (22%).
- Those who don't use landscape professionals tend to usually add mulch, add compost to soil, and choose drought tolerant plants at the same rate as those using

professionals. However, they are much less likely to aerate their lawns and much more likely to grasscycle.

Other Outdoor Water Use

- 12% of respondents in one-to-four family houses report they collect rain water from their roof to water their plants.
- 24% of respondent report washing their cars at home.

Knowledge, Motivation, and Conservation Program Participation

- Although most respondents knew of the potential drought alert earlier in the year (89%), few who knew said they were very concerned (14%) that they would be asked to voluntarily cut back on their water use.
- Overall, 38% of respondents thought they could reduce their water use by 5%, while 41% thought they could reduce use by 5-10%, and 14% thought they could reduce household water use by 10% or more.
- When asked about their most important motivation to reduce water use in their homes, respondents most often said they would be motivated by cost savings (51%). Notable proportions also mentioned saving resources for the future (25%) and being environmentally responsible (11%).
- When asked individually to rate the importance of various reasons to save water, saving on bills received the smallest percent of very important ratings (42%) and “ensuring enough water for the future” garnered the largest share (74%). Other ratings included?
 - Doing your share to reduce waste (64% very important)
 - Protecting the environment in general (60%)
 - Having enough water for salmon (54%)
- About one in five respondent report they have participated in water conservation programs offered through their local water utilities.

Conclusions

The findings from this survey suggest these major conclusions:

1. Customers within Cascade member areas believe they have the potential to save a significant amount of water at home and many can be motivated to take water saving actions. There is considerable unanimity across member areas in terms of motivations to save water.
2. The current levels of water saving behaviors and equipment that customers reported in this survey are consistent with their view that they can save more water at home.
3. Cascade member territories differ significantly from one another in terms of demographics, household characteristics, and water using behaviors, experience, and equipment. These many differences will be important to consider in planning and implementing conservation services. The HDR/EES report will be able to more precisely identify differences in water saving opportunities across service territories.

Over time, we suggest that Cascade track key water conservation indicators so that programmatic efforts can be checked against changes in the indicators. Table 2 lists potential indicators to track over time.

Table 2: Suggested Key Water Conservation Indicators to Track

| |
|--|
| Indoor |
| % of HH with no low-flow toilets |
| % of HH checking toilet leaks |
| % of HH flushing with every use |
| % of HH reporting showers last less than 5 minutes |
| % of HH with low-flow showerheads |
| % of HH with efficient washers |
| % of HH receiving utility rebates for efficient washers |
| % of HH packing clothes correctly in efficient washers |
| Outdoor |
| % of HH not watering lawns during summer |
| % of HH with in-ground automatic systems that: |
| ○ Have rain sensors |
| ○ Schedule more than once a season |
| ○ Have weather sensitive controllers |
| % of households mulching, using drought tolerant plants, adding compost, aerating lawns, grasscycling |
| % HH collecting rain water for irrigation |
| % of HH washing cars at car washes |

CHAPTER ONE – BACKGROUND, METHODS, AND DEMOGRAPHICS

Study Background and Purposes

The eight municipalities and water utility districts that make up the Cascade Water Alliance (Cascade) provide water and related services to more than 300,000 people living in 128,000 residential households. The overall purpose of this study is to provide Cascade with reliable information about residential consumer knowledge, attitudes, equipment, and behaviors related to water conservation issues. This information will be used to formulate a conservation potential assessment, serve as a baseline against which conservation progress can be tracked (e.g., equipment and behavioral changes), and help plan viable water conservation programs. Key research questions include:

- How many and what type of indoor and outdoor water-consuming devices do consumers currently have (e.g., toilets, showerheads, clothes washers, irrigation systems, hot tubs, water features)?
- What consumer behaviors are related to water use? (e.g., lawn watering, showering, clothes washing, toilet flushing, leak repair)?
- What steps have consumers already taken to reduce water use, both indoors and outdoors? Have consumers participated in utility sponsored conservation activities?
- What level of interest and willingness do consumers have in changing their water use behaviors and/or updating their water using equipment to conserve water?
- What would motivate consumers to engage in conservation activities? What barriers do they face in changing equipment and behaviors?

Study Methods

Approach

Cascade staff and member representatives worked closely with HDR/EES, the prime contractor, and Dethman & Associates, an environmental evaluation and research firm in Seattle, to design and conduct the research. Gilmore Research Group, a full service market research in Seattle and Portland pre-tested, collected, and processed the data. Telephone interviews were conducted during May and June 2005 by trained, professional interviewers. Interviews lasted about 15 minutes and were conducted using a computer assisted interviewing system. Data were analyzed using standard data reduction and statistical methods.

Drawing the sample for this study proved challenging, due to these factors:

- Service territory boundaries have overlapping zip codes and prefixes which are the typical frames used to develop random telephone samples. At the same time, customers may not reliably know the names of their utilities.

To address these challenges and avoid a high cost approach, we developed a sampling frame using zip codes that were all or mostly within the utility sub-samples; this excluded a small number of eligible customers but produced only four zip codes that were in more than one Cascade member's service territory. Cascade and the consultant team also agreed that the zip code, not the utility name, would be the determining factor for inclusion in the survey, since respondents were more likely to reliably know their zip codes. Although we knew using the zip code to define eligibility meant some respondents would not be Cascade customers, we assumed they would be similar to Cascade customers since they lived nearby.

During fielding, customers were first asked for their zip code and were able to continue the survey if they gave one of the eligible zip codes. They were then asked for their water utility. Those that gave a water utility that didn't match the name of a Cascade member were recorded; about 22% of customers gave utility names that did not match the Cascade member list. At the end of the survey fielding, these households were assigned to areas based on zip codes and utility maps.

- The sample needed to serve two purposes: provide reliable population estimates and reliable estimates of three sub-samples which grouped together responses from Bellevue/ Redmond/Kirkland Issaquah; Covington/Sammamish; and Skyway/Tukwila.

Cascade members guided the selection of these groupings, based upon a general assessment of demographic and household characteristics in their communities. The goal was to combine areas that had relatively similar characteristics. Thus, they grouped Bellevue/Redmond/Kirkland/Issaquah together as fairly established, somewhat diverse upscale suburban communities with many mid- to-late 20th century homes. Covington/ Sammamish are much more recent cities (1997 and 1999), with very upscale households, and new large homes and lots. Finally, Skyway/ Tukwila are areas with more diverse, middle-income populations and smaller, older homes.

These groups, however, resulted in widely different population sizes for each area, and thus widely different sample sizes if we just used population proportions to guide sample selection. Since the anticipated sample for Skyway/Tukwila was too small for reliable analysis (5% of the overall population), we over sampled this area, using a "listed" sample of names and addresses within specified boundaries. This over sampling and the post-hoc utility assignment affected the sample proportions. To ensure accurate overall population estimates, we weighted the sub-samples back to population proportions.

Table 3 shows the overall and sub-sample sizes and their margins of error, the percent of the actual population in each sub-sample, the percent of the overall survey sample falling in each

of the sub-samples, and the weight applied to each sub-sample so that the overall sample would reflect population proportions. The overall sample of 604 is highly reliable and carries a +/-4% margin of error in 95 out of 100 similarly drawn samples. The sub-samples have larger margins of error, ranging from +/-4.9% for the largest sub-sample to +/-9.7% for the other two sub-samples.

Table 3: Sample Sizes & Margins of Error

| | | Error Margin | % of Population | % of Sample | Weight Applied to Overall Results |
|------------------------------------|-----|--------------|-----------------|-------------|-----------------------------------|
| Overall | 604 | +/- 4.0% | | | |
| Bellevue/Redmond/Kirkland/Issaquah | 399 | +/- 4.9% | 72 | 66 | 1.083 ² |
| Covington/Sammamish | 100 | +/- 9.7% | 23 | 17 | 1.38 |
| Skyway/Tukwila | 105 | +/- 9.7% | 5 | 17 | .286 |

Table Notes

Each table title reflects the question asked³, and the weighted population results, followed by the sub-sample results. If statistically significant differences exist among the sub-samples, they are indicated by *Sig.* = *<.05*, meaning that there is less than a 5% chance that the differences occurred by chance. If no significant differences are present, the table is labeled *N.S.* (Non-Significant). Due to rounding, or to questions where multiple responses were allowed, total percentages may exceed 100%. Respondents were filtered in an out of questions based upon a variety of criteria which are explained in the text; this filtering may substantially alter the sample sizes.

Demographic and Household Characteristics

Summary

Demographic and household characteristics of the overall population and the three sub-samples are shown in **Table 4**. Overall, most respondents own their homes, live in homes built before 1994 (when the plumbing code change that requires low-flow toilets and other water saving devices went into effect), and are Caucasian. Other overall characteristics vary more, and almost all characteristics differ significantly across the three sub-samples, reflecting a diverse population. For instance, Covington/Sammamish residents are more likely to be younger and have families, while Skyway/Tukwila residents are more likely to be older and live in 1-2 person households.

- Overall, 82% report they own their homes, while 17% are renters. Home ownership was significantly higher in Covington/Sammamish (92%), compared to Bellevue/Redmond/Kirkland/Issaquah (79%) and Skyway/Tukwila (71%).

² The weights are applied by multiplying the weight by the percent in the sample. For instance, 1.083 X 66% = approximately 72%

³ In some cases, these questions have been shortened.

- Just over three-quarters (77%) of all respondents live in single family detached homes, and another 2% live in duplexes, triplexes, or fourplexes. About one-fifth of respondents (21%) live in buildings with 5 or more units. Covington/Sammamish respondents are significantly more likely to live in single family homes (92% than Skyway/Tukwila (77%) and Bellevue/ Redmond/Kirkland/Issaquah (72%) respondents.
- Overall, 69% of households live in homes built in 1993 or before, with 27% living in homes built in 1994 or later. Homes built before 1994 are significantly more likely to be found in the Skyway/Tukwila area (73%), compared to Covington/Sammamish (66%).
- Across the whole population, household size averages just under three people (2.82). Covington/Sammamish has the largest number of average persons per household at 3.29, compared to Bellevue/Redmond/Kirkland/Issaquah at 2.69 and Skyway/Tukwila at 2.46. Covington/Sammamish respondents are both much more likely to live in 4+ person households and much less likely to live in 1 person households, compared to the other two areas.
- Overall, age is spread out across the categories, with 21% aged 18-34, 46% aged 35-54, and 31% aged 54 and above. A significantly greater proportion of Skyway/Tukwila respondents reported being 65 or older (30%), compared to Bellevue/Redmond/Kirkland/Issaquah (20%) and Covington/Sammamish (5%).
- While most respondents are of Caucasian ethnic heritage (81%), Covington/Sammamish respondents were more likely to be Caucasian (89%) than respondents in the other two sub-samples (Bellevue Kirkland, 79%, and Skyway/Tukwila, 71%).
- Based on reported household income, Covington/Sammamish had the greatest number of households with annual income over \$50,000 (69%), compared to Bellevue/Redmond/Kirkland/Issaquah (50%) and Skyway/Tukwila (43%).
- Overall, 57% of respondents were female with 42% male. There were no significant differences among the sub-samples.

Table 4: Demographic and Household Characteristics

| | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--|-----------------------------|-------------------------------|---------------------|---------------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Home Ownership vs. Renting (Q1) | | | | |
| Sig. = <.05 | | | | |
| Own | 82 | 79 | 92 | 71 |
| Rent | 17 | 20 | 5 | 29 |
| DK/NA ⁴ | 2 | 1 | 3 | 1 |

⁴ DK/NA is the abbreviation used for Don't Know/No Answer

| | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---|-----------------------------|-------------------------------|---------------------|---------------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Type of Dwelling (Q2) Sig. = <.05 | | | | |
| Single Family detached home | 77 | 72 | 92 | 77 |
| Apt/condo/townhouse, 5 or more units | 21 | 25 | 6 | 22 |
| Duplex/triplex/fourplex | 2 | 3 | 2 | 1 |
| DK/NA | 0 | 0 | 0 | 0 |
| Year Home Built (Q3) Sig. = <.05 | | | | |
| 1993 or before | 69 | 69 | 66 | 73 |
| 1994 or later | 27 | 25 | 34 | 19 |
| DK/NA | 4 | 6 | 0 | 8 |
| Number in Household (Q54) Sig. = <.05 | | | | |
| 1 | 18 | 22 | 5 | 25 |
| 2 | 32 | 34 | 26 | 38 |
| 3 | 19 | 17 | 25 | 20 |
| 4 | 18 | 16 | 27 | 8 |
| 5 | 9 | 9 | 12 | 5 |
| 6+ | 3 | 2 | 4 | 5 |
| Average | 2.82 | 2.69 | 3.29 | 2.46 |
| Age (Q55) Sig. = <.05 | | | | |
| 18-24 | 4 | 5 | 1 | 6 |
| 25-34 | 17 | 16 | 22 | 11 |
| 35-44 | 23 | 22 | 26 | 23 |
| 45-54 | 23 | 21 | 32 | 16 |
| 55-64 | 14 | 15 | 13 | 14 |
| 65 or older | 17 | 20 | 5 | 30 |
| DK/NA | 1 | 1 | 0 | 0 |
| Ethnicity (Q56) Sig. = <.05 | | | | |
| Caucasian | 81 | 79 | 89 | 71 |
| Asian/Pacific Islander | 8 | 9 | 5 | 6 |
| African-American | 2 | 1 | 2 | 10 |
| Latino/Hispanic | 2 | 3 | 0 | 5 |
| Native American | 0 | 1 | 0 | 1 |
| Mixed ethnicity | 2 | 2 | 2 | 1 |
| Other | 1 | 1 | 0 | 1 |
| DK/NA | 5 | 6 | 2 | 6 |
| Household Income (Q57) Sig. = <.05 | | | | |
| Less than \$15,000 | 2 | 2 | 2 | 9 |
| \$15,000 to \$25,000 | 3 | 4 | 0 | 11 |
| \$25,000 to \$50,000 | 13 | 13 | 11 | 20 |

| | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--|-----------------------------|-------------------------------|---------------------|---------------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Refused to specify but under \$50,000 | 2 | 2 | 1 | 5 |
| \$50,000 – \$75,000 | 19 | 20 | 14 | 30 |
| \$75,000 - \$100,000 | 15 | 14 | 19 | 8 |
| Over \$100,000 | 29 | 29 | 36 | 5 |
| Refused to specify, but over \$50,000 | 6 | 7 | 5 | 4 |
| Refused, no income estimate | 11 | 10 | 12 | 9 |
| Gender Sig. N.S. | | | | |
| Female | 57 | 56 | 61 | 53 |
| Male | 43 | 44 | 39 | 47 |

CHAPTER TWO – INDOOR WATER USE

This chapter characterizes how customers use water indoors, including incidence and use of toilets, faucets, showers, and clothes washers.

Toilets

As shown in **Table 5**, Cascade households overall average 2.51 toilets, with 16% having one toilet in their homes, 29% having two, 45% having three, and 10% having four or more toilets. Breakouts by sub-sample show households in Covington/ Sammamish have significantly more toilets than households in the other two areas, with 71% reporting they have three or more toilets in their homes, compared to 52% in Bellevue/Redmond/ Kirkland/Issaquah and 22% in Skyway/Tukwila.

Table 5 Q4. How many toilets do you have in your home?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-----------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| One | 16 | 17 | 8 | 40 |
| Two | 29 | 31 | 21 | 37 |
| Three | 45 | 41 | 65 | 22 |
| Four | 7 | 8 | 5 | 0 |
| Five or more | 3 | 3 | 1 | 0 |
| DK/NA | 0 | 0 | 0 | 1 |
| Average ⁵ | 2.51 | 2.50 | 2.70 | 1.82 |

When those living in homes built prior to 1994 (73% or 438 respondents) were asked to count how many low-flow toilets they had in their homes, 39% of these respondents reported having no low-flow toilets (see **Table 6**). This is equal to 29% of all Cascade households having no low-flow toilets (or 71% having at least one high flow toilet). Please note that these were self-reports and that some respondents may not have been able to accurately distinguish between low-flow and high flow toilets.

Bellevue/Kirkland/Redmond/Issaquah respondents living in homes built before 1994 report the smallest proportion of no low-flow toilets (35%) compared to significantly larger proportions in Covington/Sammamish (50%) and Skyway/Tukwila (47%) reporting they have no low-flow toilets.

⁵ To calculate the average, “five or more” was counted as “five.” This is also true for similarly constructed scales.

Table 6 Q5: How many of the toilets in your home* are low-flow toilets?

| <i>Sig.</i> = <.05 | Overall Weighted | Bvue/Kirk/Red/Iss | Cov/Sam | Sky/Tuk |
|---|-------------------------|--------------------------|----------------|----------------|
| N= | 438 | 298 | 66 | 85 |
| | % | % | % | % |
| Zero | 39 | 35 | 50 | 47 |
| One | 20 | 22 | 17 | 18 |
| Two | 18 | 20 | 12 | 19 |
| Three | 11 | 10 | 17 | 5 |
| Four | 2 | 2 | 0 | 0 |
| Five or more | <1 | >1 | 0 | 0 |
| DK/NA | 10 | 11 | 5 | 12 |
| Average | 1.08 | 1.14 | .95 | .79 |
| % of all homes w/ no low-flow toilets | 29% | 26% | 33% | 38% |

*Only asked of respondents whose homes were built before 1994

If respondents said they had one or more high-flow toilets, and they were homeowners, they were asked additional questions about their plans to replace toilets and if they would be likely to replace toilets if their utilities offered different incentive levels. This group amounted to 252 households or 42% of total households surveyed (weighted) and proportions were not significantly different across the sub-samples. As shown in **Table 7**, 19% of these respondents said they planned, within the next year, to replace high-flow toilets in their homes, 77% had no plans to do so, and 5% didn't know. Breakouts by sub-sample showed no significant differences.

Table 7 Q6: Within the next year do you plan to replace any toilets in your home installed before 1994?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk/Red/Iss | Cov/Sam | Sky/Tuk |
|-------------|-------------------------|--------------------------|----------------|----------------|
| N= | 252 | 162 | 47 | 41 |
| | % | % | % | % |
| Yes | 19 | 16 | 28 | 15 |
| No | 77 | 78 | 70 | 81 |
| DK/NA | 5 | 6 | 2 | 5 |

These same respondents were asked if they would be willing to replace their toilets if they received a rebate from their utility. The amount started at \$40 and increased to \$60 and finally \$80. (Only those respondents saying they were "Very Likely" to replace their toilets at each level did not go to the next level of rebate.) These results are shown in **Table 8**. Overall, 39% report they would be very likely to replace a toilet if given the rebate they liked.

About one in five homeowners (21%) with a high flow toilet said they would be very likely to replace it if they could receive a \$40 rebate. Skyway/Tukwila respondents were significantly more likely to not replace their toilets at this rebate level. 44% said they were “Not At All Likely” to replace their toilets, compared to 24% in Bellevue/Redmond/Kirkland/Issaquah and 11% in Skyway/Covington.

When those who were less than very likely to replace a high flow toilet with a \$40 rebate were asked if they would do so with a \$60 rebate, 12% said they would be “Very Likely” to replace a toilet. At this level, respondents in Covington/Sammamish were more likely than others to replace, with 18% saying “Very Likely,” compared to 10% in Kirkland/Bellevue and a scant 3% in Skyway/Tukwila.

Finally, those not willing to change out their toilets at the \$40 and \$60 levels, were asked if they were very likely to replace their toilets if they received an \$80 incentive. Thirteen percent of this group reported they would be “Very Likely.” Similarly to the earlier rebate levels, another 40% said they would be “Somewhat Likely” to replace. Unlike the earlier levels, there were no statistically significant differences among the sub-samples.

Table 8 Qs 7,8,9: What if your water utility paid you \$40 to replace a high water/volume toilet with a low flow toilet? \$60? \$80?

| | | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-----------------------|--|---------------------|-----------------------|-------------|-------------|
| Sig. = <.05 | N= | 252 | 162 | 47 | 41 |
| | Q7- Replace for \$40? | % | % | % | % |
| | Very Likely | 21 | 22 | 19 | 20 |
| | Somewhat Likely | 35 | 32 | 45 | 17 |
| | Not Too Likely | 18 | 17 | 21 | 17 |
| | Not At All Likely | 22 | 24 | 11 | 44 |
| | DK/NA | 5 | 5 | 4 | 2 |
| | | | | | |
| Sig. = <.05 | N = | 198 | 126 | 38 | 33 |
| | Q8- Replace for \$60? | | | | |
| | Very Likely | 12 | 10 | 18 | 3 |
| | Somewhat Likely | 40 | 38 | 45 | 30 |
| | Not Too Likely | 16 | 13 | 24 | 21 |
| | Not At All Likely | 25 | 33 | 3 | 42 |
| | DK/NA | 8 | 7 | 11 | 3 |
| | | | | | |
| N.S. | N = | 175 | 114 | 31 | 32 |
| | Q9- Replace for \$80? | | | | |
| | Very Likely | 13 | 11 | 16 | 16 |
| | Somewhat Likely | 40 | 38 | 48 | 28 |
| | Not Too Likely | 10 | 9 | 13 | 13 |
| | Not At All Likely | 27 | 32 | 10 | 38 |
| | DK/NA | 11 | 11 | 13 | 6 |
| | Total % Very Likely to replace at any level | 39% | 38% | 44% | 35% |

Questions 10-12 asked respondents if they had checked for leaky toilets and what, if anything, they did if they discovered a leak. There were no significant differences among the sub-samples for these three questions. Overall, 18% of respondents said they had checked their toilet for silent leaks using dye tabs or food coloring. Within this group, 38% reported finding a leak. When we asked what they did on finding it, the great majority (75%) reported repairing it, with 23% replacing the toilet outright. Only 1% said they did not fix the leak.

Table 9 Q10: In the past two years, have you checked your toilet for silent leaks by using dye tabs or food coloring?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|--------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Yes | 18 | 17 | 19 | 25 |
| No | 81 | 82 | 81 | 73 |
| DK/NA | 1 | 2 | 0 | 2 |

Table 10 Q11: Did you find any leaky toilets?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------|-------------------------|---------------------------|----------------|----------------|
| N= | 106 | 67 | 19 | 26 |
| | % | % | % | % |
| Yes | 38 | 37 | 37 | 42 |
| No | 63 | 63 | 63 | 58 |

Table 11 Q12: When you found a leaky toilet, what did you do?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 40 | 25 | 7 | 11 |
| | % | % | % | % |
| Repaired the leak | 75 | 72 | 86 | 73 |
| Replaced the toilet | 23 | 28 | 14 | 9 |
| Did not fix the leak | 1 | 0 | 0 | 9 |
| DK/NA | 1 | 0 | 0 | 9 |

A slight majority of respondents overall (54%) reported usually flushing the toilet with every use, while 45% said it was sometimes used more than once. No significant differences emerged across the sub-samples.

Table 12 Q13: Is the toilet flushed with every use or sometimes used more than once?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|---------------------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Usually flushed with every use | 54 | 53 | 55 | 51 |
| Sometimes used more than once | 45 | 46 | 44 | 49 |
| DK/NA | 1 | 1 | 1 | 1 |

Showers

Overall, 24% of respondents reported having one showerhead in their home, while 51%, said they had two, and 19% had three showerheads (see **Table 13**). Higher incidences were rare, with 5% saying they had four and 1% reporting five showerheads. Covington/Sammamish households were significantly more likely to have two showerheads (62%), compared to Bellevue/Redmond/Kirkland/Issaquah in the middle at 48%, and Skyway/Tukwila at 40%. Skyway/Tukwila households were by far the most likely to have one showerhead at 52%, compared to 25% in Bellevue/Redmond/Kirkland/Issaquah and just 15% in Covington/Sammamish.

Table 13 Q14: How many showerheads do you have in your home?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| One | 24 | 25 | 15 | 52 |
| Two | 51 | 48 | 62 | 40 |
| Three | 19 | 20 | 19 | 7 |
| Four | 5 | 5 | 3 | 0 |
| Five | 1 | 1 | 1 | 0 |
| Six | 0 | 1 | 0 | 0 |
| DK/NA | 0 | 0 | 0 | 1 |

Question 15 was only asked of respondents who live in residences built before the 1994 low-flow plumbing code went into effect. When asked how many low-flow showerheads they had in their homes, 26% said none, 30% said one, 25% said two, and 8% said three or four. There were no significant differences among sub-samples.

Table 14 Q15: How many showerheads in your home are the low-flow kind that would have been installed in 1994 or later?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|--------------|-------------------------|---------------------------|----------------|----------------|
| N= | 438 | 298 | 66 | 85 |
| | % | % | % | % |
| None | 26 | 26 | 26 | 25 |
| One | 30 | 28 | 36 | 37 |
| Two | 25 | 26 | 26 | 21 |
| Three | 7 | 7 | 8 | 4 |
| Four | 1 | 2 | 0 | 0 |
| DK/NA | 10 | 11 | 5 | 14 |

Overall, 19% of respondents said showers tended to last less than five minutes in their households, while 52%, said 5-10 minutes. 19% said 11-15 minutes, 5% said more than 15 minutes, and 4% said it “Varies quite a bit.” Sub-sample results vary significantly. Only 10% of Covington/Sammamish households reported showers less than 5 minutes, compared to 21% in Bellevue/Redmond/Kirkland/Issaquah and 30% in Skyway/Tukwila.

Table 15 Q16: How long do most showers in your household last?

| Sig. = <.05 | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Less than 5 minutes | 19 | 21 | 10 | 30 |
| 5-10 minutes | 52 | 54 | 50 | 41 |
| 11-15 minutes | 19 | 16 | 28 | 22 |
| More than 15 minutes | 5 | 5 | 7 | 2 |
| Varies quite a bit | 4 | 3 | 5 | 4 |
| DK/NA | 1 | 1 | 0 | 2 |

Faucet Use

Table 16 shows that 11% of respondents overall reported having two faucets inside their home, with 19% having three, 26% having four, 20% having five, 8% having six, and 16% having seven or more faucets. The differences among sub-samples were significant and consistent with other findings: 58% of Skyway/Tukwila respondents said they had three or fewer faucets, compared to 32% in Bellevue/Redmond/Kirkland/Issaquah and just 19% in Covington/Sammamish. Conversely, 53% of Covington/Sammamish households have five or more faucets compared to Bellevue/Redmond/Kirkland/Issaquah with 41% and Skyway/Tukwila had just 25% of households with five or more faucets.

Table 16 Q17: How many faucets do you have *INSIDE* your home?

| <i>Sig.</i> = <.05 | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|----------------------|------------------|--------------------|------------|------------|
| N = | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| One | 0 | 0 | 0 | 1 |
| Two | 11 | 11 | 7 | 28 |
| Three | 19 | 21 | 12 | 29 |
| Four | 26 | 26 | 28 | 18 |
| Five | 20 | 19 | 23 | 15 |
| Six | 8 | 7 | 11 | 8 |
| Seven or More | 16 | 15 | 19 | 2 |
| Don't know | 0 | 0 | 0 | 0 |

Question 18 (see **Table 17**) asked respondents living in residences built before 1994 about how many faucets in their homes were low-flow. Overall, 28% of respondents said they had no low-flow faucets in their home, 17% said they had one, 14% said they had two faucets, 17% said they had three, 6% said they had four faucets, 6% said five, and 3% said they had six or more faucets. There were no significant differences among sub-samples.

Table 17 Q18: How many faucets in your home are low-flow faucets?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|----------------------|------------------|--------------------|-----------|-----------|
| | 438 | 298 | 66 | 85 |
| | % | % | % | % |
| None | 28 | 29 | 26 | 24 |
| One | 17 | 14 | 24 | 15 |
| Two | 14 | 14 | 11 | 26 |
| Three | 17 | 15 | 23 | 15 |
| Four | 6 | 7 | 6 | 4 |
| Five | 6 | 7 | 3 | 5 |
| Six | 1 | 2 | 0 | 2 |
| Seven or More | 2 | 3 | 2 | 0 |
| Don't know | 9 | 10 | 6 | 9 |

Questions 19 and 20 (see **Tables 18 and 19**) asked how many respondents had leaky faucets, and whether or not they had had a chance to fix them if they had found leaks. Just 18% of

respondents reported having found a leaky faucet. Within this group, most (75%) said they had fixed the leak or drip. Neither table showed significant differences among sub-samples.

Table 18 Q19: Have you found any leaking or dripping faucets in your kitchen, bathroom, or utility sinks within the last year?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|------------|------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Yes | 18 | 19 | 17 | 12 |
| No | 82 | 81 | 83 | 88 |
| Don't Know | 0 | 1 | 0 | 0 |

Table 19 Q20: Have you had a chance yet to fix the leaks or drips you found?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 108 | 75 | 17 | 13 |
| | % | % | % | % |
| Yes | 75 | 72 | 82 | 92 |
| No | 24 | 27 | 18 | 8 |
| Don't Know | 1 | 1 | 0 | 0 |

Clothes Washing

Almost all (93%) respondents said they had a clothes washer in the home. Significant sub-sample differences emerged, with Skyway/Tukwila at 86%, Bellevue/Redmond/Kirkland/Issaquah at 93%, and Covington/Sammamish at 98%.

Table 20 Q21: Do you have a clothes washer in your home?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------|------------------|--------------------|------------|------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Yes | 93 | 93 | 98 | 86 |
| No | 7 | 8 | 2 | 14 |
| Don't Know | 0 | 1 | 0 | 0 |

Questions 22, 23, and 24 (see Tables 21, 22, and 23) asked about resource efficient washers. In Q24, 40% of respondents overall said they had a water and energy saving washer, with

56% saying they did not. (This is consistent with other information about market penetration in this area.) Differences were not significant across sub-samples.

Among those that had resource efficient washers, 42% of respondents said they had received a rebate from their water or energy utility when they bought their clothes washer. Bellevue/Redmond/Kirkland/Issaquah respondents were much more likely to have received a rebate (47%), compared to Skyway/Tukwila (32%) or Covington/ Sammamish (29%).

When asked how they washed full loads, 32% of those with water/energy saving washers said they “pack the clothes loosely and fill it up to the top of the machine,” 29% said they “pack the clothes loosely but leave some room at the top of the machine,” and 12% indicated they “pack the clothes tightly but leave some room at the top.” Just 9% said they “pack clothes tightly and fill it to the top of the drum” – the correct approach to filling a front loading resource efficient washer. Finally, 19% said they didn’t know or that their approach varied depending on the load. There were no significant sub-sample differences.

Table 21 Q22: Is your clothes washer designed to save water and energy?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|--|------------------|--------------------|-----------|-----------|
| N= | 560 | 368 | 98 | 90 |
| | % | % | % | % |
| Yes, have water/energy saver washer | 40 | 39 | 43 | 34 |
| No, do not have water/energy saver washer | 56 | 56 | 52 | 64 |
| Don't Know | 5 | 5 | 5 | 1 |

Table 22 Q23: Did you receive a rebate from your water or energy utility when you bought this clothes washer?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|---|------------------|--------------------|-----------|-----------|
| N= | 222 | 143 | 42 | 31 |
| | % | % | % | % |
| Yes | 42 | 47 | 29 | 32 |
| No | 45 | 38 | 60 | 65 |
| Machine/was bought by someone else | 6 | 8 | 0 | 3 |
| Don't Know | 9 | 8 | 12 | 0 |

Table 23 Q24: When you load your clothes washer to do a full load, which of the following best describes how you usually pack the clothes?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---|-------------------------|---------------------------|-----------------|-----------------|
| N= | 222 | 143 | 42 | 31 |
| | % | % | % | % |
| I pack the clothes loosely and fill it up to the top of the machine | 32 | 34 | 29 | 26 |
| I pack the clothes loosely but leave some room at the top of the machine | 29 | 29 | 29 | 42 |
| I pack the clothes tightly and fill it to the top of the drum | 9 | 8 | 7 | 19 |
| I pack the clothes tightly but leave some room at the top | 12 | 9 | 19 | 10 |
| Don't know/Varies with load | 19 | 20 | 17 | 3 |

We asked Question 25 of respondents who had not purchased a resource efficient washer. Of these respondents, 38% said they would be “Very “ (12%) or “Somewhat” likely (26%)” to replace their current washer with a water/energy saver if they received a \$100 rebate on the purchase. Sub-sample differences were not statistically significant, although there appeared to be a greater proportion of Bellevue respondents (13%) who would be “Very Likely” to take advantage of this offer, compared to 7% for Covington/Sammamish and 5% for Skyway/Tukwila.

Table 24 Q25: How likely would you be to replace your current washer with a new water and energy saving washer if you received a \$100 rebate on the purchase?

| N.S. | Overall Weighted | Bvue/Kirk/ Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 338 | 225 | 56 | 59 |
| | % | | | |
| Very likely | 12 | 13 | 7 | 5 |
| Somewhat likely | 26 | 24 | 32 | 26 |
| Not too likely | 29 | 27 | 30 | 25 |
| Not at all likely | 31 | 32 | 29 | 37 |
| Don't know | 3 | 3 | 2 | 7 |
| Refused | 1 | 1 | 0 | 0 |

Q26 is similar to Q24, but asked of those respondents without resource efficient washers. Responses are similar except for the proportions that didn't know or said their approach

varied. The same proportion, 32%, said they “pack the clothes loosely and fill it up to the top of the machine.” Another third (33%) “pack loosely but leave some room at the top.” Smaller proportions “pack clothes tightly and fill to the top,” (13%) or “pack clothes tightly but leave some room” (13%). And 8% said either they didn’t know or that it varies with the load (compared to 19% who said this in Q24). There were no significant sub-sample differences.

These findings suggest that people load both resource efficient and conventional machines similarly to achieve a full load, despite the different requirements of the machines. Their approaches are likely based on experience with “conventional washers.”

Table 25 Q26: When you load your clothes washer to do a full load, which of the following best describes how you usually pack the clothes?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---|-------------------------|---------------------------|-----------------|-----------------|
| N= | 338 | 225 | 56 | 59 |
| | % | % | % | % |
| I pack the clothes loosely and fill it up to the top of the machine | 32 | 32 | 30 | 32 |
| I pack the clothes loosely but leave some room at the top of the machine | 33 | 32 | 34 | 36 |
| I pack the clothes tightly and fill it to the top of the drum | 13 | 15 | 11 | 7 |
| I pack the clothes tightly but leave some room at the top | 13 | 12 | 18 | 12 |
| Don’t know/Varies with load | 8 | 8 | 7 | 12 |
| Refused | 0 | 0 | 0 | 2 |

CHAPTER THREE – OUTDOOR WATER USE

This chapter characterizes how customers use water outdoors. While this is usually confined to lawn and garden care, car washing, an outside activity, has also been included here. The following landscaping questions look at various survey population subsets. Only respondents living in single family detached homes, or duplexes/triplexes/ fourplexes, were asked these questions about yard care.

Overall, as shown in **Table 26**, 79% of respondents surveyed said they have both lawn and garden areas, while 9% only had a lawn, and 9% said they only had garden areas that included shrubs, trees, flowers and vegetable gardens. Only 2% neither had a lawn or garden area. In the sub-samples, Covington/Sammamish had the highest percentage (85%) of respondents with both lawn and garden areas, Skyway/Tukwila had the lowest percentage (63%), and Bellevue/Kirkland was in the middle, with 78% of respondents having both lawn and garden areas. Skyway/Tukwila had the highest percentage (26%) of only having a lawn, followed by Covington/Sammamish at 10%, and Bellevue/Redmond/Kirkland/Issaquah with 8%.

Landscape Questions

Table 26 Q27: In your outdoor areas, do you have...

| <i>Sig.</i> = <.05 | Overall Weighted | Bvue/Kirk/Red/Iss | Cov / Sam | Sky/ Tuk |
|--|------------------|-------------------|-----------|-----------|
| N= | 475 | 297 | 94 | 82 |
| | % | % | % | % |
| Only lawn | 9 | 8 | 10 | 26 |
| Only garden areas that include shrubs, trees flowers and vegetable gardens? | 9 | 11 | 5 | 6 |
| Both lawn and garden areas | 79 | 78 | 85 | 63 |
| Neither lawn nor garden area | 2 | 3 | 0 | 4 |
| Don't know | 0 | 0 | 0 | 0 |
| Refused | 0 | 0 | 0 | 1 |

When asked how likely they were to make major landscaping changes in the next two years (see **Table 27**), 45% overall said they were “Not At All Likely.” There were a few significant differences in the sub-samples. Skyway/Tukwila had the highest “Not At All Likely” response (57%) compared to 49% from Bellevue and 35% from Covington/ Sammamish areas. Of those “Very Likely” to make changes, 29% were from the Covington/ Sammamish area followed by 17% in Bellevue/Redmond/Kirkland/Issaquah. Only 9% of the respondents in Skyway/Tukwila said they were “Very Likely” to make changes.

Table 27 Q28: How likely are you to make major changes in your landscaping within the next two years?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 441 | 276 | 89 | 67 |
| | % | % | % | % |
| Very likely | 20 | 17 | 29 | 9 |
| Somewhat likely | 13 | 12 | 16 | 13 |
| Not too likely | 21 | 22 | 20 | 18 |
| Not at all likely | 45 | 49 | 35 | 57 |
| Don't know | 0 | 0 | 0 | 3 |
| Refused | 0 | 0 | 0 | 0 |

Watering Practices

As shown in **Table 28**, just over one-third of respondents with lawns (35%) water their lawns once a month or less during the dry summer months, while 24% water their lawns once a week, 19% water every 3 days, 7% water every other day, 3% water every day, and 4% didn't know or said "It depends." There were no significant differences among sub-samples.

Table 28 Q29: Which of the following best describes how often you water your lawn?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---|-------------------------|---------------------------|-----------------|-----------------|
| N= | 420 | 255 | 89 | 73 |
| | % | % | % | % |
| Once a month or never water the lawn | 35 | 36 | 29 | 53 |
| Twice a month | 9 | 8 | 10 | 6 |
| Once a week | 24 | 24 | 24 | 25 |
| Every three days | 19 | 18 | 21 | 10 |
| Every other day | 7 | 6 | 9 | 4 |
| Every day | 3 | 2 | 5 | 1 |
| Don't know/depends | 4 | 6 | 2 | 1 |

Q30 and Q31A (**Tables 29 and 30**) were asked only of those people who at least watered their lawns two or more times a month (from Q29). The single most widely used technique was "Moveable sprinklers connected to a hose," used by 49% overall, and at similar levels in Bellevue/Redmond/Kirkland/Issaquah and Covington/Sammamish; however 65% in Skyway/Tukwila cite this method of watering. About one-third of lawn waterers (32%) overall said they used an in-ground sprinkler with an automatic controller. Similar proportions use this method in Bellevue/ Redmond/Kirkland/ Issaquah (33%) and Covington/Sammamish (33%), but few use it in Skyway/Tukwila (3%).

Table 29 Q30: Do you use an in-ground sprinkler system with an automatic controller, use moveable sprinklers and hoses, or use another method to water your lawn?

| Sig. = <.05 | Overall Weighted | Bvue/Kirk /Red/Iss | Cov / Sam | Sky/ Tuk |
|---|-------------------------|---------------------------|------------------|-----------------|
| N= | 274 | 164 | 63 | 34 |
| | % | % | % | % |
| None | 1 | 1 | 0 | 0 |
| An in-ground sprinkler system with an automatic controller | 32 | 33 | 33 | 3 |
| An in-ground sprinkler system that is manually operated | 6 | 7 | 5 | 0 |
| Moveable sprinklers connected to a hose | 49 | 48 | 49 | 65 |
| Or by hand with a hose (not connected to a sprinkler) | 9 | 9 | 8 | 24 |
| Soaker hose/drip system | 0 | 1 | 0 | 0 |
| Rain barrel | 1 | 1 | 0 | 0 |
| Other | 1 | 1 | 2 | 9 |
| Don't know | 1 | 0 | 3 | 0 |

In response to Q31A, about a quarter (24%) said they would be “Very Likely” to let their lawn go dormant and turn brown during the summer, while 31% said they were “Somewhat Likely,” 25% said they were “Not Too Likely,” and 20% said they were “Not At All Likely” to adopt a brown lawn practice. There were no significant differences among sub-samples.

Table 30 Q31A: How likely are you to let your lawn go dormant and turn brown during the dry summer months to save water and reduce your water bills, or for other reasons?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 274 | 164 | 63 | 34 |
| | % | % | % | % |
| Very likely | 24 | 24 | 22 | 21 |
| Somewhat likely | 31 | 29 | 33 | 50 |
| Not too likely | 25 | 26 | 22 | 18 |
| Not at all likely | 20 | 19 | 22 | 9 |
| Don't know | 1 | 1 | 0 | 3 |
| Refused | 0 | 1 | 0 | 0 |

Q31B was asked of those who watered their lawns but excluded renters. A small proportion of this group (10%) said they would be “Very Likely” to reduce their amount of lawn within the next two years to save water and reduce water bills. Most were not likely to reduce their lawn size: 15% said they would be “Somewhat Likely;” 29% were “Not Too Likely;” and 44% were “Not At All Likely.” No significant differences emerged for sub-samples.

Table 31 Q31B: Within the next two years, how likely are you to reduce the amount of lawn you have to save water and reduce your water bills or other reasons?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 261 | 155 | 62 | 26 |
| | % | % | % | % |
| Very likely | 10 | 9 | 13 | 8 |
| Somewhat likely | 15 | 16 | 13 | 23 |
| Not too likely | 29 | 29 | 29 | 27 |
| Not at all likely | 44 | 4 | 45 | 35 |
| Don’t know | 1 | 1 | 0 | 8 |
| Refused | 0 | 1 | 0 | 0 |

Q32, Q33, and Q34 all focused on respondents living in detached single family homes who watered non-lawn outdoor areas. There were no significant differences among sub-samples for any of these three questions. Q32 results (**Table 32**) show that 18% of these respondents watered once a month or less, while 9% watered twice a month, 26% once a week, 29% every three days, and 12% watered every other day.

Table 32 Q32: During the dry summer months, how often do you usually water your non-lawn areas including planting beds, vegetable gardens, and shrubs?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-----------------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 418 | 263 | 85 | 57 |
| | % | % | % | % |
| Once a month or less/Never | 18 | 16 | 22 | 16 |
| Twice a month | 9 | 10 | 6 | 4 |
| Once a week | 26 | 27 | 22 | 35 |
| Every three days | 29 | 30 | 26 | 26 |
| Every other day | 12 | 10 | 18 | 9 |
| Every day | 4 | 4 | 4 | 4 |
| Don’t know/depends | 4 | 4 | 2 | 7 |

Q33 asked all respondents who reported watering more than once a month what type of watering system they use. As shown in **Table 33**, 38% use moveable sprinklers connected by

a hose, 27% water by hand with a hose only, 23% use an in-ground sprinkler system with an automatic controller, and 3% used an in-ground sprinkler system that is manually operated. Another 8% used miscellaneous other techniques including a soaker hose/drip system (4%), a rain barrel (1%), a watering can or bucket (2%), or “other” (1%).

Table 33 Q33: Do you use an in-ground sprinkler system with an automatic controller use moveable sprinklers and hoses, or use another method to water non-lawn areas?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov / Sam | Sky/ Tuk |
|---|-------------------------|---------------------------|------------------|-----------------|
| N= | 344 | 221 | 66 | 48 |
| | % | % | % | % |
| None | 1 | 1 | 0 | 0 |
| An in-ground sprinkler system with an automatic controller | 23 | 25 | 23 | 2 |
| An in-ground sprinkler system that is manually operated | 3 | 3 | 2 | 2 |
| Moveable sprinklers connected to a hose | 38 | 37 | 39 | 46 |
| Or by hand with a hose (not connected to a sprinkler) | 27 | 25 | 29 | 40 |
| Soaker hose/drip system | 4 | 4 | 3 | 4 |
| Rain barrel | 1 | 2 | 0 | 0 |
| Watering can/bucket | 2 | 2 | 3 | 6 |
| Other | 1 | 1 | 2 | 0 |

As with reducing lawn size, a small proportion of respondents say they are very likely to redo their non-lawn landscape with drought tolerant plants (11%). Given the amount of effort it takes to change landscaping, anything less than a “Very Likely” response is considered unlikely.

Table 34 Q34: Within the next two years how likely are you to redo all or part of your non-lawn landscape using drought tolerant plants that need less water once they are established?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 331 | 211 | 65 | 44 |
| | % | % | % | % |
| Very likely | 11 | 10 | 17 | 7 |
| Somewhat likely | 19 | 16 | 25 | 27 |
| Not too likely | 31 | 31 | 32 | 25 |
| Not at all likely | 38 | 42 | 26 | 36 |
| Don't know | 1 | 1 | 0 | 5 |
| Refused | 0 | 1 | 0 | 0 |

Q35A-Q35C asked homeowners who water their lawns how three specific types of services would help them reduce the amount of water they use for their landscapes: an incentive for landscaping, informational materials, and an on-site audit. Q35A asked about a cash rebate of up to \$300 that could be used toward outdoor water conservation efforts. Almost one-third (32%) said they would find this “Very helpful,” and the most popular offering among the three. Another third (36%) said it would be “Somewhat helpful,” while 14% said “Not too helpful,” and 17% said “Not at all helpful.” There were no significant differences among sub-samples.

Table 35 Q35A: How helpful would you find a cash rebate of up to \$300 that could be used toward outdoor water conservation efforts, such as reducing lawn size or using more drought tolerant plants?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 261 | 155 | 62 | 26 |
| | % | % | % | % |
| Very helpful | 32 | 30 | 37 | 27 |
| Somewhat helpful | 36 | 36 | 37 | 35 |
| Not too helpful | 14 | 15 | 11 | 15 |
| Not at all helpful | 17 | 18 | 1 | 19 |
| Don't know | 0 | 1 | 0 | 0 |
| Refused | 1 | 1 | 0 | 4 |

When asked about educational materials that show how to reduce water use through changes in landscaping and gardening practices, 28% of homeowners who water their lawns said it would be “Very helpful,” 46% said it would “Somewhat helpful,” 15% said “Not too helpful” and 11% said “Not at all helpful.” There were no significant sub-sample differences.

Table 36 Q35B: How helpful would the following service be to you: Educational materials that show you how you can reduce outdoor water use through changes in landscaping and gardening practices?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 261 | 155 | 62 | 26 |
| | % | % | % | % |
| Very helpful | 28 | 28 | 31 | 12 |
| Somewhat helpful | 46 | 45 | 48 | 46 |
| Not too helpful | 15 | 6 | 11 | 19 |
| Not at all helpful | 11 | 11 | 10 | 19 |
| Don't know | 0 | 1 | 0 | 0 |
| Refused | 0 | 0 | 0 | 4 |

Q35C asked about an on-site audit that could identify where water could be saved, 26% of homeowners who water their lawns said an on-site audit would be “Very helpful,” 38% said it would be “Somewhat helpful,” 17% said it would be “Not too helpful,” and 18% said it would be “Not at all helpful.” No significant differences among sub-groups surfaced.

Table 37 Q35C: How helpful would the following service be to you: An on-site audit that would identify where water can be saved?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|---------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 261 | 155 | 62 | 26 |
| | % | % | % | % |
| Very helpful | 26 | 25 | 29 | 8 |
| Somewhat helpful | 38 | 38 | 39 | 42 |
| Not too helpful | 17 | 18 | 13 | 23 |
| Not at all helpful | 18 | 18 | 18 | 15 |
| Don't know | 1 | 1 | 0 | 8 |
| Refused | 1 | 0 | 2 | 4 |

In-Ground Automatic Watering Systems

Those who water their lawns with an in-ground automatic watering system were asked a series of questions about their systems and their interest in devices or services for those systems that would help make them more efficient. When asked if their systems had rain shut off device, about one-third (32%) of the 108 respondents (about 18% of the population overall) said their systems had such a device.

Table 38 Q36: Does your in-ground sprinkler system use a rain shut-off device that stops it from turning on if it is raining?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 108 | 70 | 23 | 2 |
| | % | % | % | % |
| Yes | 32 | 34 | 26 | 50 |
| No | 59 | 59 | 61 | 50 |
| Don't Know | 9 | 7 | 13 | 0 |

When those who don't have a rain shut off device were asked about their interest in installing one if they received a \$100 rebate, 41% said they would be “Very Likely.” Another 28% said they would be “Somewhat Likely,” while 16% said “Not Too Likely” and 11% said they would be “Not At All Likely.”

Table 39 Q37: The cost of buying and installing a rain shut off device is about \$150. How likely would you be to install a rain shutoff device if your water utility offered you a \$100 rebate?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 73 | 46 | 17 | 0 |
| | % | % | % | |
| Very likely | 41 | 41 | 41 | . |
| Somewhat likely | 28 | 33 | 18 | . |
| Not too likely | 16 | 17 | 12 | . |
| Not at all likely | 11 | 4 | 24 | . |
| Don't know | 5 | 4 | 6 | . |

In Q38 (Table 40), those who water their lawns with an in-ground system and controller were asked how often they set the water program schedule. Many automatic systems are not reset often, with about a quarter (28%) saying the program is set one time for the whole season and another 22% saying it was set once a month. A relatively large 23% of respondents said they didn't know how often it was set or that it "depends." A relatively small 7% said it was set twice a month and 20% said it was set more than twice a month. Differences among the sub-samples were not significant.

Table 40 Q38: Now think about the watering season when you use your in-ground sprinkler system. Is the water program schedule set...

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 108 | 70 | 23 | 2 |
| | % | % | % | % |
| One time for the whole season | 28 | 33 | 17 | 0 |
| Once a month | 22 | 24 | 17 | 50 |
| Twice a month | 7 | 9 | 4 | 0 |
| Or more than twice a month | 20 | 11 | 39 | 0 |
| Don't know/Depends | 23 | 23 | 22 | 50 |

For Q39, Q40, and Q41, the Q38 group was narrowed slightly to those with in-ground watering systems and an automatic controller as before, but who also owned their own home, dropping one respondent from the group. The new, similar group was asked if they would purchase a relatively expensive weather-sensitive controller if their local utility would pick up about 54% of the \$650 retail cost. Overall, only 11% said they were "Very likely" to do so, while 30% said they were "Somewhat Likely" to take advantage of this offer. About half said they were "Not Too Likely," (27%) or "Not At All Likely" (25%). A very small proportion (4%) said they "Already had one." There were no statistically significant differences among sub-samples

Table 41 Q39: You can purchase controllers that adjust your sprinkler system according to weather conditions for about \$650. If your water utility offered a \$350 rebate toward buying one of these controllers, how likely would you be to take advantage of this offer?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 107 | 69 | 23 | 1 |
| | % | % | % | % |
| Very likely | 11 | 19 | 13 | 9 |
| Somewhat likely | 30 | 28 | 35 | 0 |
| Not too likely | 27 | 29 | 22 | 0 |
| Not at all likely | 25 | 25 | 26 | 100 |
| Already have one | 4 | 4 | 4 | 0 |
| Don't know | 2 | 3 | 0 | 0 |
| Refused | 1 | 1 | 0 | 0 |

As shown in **Table 42**, about half (48%) of respondents said they had a professional inspect their in- ground sprinkler system every year to identify leaks or other problems, while half (52%) did not have a regular inspection. There were no significant differences among the sub-samples.

Table 42 Q40: Do you have a professional inspect your in-ground sprinkler system every year to identify and fix any leaks or other problems?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 107 | 69 | 23 | 1 |
| | % | % | % | % |
| Yes | 48 | 51 | 44 | 0 |
| No | 52 | 49 | 57 | 100 |

About half (47%) of this same group of respondents said they would be very likely to use a free service offered by the utility to identify equipment problems or scheduling errors in the automatic in-ground sprinkler system, and 22% said they would be somewhat likely to do so. Sixteen percent said they were not too likely, and 13% described themselves as not at all likely to use this free service. There were no significant differences among sub-samples.

Table 43 Q41: How likely would you be to use a free service offered by your water utility to identify equipment problems or scheduling errors in your automatic in-ground sprinkler system?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|--------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 107 | 69 | 23 | 1 |
| | % | % | % | % |
| Very likely | 47 | 46 | 48 | 0 |
| Somewhat likely | 22 | 22 | 22 | 100 |
| Not too likely | 16 | 17 | 13 | 0 |
| Not at all likely | 13 | 13 | 13 | 0 |
| Don't know | 2 | 1 | 4 | 0 |

Using Landscape Professionals

All respondents living in a single family detached/duplex/ triplex/fourplex home were asked if they use a landscape professional. About a quarter (24%) overall said they used a professional to help them take care of their yards. Respondents were most likely to use a professional landscape in Bellevue/Redmond/ Kirkland/Issaquah (27%), followed by Covington/Sammamish (18%), and were significantly less likely to do so in Skyway/Tukwila (13%).

Table 44 Q42: Do you use a landscape professional to help you take care of your yard?

| Sig. = <.05. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 463 | 287 | 94 | 78 |
| | % | % | % | % |
| Yes | 24 | 27 | 18 | 13 |
| No | 76 | 73 | 82 | 86 |
| Don't know | 0 | 0 | 0 | 1 |

Those who said they used a landscape professional were then asked about the type of advice and information their landscapers provide. For Tables 45 through Table 48, it's important to note the small number of respondents for some sub-samples.

- For Q43A (**Table 45**), 30% of respondents said their landscapers had provided them with advice on how to save water by improving their soil. Covington/Sammamish respondents were much more likely to report their landscapers had provided this advice (53%), compared to Bellevue/Redmond/ Kirkland/Issaquah (24%) and Skyway/Tukwila (10%).

- For Q43B (**Table 46**), 28% of respondents said they had received professional advice about choosing water efficient plants, with no significant sub-sample differences.
- For Q43C (**Table 47**), 49% of respondents reported professional advice about how to schedule their watering so it was more efficient. There were no significant sub-sample differences.
- In Q43D (**Table 45**), 56% of respondents overall said they had received professional advice about water-saving lawn care such as aerating their lawn. Covington/ Sammamish respondents were most likely to get such advice (71%) followed by Bellevue/Redmond/ Kirkland/ Issaquah (54%) and Skyway/Tukwila (10%).

Table 45 Q43A: Has your landscape professional provided you with advice and information on how to save water by improving your soil?

| <i>Sig. = <.05.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|------------------------|------------------|--------------------|-----------|-----------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Yes | 30 | 24 | 53 | 10 |
| No | 62 | 66 | 47 | 90 |
| Don't know | 8 | 11 | 0 | 0 |

Table 46 Q43B: Has your landscape professional provided you with advice and information on choosing water efficient plants?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Yes | 28 | 26 | 35 | 0 |
| No | 67 | 68 | 59 | 100 |
| Don't know | 4 | 5 | 0 | 0 |
| Refused | 1 | 0 | 6 | 0 |

Table 47 Q43C: Has your landscape professional provided you with advice and information on how to schedule your watering so that it's most efficient?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|----------|
| N= | 52 | 35 | 10 | 1 |
| | % | % | % | % |
| Yes | 49 | 46 | 60 | 0 |
| No | 46 | 51 | 30 | 100 |
| Don't know | 2 | 3 | 0 | 0 |
| Refused | 2 | 0 | 10 | 0 |

Table 48 Q43D: Has your landscape professional provided you with advice and information on water-saving lawn care such as aerating your lawn?

| <i>Sig. = <.05.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Yes | 56 | 54 | 71 | 10 |
| No | 36 | 38 | 24 | 90 |
| Don't know | 6 | 8 | 0 | 0 |
| Refused | 1 | 0 | 6 | 0 |

For this set of questions (Q44A-Q44E), respondents were asked about landscaping practices that either they or their landscapers do.

- Q44A asked about the practice of keeping a 1-3 inch layer of mulch such as bark or wood chips around shrubs, tree, and planting beds. Almost two-thirds (65%) of all respondents overall said they usually did this, while 13% said they “Sometimes” did this, and 17% said they “Never” mulch. There were no significant differences among sub-samples.
- Just over one-third of these respondents (38%) said they “Usually” add compost to their soil, and 15% “Sometimes” add compost. The largest group, 40%, said they “Never” add compost. There were no significant sub-sample differences.
- 31% of respondents said they “Usually” choose drought tolerant plants when new plants are added to their landscape, 16% said they “Sometimes” do so, and, 42%, said they “Never” choose drought tolerant plants. There were no significant differences among the sub-samples.
- In Q44D, 37% of respondents reported they “Usually” aerate their lawn. 35% “Sometimes” do so. 23% “Never” aerate their lawn. Another 5% said they didn’t know if their lawn was aerated. There were no significant differences among sub-samples.
- For Q44E, when asked if they leave grass clippings on the lawn when they mow it, 22% said they “Usually” do this. 10% said this was “Sometimes” done. A clear majority, 63%, said they “Never” do this. 6% didn’t know if this was done or not when mowing the lawn. There were no significant sub-sample differences.

Table 49 Q44A: Do you or your landscape professional usually, sometimes or never keep a 1-3 inch layer of mulch. . . on your planting beds?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Usually | 65 | 68 | 53 | 50 |
| Sometimes | 13 | 12 | 18 | 10 |
| Never | 17 | 18 | 12 | 30 |
| Don't know | 5 | 1 | 18 | 10 |

Table 50 Q44B: Do you or your landscape professional usually, sometimes or never do any of the following in your yard...Add compost to your soil?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Usually | 38 | 34 | 53 | 40 |
| Sometimes | 15 | 17 | 6 | 10 |
| Never | 40 | 43 | 29 | 40 |
| Don't know | 7 | 5 | 12 | 10 |

Table 51 Q44C: Do you or your landscape professional usually, sometimes or never choose drought tolerant plants when new plants are added to your landscape?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 109 | 76 | 17 | 10 |
| | % | % | % | % |
| Usually | 31 | 37 | 12 | 10 |
| Sometimes | 16 | 13 | 24 | 20 |
| Never | 42 | 38 | 53 | 60 |
| Don't know | 12 | 12 | 2 | 10 |

Table 52 Q44D: Do you or your landscape professional usually, sometimes or never aerate your lawn?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 100 | 68 | 17 | 10 |
| | % | % | % | % |
| Usually | 37 | 37 | 41 | 20 |
| Sometimes | 35 | 35 | 35 | 30 |
| Never | 23 | 24 | 18 | 50 |
| Don't know | 5 | 4 | 6 | 0 |

Table 53 Q44E: Do you or your landscape professional usually, sometimes or never leave grass clippings on your lawn when you mow it?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 100 | 68 | 17 | 10 |
| | % | % | % | % |
| Usually | 22 | 21 | 24 | 40 |
| Sometimes | 10 | 7 | 18 | 0 |
| Never | 63 | 68 | 47 | 60 |
| Don't know | 6 | 4 | 12 | 9 |

Do It Yourself Gardeners

Questions 45A through 45E were asked of respondents who do not use a professional landscaper. In many instances, their behaviors are very similar to those who use landscapers.

- About two-thirds (63%) of these respondents said that they “Usually” keep a 1-3 inch layer of mulch around their shrubs/trees/planting beds. This frequency was very close to the 65% who have a landscaper and “Usually” do this (Q44A). A small proportion said they “Sometimes” do mulch, and 22% “Never” add mulch. Among sub-samples, Bellevue/Redmond/Kirkland/Issaquah and Covington/Sammamish were more likely to “Usually” do this (64%), compared to Skyway/Tukwila at 43%. Skyway/Tukwila was most likely to “Never” do this (34%), compared to 19% in Bellevue/Redmond/Kirkland/Issaquah and 2% in Covington/Sammamish.
- About one-third of these respondents said they “Usually” add compost to their soil. Again, this is very similar to the 38% for those who use a landscaper (Q44B). Just over a quarter (28%) said they “Sometimes” add compost, and 38% said “Never” add compost. There were no significant sub-sample differences.
- For Q45C, 31% of respondents “Usually” choose drought tolerant plants when new plants are added to their landscape, exactly the same rate as those who do this and use a landscaper (Q44C), and 28% “Sometimes” choose these plants. The largest group, 36%, “Never” chooses drought tolerant plants. There were no significant sub-sample differences.
- For Q45D 23% said they “Usually” aerate their lawn. This was quite a bit lower than the 37% of those who use a landscaper (Q44D). About one-third (34%) “Sometimes” do this and 42% “Never” aerate their lawn. There were no significant differences among the three sub-samples.
- In Q45E, when asked about leaving grass clippings on the lawn after mowing, 39% said they “Usually” do this. This response rate was much higher than the 22% who use a landscaper (Q44E). Just over one-quarter (26%) said they “Sometimes” leave on grass clippings and 35%

“Never” leave grass clippings after mowing. There were no significant sub-sample differences.

Table 54 Q45A: Do you usually, sometimes or never keep a 1-3 inch layer of mulch around your shrubs and trees and on your planting beds?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------|------------------|--------------------|-----------|-----------|
| N= | 354 | 211 | 77 | 68 |
| | % | % | % | % |
| Usually | 63 | 64 | 64 | 43 |
| Sometimes | 15 | 17 | 12 | 18 |
| Never | 22 | 19 | 2 | 34 |
| Don't know | 1 | 1 | 0 | 4 |
| Refused | 0 | 0 | 0 | 2 |

Table 55 Q45B: Do you usually, sometimes or never add compost to your soil?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 354 | 211 | 77 | 68 |
| | % | % | % | % |
| Usually | 33 | 36 | 27 | 32 |
| Sometimes | 28 | 31 | 2 | 19 |
| Never | 38 | 33 | 47 | 46 |
| Don't know | 1 | 1 | 1 | 3 |

Table 56 Q45C: Do you usually, sometimes or never choose drought tolerant plants when new plants added to your landscape?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 354 | 211 | 77 | 68 |
| | % | % | % | % |
| Usually | 31 | 34 | 29 | 21 |
| Sometimes | 28 | 30 | 23 | 24 |
| Never | 36 | 31 | 44 | 49 |
| Don't know | 4 | 4 | 4 | 6 |
| Refused | 1 | 1 | 0 | 2 |

Table 57 Q45D: Do you usually, sometimes or never aerate your lawn?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 320 | 187 | 72 | 63 |
| | % | % | % | % |
| Usually | 23 | 21 | 29 | 8 |
| Sometimes | 34 | 35 | 33 | 32 |
| Never | 42 | 43 | 36 | 57 |
| Don't know | 1 | 1 | 1 | 3 |

Table 58 Q45E: Do you usually, sometimes or never leave grass clippings on your lawn when you mow it?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 320 | 187 | 72 | 63 |
| | % | % | % | % |
| Usually | 39 | 36 | 43 | 46 |
| Sometimes | 26 | 26 | 24 | 33 |
| Never | 35 | 37 | 32 | 21 |
| Don't know | 0 | 0 | 1 | 0 |
| Refused | 0 | 1 | 0 | 0 |

Other Landscape Questions

Rain Barrels

Question 46 was asked of respondents living in single family through fourplex residences who water their lawn more than once a month. Of these respondents, 12% said they use a rain barrel or other system to collect rain water from the roof to water plants. 88% said they did not do this. There were no significant differences among the sub-samples.

Table 59 Q46: Do you collect rain water from your roof to water your plants by using a rain barrel or other system?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-------------------|------------------|--------------------|-----------|-----------|
| N= | 463 | 287 | 94 | 78 |
| | % | % | % | % |
| Yes | 12 | 11 | 12 | 23 |
| No | 88 | 88 | 88 | 77 |
| Don't know | 1 | 1 | 0 | 0 |

Car Washing

All respondents were asked about how they wash their cars. Overall, 5% of respondents said they do not wash their car and 2% don't own a car. Just over one-third (34%) said they wash their car at home while the majority, 55%, said they wash their car at a car wash. There were no significant differences among sub-samples.

Table 60 Q47: I'd also like to know how you wash your car. Do you generally wash your car at home or do you go to a car wash?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|-------------------------|---------------------------|----------------|----------------|
| <i>N=</i> | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Do not wash car | 5 | 6 | 2 | 4 |
| Wash car at home | 34 | 31 | 42 | 37 |
| Wash car at car wash | 55 | 56 | 54 | 47 |
| Do not own car | 2 | 2 | 0 | 4 |
| Don't know/depends | 4 | 4 | 2 | 9 |
| Refused | 0 | 0 | 0 | 0 |

CHAPTER FOUR – KNOWLEDGE AND MOTIVATION QUESTIONS

As shown in **Table 61**, a substantial majority of all respondents – 89% -- had heard about a potential drought this year, with only 11% not hearing any news about it. There were no significant sub-sample differences.

Table 61 Q48: Have you heard any news about a potential drought this year?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Yes | 89 | 88 | 93 | 84 |
| No | 11 | 12 | 7 | 16 |

Respondents who reported hearing about the drought were asked how concerned they respondents were about being asked to voluntarily cut back on water use this summer. Most were not highly concerned: 14% said they were "Very concerned," 27% said "Somewhat concerned," 36% said "Not too concerned," and 22% said "Not at all concerned." There were no significant sub-sample differences

Table 62 Q49: How concerned are you that you will be asked to voluntarily cut back on your water use this summer due to a potential drought?

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/ Sam | Sky/ Tuk |
|-----------------------------|-------------------------|---------------------------|-----------------|-----------------|
| N= | 535 | 352 | 93 | 88 |
| | % | % | % | % |
| Very concerned | 14 | 15 | 10 | 17 |
| Somewhat concerned | 27 | 27 | 26 | 26 |
| Not too concerned | 36 | 35 | 40 | 38 |
| Not at all concerned | 22 | 22 | 22 | 18 |
| Don't know | 2 | 1 | 3 | 1 |

All respondents were asked Questions 50-53. In answering Question 50, 38% said they thought they could reduce their water use by a small amount without it having a negative effect on their lifestyle, while 41% thought they could reduce water use by a medium amount, and, 14% thought they could reduce water use by a large amount. There were no significant differences among sub-samples.

Table 63 Q50: When you think about all the ways we've been talking about using water, how much do you think you could cut your water use without it having a negative effect on your lifestyle?

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|---|------------------|--------------------|------------|------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Could reduce by less than 5% (small) | 38 | 38 | 38 | 35 |
| Could reduce by 5-10% (medium) | 41 | 39 | 51 | 34 |
| Could reduce by 10% or more (large) | 14 | 15 | 8 | 22 |
| Don't know | 6 | 7 | 2 | 8 |
| Refused | 1 | 1 | 1 | 1 |

Question 51 was an open-ended, multiple response question to explore motivations for saving water. Just over half (51%) of respondents, by far the largest single group, cited “cost or being economical” as the most important reason for reducing the amount of water use in their homes. Another 25% mentioned “conservation or saving resources for the future” as their most important reason, and another 11% mentioned “the environment, ecology, or nature” as their “most important” reason. Just 5% specifically mentioned the potential “drought or water shortage. Proportions across sub-samples were roughly similar, but Covington/Sammamish residents appeared to cite cost more often (64%), compared to Skyway/Tukwila (50%) and Bellevue/Kirkland (47%) (Statistical significance could not be calculated for this multiple response question.)

Table 64 Q51: Aside from a drought situation, what would be the MOST IMPORTANT reason for you to reduce the amount of water you use in your home?

| | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|--|------------------|--------------------|-----------|------------|
| N= | 583 | 389 | 96 | 102 |
| | % | % | % | % |
| Cost/bill/rate/money/economical | 51 | 47 | 64 | 50 |
| Conservation/save resources/for the future/to not waste | 25 | 27 | 22 | 23 |
| Environment/ecological/nature | 11 | 12 | 9 | 8 |
| Mention drought/water shortage | 5 | 4 | 10 | 6 |
| Saving methods | 4 | 4 | 2 | 7 |
| Forced/mandated | 1 | 1 | 0 | 0 |
| Other | 2 | 2 | 0 | 1 |
| Don't know | 15 | 16 | 9 | 17 |
| Refused | 1 | 1 | 1 | 1 |

All participants in the study were asked to rate the importance of various reasons to save water. Sub-sample comparisons did not reveal any significant differences.

- 42% of respondents overall said reducing water and sewer bills was “Very important, while 41% characterized this as “Somewhat important,” 9% thought it was “Not too important,” and 6% said it was “Not at all important.”
- 60% of respondents overall said protecting the environment was “Very important,” and 33% said it was “Somewhat important.” Only 2% thought it was “Not too important,” and 3% said “Not at all important.”
- Having enough water for salmon was “Very important” for 54% of all respondents. 33% said this issue was “Somewhat important.” Only 6% characterized it as “Not too important,” and an even smaller group (4%) said it was “Not at all important.”
- Of all the reasons rated in Question 52, “Ensuring enough water for the future” was rated “Very important” by the largest group of respondents – 74%. Another 20% said it was “Somewhat important.” Just 3% each rated it “Not too important” and “Not at all important” respectively.
- When asked about the importance of “Doing your share to reduce wasting resources,” 64% of respondents rated it as “Very important,” the second largest group among the set of reasons. About one-third (31%) said it was “Somewhat important.” Two percent each rated this reason to save as “Not too important” and “Not at all important.”

Table 65 Q52A: Importance of reducing water and sewer bills

| N.S. | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Very important | 42 | 41 | 45 | 45 |
| Somewhat important | 41 | 39 | 45 | 39 |
| Not too important | 9 | 10 | 6 | 7 |
| Not at all important | 6 | 7 | 2 | 6 |
| Don't know | 2 | 2 | 2 | 3 |
| Refused | 0 | 0 | 0 | 1 |

Table 66 Q52B: Importance of protecting the environment in general

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|------------------|--------------------|------------|------------|
| <i>N=</i> | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Very important | 60 | 61 | 57 | 66 |
| Somewhat important | 33 | 33 | 36 | 29 |
| Not too important | 2 | 2 | 2 | 2 |
| Not at all important | 3 | 3 | 3 | 2 |
| Don't know | 1 | 2 | 1 | 1 |
| Refused | 1 | 0 | 1 | 1 |

Table 67 Q52C: Importance of having enough water for salmon

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|------------------|--------------------|------------|------------|
| <i>N=</i> | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Very important | 54 | 56 | 49 | 55 |
| Somewhat important | 33 | 30 | 42 | 33 |
| Not too important | 6 | 7 | 4 | 5 |
| Not at all important | 4 | 4 | 4 | 4 |
| Don't know | 2 | 2 | 0 | 3 |
| Refused | 1 | 1 | 1 | 0 |

Table 68 Q52D: Importance of ensuring enough water for the future

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|------------------|--------------------|------------|------------|
| <i>N=</i> | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Very important | 74 | 74 | 73 | 70 |
| Somewhat important | 20 | 18 | 23 | 20 |
| Not too important | 3 | 3 | 1 | 5 |
| Not at all important | 3 | 3 | 3 | 3 |
| Don't know | 1 | 2 | 0 | 2 |
| Refused | 1 | 1 | 0 | 1 |

Table 69 Q52E: Importance of doing your share to reduce wasting resources

| <i>N.S.</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Very important | 64 | 66 | 61 | 62 |
| Somewhat important | 31 | 29 | 36 | 34 |
| Not too important | 2 | 3 | 0 | 0 |
| Not at all important | 2 | 1 | 3 | 2 |
| Don't know | 1 | 1 | 0 | 2 |
| Refused | 0 | 0 | 0 | 0 |

Finally, when asked about their participation in water conservation programs at their local utility (**Table 70**), 21% of respondents overall said they had participated in such programs, with 74% saying they had not participated. Covington/Sammamish respondents were slightly more likely to have participated (26%) compared to Bellevue/Redmond/Kirkland/Issaquah at 20%, and Skyway/Tukwila at 19%.

Table 70 Q53: Have you participated in any water conservation programs offered through your local water utility in the past?

| <i>Sig. = <.05</i> | Overall Weighted | Bvue/Kirk /Red/Iss | Cov/Sam | Sky/Tuk |
|-----------------------|-------------------------|---------------------------|----------------|----------------|
| N= | 600 | 399 | 100 | 105 |
| | % | % | % | % |
| Yes | 21 | 20 | 26 | 19 |
| No | 74 | 74 | 72 | 76 |
| Don't know | 5 | 6 | 2 | 3 |
| Refused | 0 | 0 | 0 | 2 |

APPENDIX A – QUESTIONNAIRE

INTRO:

IF NOT AVAILABLE, ARRANGE CALL-BACK

Hello, my name is _____ and I'm conducting a survey on behalf of your local water utility about water issues facing your community. Your advice is very important to your utility and your answers will be completely confidential. May I please speak with an adult 18 years of age or older? IF NO, ASK: May I call you back at a more convenient time? ARRANGE CALL-BACK

QB:

Could you please tell me what zip code your home is in? JUST TYPE NUMBER:

| | | |
|------------------|-------|---------|
| 98004..... | 98004 | |
| 98005..... | 98005 | |
| 98006..... | 98006 | |
| 98007..... | 98007 | |
| 98008..... | 98008 | |
| 98009..... | 98009 | |
| 98015..... | 98015 | |
| 98027..... | 98027 | |
| 98029..... | 98029 | |
| 98033..... | 98033 | |
| 98039..... | 98039 | |
| 98042..... | 98042 | |
| 98052..... | 98052 | |
| 98073..... | 98073 | |
| 98074..... | 98074 | |
| 98168..... | 98168 | |
| 98178..... | 98178 | |
| 98188..... | 98188 | |
| Other..... | | => /END |
| Don't know | 99998 | => /END |
| Refused..... | 99999 | => /END |

NAREA:

| | |
|---------------------------------------|---|
| zip codes 98168,98178 and 98188 | 1 |
| All other zip codes..... | 2 |

QC:

And could you please tell me which water utility or jurisdiction supplies your drinking water? READ
IF NEEDED: Would it be the . . . (Read 1-97) IF DON'T KNOW/NOT SURE, SAY: Which of the
choices I just read best describes the area where you live?

| | | |
|--|----|---------|
| City of Bellevue..... | 01 | |
| City of Redmond | 02 | |
| Covington Water District | 03 | |
| City of Kirkland..... | 04 | |
| Sammamish Plateau Water and Sewer District | 05 | |
| City of Issaquah..... | 06 | |
| Skyway Water and Sewer District..... | 07 | |
| City of Tukwila | 08 | |
| Or some other utility or jurisdiction (SPECIFY):..... | 96 | |
| City of Seattle - DO NOT READ | 97 | |
| Drinking water comes from own private well - DO NOT READ | 00 | => /END |
| Don't know - DO NOT READ | 98 | |
| Refused - DO NOT READ | 99 | |

Q1:

As we go through the survey, if there is a question you can't answer, just let me know. First, do you
own or rent your home?

| | |
|---------------------------------|---|
| Own | 1 |
| Rent/Lease | 2 |
| Don't know/Not applicable | 3 |
| Refused..... | 4 |

Q2:

Do you live in a single family detached home, an apartment or condominium with 5 or more units, or a
duplex, triplex, or fourplex?

| | |
|--|---|
| Single family detached home | 1 |
| Apartment or condo, townhouse building with five or more units | 2 |
| Duplex/triplex/fourplex | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q3:

Was your home built in 1994 or later?

| | |
|---------------------------------|---|
| No, 1993 or earlier..... | 1 |
| Yes, 1994 or later | 2 |
| Don't know/Not applicable | 3 |
| Refused..... | 4 |

Q4:

Now I'd like to know more about how you use water inside your home. First, how many toilets do you have in your home?

| | |
|--------------------|---|
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Don't know | 6 |
| Refused | 7 |

Q5:

Could you tell me how many of the toilets in your home are low-flow toilets? Any toilets installed in your home in 1994 or later would be low-flow models. IF NEEDED: Low flow models use 1.6 gallons of water or less per flush. Toilets installed before 1994 use a higher volume of water.

=> Q10IF Q3=2

| | |
|--------------------|---|
| None | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Don't know | 6 |
| Refused | 7 |

Q6:

Within the next year do you plan to replace any toilets in your home that were installed before 1994? IF NEEDED: These toilets would be high water volume toilets.

=> Q10 IF NOT Q1=1 OR NUMBR==0

| | |
|------------------|---|
| Yes | 1 |
| No | 2 |
| Don't know | 3 |
| Refused | 4 |

Q7:

Now I'd like to know how likely you would be to replace a high water volume toilet installed before 1994 with a new low flow model. If you knew you could save on your water and sewer bills AND your water utility paid you \$40 for each toilet you replaced, would you be very likely, somewhat likely, not too likely, or not at all likely to replace an older toilet with a low flow toilet?

| | |
|-------------------------|---|
| Very likely | 1 |
| Somewhat likely | 2 |
| Not too likely | 3 |
| Not at all likely | 4 |
| Don't know | 5 |
| Refused | 6 |

Q8:

What if your water utility paid you \$60 to replace a high water volume toilet in your home with a low flow toilet? Would you be very likely, somewhat likely, not too likely, or not at all likely to do that? (And you knew you could save on your water and sewer bills.)

=> Q10 IF Q7=1

| | |
|------------------------|---|
| Very likely..... | 1 |
| Somewhat likely..... | 2 |
| Not too likely..... | 3 |
| Not at all likely..... | 4 |
| Don't know..... | 5 |
| Refused..... | 6 |

Q9:

What if your water utility paid you \$80 to replace a high water volume toilet in your home with a low flow toilet? Would you be very likely, somewhat likely, not too likely, or not at all likely to do that? (And you knew you could save on your water and sewer bills.)

SKIP IF Q8=1

| | |
|------------------------|---|
| Very likely..... | 1 |
| Somewhat likely..... | 2 |
| Not too likely..... | 3 |
| Not at all likely..... | 4 |
| Don't know..... | 5 |
| Refused..... | 6 |

Q10:

I have a few questions about toilet leaks. In the past two years, have you checked your <toilets/toilet> for silent leaks by using dye tabs or food coloring? IF NEEDED: You can tell you have a silent leak if you put dye tabs or food coloring in the toilet tank and the water in your toilet bowl becomes colored after a 20 minute wait.

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q11:

Did you find any leaky toilets?

=> Q13 IF NOT Q10=1

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q12:

When you found a leaky toilet, were you able to repair it, did you replace the toilet, or have you not been able to fix the leak yet?

SKIP IF NOT Q11=1

| | |
|----------------------------|---|
| Repaired the leak | 1 |
| Replaced the toilet | 2 |
| Did not fix the leak | 3 |
| Don't know | 4 |
| Refused | 5 |

Q13:

In your household, is it customary for the toilet to be flushed with every use or is it sometimes used more than once before it is flushed?

| | |
|--|---|
| Usually flushed with every use | 1 |
| Sometimes used more than once before flushed | 2 |
| Don't know | 3 |
| Refused | 4 |

Q14:

Now a few questions about showers. How many showerheads do you have in your home? If you have multiple showerheads in one shower, please count each showerhead separately.

| | |
|-------------------|----|
| One | 01 |
| Two | 02 |
| Three | 03 |
| Four | 04 |
| Five | 05 |
| Six | 06 |
| Seven | 07 |
| Eight | 08 |
| Nine | 09 |
| Ten or more | 10 |
| Don't know | 11 |
| Refused | 12 |

Q15:

How many of the showerheads in your home are the low-flow kind that would have been installed in 1994 or later? IF NEEDED: Showerheads that use 2.5 gallons of water or less per minute.

SKIP IF Q3=2

| | |
|-------------------|----|
| None | 00 |
| One | 01 |
| Two | 02 |
| Three | 03 |
| Four | 04 |
| Five | 05 |
| Six | 06 |
| Seven | 07 |
| Eight | 08 |
| Nine | 09 |
| Ten or more | 10 |
| Don't know | 11 |
| Refused | 12 |

Q16:

How long do you estimate that most showers in your household last? Would you say they last less than five minutes, 5 to 10 minutes, 11-15 minutes, or more than 15 minutes?

| | |
|----------------------------|---|
| Less than 5 minutes | 1 |
| 5-10 minutes | 2 |
| 11 to 15 minutes | 3 |
| More than 15 minutes | 4 |
| Varies quite a bit..... | 5 |
| Don't know | 6 |
| Refused..... | 7 |

Q17:

How many faucets do you have INSIDE your home, including bathroom, kitchen and utility sink faucets? IF NEEDED: Utility inks are usually found in laundry rooms or garages.

| | |
|--------------------|---|
| One | 1 |
| Two..... | 2 |
| Three..... | 3 |
| Four | 4 |
| Five..... | 5 |
| Six..... | 6 |
| Seven or more..... | 7 |
| Don't know | 8 |
| Refused..... | 9 |

Q18:

How many of the faucets in your home are low-flow faucets that were installed in 1994 or later? Also include in your count any faucets where you have installed aerators.

| |
|--------------|
| SKIP IF Q3=2 |
|--------------|

| | |
|--------------------|---|
| None | 0 |
| One | 1 |
| Two..... | 2 |
| Three..... | 3 |
| Four | 4 |
| Five..... | 5 |
| Six..... | 6 |
| Seven or more..... | 7 |
| Don't know | 8 |
| Refused..... | 9 |

Q19:

Have you found any leaking or dripping faucets in your kitchen, bathroom, or utility sinks within the last year?

| | |
|------------------|---|
| Yes..... | 1 |
| No | 2 |
| Don't know | 3 |
| Refused..... | 4 |

Q20:

Have you had a chance yet to fix the leaks or drips you found?

SKIP IF NOT Q19=1

Yes.....1
 No2
 Don't know3
 Refused.....4

Q21:

Next I'd like to find out about clothes washing at your home. Do you have a clothes washer in your home?

Yes.....1
 No2
 Don't know3
 Refused.....4

Q22:

Is your clothes washer one that is specially designed to save water and energy? These models usually do not have an agitator and load from the front.

=> Q27 IF NOT Q21=1

Yes, have water/energy saver washer1
 No, do not have water/energy saver washer2
 Don't know3
 Refused.....4

Q23:

Did you receive a rebate from your water or energy utility when you bought this clothes washer?

ASK IF Q22=1

Yes.....1
 No2
 Didn't buy the machine/it was bought by someone else3
 Don't know4
 Refused.....5

Q24:

When you load your clothes washer to do a full load, which of the following best describes how you usually pack the clothes?

ASK IF Q22=1

I pack the clothes loosely and fill it up to the top of the drum1
 I pack the clothes loosely but leave some room at the top of the drum ...2
 I pack the clothes tightly and fill it to the top of the drum.....3
 Or I pack the clothes tightly but leave some room at the top of the drum4
 Don't know/Varies with load - DO NOT READ5
 Refused - DO NOT READ6

Q25:

How likely would you be to replace your current washer with a new water and energy saving washer if you received a \$100 rebate on the purchase? Would you be very likely, somewhat likely, not too likely, or not at all likely to replace your current washer?

SKIP IF Q22=1

- Very likely.....1
 Somewhat likely.....2
 Not too likely.....3
 Not at all likely.....4
 Don't know.....5
 Refused.....6

Q26:

When you load your clothes washer to do a full load, which of the following best describes how you usually pack the clothes?

=> +1 IF Q22=1

- I pack the clothes loosely and fill it up to the top of the tub.....1
 I pack the clothes loosely but leave some room at the top of the tub.....2
 I pack the clothes tightly and fill it to the top of the tub.....3
 Or I pack the clothes tightly but leave some room at the top of the tub.....4
 Don't know/Varies with load - DO NOT READ.....5
 Refused - DO NOT READ.....6

Q27:

I'd like to switch now to outdoor water use. In your outdoor areas, do you have...

=> Q47 IF NOT Q2=1,3

- Only lawn.....1
 Only garden areas that include shrubs, trees, flowers and vegetable gardens.....2
 Both lawn and garden areas.....3
 Or neither lawn nor garden area.....4
 Don't know - DO NOT READ.....5
 Refused - DO NOT READ.....6

Q28:

How likely are you to make major changes in your landscaping within the next two years? Are you very likely, somewhat likely, not too likely, or not at all likely?

ASK IF Q1=1

- Very likely.....1
 Somewhat likely.....2
 Not too likely.....3
 Not at all likely.....4
 Don't know.....5
 Refused.....6

SKIPA: SKIP TO Q47 IF Q27=4-6

Q29:

Now I'd like you to think about the dry summer months when it doesn't rain. Which of the following best describes how often you water your lawn? Once a month or less; twice a month; once every week; every three days; every other day; or every day?

=> Q32 IF NOT Q27=1,3

| | |
|--|---|
| Once a month or never water the lawn | 1 |
| Twice a month | 2 |
| Once a week | 3 |
| Every three days | 4 |
| Every other day | 5 |
| Every day..... | 6 |
| Don't know/Depends | 7 |
| Refused..... | 8 |

Q30:

Do you use an in-ground sprinkler system that has an automatic controller, use moveable sprinklers and hoses, or use another method to water your lawn? PROBE FOR SPECIFIC TYPE OF IN-GROUND (CODES 01-02) OR SPRINKLER/HOSE (CODES 03-04). NOTE TO INTERVIEWER: IF RESPONDENT MENTIONS MULTIPLE METHODS, ASK FOR THE METHOD USED TO WATER THE LARGEST PART OF THEIR LAWN.

=> Q32 IF Q29=1

| | |
|--|----|
| An in-ground sprinkler system with an automatic controller | 01 |
| An in-ground sprinkler system that is manually operated | 02 |
| Movable sprinklers connected to a hose..... | 03 |
| Or by hand with a hose (not connected to a sprinkler) | 04 |
| Other (SPECIFY:) - DO NOT READ | 97 |
| Don't know - DO NOT READ | 98 |
| Refused - DO NOT READ | 99 |

Q31A:

How likely are you to let your lawn go dormant and turn brown during the dry summer months to save water and reduce your water bills, or for other reasons? Would you be very likely, somewhat likely, not too likely, or not at all likely?

| | |
|-------------------------|---|
| Very likely..... | 1 |
| Somewhat likely | 2 |
| Not too likely..... | 3 |
| Not at all likely | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q31B:

Within the next two years, how likely are you to reduce the amount of lawn you have to save water and reduce your water bills, or for other reasons? Very likely, somewhat likely, not too likely, or not at all likely?

SKIP IF Q1=2

| | |
|-------------------------|---|
| Very likely..... | 1 |
| Somewhat likely | 2 |
| Not too likely..... | 3 |
| Not at all likely | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q32:

During the dry summer months, how often do you usually water your non-lawn areas, including planting beds, vegetable gardens, and shrubs? Do you water your non-lawn areas once a month or less; twice a month; once every week; every three days; every other day; or every day? IF NEEDED: Ask respondent to indicate their most frequent watering of non-lawn areas.

=> Q35A IF NOT Q27=2,3

| | |
|----------------------------------|---|
| Once a month or less/Never | 1 |
| Twice a month | 2 |
| Once a week | 3 |
| Every three days | 4 |
| Every other day | 5 |
| Every day | 6 |
| Don't know/Depends | 7 |
| Refused | 8 |

Q33:

Do you use an in-ground sprinkler system that has an automatic controller, use moveable sprinklers and hoses, or use another method to water your non-lawn areas? PROBE FOR SPECIFIC TYPE OF IN-GROUND (CODES 01-02) OR SPRINKLER/HOSE (CODES 03-04). NOTE TO INTERVIEWER: IF RESPONDENT MENTIONS MULTIPLE METHODS, ASK FOR THE METHOD USED TO WATER THE LARGEST PART OF THEIR NON-LAWN AREAS.

=> Q35A IF Q32=1

| | |
|--|----|
| An in-ground sprinkler system with an automatic controller | 01 |
| An in-ground sprinkler system that is manually operated | 02 |
| Movable sprinklers connected to a hose | 03 |
| Or by hand with a hose (not connected to a sprinkler) | 04 |
| Other (SPECIFY:) - DO NOT READ | 97 |
| Don't know - DO NOT READ | 98 |
| Refused - DO NOT READ | 99 |

Q34:

Within the next two years how likely are you to redo all or part of your non-lawn landscape using drought tolerant plants that need less water once they are established? Are you likely, somewhat likely, not too likely, or not at all likely to redo your non-lawn plants?

SKIP IF Q1=2

| | |
|-------------------------|---|
| Very likely | 1 |
| Somewhat likely | 2 |
| Not too likely | 3 |
| Not at all likely | 4 |
| Don't know | 5 |
| Refused | 6 |

Q35A:

Your water utility might offer different types of assistance to help customers reduce their outside water use. How helpful would the following three services be to you?

A cash rebate of up to \$300 that could be used toward outdoor water conservation efforts, such as reducing lawn size or using more drought tolerant plants? Would you say...

=> Q36 IF Q1=2 OR Q29=1 OR NOT Q27=1,3

| | |
|-------------------------|---|
| Very helpful..... | 1 |
| Somewhat helpful..... | 2 |
| Not too helpful..... | 3 |
| Not at all helpful..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q35B:

(How helpful would the following service be to you?)

Educational materials that show you how you can reduce outdoor water use through changes in landscaping and gardening practices? Would you say...

| | |
|-------------------------|---|
| Very helpful..... | 1 |
| Somewhat helpful..... | 2 |
| Not too helpful..... | 3 |
| Not at all helpful..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q35C:

(How helpful would the following service be to you?)

An on-site audit that would identify where water can be saved? Would you say...

| | |
|-------------------------|---|
| Very helpful..... | 1 |
| Somewhat helpful..... | 2 |
| Not too helpful..... | 3 |
| Not at all helpful..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q36:

Does your in-ground sprinkler system use a rain shut-off device that stops it from turning on if it is raining?

=> Q42 IF NOT Q30=01 AND NOT Q33=01

| | |
|------------------|---|
| Yes..... | 1 |
| No | 2 |
| Don't know | 3 |
| Refused..... | 4 |

Q37:

The cost of buying and installing a rain shut off device is about \$150. How likely would you be to install a rain shut-off device if your water utility offered you a \$100 rebate? Would you be very likely, somewhat likely, not too likely, or not at all likely to take advantage of this offer?

| |
|-----------------------|
| SKIP IF Q36=1 OR Q1=2 |
|-----------------------|

| | |
|------------------------|---|
| Very likely..... | 1 |
| Somewhat likely..... | 2 |
| Not too likely..... | 3 |
| Not at all likely..... | 4 |
| Don't know..... | 5 |
| Refused..... | 6 |

Q38:

Now think about the watering season when you use your in-ground sprinkler system. Is the water program schedule set...

| | |
|------------------------------------|---|
| One time for the whole season..... | 1 |
| Once a month..... | 2 |
| Twice a month..... | 3 |
| Or more than twice a month..... | 4 |
| Don't know/Depends..... | 5 |
| Refused..... | 6 |

Q39:

You can purchase controllers that adjust your sprinkler system according to weather conditions for about \$650. If your water utility offered a \$350 rebate toward buying one of these controllers, how likely would you be to take advantage of this offer? Very likely, somewhat likely, not too likely, or not at all likely?

| |
|--------------|
| SKIP IF Q1=2 |
|--------------|

| | |
|------------------------|---|
| Very likely..... | 1 |
| Somewhat likely..... | 2 |
| Not too likely..... | 3 |
| Not at all likely..... | 4 |
| Already have one..... | 5 |
| Don't know..... | 6 |
| Refused..... | 7 |

Q40:

Do you have a professional inspect your in-ground sprinkler system every year to identify and fix any leaks or other problems?

| |
|--------------|
| SKIP IF Q1=2 |
|--------------|

| | |
|---|---|
| Yes..... | 1 |
| No..... | 2 |
| Have someone inspect less than once a year/as needed..... | 3 |
| Don't know..... | 4 |
| Refused..... | 5 |

Q41:

How likely would you be to use a free service offered by your water utility to identify equipment problems or scheduling errors in your automatic in-ground sprinkler system? Would you be very likely, somewhat likely, not too likely, or not at all likely to make use of this service?

| |
|--------------|
| SKIP IF Q1=2 |
|--------------|

| | |
|------------------------|---|
| Very likely..... | 1 |
| Somewhat likely..... | 2 |
| Not too likely..... | 3 |
| Not at all likely..... | 4 |
| Don't know..... | 5 |
| Refused..... | 6 |

Q42:

Do you use a landscape professional to help you take care of your yard?

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q43A:

Has your landscape professional provided you with any of the following advice and information...

How to save water by improving your soil?

| |
|----------------------|
| => Q45A IF NOT Q42=1 |
|----------------------|

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q43B:

(Has your landscape professional provided you with any of the following advice and information...)

Choosing water efficient plants?

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q43C:

(Has your landscape professional provided you with any of the following advice and information...)

How to schedule your watering so that it's most efficient?

| |
|-----------------------------------|
| SKIP IF NOT Q30=01 AND NOT Q33=01 |
|-----------------------------------|

| | |
|-----------------|---|
| Yes..... | 1 |
| No..... | 2 |
| Don't know..... | 3 |
| Refused..... | 4 |

Q43D:

(Has your landscape professional provided you with any of the following advice and information...)

| | |
|--|---|
| Water-saving lawn care such as aerating your lawn? | |
| Yes..... | 1 |
| No..... | 2 |
| Don't know | 3 |
| Refused..... | 4 |

Q44A:

Do you or your landscape professional usually, sometimes or never do any of the following in your yard...

| | |
|---|---|
| Keep a 1-3 inch layer of mulch, such as bark or wood chips, around your shrubs and trees and on your planting beds? | |
| Usually | 1 |
| Sometimes | 2 |
| Never | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q44B:

(Do you or your landscape professional usually, sometimes or never do any of the following in your yard...)

| | |
|---------------------------|---|
| Add compost to your soil? | |
| Usually | 1 |
| Sometimes | 2 |
| Never | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q44C:

(Do you or your landscape professional usually, sometimes or never do any of the following in your yard...)

| | |
|--|---|
| Choose drought tolerant plants when new plants are added to your landscape | |
| Usually | 1 |
| Sometimes | 2 |
| Never | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q44D:

(Has your landscape professional provided you with any of the following advice and information...)

| | |
|-------------------|---|
| Aerate your lawn? | |
| ASK IF Q27=1,3 | |
| Usually | 1 |
| Sometimes | 2 |
| Never | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q44E:

(Do you or your landscape professional usually, sometimes or never do any of the following in your yard...)

Leave grass clippings on your lawn when you mow it?

ASK IF Q27=1,3

Usually1
 Sometimes2
 Never3
 Don't know4
 Refused5

Q45A:

Do you usually, sometimes or never do any of the following in your yard...

Keep a 1-3 inch layer of mulch, such as bark or wood chips, around your shrubs and trees and on your planting beds?

=> Q46 IF Q42=1

Usually1
 Sometimes2
 Never3
 Don't know4
 Refused5

Q45B:

(Do you usually, sometimes or never do any of the following in your yard...)

Add compost to your soil?

Usually1
 Sometimes2
 Never3
 Don't know4
 Refused5

Q45C:

(Do you usually, sometimes or never do any of the following in your yard...)

Choose drought tolerant plants when new plants are added to your landscape

Usually1
 Sometimes2
 Never3
 Don't know4
 Refused5

Q45D:

(Do you usually, sometimes or never do any of the following in your yard...)

Aerate your lawn?

ASK IF Q27=1,3

Usually1
 Sometimes2
 Never3
 Don't know4
 Refused5

Q45E:

(Do you usually, sometimes or never do any of the following in your yard...)
 Leave grass clippings on your lawn when you mow it?

| |
|----------------|
| ASK IF Q27=1,3 |
|----------------|

| | |
|------------------|---|
| Usually | 1 |
| Sometimes | 2 |
| Never | 3 |
| Don't know | 4 |
| Refused..... | 5 |

Q46:

Do you collect rain water from your roof to water your plants, by using a rain barrel or other system?

| | |
|------------------|---|
| Yes..... | 1 |
| No | 2 |
| Don't know | 3 |
| Refused..... | 4 |

Q47:

I'd also like to know how you wash your car. Do you generally wash your car at home or do you go to a car wash? IF NEEDED: Whatever you generally do. SINGLE RESPONSE.

| | |
|----------------------------|---|
| Do not wash car | 1 |
| Wash car at home | 2 |
| Wash car at car wash | 3 |
| Do not own car | 4 |
| Don't know/Depends | 5 |
| Refused..... | 6 |

Q48:

Have you heard any news about a potential drought this year?

| | |
|------------------|---|
| Yes..... | 1 |
| No | 2 |
| Don't know | 3 |
| Refused..... | 4 |

Q49:

How concerned are you that you will be asked to voluntarily cut back on your water use this summer due to a potential drought? Are you very concerned, somewhat concerned, not too concerned, or not at all concerned?

| |
|--------------|
| ASK IF Q48=1 |
|--------------|

| | |
|---------------------------|---|
| Very concerned..... | 1 |
| Somewhat concerned..... | 2 |
| Not too concerned | 3 |
| Not at all concerned..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q50:

When you think about all the ways we've been talking about using water, how much do you think you could realistically cut your water use without it having a negative effect on your lifestyle? Would you

say you could reduce your use by a small amount or less than 5 percent; by a medium amount or, 5 to 10 percent; or by a large amount or more than 10 percent?

| | |
|--|---|
| Could reduce by less than 5% (small) | 1 |
| Could reduce by 5-10% (medium) | 2 |
| Could reduce by 10% or more (large) | 3 |
| Don't know | 4 |
| Refused | 5 |

Q51:

Aside from a drought situation, what would be the MOST IMPORTANT reasons for you to reduce the amount of water you use in your home?

| | |
|-----------------------|----|
| RECORD COMMENTS | 01 |
| Don't know | 98 |
| Refused | 99 |

Q52:

How important to you are the following reasons in deciding to reduce water use at home? For each please tell me if it is very important, somewhat important, not too important, or not at all important...

| | |
|----------------|---|
| Continue | 1 |
|----------------|---|

Q52A:

(How important are the following in deciding to reduce water use at home? Very important, somewhat important, not too important, or not at all important...)

Reducing water and sewer bills

| | |
|----------------------------|---|
| Very important | 1 |
| Somewhat important | 2 |
| Not too important | 3 |
| Not at all important | 4 |
| Don't know | 5 |
| Refused | 6 |

Q52B:

(How important are the following in deciding to reduce water use at home? Very important, somewhat important, not too important, or not at all important...)

Protecting the environment in general

| | |
|----------------------------|---|
| Very important | 1 |
| Somewhat important | 2 |
| Not too important | 3 |
| Not at all important | 4 |
| Don't know | 5 |
| Refused | 6 |

Q52C:

(How important are the following in deciding to reduce water use at home? Very important, somewhat important, not too important, or not at all important...)

| | |
|--------------------------------|---|
| Having enough water for salmon | |
| Very important | 1 |
| Somewhat important..... | 2 |
| Not too important | 3 |
| Not at all important..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q52D:

(How important are the following in deciding to reduce water use at home? Very important, somewhat important, not too important, or not at all important...)

| | |
|--------------------------------------|---|
| Ensuring enough water for the future | |
| Very important | 1 |
| Somewhat important..... | 2 |
| Not too important | 3 |
| Not at all important..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q52E:

(How important are the following in deciding to reduce water use at home? Very important, somewhat important, not too important, or not at all important...)

| | |
|--|---|
| Doing your share to reduce wasting resources | |
| Very important | 1 |
| Somewhat important..... | 2 |
| Not too important | 3 |
| Not at all important..... | 4 |
| Don't know | 5 |
| Refused..... | 6 |

Q53:

Have you participated in any water conservation programs offered through your local water utility in the past?

| | |
|--|---|
| Yes..... | 1 |
| No | 2 |
| No, they haven't offered any (DO NOT READ) | |
| Don't know | 3 |
| Refused..... | 4 |

Q54:

Now I have a few final questions to help us analyze our data better. Your answers will be used for analysis purposes only. How many people, including yourself, live in your household?

| | |
|--------------|----|
| Refused..... | 99 |
|--------------|----|

Q55:

Which of the following categories best describes your age?

| | |
|-----------------------------|---|
| Under 18 | 1 |
| 18 to 24 | 2 |
| 25 to 34 | 3 |
| 35 to 44 | 4 |
| 45 to 54 | 5 |
| 55 to 64 | 6 |
| Or 65 or older | 7 |
| Refused - DO NOT READ | 8 |

Q56:**READ ONLY IF NEEDED**

How would you describe your racial or ethnic heritage?

| | |
|---|----|
| White/Caucasian | 01 |
| Black/African American | 02 |
| Asian/Pacific Islander | 03 |
| Native American Indian Eskimo/Aleut | 04 |
| Latino/Hispanic | 05 |
| Mixed racial/ethnic heritage | 06 |
| Other (SPECIFY:) | 97 |
| Don't know/Refused | 99 |

Q57:

Is your total annual household income above or below \$50,000?

| | |
|--------------------------|---|
| Below \$50,000 | 1 |
| \$50,000 or above | 2 |
| Don't know/refused | 3 |

Q57A:

Is that...

=> +1 IF NOT Q57=1

| | |
|--|---|
| Less than \$15,000 | 1 |
| \$15,000 to just under \$25,000 | 2 |
| \$25,000 to just under \$50,000 | 3 |
| Don't know/Refused - DO NOT READ | 7 |

Q57B:

Is that...

=> +1 IF NOT Q57=2

| | |
|--|---|
| 50,000 to just under \$75,000 | 4 |
| \$75,000 to just under \$100,000 | 5 |
| Or \$100,000 or more | 6 |
| Don't know/Refused - DO NOT READ | 8 |

INCOM:

| | |
|--|---|
| Less than \$15,000 | 1 |
| \$15,000 to just under \$25,000 | 2 |
| \$25,000 to just under \$50,000 | 3 |
| 50,000 to just under \$75,000 | 4 |
| \$75,000 to just under \$100,000 | 5 |
| Or \$100,000 or more | 6 |
| Refused under \$50,000 | 7 |
| Refused \$50,000 or more | 8 |
| Total refusal..... | 9 |

GENDR:*DO NOT ASK!***RECORD GENDER**

| | |
|--------------|---|
| Male..... | 1 |
| Female | 2 |

Thank you so much for your help. Your water utility greatly appreciates the interest and time you have taken (today)/(tonight).

F7:*F7 - IF NEEDED BY INTERVIEWER STATEMENTS*

We are not selling anything. This is strictly a survey for research purposes.

* I work for Gilmore Research Group, an independent survey research firm located in Seattle.

* If you would like to verify this call and get more information, you may call my supervisor at 800-573-4498 ext. 151 in Seattle.

* The purpose of this survey is to find out how the public feels about their water utility and local water issues facing the community.

*Your opinions will help your utility plan its services to your community over the next few years.

* If you would like to contact **the client** please call Michael Brent Water Resources Manager
Cascade Water Alliance Phone: 425-453-1810

* This interview will take about 12-13 minutes.

Appendix A-2

Market Research Survey

Data Tables from Gilmore Research Group

CONSERVATION POTENTIAL ASSESSMENT SURVEY WEIGHTED DATA TABLES

Prepared for:

Cascade Water Alliance

June, 2005

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

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JOB #C05079 GILMORE RESEARCH GROUP
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SAMPLE SOURCE

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| | REDM/ COVG | | | | | | | | | | OR | | | | | 2/3/4 | | | | | 5+ | | | | | | | | | | | | | | | NOT/ | | NOT/ | | NOT/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TUKW/ SKYW/ | | | | | | | | | | LATER | | | | | UNITS | | | | | | | | | | | | | | | | | | | | DK | | DK | | DK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OWN RENT | | | | | | | | | | <1994 | | | | | <5% | | | | | <50K | | | | | \$50K+ | | | | | VERY | | VERY | | VERY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WGHTD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TOTAL ISSQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (A) | | | | | (B) | | | | | (C) | | | | | (D) | | | | | (E) | | | | | (F) | | | | | (G) | | | | | (H) | | | | | (I) | | | | | (J) | | | | | (K) | | | | | (L) | | | | | (M) | | | | | (N) | | | | | (O) | | | | | (P) | | | | | (Q) | | | | | (R) | | | | | (S) | | | | | (T) | | | | | (U) | | | | | (V) | | | | | (W) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL ANSWERING | | | | | | | | | | | | | | | | | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 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100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 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100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table QB Page 2

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

COULD YOU PLEASE TELL ME WHAT ZIP CODE YOUR HOME IS IN?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-----------------------------------|-----------------|------------------------|-----------------------|------------------------|----------|-------|-------|---------------------|--------------|-------------|---------|-------|-------------------|-------|-----------------------|--------|----------------------|-------|--------------------|---------------------|--------------------|-------------|--------------------|--|--|--|
| | ===== | | | | | | | | | | | | | | | | ===== | | | | | | | | | |
| | | | | | OWN HOME | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | WGHTD | BLV/ KIRK/ TOTAL | SAMM/ COVG ISSQ | TUKW/ SKYKY -TON | OWN | RENT | <1994 | OR 1994 LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
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| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| BELLEVUE 98004 | 57 | 53 | - | - | 43 | 14 | 41 | 14 | 41 | 16 | 25 | 15 | 10 | 8 | 50 | 16 | 34 | 25 | 32 | 35 | 23 | 32 | 24 | | | |
| | 9.6 | 13.3 | | | 8.9 | 13.8 | 10.0 | 8.7 | 8.7 | 13.1 | 10.9 | 6.1 | 11.6 | 5.9 | 11.3 | 13.6 | 8.1 | 9.8 | 9.4 | 9.6 | 9.7 | 10.0 | 8.8 | | | |
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| BELLEVUE 98005 | 32 | 30 | - | - | 26 | 5 | 25 | 5 | 27 | 5 | 9 | 15 | 4 | 11 | 19 | 4 | 25 | 13 | 19 | 18 | 14 | 22 | 11 | | | |
| | 5.4 | 7.5 | | | 5.3 | 5.3 | 6.0 | 3.3 | 5.7 | 4.4 | 3.8 | 6.1 | 5.2 | 8.4 | 4.4 | 3.6 | 6.0 | 5.1 | 5.7 | 5.1 | 6.0 | 6.7 | 4.0 | | | |
| BELLEVUE 98006 | 58 | 54 | - | - | 56 | 2 | 44 | 14 | 52 | 6 | 24 | 22 | 12 | 12 | 43 | 8 | 42 | 28 | 30 | 35 | 24 | 34 | 25 | | | |
| | 9.7 | 13.5 | | | 11.5 | 2.1 | 10.8 | 8.7 | 10.9 | 5.2 | 10.4 | 8.7 | 14.2 | 9.3 | 9.8 | 6.3 | 10.1 | 11.1 | 8.8 | 9.6 | 10.1 | 10.3 | 9.2 | | | |
| | | | | | F | | | | J | | | | | | | | | | | | | | | | | |
| BELLEVUE 98007 | 43 | 40 | - | - | 25 | 17 | 27 | 11 | 19 | 24 | 18 | 18 | 2 | 8 | 34 | 13 | 21 | 17 | 26 | 18 | 25 | 15 | 28 | | | |
| | 7.2 | 10.0 | | | 5.1 | 17.0 | 6.6 | 6.7 | 4.1 | 19.2 | 8.0 | 7.4 | 2.6 | 5.9 | 7.6 | 10.9 | 4.9 | 6.8 | 7.5 | 5.1 | 10.6 | 4.7 | 10.4 | | | |
| | | | | | E | | | | I | | M | m | | | | q | | | | T | | V | | | | |
| BELLEVUE 98008 | 48 | 44 | - | - | 42 | 4 | 39 | 8 | 44 | 3 | 13 | 25 | 9 | 13 | 35 | 5 | 36 | 22 | 26 | 35 | 13 | 32 | 14 | | | |
| | 7.9 | 11.0 | | | 8.6 | 4.2 | 9.5 | 4.7 | 9.4 | 2.6 | 5.7 | 10.0 | 10.4 | 10.1 | 7.8 | 4.5 | 8.6 | 8.5 | 7.5 | 9.6 | 5.5 | 10.0 | 5.2 | | | |
| | | | | | f | | H | | J | | | k | | | | p | | | | u | W | | | | | |
| BELLEVUE 98009 | 2 | 2 | - | - | 1 | 1 | 2 | - | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 | 2 | - | 1 | 1 | 1 | 1 | | | |
| | 0.4 | 0.5 | | | 0.2 | 1.1 | 0.5 | | 0.2 | 0.9 | 0.5 | 0.4 | | 0.8 | 0.2 | 0.9 | 0.3 | 0.9 | | 0.3 | 0.5 | 0.3 | 0.4 | | | |
| BELLEVUE, ISSAQUAH 98027 | 36 | 33 | - | - | 29 | 5 | 15 | 17 | 26 | 9 | 21 | 13 | 2 | 10 | 24 | 6 | 24 | 16 | 19 | 21 | 15 | 15 | 21 | | | |
| | 6.0 | 8.3 | | | 6.0 | 5.3 | 3.7 | 10.7 | 5.5 | 7.0 | 9.0 | 5.2 | 2.6 | 7.6 | 5.4 | 5.4 | 5.7 | 6.4 | 5.7 | 5.7 | 6.5 | 4.7 | 7.6 | | | |
| | | | | | G | | | | M | | | | | | | | | | | | | | | | | |
| ISSAQUAH, SAMMAMISH 98029 | 27 | 6 | 15 | - | 21 | 5 | 15 | 13 | 20 | 7 | 14 | 9 | 1 | 8 | 18 | 4 | 19 | 12 | 15 | 17 | 10 | 16 | 12 | | | |
| | 4.5 | 1.5 | 15.0 | | 4.3 | 4.8 | 3.5 | 7.8 | 4.2 | 5.9 | 5.9 | 3.6 | 1.6 | 6.2 | 4.0 | 3.2 | 4.6 | 4.8 | 4.4 | 4.6 | 4.4 | 4.8 | 4.2 | | | |
| | | | B | | | | g | | | | m | | | | | | | | | | | | | | | |
| KIRKLAND, BELLEVUE, REDMOND 98033 | 49 | 45 | - | - | 42 | 6 | 34 | 14 | 36 | 13 | 18 | 13 | 13 | 11 | 31 | 15 | 32 | 22 | 27 | 36 | 12 | 27 | 22 | | | |
| | 8.1 | 11.3 | | | 8.6 | 6.4 | 8.1 | 8.7 | 7.5 | 10.5 | 8.0 | 5.2 | 15.5 | 8.4 | 7.1 | 12.7 | 7.8 | 8.5 | 7.9 | 9.9 | 5.1 | 8.3 | 8.0 | | | |
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| BELLEVUE 98039 | 2 | 2 | - | - | 2 | - | 1 | 1 | 2 | - | - | 1 | 1 | 1 | 1 | - | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | 0.4 | 0.5 | | | 0.4 | | 0.3 | 0.7 | 0.5 | | | 0.4 | 1.3 | 0.8 | 0.2 | | 0.5 | 0.4 | 0.3 | 0.3 | 0.5 | 0.3 | 0.4 | | | |
| COVINGTON 98042 | 75 | - | 54 | - | 69 | 3 | 50 | 25 | 75 | - | 26 | 37 | 7 | 18 | 55 | 15 | 48 | 36 | 39 | 37 | 37 | 30 | 43 | | | |
| | 12.4 | | 54.0 | | 14.1 | 2.7 | 12.1 | 15.3 | 15.7 | | 11.5 | 15.0 | 8.2 | 14.0 | 12.5 | 12.7 | 11.6 | 14.1 | 11.2 | 10.3 | 15.9 | 9.4 | 15.7 | | | |
| | | | | | F | | | | | | m | | | | | | | | | t | | V | | | | |
| REDMOND 98052 | 97 | 90 | - | - | 69 | 28 | 68 | 21 | 69 | 28 | 36 | 42 | 13 | 12 | 76 | 16 | 79 | 31 | 65 | 61 | 37 | 57 | 40 | | | |
| | 16.2 | 22.6 | | | 14.2 | 27.6 | 16.6 | 12.7 | 14.6 | 22.7 | 15.6 | 17.0 | 15.5 | 9.3 | 17.2 | 13.6 | 19.0 | 12.4 | 18.9 | 16.7 | 15.7 | 17.7 | 14.7 | | | |
| | | | | | E | | | | | i | | | | | N | | | | R | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW

Independent T-Test for Means, Independent Z-Test for Percentages

Upper case letters indicate significance at the 95% level.

Lower case letters indicate significance at the 90% level.

Table QB Page 3
(Continued)CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

COULD YOU PLEASE TELL ME WHAT ZIP CODE YOUR HOME IS IN?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
 Independent T-Test for Means, Independent Z-Test for Percentages
 Upper case letters indicate significance at the 95% level.
 Lower case letters indicate significance at the 90% level.

Table AREA Page 4

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

AREA

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|------------------------|------------------------|--------------|----------------|----------|-------|------------|--------------|-------------|-------|-------------------|-------|-------|-------|--------------|--------|--------|----------------------|--------|--------------------|-------------|--------------------|--------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | BUILT | | | | HOUSING | | | | | | PRIOR CONSRV | | | | REDUCE | | PROTECT | | SAVE | |
| | | | | | | | | | | | POTENTIAL TO SAVE | | | | PROGRAMS | | INCOME | | BILLS | | ENVIRONMENT | | SALMON | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME | | 1994 OR | SF/ 2/3/4 | 5+ UNITS | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| BELLEVUE/KIRKLAND/ REDMOND/ISSAQUAH | 432 | 399 | - | - | 341 | 87 | 299 | 109 | 322 | 109 | 166 | 168 | 66 | 87 | 319 | 87 | 301 | 179 | 252 | 264 | 167 | 240 | 190 | |
| | 72.0 | 100.0 | | | 69.7 | 84.8 | 72.5 | 67.5 | 67.7 | 88.0 | 72.4 | 67.5 | 78.9 | 67.6 | 72.3 | 72.4 | 72.2 | 70.3 | 73.2 | 72.9 | 71.0 | 74.1 | 69.7 | |
| | | | | | E | | | | | I | | | L | | | | | | | | | | | |
| SAMMAMISH/COVINGTON | 138 | - | 100 | - | 127 | 7 | 91 | 47 | 130 | 8 | 52 | 70 | 11 | 36 | 99 | 19 | 102 | 62 | 76 | 79 | 58 | 68 | 69 | |
| | 23.0 | | 100.0 | | 25.9 | 6.8 | 22.1 | 29.0 | 27.3 | 6.7 | 22.9 | 28.3 | 13.2 | 28.0 | 22.5 | 16.1 | 24.5 | 24.4 | 22.0 | 21.7 | 24.7 | 20.8 | 25.4 | |
| | | | | | F | | | | J | | M | M | | | | | P | | | | | | | |
| TUKWILLA/SKYWAY | 30 | - | - | 105 | 21 | 9 | 22 | 6 | 23 | 7 | 11 | 10 | 7 | 6 | 23 | 14 | 14 | 13 | 16 | 20 | 10 | 17 | 13 | |
| | 5.0 | | | 100.0 | 4.3 | 8.4 | 5.3 | 3.5 | 4.9 | 5.3 | 4.6 | 4.1 | 7.9 | 4.5 | 5.2 | 11.5 | 3.3 | 5.3 | 4.7 | 5.4 | 4.3 | 5.1 | 4.9 | |
| | | | | | | | | | | | | | | | | Q | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table QC Page 5

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

AND COULD YOU PLEASE TELL ME WHICH WATER UTILITY OR JURISDICTION SUPPLIES YOUR DRINKING WATER? READ IF
NEEDED: WOULD IT BE THE . . . (READ 1-97) IF DON'T KNOW/NOT SURE, SAY: WHICH OF THE CHOICES I JUST READ
BEST DESCRIBES THE AREA WHERE YOU

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|--|---|-------|-------|-------|----------|-------|-------|-------|---------|-------|-------------------|-------|-------|--------------|-------|--------|--------|----------------------|------------|---------------------|------------|-------------|------------|-----|--|--|--|
| | BLV/ KIRK/ SMM/ COVG TUKW/ SKYWY | | | | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | |
| | | | | | | | 1994 | OR | SF/ | 5+ | | | | PROGRAMS | | | | SMW/ | | SMW/ | | SMW/ | | | | | |
| | WGHTD | REDM/ | ISSQ | ISSQ | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | NOT/ DK | VERY | NOT/ DK | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | |
| CITY OF BELLEVUE | 222 | 204 | 1 | - | 185 | 36 | 164 | 50 | 181 | 41 | 81 | 92 | 34 | 53 | 162 | 37 | 155 | 102 | 121 | 132 | 90 | 128 | 92 | | | | |
| | 37.0 | 51.1 | 1.0 | | 37.9 | 35.0 | 39.8 | 30.7 | 38.2 | 33.1 | 35.5 | 37.0 | 40.5 | 41.6 | 36.8 | 30.8 | 37.2 | 40.0 | 35.0 | 36.4 | 38.4 | 39.4 | 34.0 | | | | |
| | | C | | | | | h | | | | | | | | | | | | | | | | | | | | |
| CITY OF REDMOND | 78 | 71 | 1 | - | 57 | 22 | 57 | 14 | 60 | 18 | 26 | 37 | 13 | 12 | 59 | 9 | 69 | 24 | 53 | 45 | 33 | 47 | 31 | | | | |
| | 13.0 | 17.8 | 1.0 | | 11.6 | 21.2 | 13.7 | 8.7 | 12.6 | 14.8 | 11.5 | 14.8 | 15.5 | 9.3 | 13.3 | 7.2 | 16.4 | 9.4 | 15.5 | 12.5 | 14.0 | 14.4 | 11.5 | | | | |
| | | C | | | | E | h | | | | | | | | | | P | | R | | | | | | | | |
| SAMMAMISH PLATEAU WATER AND SEWER DISTRICT | 58 | 3 | 40 | - | 53 | 4 | 36 | 21 | 49 | 9 | 23 | 33 | 3 | 15 | 42 | 4 | 49 | 26 | 33 | 38 | 19 | 32 | 27 | | | | |
| | 9.7 | 0.8 | 40.0 | | 10.9 | 3.8 | 8.7 | 13.3 | 10.4 | 7.3 | 10.0 | 13.2 | 3.3 | 11.6 | 9.6 | 3.5 | 11.7 | 10.1 | 9.5 | 10.5 | 8.1 | 9.8 | 9.8 | | | | |
| | | | B | | F | | | | | | M | M | | | | | P | | | | | | | | | | |
| COVINGTON WATER DISTRICT | 54 | 1 | 38 | - | 49 | 1 | 34 | 19 | 54 | - | 19 | 27 | 6 | 12 | 40 | 12 | 34 | 27 | 26 | 26 | 27 | 26 | 26 | | | | |
| | 8.9 | 0.3 | 38.0 | | 10.1 | 1.4 | 8.3 | 11.9 | 11.3 | | 8.4 | 11.0 | 6.6 | 9.7 | 9.0 | 10.4 | 8.2 | 10.7 | 7.6 | 7.2 | 11.6 | 8.0 | 9.6 | | | | |
| | | | B | | F | | | | | | | | | | | | | | | t | | | | | | | |
| CITY OF KIRKLAND | 41 | 38 | - | - | 37 | 4 | 28 | 12 | 31 | 10 | 18 | 11 | 9 | 8 | 27 | 11 | 29 | 16 | 25 | 31 | 10 | 22 | 19 | | | | |
| | 6.9 | 9.5 | | | 7.5 | 4.2 | 6.8 | 7.4 | 6.6 | 7.8 | 8.0 | 4.4 | 10.4 | 5.9 | 6.1 | 9.0 | 7.0 | 6.4 | 7.2 | 8.7 | 4.2 | 6.7 | 7.2 | | | | |
| | | | | | | | | | | | | | | | | | | | | u | | | | | | | |
| CITY OF ISSAQUAH | 26 | 24 | - | - | 19 | 6 | 8 | 16 | 16 | 10 | 13 | 9 | 1 | 3 | 21 | 5 | 18 | 10 | 16 | 14 | 12 | 10 | 16 | | | | |
| | 4.3 | 6.0 | | | 4.0 | 6.4 | 1.8 | 10.0 | 3.4 | 7.8 | 5.7 | 3.5 | 1.3 | 2.5 | 4.7 | 4.5 | 4.4 | 3.8 | 4.7 | 3.9 | 5.1 | 3.0 | 6.0 | | | | |
| | | | | | | | G | | | i | M | | | | | | | | | | | | | | | | |
| CITY OF SEATTLE | 15 | 9 | - | 18 | 12 | 3 | 10 | 4 | 12 | 3 | 7 | 2 | 5 | 5 | 9 | 7 | 6 | 8 | 6 | 11 | 4 | 10 | 5 | | | | |
| | 2.5 | 2.3 | | 17.1 | 2.5 | 2.7 | 2.5 | 2.7 | 2.4 | 2.7 | 3.2 | 0.8 | 5.6 | 4.3 | 2.1 | 5.8 | 1.5 | 3.3 | 1.8 | 3.0 | 1.6 | 3.0 | 1.9 | | | | |
| | | | B | | | | | | | | 1 | | 1 | | | q | | | | | | | | | | | |
| WATER DISTRICT #111 (SOOS CREEK) | 10 | - | 7 | 1 | 10 | - | 10 | - | 10 | 0 | 4 | 4 | 2 | 4 | 6 | 2 | 7 | 4 | 6 | 7 | 3 | 3 | 7 | | | | |
| | 1.7 | | 7.0 | 1.0 | 2.0 | | 2.4 | | | 2.0 | 0.2 | 1.8 | 1.7 | 2.0 | 3.2 | 1.3 | 1.4 | 1.7 | 1.7 | 1.6 | 2.0 | 1.2 | 0.9 | 2.5 | | | |
| | | | D | | | | | | | J | | | | | | | | | | | | | | | | | |
| KING COUNTY WATER DISTRICT | 7 | 6 | - | 2 | 6 | 1 | 6 | 1 | 5 | 2 | 1 | 4 | 2 | - | 7 | 2 | 4 | 1 | 6 | 4 | 3 | 4 | 3 | | | | |
| | 1.2 | 1.5 | | 1.9 | 1.2 | 1.1 | 1.5 | 0.7 | 1.0 | 1.7 | 0.6 | 1.4 | 2.6 | | 1.6 | 2.0 | 0.8 | 0.5 | 1.7 | 1.2 | 1.2 | 1.3 | 1.0 | | | | |
| CITY OF TUKWILA | 7 | - | - | 24 | 3 | 3 | 4 | 2 | 4 | 3 | 2 | 2 | 2 | 1 | 6 | 3 | 4 | 3 | 4 | 5 | 2 | 3 | 4 | | | | |
| | 1.1 | | | 22.9 | 0.7 | 3.4 | 1.0 | 1.1 | 0.8 | 2.3 | 1.0 | 0.8 | 2.7 | 0.9 | 1.3 | 2.2 | 1.0 | 1.0 | 1.2 | 1.3 | 0.9 | 1.0 | 1.4 | | | | |
| SKYWAY WATER AND SEWER DISTRICT | 7 | - | - | 23 | 6 | 1 | 6 | 1 | 6 | 1 | 3 | 3 | 0 | 1 | 5 | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 4 | | | | |
| | 1.1 | | | 21.9 | 1.2 | 0.8 | 1.4 | 0.4 | 1.3 | 0.5 | 1.1 | 1.3 | 0.3 | 0.9 | 1.2 | 2.2 | 0.7 | 1.3 | 0.9 | 0.8 | 1.6 | 0.7 | 1.6 | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW

Independent T-Test for Means, Independent Z-Test for Percentages

Upper case letters indicate significance at the 95% level.

Lower case letters indicate significance at the 90% level.

Table QC Page 6
(Continued)CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

AND COULD YOU PLEASE TELL ME WHICH WATER UTILITY OR JURISDICTION SUPPLIES YOUR DRINKING WATER? READ IF
NEEDED: WOULD IT BE THE . . . (READ 1-97) IF DON'T KNOW/NOT SURE, SAY: WHICH OF THE CHOICES I JUST READ
BEST DESCRIBES THE AREA WHERE YOU

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|--|-----------------|---------------|---------------|----------------|-----------|------------|---------------------|---------------------|--------------|-------------|-------------------|-----------|----------|-----------------------------|-----------|------------|-----------|--------------------|------------------------|----------------------|-----------|-----------|-----------|--|--|--|--|
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ | | SAMM/ COVG | TUKW/ SKYKY | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | PROTECT ENVIRONMENT | SAVE SALMON | | | | | | | |
| | WGHTD TOTAL | REDM/ ISSQ | TON | SKYKY | OWN | RENT | 1994 OR LATER | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| WOODINVILLE | 5 0.9 | 5 1.3 | - | - | 5 1.1 | - | 5 1.3 | - | 5 1.1 | - | 1 0.5 | 3 1.3 | - | - | 5 1.2 | 1 0.9 | 4 1.0 | 1 0.4 | 4 1.3 | 3 0.9 | 2 0.9 | 2 0.7 | 3 1.2 | | | | |
| PUGET SOUND ENERGY | 5 0.8 | 3 0.8 | 1 1.0 | - | 2 0.5 | 2 2.1 | 4 0.9 | 1 0.7 | 4 0.7 | 1 0.9 | 2 1.1 | 1 0.4 | - | 2 1.9 | 2 0.5 | 1 0.9 | 4 0.9 | 4 1.4 | 1 0.3 | 4 1.0 | 1 0.5 | 5 1.4 | - | | | | |
| CITY OF KENT | 3 0.5 | - | 2 2.0 | 1 1.0 | 1 0.3 | 2 1.6 | 1 0.3 | 2 1.0 | 3 0.6 | 0 0.2 | 1 0.6 | 2 0.7 | - | 2 1.3 | 1 0.3 | 2 1.4 | 1 0.3 | 3 1.2 | - | 2 0.5 | 1 0.6 | 2 0.5 | 1 0.5 | | | | |
| WATER DISTRICT #20 (BURIEN) | 3 0.4 | - | - | 9 8.6 | 2 0.5 | 0 0.3 | 2 0.5 | 0 0.2 | 3 0.5 | - | 1 0.4 | 1 0.3 | 1 0.7 | 0 0.2 | 2 0.5 | 2 1.4 | 1 0.2 | 1 0.3 | 2 0.5 | 2 0.6 | 1 0.2 | 2 0.6 | 1 0.2 | | | | |
| CITY OF SEATAC | 2 0.4 | - | 1 1.0 | 3 2.9 | 2 0.4 | 0 0.3 | 1 0.1 | 2 1.0 | 2 0.4 | 1 0.5 | 1 0.3 | 2 0.7 | - | - | 2 0.5 | 1 0.7 | 1 0.3 | 1 0.2 | 2 0.5 | 1 0.2 | 2 0.7 | 1 0.2 | 2 0.6 | | | | |
| HIGHLINE WATER DISTRICT | 2 0.3 | - | - | 7 6.7 | 1 0.3 | 0 0.3 | 1 0.3 | 1 0.4 | 2 0.4 | 0 0.2 | 1 0.4 | 1 0.2 | 0 0.3 | 1 0.7 | 1 0.3 | 1 0.5 | 1 0.3 | 1 0.6 | 1 0.2 | 1 0.4 | 1 0.2 | 1 0.4 | 1 0.2 | | | | |
| WATER DISTRICT #125 | 1 0.1 | - | - | 3 2.9 | 1 0.2 | - | 1 0.2 | - | 1 0.2 | - | 0 0.1 | 1 0.2 | - | - | 1 0.2 | - | 1 0.2 | - | 1 0.2 | 1 0.2 | 0 0.1 | 1 0.2 | 0 0.1 | | | | |
| OR SOME OTHER UTILITY OR JURISDICTION | 11 1.8 | 6 1.5 | 2 2.0 | 5 4.8 | 6 1.2 | 5 4.5 | 8 1.9 | 2 1.0 | 6 1.3 | 5 3.7 | 4 1.9 | 4 1.8 | 1 1.0 | 3 2.4 | 7 1.7 | 3 2.5 | 7 1.6 | 3 1.3 | 7 2.1 | 5 1.5 | 5 2.2 | 4 1.4 | 6 2.3 | | | | |
| DON'T KNOW | 43 7.2 | 29 7.3 | 7 7.0 | 8 7.6 | 29 6.0 | 11 10.7 | 27 6.5 | 14 8.9 | 22 4.7 | 20 16.2 | 18 7.9 | 11 4.4 | 6 7.2 | 5 3.6 | 35 8.0 | 15 12.7 | 19 4.5 | 16 6.1 | 28 8.1 | 26 7.3 | 16 6.7 | 21 6.4 | 23 8.3 | | | | |
| REFUSED | 0 * | - | - | 1 1.0 | - | 0 0.3 | - | - | 0 0.1 | - | - | 0 0.1 | - | - | - | - | - | - | 0 0.1 | 0 0.1 | - | 0 0.1 | - | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q1 Page 7

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

AS WE GO THROUGH THE SURVEY, IF THERE IS A QUESTION YOU CAN'T ANSWER, JUST LET ME KNOW. FIRST, DO YOU OWN OR RENT YOUR HOME?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|---------------------------|-----------------|-------|-------|----------|-------|-------|---------|-------|-------|-------|-------------------|-------|-------|-------|--------------|--------|-------|----------------------|-------|--------|-------|-------------|-------|--------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | ===== | | | | | | | |
| | | | | | | | BUILT | | | | | | | | PRIOR CONSRV | | | | | REDUCE | | PROTECT | | SAVE | |
| | | | | | | | | | | | | | | | | | | | | BILLS | | ENVIRONMENT | | SALMON | |
| | BLV/ | | | | | | HOUSING | | | | POTENTIAL TO SAVE | | | | PROGRAMS | | | INCOME | | | | | | | |
| | KIRK/ | SAMM/ | | OWN HOME | | | 1994 | | 5+ | | | | | | | | | | SMW/ | | SMW/ | | SMW/ | | |
| WGHTD | REDM/ | COVG | TUKW/ | | | OR | SF/ | 5+ | | | | | | | | | | NOT/ | | NOT/ | | NOT/ | | | |
| TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| OWN | 489 | 315 | 92 | 74 | 489 | - | 363 | 124 | 441 | 48 | 175 | 220 | 66 | 110 | 352 | 71 | 366 | 211 | 277 | 290 | 197 | 265 | 220 | | |
| | 81.5 | 78.9 | 92.0 | 70.5 | 100.0 | | 88.2 | 76.4 | 92.9 | 38.9 | 76.7 | 88.6 | 79.4 | 86.0 | 79.8 | 58.9 | 87.7 | 82.9 | 80.4 | 80.1 | 84.0 | 81.8 | 81.0 | | |
| | | d | BD | | | | H | | J | | | Km | | | | | P | | | | | | | | |
| RENT/LEASE | 102 | 80 | 5 | 30 | - | 102 | 45 | 34 | 27 | 75 | 49 | 26 | 15 | 14 | 84 | 43 | 51 | 37 | 65 | 65 | 36 | 53 | 49 | | |
| | 17.0 | 20.1 | 5.0 | 28.6 | | 100.0 | 10.8 | 20.7 | 5.8 | 60.2 | 21.6 | 10.5 | 17.7 | 11.3 | 19.0 | 35.8 | 12.3 | 14.6 | 18.9 | 17.8 | 15.5 | 16.4 | 18.0 | | |
| | | C | | bc | | | | G | | I | L | | | | N | Q | | | | | | | | | |
| DON'T KNOW/NOT APPLICABLE | 6 | 3 | 2 | - | - | - | 1 | 5 | 4 | 1 | 2 | 1 | 2 | 4 | 2 | 6 | - | 4 | 2 | 5 | 1 | 5 | 1 | | |
| | 1.0 | 0.8 | 2.0 | | | | 0.3 | 2.9 | 0.8 | 0.9 | 1.1 | 0.4 | 2.9 | 2.8 | 0.6 | 5.0 | | 1.4 | 0.7 | 1.4 | 0.5 | 1.4 | 0.5 | | |
| | | | | | | | | g | | | | | | | | | | | | | | | | | |
| REFUSED | 3 | 1 | 1 | 1 | - | - | 3 | - | 3 | - | 1 | 1 | - | - | 3 | 0 | - | 3 | - | 3 | - | 1 | 1 | | |
| | 0.5 | 0.3 | 1.0 | 1.0 | | | 0.7 | | 0.6 | | 0.6 | 0.4 | | | 0.6 | 0.2 | | 1.1 | | 0.8 | | 0.4 | 0.5 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q2 Page 8

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU LIVE IN A SINGLE FAMILY DETACHED HOME, AN APARTMENT OR CONDOMINIUM WITH 5 OR MORE UNITS, OR A DUPLEX, TRIPLEX, OR FOURPLEX?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|--|--------------|-------|-------|-------|---------------------|---------------------|--------------|-------------|-------|-------------------|-------|-------|-----------------------------|-------|--------|--------|----------------------|--------------------|------------------------|--------------------|----------------|--------------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ TUKW/ OWN HOME | | | | BUILT | | | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| WGHTD TOTAL | REDM/ ISSQ | COVG -TON | SKYWY | OWN | RENT | 1994 OR <1994 | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| SINGLE FAMILY/DUPLEX/ TRIPLEX/FOURPLEX (NET) | 475 | 297 | 94 | 82 | 441 | 27 | 360 | 109 | 475 | - | 165 | 210 | 71 | 104 | 348 | 69 | 348 | 205 | 268 | 284 | 189 | 260 | 211 | |
| ===== | 79.1 | 74.4 | 94.0 | 78.1 | 90.1 | 26.8 | 87.3 | 67.3 | 100.0 | | 72.2 | 84.6 | 84.3 | 81.3 | 78.8 | 57.2 | 83.6 | 80.7 | 77.9 | 78.2 | 80.7 | 80.1 | 77.6 | |
| | | | BD | | F | | H | | | | | K | K | | | | P | | | | | | | |
| SINGLE FAMILY DETACHED HOME | 461 | 287 | 92 | 81 | 434 | 21 | 352 | 105 | 461 | - | 160 | 207 | 69 | 103 | 335 | 67 | 337 | 198 | 261 | 274 | 185 | 252 | 205 | |
| | 76.8 | 71.9 | 92.0 | 77.1 | 88.6 | 20.4 | 85.5 | 65.1 | 97.1 | | 70.1 | 83.3 | 82.7 | 80.3 | 75.9 | 56.3 | 80.8 | 78.0 | 75.8 | 75.7 | 78.7 | 77.6 | 75.5 | |
| | | | BD | | F | | H | | | | | K | K | | | | P | | | | | | | |
| DUPLEX/TRIPLEX/FOURPLEX | 14 | 10 | 2 | 1 | 7 | 6 | 7 | 4 | 14 | - | 5 | 3 | 1 | 1 | 12 | 1 | 12 | 7 | 7 | 9 | 5 | 8 | 6 | |
| | 2.3 | 2.5 | 2.0 | 1.0 | 1.5 | 6.4 | 1.7 | 2.2 | 2.9 | | 2.1 | 1.3 | 1.6 | 1.1 | 2.8 | 0.9 | 2.8 | 2.7 | 2.1 | 2.5 | 2.0 | 2.5 | 2.1 | |
| | | | | | | e | | | | | | | | | | | | | | | | | | |
| APARTMENT OR CONDO, TOWNHOUSE BUILDING WITH FIVE OR MORE UNITS | 124 | 101 | 6 | 23 | 48 | 75 | 52 | 52 | - | 124 | 62 | 38 | 13 | 23 | 94 | 50 | 68 | 48 | 76 | 78 | 45 | 63 | 61 | |
| | 20.7 | 25.3 | 6.0 | 21.9 | 9.9 | 73.2 | 12.7 | 32.1 | | 100.0 | 27.3 | 15.4 | 15.7 | 17.8 | 21.2 | 41.8 | 16.4 | 18.9 | 22.1 | 21.5 | 19.3 | 19.5 | 22.4 | |
| | | | C | | C | E | | G | | | LM | | | | | Q | | | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | - | - | - | 1 | - | - | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | |
| | 0.2 | 0.3 | | | | | | 0.7 | | | 0.5 | | | 0.8 | | 0.9 | | 0.4 | | 0.3 | | 0.3 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q3 Page 9

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WAS YOUR HOME BUILT IN 1994 OR LATER?

| | | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|---------------------------|--|---------------|--------------|-------|-------|-------|---------|-------------|-------------------|-------------|-------|-------|-------|-------|--------------|--------|--------|-------|----------------------|-------|---------------------|-------|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | | |
| | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ SMM/ TUKW/ OWN HOME | | | | 1994 | | HOUSING | | POTENTIAL TO SAVE | | | | | | | | | | | | | | | |
| | WGHTD | REDM/ ISSQ | COVG -TON | SKYWY | OWN | RENT | <1994 | OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | NOT/ DK | VERY | NOT/ DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| NO, 1993 OR EARLIER | 412 | 276 | 66 | 77 | 363 | 45 | 412 | - | 360 | 52 | 149 | 178 | 65 | 93 | 294 | 81 | 289 | 169 | 241 | 249 | 161 | 224 | 186 | |
| | 68.7 | 69.2 | 66.0 | 73.3 | 74.3 | 43.7 | 100.0 | | 75.7 | 42.2 | 65.1 | 71.6 | 77.2 | 72.8 | 66.7 | 67.8 | 69.3 | 66.6 | 70.0 | 68.8 | 68.6 | 68.9 | 68.3 | |
| | | | | | F | | | | J | | | | K | | | | | | | | | | | |
| YES, 1994 OR LATER | 162 | 101 | 34 | 20 | 124 | 34 | - | 162 | 109 | 52 | 66 | 63 | 17 | 32 | 127 | 32 | 111 | 78 | 85 | 96 | 65 | 88 | 73 | |
| | 27.0 | 25.3 | 34.0 | 19.0 | 25.3 | 32.9 | | 100.0 | 23.0 | 41.8 | 28.9 | 25.4 | 20.8 | 24.7 | 28.7 | 26.7 | 26.6 | 30.5 | 24.5 | 26.4 | 27.7 | 27.2 | 26.7 | |
| | | | bd | | | | | | I | | | | | | | | | | | | | | | |
| DON'T KNOW/NOT APPLICABLE | 26 | 22 | - | 8 | 2 | 24 | - | - | 6 | 20 | 14 | 7 | 2 | 3 | 20 | 7 | 17 | 7 | 19 | 17 | 9 | 13 | 14 | |
| | 4.4 | 5.5 | | 7.6 | 0.4 | 23.5 | | | 1.3 | 16.0 | 5.9 | 3.0 | 2.0 | 2.5 | 4.6 | 5.5 | 4.0 | 2.9 | 5.4 | 4.8 | 3.7 | 3.9 | 5.0 | |
| | | | | | E | | | | I | | m | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q4 Page 10

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NOW I'D LIKE TO KNOW MORE ABOUT HOW YOU USE WATER INSIDE YOUR HOME. FIRST, HOW MANY TOILETS DO YOU HAVE IN YOUR HOME?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--------------------|-------------------------------|---------------|----------------|--------------|--------------|--------------|---------------------|--------------|--------------|--------------|--------------|-------------------|-------------|--------------|-----------------------|--------------|--------------|----------------------|--------------|--------------------|---------------------|--------------------|--------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | OWN HOME | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ SMM/ -TON | COVG | TUKW/ SKYWY | | OWN | RENT | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | | | | | YES | NO | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | |
| | WGHTD TOTAL | REDM/ ISSQ | | | | | <1994 | | | | <5% | 5-10% | 10%+ | | | <\$50K | \$50K+ | VERY | | VERY | | VERY | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 100.0 | 399 100.0 | 100 100.0 | 105 100.0 | 489 100.0 | 102 100.0 | 412 100.0 | 162 100.0 | 475 100.0 | 124 100.0 | 229 100.0 | 249 100.0 | 84 100.0 | 128 100.0 | 442 100.0 | 120 100.0 | 417 100.0 | 254 100.0 | 345 100.0 | 363 100.0 | 235 100.0 | 325 100.0 | 272 100.0 | |
| ONE | 95 15.8 | 66 16.5 | 8 8.0 | 42 40.0 | 38 7.8 | 54 52.8 | 53 12.7 | 27 16.7 | 37 7.8 | 57 45.5 | 53 23.0 | 22 8.7 | 15 17.4 | 13 10.4 | 77 17.5 | 48 39.7 | 39 9.4 | 39 15.4 | 55 16.1 | 61 16.8 | 32 13.8 | 48 14.9 | 46 16.9 | |
| | | C | | BC | | E | | | | I | | L | 1 | | N | Q | | | | | | | | |
| TWO | 176 29.2 | 125 31.3 | 21 21.0 | 39 37.1 | 131 26.7 | 42 41.3 | 137 33.3 | 29 18.2 | 130 27.4 | 45 36.5 | 70 30.5 | 67 26.8 | 26 31.0 | 45 35.0 | 117 26.4 | 47 39.5 | 108 25.8 | 78 30.5 | 98 28.3 | 108 29.7 | 66 28.2 | 102 31.3 | 73 26.7 | |
| | | C | | C | | E | H | | | i | | | | O | | Q | | | | | | | | |
| THREE | 272 45.3 | 162 40.6 | 65 65.0 | 23 21.9 | 263 53.8 | 6 5.9 | 191 46.3 | 79 48.5 | 252 53.0 | 20 16.2 | 85 37.1 | 137 55.0 | 35 41.3 | 59 46.1 | 200 45.3 | 21 17.9 | 221 52.9 | 117 46.2 | 153 44.5 | 161 44.5 | 110 47.0 | 145 44.7 | 126 46.5 | |
| | | D | BD | | F | | | | J | | | KM | | | | P | | | | | | | | |
| FOUR | 42 6.9 | 32 8.0 | 5 5.0 | - | 40 8.3 | - | 25 6.0 | 17 10.4 | 40 8.5 | 1 0.9 | 18 8.0 | 18 7.2 | 3 3.9 | 9 6.8 | 33 7.4 | 3 2.7 | 34 8.1 | 14 5.7 | 27 7.9 | 24 6.7 | 17 7.3 | 20 6.2 | 20 7.5 | |
| | | | | | | | | | J | | | | | | | | P | | | | | | | |
| FIVE OR MORE | 15 2.6 | 13 3.3 | 1 1.0 | - | 15 3.2 | - | 6 1.6 | 9 5.5 | 14 3.0 | 1 0.9 | 3 1.4 | 5 1.9 | 5 6.5 | 2 1.7 | 13 3.0 | - | 14 3.4 | 4 1.7 | 11 3.2 | 7 1.9 | 9 3.7 | 8 2.4 | 6 2.4 | |
| | | C | | | | | | g | j | | | | k | | | | | | | | | | | |
| DON'T KNOW | 1 0.2 | 1 0.3 | - | - | 1 0.2 | - | - | 1 0.7 | 1 0.2 | - | - | 1 0.4 | - | - | 1 0.2 | - | 1 0.3 | 1 0.4 | - | 1 0.3 | - | 1 0.3 | - | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| REFUSED | 0 * | - | - | 1 1.0 | - | - | 0 0.1 | - | 0 0.1 | - | - | - | - | - | 0 0.1 | 0 0.2 | - | 0 0.1 | - | 0 0.1 | - | 0 0.1 | - | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| MEAN | 2.51 | 2.50 D | 2.70 bD | 1.82 | 2.72 F | 1.53 | 2.50 | 2.70 G | 2.72 J | 1.75 | 2.34 | 2.67 K | 2.51 | 2.54 | 2.52 | 1.84 | 2.70 P | 2.47 | 2.54 | 2.47 | 2.59 | 2.50 | 2.52 | |
| STANDARD DEVIATION | 0.93 | 0.97 | 0.73 | 0.77 | 0.85 | 0.61 | 0.85 | 1.05 | 0.84 | 0.82 | 0.97 | 0.81 | 1.04 | 0.84 | 0.97 | 0.82 | 0.88 | 0.88 | 0.96 | 0.91 | 0.94 | 0.91 | 0.94 | |
| STANDARD ERROR | 0.04 | 0.05 | 0.07 | 0.08 | 0.04 | 0.06 | 0.04 | 0.09 | 0.04 | 0.08 | 0.07 | 0.05 | 0.12 | 0.08 | 0.05 | 0.08 | 0.05 | 0.06 | 0.05 | 0.05 | 0.07 | 0.05 | 0.06 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q5 Page 11

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

COULD YOU TELL ME HOW MANY OF THE TOILETS IN YOUR HOME ARE LOW-FLOW TOILETS? ANY TOILETS INSTALLED IN YOUR HOME IN 1994 OR LATER WOULD BE LOW-FLOW MODELS.
(IF HOME BUILT 1994 OR LATER)

| | | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--------------------|--|---------------------------------|-------|-----------------------|----------------|----------|-------|---------------------|-------|--------------|-------------|-------------------|-------|-------|-----------------------------|-------|--------|--------|-------|----------------------|-------|---------------------|-------|--------------------|--|
| | | ===== | | | | | | | | | | | | | | | | | | ===== | | | | | |
| | | | | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | BLV/ KIRK/ WGHTD TOTAL | | SAMM/ COVG -TON | TUKW/ SKYWY | OWN HOME | | BUILT ===== | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | | | | | | | |
| | | ISSQ | | | | OWN | RENT | 1994 OR <1994 | LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | |
| | | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | | 438 | 298 | 66 | 85 | 365 | 69 | 412 | - | 366 | 72 | 163 | 185 | 66 | 97 | 315 | 88 | 306 | 177 | 260 | 267 | 170 | 236 | 199 | |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| NONE | | 170 | 104 | 33 | 40 | 139 | 30 | 165 | - | 141 | 29 | 68 | 64 | 31 | 38 | 123 | 33 | 120 | 69 | 100 | 108 | 62 | 93 | 75 | |
| | | 38.7 | 34.9 | 50.0 | 47.1 | 37.9 | 43.3 | 40.0 | | 38.4 | 40.2 | 41.7 | 34.7 | 47.3 | 39.8 | 39.0 | 38.1 | 39.2 | 39.0 | 38.6 | 40.3 | 36.4 | 39.2 | 37.4 | |
| | | | | B | B | | | | | | | | | 1 | | | | | | | | | | | |
| ONE | | 89 | 64 | 11 | 15 | 77 | 12 | 84 | - | 75 | 14 | 28 | 44 | 13 | 21 | 61 | 19 | 65 | 33 | 56 | 51 | 38 | 43 | 46 | |
| | | 20.3 | 21.5 | 16.7 | 17.6 | 21.1 | 17.1 | 20.4 | | 20.4 | 19.6 | 17.1 | 23.8 | 20.1 | 21.7 | 19.5 | 21.5 | 21.1 | 18.7 | 21.5 | 18.9 | 22.5 | 18.1 | 23.1 | |
| TWO | | 80 | 59 | 8 | 16 | 75 | 4 | 78 | - | 75 | 5 | 30 | 35 | 8 | 20 | 54 | 18 | 49 | 38 | 42 | 50 | 29 | 51 | 28 | |
| | | 18.1 | 19.8 | 12.1 | 18.8 | 20.5 | 5.2 | 19.0 | | 20.4 | 6.8 | 18.5 | 18.9 | 12.7 | 20.4 | 17.2 | 20.5 | 16.0 | 21.2 | 16.1 | 18.6 | 16.8 | 21.8 | 14.1 | |
| | | | c | | | F | | | | J | | | | | | | | | | | | | W | | |
| THREE | | 48 | 29 | 11 | 4 | 47 | 1 | 46 | - | 45 | 2 | 12 | 26 | 8 | 11 | 36 | 4 | 39 | 17 | 30 | 30 | 18 | 25 | 23 | |
| | | 10.9 | 9.7 | 16.7 | 4.7 | 12.8 | 1.6 | 11.1 | | 12.4 | 3.4 | 7.6 | 13.8 | 11.6 | 11.3 | 11.3 | 5.0 | 12.7 | 9.4 | 11.5 | 11.1 | 10.6 | 10.6 | 11.4 | |
| | | | d | D | | F | | | | J | | | k | | | | | P | | | | | | | |
| FOUR | | 8 | 7 | - | - | 8 | - | 8 | - | 8 | - | 2 | 4 | 1 | 3 | 4 | - | 5 | 1 | 6 | 2 | 5 | 3 | 4 | |
| | | 1.7 | 2.3 | | | 2.1 | | 1.8 | | 2.1 | | 1.3 | 2.3 | 1.6 | 3.4 | 1.4 | | 1.8 | 0.6 | 2.5 | 0.8 | 3.2 | 1.4 | 2.2 | |
| FIVE OR MORE | | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | 1 | - | 1 | 1 | - | 1 | - | |
| | | 0.2 | 0.3 | | | 0.3 | | 0.3 | | 0.3 | | | | 1.6 | | 0.3 | | 0.4 | | 0.4 | 0.4 | | 0.5 | | |
| DON'T KNOW | | 44 | 34 | 3 | 10 | 20 | 23 | 30 | - | 22 | 22 | 23 | 12 | 3 | 3 | 36 | 13 | 27 | 20 | 24 | 26 | 18 | 20 | 24 | |
| | | 10.0 | 11.4 | 4.5 | 11.8 | 5.4 | 32.9 | 7.3 | | 6.0 | 30.0 | 13.9 | 6.5 | 5.0 | 3.4 | 11.3 | 15.0 | 8.9 | 11.1 | 9.3 | 9.8 | 10.4 | 8.6 | 11.8 | |
| | | | C | | c | | E | | | I | | LM | | | | N | | | | | | | | | |
| MEAN | | 1.08 | 1.14 | 0.95 | 0.79 | 1.16 | 0.48 | 1.08 | - | 1.15 | 0.62 | 0.95 | 1.20 | 1.00 | 1.14 | 1.07 | 0.91 | 1.10 | 1.03 | 1.11 | 1.05 | 1.13 | 1.11 | 1.07 | |
| | | | D | | | F | | | | J | | | k | | | | | | | | | | | | |
| STANDARD DEVIATION | | 1.15 | 1.16 | 1.17 | 0.96 | 1.18 | 0.75 | 1.16 | - | 1.18 | 0.86 | 1.09 | 1.16 | 1.25 | 1.18 | 1.16 | 0.96 | 1.18 | 1.08 | 1.20 | 1.14 | 1.18 | 1.16 | 1.15 | |
| | | 0.06 | 0.07 | 0.15 | 0.11 | 0.07 | 0.11 | 0.06 | | 0.07 | 0.12 | 0.10 | 0.09 | 0.16 | 0.13 | 0.07 | 0.11 | 0.08 | 0.09 | 0.08 | 0.08 | 0.10 | 0.08 | 0.09 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q6 Page 12

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WITHIN THE NEXT YEAR DO YOU PLAN TO REPLACE ANY TOILETS IN YOUR HOME THAT WERE INSTALLED BEFORE 1994? IF
NEEDED: THESE TOILETS WOULD BE HIGH WATER VOLUME TOILETS.
(IF OWNER AND SOME HIGH VOLUME TOILETS)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | |
|-----------------|--------------------------------|---------------|--------------|----------------|----------|------|------------|-------|---------|-------------|-------|-------------------|-------|-------|-------|--------|--------|-----------------------------|--------------------|--------------------|------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | REDUCE BILLS | | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | |
| | ===== | | | | | | BUILT | | | | | POTENTIAL TO SAVE | | | | | | PRIOR CONSRV PROGRAMS | | INCOME | | | | | | | | |
| | | | | | | | 1994 OR | | HOUSING | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ WGHTD | REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | OWN | RENT | <1994 | LATER | 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | |
| | | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| TOTAL ANSWERING | 252 | 162 | 47 | 41 | 252 | - | 251 | - | 239 | 13 | 87 | 117 | 38 | 58 | 178 | 38 | 191 | 114 | 138 | 150 | 102 | 134 | 115 | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| YES | 48 | 26 | 13 | 6 | 48 | - | 48 | - | 48 | 0 | 10 | 30 | 7 | 22 | 24 | 4 | 39 | 22 | 26 | 34 | 14 | 34 | 12 | | | | | |
| | 19.0 | 16.0 | 27.7 | 14.6 | 19.0 | | 19.1 | | 19.9 | 2.2 | 11.7 | 25.2 | 18.9 | 38.5 | 13.7 | 10.1 | 20.3 | 19.3 | 18.7 | 22.6 | 13.7 | 25.2 | 10.0 | | | | | |
| | | | | | | | | | J | | | K | | O | | | P | | | u | | W | | | | | | |
| NO | 193 | 127 | 33 | 33 | 193 | - | 193 | - | 180 | 12 | 74 | 81 | 29 | 31 | 146 | 34 | 143 | 84 | 109 | 108 | 85 | 96 | 97 | | | | | |
| | 76.4 | 78.4 | 70.2 | 80.5 | 76.4 | | 76.7 | | 75.2 | 97.8 | 85.8 | 69.2 | 77.5 | 53.5 | 82.5 | 89.9 | 74.9 | 73.3 | 78.9 | 71.8 | 83.1 | 71.4 | 83.9 | | | | | |
| | | | | | | | | | I | | L | | | | N | Q | | | | T | | V | | | | | | |
| DON'T KNOW | 11 | 8 | 1 | 2 | 11 | - | 10 | - | 11 | - | 2 | 6 | 1 | 5 | 6 | - | 8 | 7 | 3 | 7 | 3 | 4 | 7 | | | | | |
| | 4.2 | 4.9 | 2.1 | 4.9 | 4.2 | | 3.8 | | 4.4 | | 2.5 | 5.6 | 3.7 | 8.0 | 3.2 | | 4.3 | 6.4 | 2.4 | 4.9 | 3.2 | 2.6 | 6.1 | | | | | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | - | - | - | 1 | - | 1 | 1 | - | 1 | - | 1 | - | | | | | |
| | 0.4 | 0.6 | | | 0.4 | | 0.4 | | 0.5 | | | | | | 0.6 | | 0.6 | 0.9 | | 0.7 | | 0.8 | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q7 Page 13

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

IF YOU KNEW YOU COULD SAVE ON YOUR WATER/SEWER BILLS AND YOUR WATER UTILITY PAID \$40 FOR EACH TOILET YOU REPLACED, WOULD YOU BE LIKELY/NOT LIKELY TO REPLACE AN OLDER TOILET WITH A LOW FLOW TOILET?
(IF OWNER AND SOME HIGH VOLUME TOILETS)

| | | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|-------------------|--------------------------------|----------------|--------------|---------------|----------|------|---------------------|-------|--------------|-------------|-------------------|-------|-------|-----------------------------|-------|--------|--------|-----------------|----------------------|------------------------|--------------------|----------------|--------------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ TUKW/ | | | | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | WGHTD | REDM/ TOTAL | COVG ISSQ | -TON SKYWY | OWN | RENT | 1994 OR <1994 | LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 252 | 162 | 47 | 41 | 252 | - | 251 | - | 239 | 13 | 87 | 117 | 38 | 58 | 178 | 38 | 191 | 114 | 138 | 150 | 102 | 134 | 115 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| LIKELY (NET) | 141 | 88 | 30 | 15 | 141 | - | 141 | - | 135 | 6 | 37 | 78 | 23 | 37 | 94 | 16 | 111 | 74 | 67 | 96 | 45 | 82 | 57 | |
| ===== | 55.9 | 54.3 | 63.8 | 36.6 | 55.9 | | 56.2 | | 56.4 | 46.9 | 42.3 | 66.4 | 60.8 | 63.4 | 52.8 | 42.4 | 58.3 | 64.4 | 49.0 | 64.0 | 44.2 | 60.9 | 49.3 | |
| | | D | D | | | | | | | | K | k | | | | | P | S | U | | w | | | |
| VERY LIKELY | 54 | 36 | 9 | 8 | 54 | - | 54 | - | 51 | 2 | 13 | 28 | 11 | 13 | 37 | 9 | 39 | 32 | 22 | 43 | 11 | 36 | 16 | |
| | 21.3 | 22.2 | 19.1 | 19.5 | 21.3 | | 21.4 | | 21.4 | 19.2 | 14.5 | 23.5 | 29.6 | 22.0 | 20.6 | 23.0 | 20.4 | 27.6 | 16.1 | 28.5 | 10.7 | 27.2 | 14.0 | |
| | | | | | | | | | | | | | k | | | | | S | U | | w | | | |
| SOMEWHAT LIKELY | 87 | 52 | 21 | 7 | 87 | - | 87 | - | 84 | 4 | 24 | 50 | 12 | 24 | 57 | 7 | 73 | 42 | 45 | 53 | 34 | 45 | 41 | |
| | 34.6 | 32.1 | 44.7 | 17.1 | 34.6 | | 34.8 | | 35.0 | 27.7 | 27.7 | 42.9 | 31.2 | 41.4 | 32.2 | 19.4 | 38.0 | 36.8 | 32.9 | 35.5 | 33.5 | 33.7 | 35.3 | |
| | | D | D | | | | | | | | K | | | | | | P | | | | | | | |
| NOT LIKELY (NET) | 99 | 66 | 15 | 25 | 99 | - | 98 | - | 94 | 6 | 48 | 35 | 13 | 19 | 75 | 21 | 69 | 36 | 63 | 47 | 52 | 47 | 52 | |
| ===== | 39.4 | 40.7 | 31.9 | 61.0 | 39.4 | | 39.1 | | 39.1 | 44.6 | 54.9 | 29.6 | 33.4 | 32.4 | 42.1 | 54.8 | 36.2 | 31.5 | 46.1 | 31.7 | 50.9 | 35.1 | 45.3 | |
| | | | | BC | | | | | | | LM | | | | | Q | | | R | T | | | | |
| NOT TOO LIKELY | 45 | 27 | 10 | 7 | 45 | - | 45 | - | 45 | 0 | 19 | 17 | 7 | 10 | 34 | 4 | 37 | 15 | 30 | 21 | 24 | 21 | 24 | |
| | 17.9 | 16.7 | 21.3 | 17.1 | 17.9 | | 17.9 | | 18.7 | 2.2 | 22.1 | 14.2 | 18.8 | 16.4 | 19.2 | 10.8 | 19.6 | 13.4 | 21.7 | 13.8 | 23.9 | 15.6 | 20.9 | |
| | | | | | | | | | J | | | | | | | | | r | t | | | | | |
| NOT AT ALL LIKELY | 54 | 39 | 5 | 18 | 54 | - | 53 | - | 49 | 5 | 28 | 18 | 5 | 9 | 41 | 17 | 32 | 21 | 34 | 27 | 27 | 26 | 28 | |
| | 21.5 | 24.1 | 10.6 | 43.9 | 21.5 | | 21.2 | | 20.4 | 42.4 | 32.8 | 15.4 | 14.6 | 15.9 | 22.9 | 44.0 | 16.7 | 18.1 | 24.4 | 17.9 | 27.0 | 19.5 | 24.4 | |
| | | C | | BC | | | | | | | LM | | | | | Q | | | | | | | | |
| DON'T KNOW | 9 | 7 | 1 | - | 9 | - | 9 | - | 8 | 1 | 1 | 5 | 1 | 1 | 8 | - | 9 | 5 | 4 | 5 | 4 | 5 | 4 | |
| | 3.6 | 4.3 | 2.1 | | 3.6 | | 3.6 | | 3.3 | 8.5 | 1.3 | 4.0 | 2.9 | 1.9 | 4.4 | | 4.7 | 4.1 | 3.2 | 3.6 | 3.5 | 4.0 | 3.1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| REFUSED | 3 | 1 | 1 | 1 | 3 | - | 3 | - | 3 | - | 1 | - | 1 | 1 | 1 | 1 | 1 | - | 2 | 1 | 1 | - | 3 | |
| | 1.1 | 0.6 | 2.1 | 2.4 | 1.1 | | 1.1 | | 1.1 | | 1.6 | | 2.9 | 2.4 | 0.6 | 2.8 | 0.7 | | 1.8 | 0.7 | 1.4 | | 2.4 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q8 Page 14

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHAT IF YOUR WATER UTILITY PAID YOU \$60 TO REPLACE A HIGH WATER VOLUME TOILET IN YOUR HOME WITH A LOW FLOW TOILET?
(IF OWNER, HAVE HIGH VOLUME TOILETS, AND LESS THAN VERY LIKELY TO REPLACE AT \$40)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | |
|-------------------|--|----------------|-------|--------------|----------------|-------|-------|-------|---------------------|--------------|-------------|-------|-------|-------|-------|-------------------|--------|----------------------|-------|--------------------|-----------------------|--------------------|-------|--------------------|--|--------|--|--|--|--|--------------|--|---------------------|--|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ TUKW/ OWN HOME | | | | | BUILT | | | | | HOUSING | | | | | POTENTIAL TO SAVE | | | | | PRIOR CONSRV PROGRAMS | | | | | INCOME | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | ===== | | ===== | |
| | WGHTD | REDM/ TOTAL | ISSQ | COVG -TON | TUKW/ SKYWY | OWN | RENT | <1994 | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | | | | | | | | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | | | | | | | | |
| TOTAL ANSWERING | 198 | 126 | 38 | 33 | 198 | - | 197 | - | 188 | 10 | 74 | 89 | 26 | 45 | 141 | 29 | 152 | 83 | 115 | 107 | 91 | 98 | 99 | | | | | | | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | | | | | | | |
| LIKELY (NET) | 101 | 60 | 24 | 11 | 101 | - | 101 | - | 98 | 3 | 31 | 57 | 12 | 27 | 71 | 10 | 84 | 48 | 53 | 65 | 36 | 54 | 46 | | | | | | | | | | | | | |
| ===== | 51.0 | 47.6 | 63.2 | 33.3 | 51.0 | | 51.3 | | 52.4 | 26.6 | 41.3 | 64.0 | 45.4 | 59.1 | 50.1 | 32.8 | 55.4 | 58.1 | 46.1 | 60.6 | 40.0 | 55.4 | 46.1 | | | | | | | | | | | | | |
| | | | bD | | | | | | j | | K | | | | | P | | | U | | | | | | | | | | | | | | | | | |
| VERY LIKELY | 23 | 12 | 7 | 1 | 23 | - | 23 | - | 22 | 1 | 4 | 16 | 4 | 5 | 17 | 2 | 19 | 14 | 9 | 16 | 7 | 12 | 11 | | | | | | | | | | | | | |
| | 11.6 | 9.5 | 18.4 | 3.0 | 11.6 | | 11.6 | | 11.6 | 10.5 | 5.2 | 17.4 | 13.4 | 11.5 | 11.8 | 8.4 | 12.6 | 16.6 | 8.0 | 14.5 | 8.1 | 12.0 | 11.3 | | | | | | | | | | | | | |
| | | | D | | | | | | K | | | | | | | | S | | | | | | | | | | | | | | | | | | | |
| SOMEWHAT LIKELY | 78 | 48 | 17 | 10 | 78 | - | 78 | - | 77 | 2 | 27 | 42 | 8 | 22 | 54 | 7 | 65 | 34 | 44 | 49 | 29 | 43 | 34 | | | | | | | | | | | | | |
| | 39.5 | 38.1 | 44.7 | 30.3 | 39.5 | | 39.7 | | 40.8 | 16.1 | 36.2 | 46.6 | 32.0 | 47.6 | 38.3 | 24.4 | 42.8 | 41.6 | 38.1 | 46.0 | 31.9 | 43.4 | 34.7 | | | | | | | | | | | | | |
| | | | | | | | | | j | | | | | | | P | | | U | | | | | | | | | | | | | | | | | |
| NOT LIKELY (NET) | 82 | 57 | 10 | 21 | 82 | - | 80 | - | 75 | 6 | 40 | 25 | 13 | 15 | 60 | 18 | 55 | 29 | 53 | 33 | 49 | 37 | 45 | | | | | | | | | | | | | |
| ===== | 41.1 | 45.2 | 26.3 | 63.6 | 41.1 | | 40.8 | | 39.9 | 62.9 | 53.5 | 28.0 | 50.5 | 32.4 | 42.6 | 59.8 | 36.0 | 34.6 | 45.9 | 30.8 | 53.4 | 37.6 | 45.1 | | | | | | | | | | | | | |
| | | | C | bc | | | | | | | L | | L | | | Q | | | | T | | | | | | | | | | | | | | | | |
| NOT TOO LIKELY | 32 | 16 | 9 | 7 | 32 | - | 32 | - | 32 | - | 13 | 10 | 7 | 6 | 25 | 3 | 26 | 10 | 22 | 11 | 20 | 15 | 17 | | | | | | | | | | | | | |
| | 16.0 | 12.7 | 23.7 | 21.2 | 16.0 | | 16.1 | | 16.9 | | 17.8 | 11.7 | 26.8 | 13.2 | 17.5 | 11.3 | 17.1 | 11.6 | 19.2 | 10.7 | 22.3 | 15.4 | 16.9 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | T | | | | | | | | | | | | | | | | |
| NOT AT ALL LIKELY | 50 | 41 | 1 | 14 | 50 | - | 49 | - | 43 | 6 | 26 | 15 | 6 | 9 | 35 | 14 | 29 | 19 | 31 | 21 | 28 | 22 | 28 | | | | | | | | | | | | | |
| | 25.1 | 32.5 | 2.6 | 42.4 | 25.1 | | 24.7 | | 23.0 | 62.9 | 35.7 | 16.4 | 23.7 | 19.1 | 25.1 | 48.5 | 18.9 | 23.0 | 26.6 | 20.1 | 31.1 | 22.3 | 28.2 | | | | | | | | | | | | | |
| | | | C | C | | | | | | I | L | | | | | Q | | | | t | | | | | | | | | | | | | | | | |
| DON'T KNOW | 14 | 8 | 4 | - | 14 | - | 14 | - | 13 | 1 | 3 | 7 | 1 | 4 | 9 | 1 | 13 | 6 | 8 | 9 | 5 | 7 | 7 | | | | | | | | | | | | | |
| | 7.2 | 6.3 | 10.5 | | 7.2 | | 7.2 | | 7.0 | 10.5 | 3.7 | 7.9 | 4.1 | 8.5 | 6.6 | 3.7 | 8.6 | 7.3 | 7.1 | 8.6 | 5.4 | 6.9 | 7.5 | | | | | | | | | | | | | |
| REFUSED | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 | | | | | | | | | | | | | |
| | 0.7 | 0.8 | | 3.0 | 0.7 | | 0.7 | | 0.7 | | 1.5 | | | | 0.8 | 3.7 | | | 0.9 | | 1.2 | | 1.4 | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q9 Page 15

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHAT IF YOUR WATER UTILITY PAID YOU \$80 TO REPLACE A HIGH WATER VOLUME TOILET IN YOUR HOME WITH A LOW FLOW TOILET?
(IF OWNER, HAVE HIGH VOLUME TOILETS, AND LESS THAN VERY LIKELY TO REPLACE AT \$60)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | |
|-------------------|---------------------------------|-------|-------|-------|-----------------------|-----|----------------|-----|----------|-------|--------------------------------------|-------|-------------------------|-------|-------|-------------|-------|----------------------|-------------------|-------|-------|-----------------------------|-------|--------|--|-----------------|--|------------------------|--|----------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ REDM/ TOTAL | | | | SAMM/ COVG -TON | | TUKW/ SKYWY | | OWN HOME | | BUILT 1994 OR 1994 LATER | | HOUSING SF/ 2/3/4 | | | 5+ UNITS | | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | WGHTD | ISSQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | | |
| TOTAL ANSWERING | 175 | 114 | 31 | 32 | 175 | - | 174 | - | 166 | 9 | 70 | 74 | 23 | 40 | 124 | 27 | 133 | 69 | 106 | 92 | 84 | 86 | 88 | | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | | |
| LIKELY (NET) | 92 | 56 | 20 | 14 | 92 | - | 92 | - | 91 | 2 | 32 | 47 | 11 | 23 | 65 | 10 | 75 | 38 | 54 | 57 | 35 | 53 | 38 | | | | | | | | |
| ===== | 52.6 | 49.1 | 64.5 | 43.8 | 52.6 | | 52.9 | | 54.5 | 18.0 | 45.5 | 63.5 | 47.7 | 57.2 | 52.6 | 37.9 | 56.4 | 55.4 | 50.9 | 62.8 | 41.6 | 61.7 | 42.9 | | | | | | | | |
| | | | d | | | | | | J | | | K | | | | P | | U | | W | | | | | | | | | | | |
| VERY LIKELY | 22 | 13 | 5 | 5 | 22 | - | 22 | - | 21 | 2 | 10 | 11 | 1 | 8 | 12 | 2 | 19 | 12 | 10 | 13 | 9 | 11 | 10 | | | | | | | | |
| | 12.8 | 11.4 | 16.1 | 15.6 | 12.8 | | 12.9 | | 12.5 | 18.0 | 14.0 | 14.8 | 6.0 | 21.1 | 9.9 | 7.2 | 14.3 | 17.4 | 9.8 | 14.6 | 10.8 | 12.3 | 11.9 | | | | | | | | |
| SOMEWHAT LIKELY | 70 | 43 | 15 | 9 | 70 | - | 70 | - | 70 | - | 22 | 36 | 10 | 14 | 53 | 8 | 56 | 26 | 44 | 44 | 26 | 43 | 27 | | | | | | | | |
| | 39.8 | 37.7 | 48.4 | 28.1 | 39.8 | | 40.1 | | 42.0 | | 31.5 | 48.7 | 41.6 | 36.1 | 42.8 | 30.7 | 42.0 | 38.0 | 41.1 | 48.2 | 30.8 | 49.4 | 31.1 | | | | | | | | |
| | | | d | | | | | | K | | | | | | | | | | U | | W | | | | | | | | | | |
| NOT LIKELY (NET) | 64 | 46 | 7 | 16 | 64 | - | 63 | - | 59 | 5 | 33 | 19 | 10 | 13 | 46 | 13 | 43 | 23 | 41 | 23 | 41 | 25 | 39 | | | | | | | | |
| ===== | 36.5 | 40.4 | 22.6 | 50.0 | 36.5 | | 36.1 | | 35.3 | 58.6 | 47.0 | 25.4 | 42.9 | 33.2 | 37.1 | 48.9 | 32.2 | 32.8 | 39.1 | 25.6 | 48.6 | 28.8 | 44.6 | | | | | | | | |
| | | | C | | C | | | | L | | | | | | | | | | T | | V | | | | | | | | | | |
| NOT TOO LIKELY | 17 | 10 | 4 | 4 | 17 | - | 17 | - | 17 | - | 8 | 4 | 6 | 4 | 13 | 1 | 14 | 6 | 12 | 5 | 13 | 6 | 12 | | | | | | | | |
| | 10.0 | 8.8 | 12.9 | 12.5 | 10.0 | | 10.0 | | 10.5 | | 11.3 | 5.2 | 24.9 | 10.8 | 10.6 | 5.1 | 10.3 | 8.3 | 11.1 | 5.4 | 15.1 | 7.0 | 13.1 | | | | | | | | |
| | | | | | | | | | | | | | L | | | | | | T | | | | | | | | | | | | |
| NOT AT ALL LIKELY | 47 | 36 | 3 | 12 | 47 | - | 45 | - | 41 | 5 | 25 | 15 | 4 | 9 | 33 | 12 | 29 | 17 | 30 | 19 | 28 | 19 | 28 | | | | | | | | |
| | 26.5 | 31.6 | 9.7 | 37.5 | 26.5 | | 26.1 | | 24.8 | 58.6 | 35.7 | 20.2 | 17.9 | 22.4 | 26.5 | 43.8 | 21.9 | 24.5 | 28.0 | 20.3 | 33.5 | 21.9 | 31.5 | | | | | | | | |
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| DON'T KNOW | 18 | 11 | 4 | 1 | 18 | - | 18 | - | 16 | 2 | 4 | 8 | 2 | 4 | 12 | 2 | 15 | 8 | 10 | 11 | 7 | 8 | 10 | | | | | | | | |
| | 10.1 | 9.6 | 12.9 | 3.1 | 10.1 | | 10.2 | | 9.4 | 23.4 | 5.9 | 11.1 | 9.5 | 9.6 | 9.4 | 9.1 | 11.5 | 11.9 | 9.0 | 11.6 | 8.5 | 9.5 | 10.9 | | | | | | | | |
| REFUSED | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 | | | | | | | | |
| | 0.8 | 0.9 | | 3.1 | 0.8 | | 0.8 | | 0.8 | | 1.5 | | | | 0.9 | 4.0 | | | 1.0 | | 1.3 | | 1.6 | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q10 Page 16

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

I HAVE A FEW QUESTIONS ABOUT TOILET LEAKS. IN THE PAST TWO YEARS, HAVE YOU CHECKED YOUR TOILET/TOILETS FOR SILENT LEAKS BY USING DYE TABS OR FOOD COLORING?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q11 Page 17

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DID YOU FIND ANY LEAKY TOILETS?
(IF USED DYE TABS)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q12 Page 18

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHEN YOU FOUND A LEAKY TOILET, WERE YOU ABLE TO REPAIR IT, DID YOU REPLACE THE TOILET, OR HAVE YOU NOT
BEEN ABLE TO FIX THE LEAK YET?
(IF FOUND LEAKY TOILET WITH DYE TABS)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | |
|----------------------|------------------------|------------------------|--------------|----------------|----------|-------|------------|-------|--------------|-------------|-------------------|-------|-------|-------|--------------|--------|-------|----------------------|-------|-------|--------|-------|---------|-------|-------|-------|-------------|--|--------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | | | | | REDUCE | | PROTECT | | SAVE | | | | | |
| | | | | | ===== | | | | | | HOUSING | | | | | | | | | | | | | | BILLS | | ENVIRONMENT | | SALMON | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME | ===== | 1994 OR | ===== | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | ===== | | | |
| TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | VERY | DK | VERY | DK | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | | |
| TOTAL ANSWERING | 40 | 25 | 7 | 11 | 33 | 5 | 29 | 9 | 34 | 6 | 7 | 26 | 5 | 17 | 22 | 3 | 32 | 16 | 24 | 26 | 14 | 20 | 20 | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | |
| REPAIRED THE LEAK | 30 | 18 | 6 | 8 | 26 | 3 | 21 | 8 | 26 | 4 | 6 | 20 | 2 | 14 | 14 | 2 | 24 | 14 | 16 | 19 | 11 | 15 | 15 | | | | | | | |
| | 75.4 | 72.0 | 85.7 | 72.7 | 78.6 | 50.0 | 74.3 | 87.6 | 78.1 | 60.9 | 85.3 | 76.6 | 44.2 | 83.9 | 67.1 | 58.8 | 74.0 | 85.0 | 68.7 | 74.4 | 77.1 | 75.3 | 75.4 | | | | | | | |
| REPLACED THE TOILET | 9 | 7 | 1 | 1 | 7 | 2 | 7 | 1 | 7 | 2 | 1 | 6 | 2 | 2 | 7 | 1 | 8 | 2 | 7 | 6 | 3 | 5 | 4 | | | | | | | |
| | 23.2 | 28.0 | 14.3 | 9.1 | 21.4 | 39.6 | 24.7 | 12.4 | 21.1 | 34.5 | 14.7 | 22.3 | 50.0 | 14.4 | 31.6 | 32.6 | 25.2 | 13.2 | 30.1 | 23.3 | 22.9 | 24.7 | 21.7 | | | | | | | |
| DID NOT FIX THE LEAK | 0 | - | - | 1 | - | 0 | - | - | - | 0 | - | - | 0 | - | 0 | 0 | - | - | 0 | 0 | - | - | 0 | | | | | | | |
| | 0.7 | | | 9.1 | | 5.2 | | | | 4.6 | | | 5.8 | | 1.3 | 8.6 | | | 1.2 | 1.1 | | | 1.4 | | | | | | | |
| DON'T KNOW | 0 | - | - | 1 | - | 0 | 0 | - | 0 | - | - | 0 | - | 0 | - | - | 0 | 0 | - | 0 | - | - | 0 | | | | | | | |
| | 0.7 | | | 9.1 | | 5.2 | 1.0 | | 0.9 | | | 1.1 | | 1.7 | | | 0.9 | 1.7 | | 1.1 | | | 1.4 | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q13 Page 19

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

IN YOUR HOUSEHOLD, IS IT CUSTOMARY FOR THE TOILET TO BE FLUSHED WITH EVERY USE OR IS IT SOMETIMES USED MORE THAN ONCE BEFORE IT IS FLUSHED?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|-----------------|-------|-------|-------|----------|-------|-------|-------|---------|-------|--------------|-------|--------|-------|--------------|--------|----------------------|-------|-------------|-------|-------|-------|------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | KIRK/ | SAMM/ | | | OWN HOME | | 1994 | | | | | | | | | | | | | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | | | OR | SF/ | 5+ | | | | | | | | | | | | | | |
| | TOTAL | ISSQ | -TON | SKYW/ | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| USUALLY FLUSHED WITH EVERY USE | 322 | 213 | 55 | 53 | 242 | 73 | 202 | 100 | 230 | 92 | 137 | 124 | 38 | 51 | 254 | 63 | 228 | 128 | 192 | 176 | 146 | 154 | 166 |
| | 53.6 | 53.4 | 55.0 | 50.5 | 49.5 | 71.7 | 48.9 | 61.4 | 48.5 | 73.7 | 59.7 | 50.0 | 45.6 | 40.0 | 57.6 | 52.7 | 54.7 | 50.5 | 55.8 | 48.5 | 62.1 | 47.3 | 61.1 |
| | | | | | | E | | G | | I | LM | | | | N | | | | | T | | V | |
| SOMETIMES USED MORE THAN ONCE BEFORE FLUSHED | 272 | 182 | 44 | 51 | 241 | 29 | 208 | 60 | 239 | 33 | 90 | 122 | 44 | 75 | 185 | 53 | 188 | 122 | 150 | 181 | 89 | 166 | 105 |
| | 45.4 | 45.6 | 44.0 | 48.6 | 49.3 | 28.3 | 50.5 | 37.0 | 50.3 | 26.3 | 39.3 | 48.9 | 53.1 | 58.3 | 41.8 | 44.1 | 45.1 | 48.1 | 43.5 | 49.8 | 37.9 | 51.2 | 38.6 |
| | | | | | F | | H | | J | | | K | K | O | | | | | | U | | W | |
| DON'T KNOW | 6 | 4 | 1 | 1 | 6 | - | 2 | 2 | 6 | - | 2 | 3 | 1 | 2 | 3 | 4 | 1 | 4 | 2 | 6 | - | 5 | 1 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.2 | | 0.6 | 1.5 | 1.3 | | 0.9 | 1.1 | 1.3 | 1.7 | 0.6 | 3.2 | 0.3 | 1.4 | 0.7 | 1.7 | | 1.5 | 0.4 |
| | | | | | | | | | | | | | | | | q | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q14 Page 20

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NOW A FEW QUESTIONS ABOUT SHOWERS. HOW MANY SHOWERHEADS DO YOU HAVE IN YOUR HOME? IF YOU HAVE MULTIPLE SHOWERHEADS IN ONE SHOWER, PLEASE COUNT EACH SHOWERHEAD SEPARATELY.

| | | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | |
|--------------------|-------------------------------|--------------|--------------|----------------|------------------|--------------|--------------|--------------|--------------|--------------|-------------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|----------------------|--------------|--------------------|--------------|---------------------|--|-------------|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | BUILT | | HOUSING | | | PRIOR CONSRV | | INCOME | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | BLV/ KIRK/ SMM/ -TON | | OWN HOME | | 1994 OR LATER | | SF/ 2/3/4 | | 5+ UNITS | | POTENTIAL TO SAVE | | | PROGRAMS | | | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | | | |
| | WGHTD TOTAL | ISSQ | COVG | TUKW/ SKYWY | OWN | RENT | <1994 | LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | NOT/ DK | VERY | NOT/ DK | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | |
| TOTAL ANSWERING | 600 100.0 | 399 100.0 | 100 100.0 | 105 100.0 | 489 100.0 | 102 100.0 | 412 100.0 | 162 100.0 | 475 100.0 | 124 100.0 | 229 100.0 | 249 100.0 | 84 100.0 | 128 100.0 | 442 100.0 | 120 100.0 | 417 100.0 | 254 100.0 | 345 100.0 | 363 100.0 | 235 100.0 | 325 100.0 | 272 100.0 | | | | |
| ONE | 146 24.3 | 101 25.3 | 15 15.0 | 55 52.4 | 76 15.5 | 67 65.4 | 95 23.1 | 32 19.9 | 80 16.8 | 66 53.2 | 79 34.5 | 37 15.0 | 21 25.3 | 31 23.8 | 107 24.2 | 65 54.1 | 68 16.4 | 62 24.4 | 84 24.3 | 91 25.0 | 53 22.4 | 75 23.1 | 71 26.0 | | | | |
| | | C | | BC | | E | | | | I | L | | 1 | | | Q | | | | | | | | | | | |
| TWO | 304 50.7 | 191 47.9 | 62 62.0 | 42 40.0 | 269 54.9 | 31 30.4 | 213 51.7 | 86 52.9 | 252 53.0 | 52 41.6 | 102 44.5 | 143 57.5 | 38 45.6 | 63 49.5 | 225 50.9 | 41 34.2 | 225 54.0 | 137 54.1 | 166 48.1 | 184 50.6 | 121 51.4 | 172 52.8 | 132 48.4 | | | | |
| | | | BD | | F | | | | J | | | Km | | | | P | | | | | | | | | | | |
| THREE | 115 19.1 | 80 20.1 | 19 19.0 | 7 6.7 | 112 22.8 | 3 3.2 | 86 21.0 | 27 16.8 | 111 23.3 | 4 3.5 | 35 15.4 | 54 21.6 | 19 22.7 | 30 23.3 | 80 18.0 | 12 9.8 | 95 22.8 | 43 17.0 | 72 20.8 | 70 19.3 | 45 19.2 | 59 18.3 | 54 20.0 | | | | |
| | | D | D | | F | | | | J | | | k | | | | | P | | | | | | | | | | |
| FOUR | 27 4.5 | 21 5.3 | 3 3.0 | - | 25 5.1 | 1 1.1 | 16 3.8 | 10 6.2 | 25 5.2 | 2 1.7 | 10 4.5 | 12 4.9 | 4 5.2 | 3 2.5 | 24 5.4 | 2 1.8 | 21 5.1 | 8 3.1 | 19 5.5 | 15 4.0 | 12 5.2 | 15 4.5 | 11 4.1 | | | | |
| | | | | | F | | | | J | | | | | | | | P | | | | | | | | | | |
| FIVE | 6 1.0 | 4 1.0 | 1 1.0 | - | 6 1.2 | - | 1 0.3 | 5 2.9 | 6 1.2 | - | 2 0.9 | 2 1.0 | - | 1 0.8 | 5 1.0 | - | 5 1.1 | 3 1.3 | 2 0.7 | 4 1.0 | 2 0.9 | 4 1.1 | 2 0.8 | | | | |
| | | | | | | | | g | | | | | | | | | | | | | | | | | | | |
| SIX | 2 0.4 | 2 0.5 | - | - | 2 0.4 | - | - | 2 1.3 | 2 0.5 | - | - | - | 1 1.3 | - | 2 0.5 | - | 2 0.5 | - | 2 0.6 | - | 2 0.9 | - | 2 0.8 | | | | |
| DON'T KNOW | 0 * | - | - | 1 1.0 | 0 0.1 | - | 0 0.1 | - | 0 0.1 | - | 0 0.1 | - | - | - | 0 0.1 | - | - | 0 0.1 | - | 0 0.1 | - | 0 0.1 | - | | | | |
| MEAN | 2.08 | 2.10 | 2.13 | 1.54 | 2.23 | 1.40 | 2.06 | 2.23 | 2.22 | 1.54 | 1.93 | 2.19 | 2.13 | 2.07 | 2.10 | 1.59 | 2.22 | 2.03 | 2.12 | 2.05 | 2.14 | 2.07 | 2.08 | | | | |
| | | D | D | | F | | | G | J | | | K | k | | | | P | | | | | | | | | | |
| STANDARD DEVIATION | 0.87 | 0.91 | 0.73 | 0.62 | 0.84 | 0.61 | 0.78 | 1.02 | 0.86 | 0.65 | 0.87 | 0.79 | 0.94 | 0.81 | 0.90 | 0.74 | 0.86 | 0.81 | 0.91 | 0.83 | 0.92 | 0.83 | 0.91 | | | | |
| STANDARD ERROR | 0.04 | 0.05 | 0.07 | 0.06 | 0.04 | 0.06 | 0.04 | 0.09 | 0.04 | 0.06 | 0.06 | 0.05 | 0.11 | 0.08 | 0.04 | 0.07 | 0.04 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.06 | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q15 Page 21

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW MANY OF THE SHOWERHEADS IN YOUR HOME ARE THE LOW-FLOW KIND THAT WOULD HAVE BEEN INSTALLED IN 1994 OR
LATER?
(IF HOME BUILT BEFORE 1994)

| | | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--------------------|--|------------------------|------------------------|-----------------------|----------|-------|---------------------|-------|--------------|-------------|-------------------|-------|-------|-----------------------|-------|--------|--------|--------------------|------------|----------------------|------------|---------------------|------------|-------------|--|
| | | ===== | | | | | | | | | | | | | | | | | | ===== | | | | | |
| | | | | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | | | | | | | | | | | | | | | ===== | | ===== | | ===== | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | TUKW/ COVG -TON | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | | |
| | | ISSQ | -TON | SKYWY | OWN | RENT | 1994 OR <1994 | LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | NOT/ DK | VERY | NOT/ DK | | |
| | | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | | 438 | 298 | 66 | 85 | 365 | 69 | 412 | - | 366 | 72 | 163 | 185 | 66 | 97 | 315 | 88 | 306 | 177 | 260 | 267 | 170 | 236 | 199 | |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| NONE | | 113 | 77 | 17 | 21 | 88 | 23 | 107 | - | 87 | 26 | 38 | 48 | 18 | 14 | 94 | 30 | 75 | 43 | 70 | 72 | 41 | 60 | 51 | |
| | | 25.8 | 25.8 | 25.8 | 24.7 | 24.2 | 33.3 | 26.1 | | 23.8 | 35.6 | 23.4 | 25.7 | 27.1 | 14.1 | 29.7 | 33.7 | 24.5 | 24.5 | 26.7 | 27.1 | 24.0 | 25.5 | 25.8 | |
| | | | | | | | | | | i | | | | | | N | | | | | | | | | |
| ONE | | 133 | 84 | 24 | 31 | 114 | 17 | 127 | - | 114 | 19 | 51 | 57 | 23 | 32 | 89 | 24 | 98 | 53 | 80 | 81 | 50 | 69 | 64 | |
| | | 30.3 | 28.2 | 36.4 | 36.5 | 31.2 | 24.3 | 30.7 | | 31.1 | 26.4 | 31.4 | 31.0 | 34.5 | 32.8 | 28.2 | 27.1 | 32.0 | 30.1 | 30.6 | 30.4 | 29.8 | 29.2 | 32.1 | |
| TWO | | 111 | 76 | 17 | 18 | 106 | 5 | 110 | - | 107 | 4 | 34 | 56 | 19 | 34 | 71 | 15 | 78 | 55 | 55 | 76 | 35 | 67 | 43 | |
| | | 25.3 | 25.5 | 25.8 | 21.2 | 28.9 | 7.9 | 26.7 | | 29.4 | 4.9 | 21.0 | 30.0 | 28.0 | 35.4 | 22.6 | 17.4 | 25.6 | 31.3 | 21.0 | 28.4 | 20.7 | 28.2 | 21.5 | |
| | | | | | | F | | | | J | | | k | | O | | | p | S | | u | | | | |
| THREE | | 31 | 21 | 5 | 3 | 31 | - | 29 | - | 29 | 1 | 10 | 13 | 5 | 10 | 21 | 3 | 25 | 10 | 20 | 13 | 17 | 13 | 17 | |
| | | 7.0 | 7.0 | 7.6 | 3.5 | 8.3 | | 7.1 | | 8.0 | 1.5 | 5.9 | 7.1 | 7.0 | 9.9 | 6.7 | 3.5 | 8.3 | 5.7 | 7.8 | 5.0 | 10.1 | 5.6 | 8.6 | |
| | | | | | | | | | | J | | | | | | | | p | | | t | | | | |
| FOUR | | 5 | 5 | - | - | 5 | - | 5 | - | 5 | - | 4 | 1 | - | 1 | 4 | - | 4 | 1 | 4 | 2 | 3 | 3 | 2 | |
| | | 1.2 | 1.7 | | | 1.5 | | 1.3 | | 1.5 | | 2.7 | 0.6 | | 1.1 | 1.4 | | 1.4 | 0.6 | 1.7 | 0.8 | 1.9 | 1.4 | 1.1 | |
| DON'T KNOW | | 44 | 34 | 3 | 12 | 21 | 24 | 32 | - | 22 | 23 | 24 | 11 | 2 | 6 | 35 | 15 | 25 | 14 | 30 | 22 | 22 | 24 | 21 | |
| | | 10.1 | 11.4 | 4.5 | 14.1 | 5.7 | 34.5 | 7.8 | | 5.9 | 31.5 | 15.1 | 5.7 | 3.4 | 6.7 | 11.1 | 17.1 | 8.3 | 7.7 | 11.7 | 8.4 | 12.8 | 10.0 | 10.4 | |
| | | | C | | C | | E | | | I | | LM | | | | | Q | | | | | | | | |
| REFUSED | | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 | |
| | | 0.2 | 0.3 | | | 0.3 | | 0.3 | | 0.3 | | 0.7 | | | | 0.3 | 1.2 | | | 0.4 | | 0.6 | | 0.5 | |
| MEAN | | 1.67 | 1.72 | 1.59 | 1.46 | 1.72 | 1.25 | 1.68 | - | 1.71 | 1.24 | 1.67 | 1.67 | 1.60 | 1.74 | 1.68 | 1.51 | 1.69 | 1.66 | 1.68 | 1.63 | 1.75 | 1.68 | 1.66 | |
| | | | D | | | F | | | | J | | | | | | | | | | | | | | | |
| STANDARD DEVIATION | | 0.75 | 0.77 | 0.69 | 0.61 | 0.76 | 0.44 | 0.75 | - | 0.75 | 0.53 | 0.83 | 0.69 | 0.67 | 0.73 | 0.77 | 0.64 | 0.77 | 0.67 | 0.80 | 0.68 | 0.84 | 0.72 | 0.78 | |
| STANDARD ERROR | | 0.05 | 0.06 | 0.10 | 0.08 | 0.05 | 0.09 | 0.05 | | 0.05 | 0.11 | 0.09 | 0.07 | 0.10 | 0.09 | 0.06 | 0.10 | 0.06 | 0.06 | 0.07 | 0.05 | 0.09 | 0.06 | 0.07 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q16 Page 22

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW LONG DO YOU ESTIMATE THAT MOST SHOWERS IN YOUR HOUSEHOLD LAST? WOULD YOU SAY THEY LAST LESS THAN FIVE MINUTES, 5 TO 10 MINUTES, 11-15 MINUTES, OR MORE THAN 15 MINUTES?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | |
|----------------------|------------------------|-------|-------|----------------|--------------------------------|-------|----------|-------|------------------------------|-------------|----------------------------------|-------|-------|-------------------|-------|--------|-----------------------------|----------------------|--------|-------|-----------------|-------|------------------------|------|----------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ WGHTD | | | | SAMM/ COVG REDM/ ISSQ | | OWN HOME | | BUILT 1994 OR LATER | | HOUSING SF/ 2/3/4 UNITS | | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | TOTAL | ISSQ | | TUKW/ SKYWY | OWN | RENT | <1994 | OR | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | VERY | DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| LESS THAN 5 MINUTES | 115 | 85 | 10 | 31 | 103 | 11 | 88 | 21 | 97 | 18 | 47 | 38 | 20 | 35 | 74 | 27 | 80 | 51 | 63 | 72 | 41 | 65 | 49 | | | |
| | 19.1 | 21.3 | 10.0 | 29.5 | 21.0 | 10.7 | 21.4 | 13.1 | 20.4 | 14.5 | 20.5 | 15.4 | 23.8 | 27.2 | 16.8 | 22.2 | 19.1 | 20.0 | 18.2 | 19.9 | 17.5 | 20.1 | 18.2 | | | |
| | | C | | bC | F | | H | | | | | | | O | | | | | | | | | | | | |
| 5-10 MINUTES | 314 | 215 | 50 | 43 | 260 | 52 | 209 | 91 | 247 | 67 | 116 | 142 | 42 | 69 | 230 | 50 | 232 | 127 | 187 | 196 | 118 | 181 | 132 | | | |
| | 52.3 | 53.9 | 50.0 | 41.0 | 53.1 | 50.8 | 50.7 | 56.3 | 51.9 | 53.5 | 50.5 | 56.9 | 50.0 | 53.6 | 52.0 | 41.9 | 55.7 | 49.9 | 54.4 | 54.0 | 50.4 | 55.7 | 48.7 | | | |
| | | D | | | | | | | | | | | | | P | | | | | | | | | | | |
| 11 TO 15 MINUTES | 115 | 64 | 28 | 23 | 85 | 25 | 79 | 31 | 87 | 27 | 46 | 45 | 19 | 16 | 94 | 30 | 67 | 58 | 57 | 64 | 51 | 53 | 59 | | | |
| | 19.1 | 16.0 | 28.0 | 21.9 | 17.4 | 24.9 | 19.2 | 19.4 | 18.4 | 21.9 | 20.3 | 17.9 | 22.3 | 12.8 | 21.2 | 25.4 | 16.0 | 22.8 | 16.4 | 17.6 | 21.5 | 16.3 | 21.7 | | | |
| | | | B | | | | | | | | | | | | N | Q | | s | | | | | | | | |
| MORE THAN 15 MINUTES | 31 | 19 | 7 | 2 | 20 | 10 | 17 | 10 | 23 | 8 | 11 | 17 | 1 | 4 | 24 | 7 | 22 | 9 | 22 | 16 | 15 | 14 | 17 | | | |
| | 5.1 | 4.8 | 7.0 | 1.9 | 4.1 | 9.3 | 4.2 | 6.4 | 4.8 | 6.3 | 4.6 | 6.8 | 1.3 | 3.0 | 5.4 | 5.9 | 5.2 | 3.6 | 6.3 | 4.3 | 6.5 | 4.4 | 6.1 | | | |
| | | d | d | | | e | | | | | m | M | | | | | | | | | | | | | | |
| VARIES QUITE A BIT | 21 | 12 | 5 | 4 | 19 | 2 | 16 | 5 | 19 | 2 | 9 | 5 | 2 | 3 | 17 | 4 | 14 | 8 | 13 | 13 | 8 | 10 | 11 | | | |
| | 3.5 | 3.0 | 5.0 | 3.8 | 3.9 | 2.1 | 3.8 | 3.4 | 3.9 | 2.0 | 4.0 | 2.0 | 2.6 | 2.5 | 3.8 | 3.4 | 3.5 | 3.3 | 3.7 | 3.5 | 3.6 | 3.1 | 4.0 | | | |
| DON'T KNOW | 3 | 2 | - | 2 | 3 | - | 2 | 1 | 3 | - | - | 1 | - | - | 2 | 0 | 2 | 1 | 1 | 2 | - | 1 | 1 | | | |
| | 0.5 | 0.5 | | 1.9 | 0.6 | | 0.4 | 0.7 | 0.6 | | | 0.4 | | | 0.6 | 0.2 | 0.5 | 0.4 | 0.4 | 0.7 | | 0.4 | 0.5 | | | |
| REFUSED | 2 | 2 | - | - | - | 2 | 1 | 1 | - | 2 | - | 1 | - | 1 | 1 | 1 | - | - | 2 | - | 1 | - | 2 | | | |
| | 0.4 | 0.5 | | | | 2.1 | 0.3 | 0.7 | | 1.7 | | 0.4 | | 0.8 | 0.2 | 0.9 | | | 0.6 | | 0.5 | | 0.8 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q17 Page 23

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW MANY FAUCETS DO YOU HAVE INSIDE YOUR HOME, INCLUDING BATHROOM, KITCHEN AND UTILITY SINK FAUCETS?

| | UNWEIGHTED AREA | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | |
|--------------------|-----------------|-------|-------|-------|----------|-------|-------|-------|---------|-------|----------------------|-------|-------|--------------|-------|--------|--------|--------|-------|---------|-------|-------|-------|
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV | | INCOME | | REDUCE | | PROTECT | | SAVE | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | 1994 | 2/3/4 | 5+ | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ONE | 0 | - | - | 1 | - | 0 | - | - | 0 | - | - | 0 | - | - | - | - | - | - | 0 | 0 | - | 0 | - |
| | * | | | 1.0 | | 0.3 | | | 0.1 | | | 0.1 | | | | | | 0.1 | 0.1 | | 0.1 | | |
| TWO | 67 | 45 | 7 | 29 | 25 | 40 | 36 | 20 | 22 | 45 | 38 | 17 | 9 | 8 | 58 | 36 | 25 | 28 | 39 | 42 | 23 | 35 | 31 |
| | 11.1 | 11.3 | 7.0 | 27.6 | 5.0 | 39.5 | 8.8 | 12.3 | 4.6 | 36.1 | 16.6 | 6.8 | 10.9 | 6.2 | 13.2 | 29.7 | 6.1 | 11.1 | 11.2 | 11.7 | 9.9 | 10.9 | 11.5 |
| | | | | BC | | E | | | | I | L | | | | N | Q | | | | | | | |
| THREE | 114 | 82 | 12 | 30 | 71 | 42 | 83 | 21 | 77 | 37 | 53 | 34 | 17 | 24 | 78 | 35 | 70 | 48 | 66 | 71 | 41 | 63 | 51 |
| | 19.0 | 20.6 | 12.0 | 28.6 | 14.4 | 41.0 | 20.1 | 12.8 | 16.2 | 29.7 | 23.1 | 13.5 | 20.9 | 18.4 | 17.7 | 28.9 | 16.8 | 18.8 | 19.2 | 19.6 | 17.7 | 19.3 | 18.8 |
| | | C | | bC | | E | H | | | I | L | | | | | Q | | | | | | | |
| FOUR | 157 | 104 | 28 | 19 | 143 | 11 | 119 | 36 | 139 | 17 | 54 | 75 | 20 | 33 | 114 | 19 | 112 | 68 | 89 | 85 | 72 | 81 | 74 |
| | 26.1 | 26.1 | 28.0 | 18.1 | 29.2 | 11.2 | 28.8 | 22.1 | 29.3 | 13.3 | 23.7 | 30.4 | 24.1 | 25.9 | 25.9 | 15.8 | 26.9 | 26.6 | 25.9 | 23.5 | 30.5 | 25.1 | 27.2 |
| | | d | d | | F | | | | J | | | | | | | | P | | | | t | | |
| FIVE | 120 | 77 | 23 | 16 | 116 | 2 | 91 | 28 | 103 | 17 | 38 | 56 | 17 | 31 | 81 | 18 | 93 | 53 | 66 | 71 | 49 | 68 | 51 |
| | 19.9 | 19.3 | 23.0 | 15.2 | 23.7 | 2.4 | 22.0 | 17.3 | 21.7 | 13.6 | 16.5 | 22.6 | 20.8 | 24.5 | 18.4 | 15.1 | 22.4 | 20.8 | 19.3 | 19.6 | 20.7 | 21.1 | 18.9 |
| | | | | | F | | | | J | | | | | | | | P | | | | | | |
| SIX | 49 | 29 | 11 | 8 | 45 | 2 | 25 | 24 | 44 | 5 | 17 | 19 | 10 | 9 | 40 | 8 | 37 | 24 | 25 | 29 | 20 | 25 | 24 |
| | 8.1 | 7.3 | 11.0 | 7.6 | 9.3 | 2.4 | 6.0 | 15.0 | 9.3 | 3.7 | 7.3 | 7.8 | 11.4 | 7.2 | 9.0 | 6.6 | 9.0 | 9.5 | 7.2 | 7.9 | 8.6 | 7.6 | 8.9 |
| | | | | | F | | | G | J | | | | | | | | | | | | | | |
| SEVEN OR MORE | 93 | 61 | 19 | 2 | 88 | 3 | 58 | 33 | 89 | 4 | 28 | 47 | 10 | 23 | 69 | 4 | 79 | 34 | 58 | 64 | 29 | 52 | 39 |
| | 15.5 | 15.3 | 19.0 | 1.9 | 18.0 | 3.2 | 14.2 | 20.5 | 18.6 | 3.5 | 12.4 | 18.7 | 12.0 | 17.8 | 15.6 | 3.0 | 18.9 | 13.2 | 16.9 | 17.6 | 12.3 | 16.0 | 14.2 |
| | | D | D | | F | | | g | J | | | k | | | | | P | | | u | | | |
| DON'T KNOW | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 |
| | 0.2 | 0.3 | | | 0.2 | | 0.3 | | 0.2 | | 0.5 | | | | 0.2 | 0.9 | | | 0.3 | | 0.5 | | 0.4 |
| MEAN | 4.41 | 4.37 | 4.76 | 3.50 | 4.72 | 2.96 | 4.39 | 4.72 | 4.71 | 3.30 | 4.12 | 4.67 | 4.37 | 4.62 | 4.39 | 3.48 | 4.68 | 4.39 | 4.43 | 4.45 | 4.37 | 4.43 | 4.38 |
| | | D | BD | | F | | | G | J | | | K | | | | | P | | | | | | |
| STANDARD DEVIATION | 1.55 | 1.55 | 1.49 | 1.37 | 1.44 | 1.16 | 1.47 | 1.66 | 1.46 | 1.36 | 1.57 | 1.48 | 1.51 | 1.49 | 1.59 | 1.39 | 1.50 | 1.51 | 1.57 | 1.60 | 1.45 | 1.55 | 1.53 |
| STANDARD ERROR | 0.07 | 0.08 | 0.15 | 0.13 | 0.07 | 0.12 | 0.08 | 0.14 | 0.07 | 0.13 | 0.11 | 0.10 | 0.17 | 0.14 | 0.08 | 0.13 | 0.08 | 0.10 | 0.09 | 0.09 | 0.10 | 0.09 | 0.10 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q18 Page 24

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW MANY OF THE FAUCETS IN YOUR HOME ARE LOW-FLOW FAUCETS THAT WERE INSTALLED IN 1994 OR LATER? ALSO INCLUDE IN YOUR COUNT ANY FAUCETS WHERE YOU HAVE INSTALLED AERATORS.
(IF HOME BUILT BEFORE 1994)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | |
|--------------------|-----------------|-------|-------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|----------|-------|--------|--------|----------------------|-------|--------|-------|-------|-------|-------------|--|--------|--|------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | REDUCE | | | | PROTECT | | SAVE | | | |
| | ===== | | | | | | BUILT | | | | | | PRIOR | | | | | | BILLS | | | | ENVIRONMENT | | SALMON | | | |
| | | | | | | | HOUSING | | | | | | CONSRV | | | | | | | | | | | | | | | |
| | OWN HOME | | | | | | POTENTIAL TO SAVE | | | | | | PROGRAMS | | | | | | INCOME | | | | SMW/ | | SMW/ | | SMW/ | |
| | WGHTD | REDM/ | SAMM/ | TUKW/ | OWN | RENT | 1994 | OR | SF/ | 5+ | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ | VERY | NOT/ | VERY | NOT/ | | | | | |
| TOTAL | ISSQ | COVG | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ | VERY | NOT/ | VERY | NOT/ | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | |
| TOTAL ANSWERING | 438 | 298 | 66 | 85 | 365 | 69 | 412 | - | 366 | 72 | 163 | 185 | 66 | 97 | 315 | 88 | 306 | 177 | 260 | 267 | 170 | 236 | 199 | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| NONE | 121 | 85 | 17 | 20 | 94 | 25 | 113 | - | 95 | 26 | 49 | 46 | 18 | 20 | 95 | 24 | 81 | 50 | 72 | 82 | 39 | 59 | 62 | | | | | |
| | 27.7 | 28.5 | 25.8 | 23.5 | 25.8 | 36.9 | 27.4 | | 25.9 | 36.4 | 30.0 | 24.6 | 27.1 | 20.5 | 30.1 | 27.7 | 26.4 | 28.1 | 27.6 | 30.7 | 23.2 | 24.9 | 31.3 | | | | | |
| | | | | | | e | | | | i | | | | | n | | | | | | | | | | | | | |
| ONE | 72 | 43 | 16 | 13 | 64 | 7 | 71 | - | 65 | 8 | 21 | 31 | 16 | 19 | 51 | 14 | 51 | 34 | 39 | 41 | 32 | 35 | 36 | | | | | |
| | 16.5 | 14.4 | 24.2 | 15.3 | 17.6 | 9.6 | 17.3 | | 17.7 | 10.6 | 13.1 | 16.9 | 24.3 | 19.8 | 16.1 | 16.2 | 16.6 | 19.0 | 14.9 | 15.2 | 18.7 | 15.0 | 17.8 | | | | | |
| | | | b | | f | | | | j | | k | | | | | | | | | | | | | | | | | |
| TWO | 60 | 41 | 7 | 22 | 53 | 7 | 58 | - | 51 | 10 | 22 | 30 | 7 | 11 | 46 | 15 | 39 | 19 | 41 | 37 | 23 | 35 | 25 | | | | | |
| | 13.8 | 13.8 | 10.6 | 25.9 | 14.4 | 9.6 | 14.0 | | 13.8 | 13.6 | 13.6 | 16.0 | 9.9 | 11.7 | 14.5 | 17.4 | 12.6 | 11.0 | 15.6 | 14.0 | 13.4 | 14.9 | 12.6 | | | | | |
| | | | | BC | | | | | | | | | | | | | | | | | | | | | | | | |
| THREE | 74 | 46 | 15 | 13 | 69 | 6 | 73 | - | 70 | 5 | 24 | 32 | 12 | 21 | 45 | 14 | 54 | 28 | 46 | 44 | 29 | 49 | 25 | | | | | |
| | 16.9 | 15.4 | 22.7 | 15.3 | 18.8 | 8.3 | 17.8 | | 19.0 | 6.4 | 14.5 | 17.4 | 18.8 | 21.9 | 14.4 | 15.6 | 17.7 | 15.8 | 17.8 | 16.5 | 17.0 | 20.9 | 12.5 | | | | | |
| | | | | | F | | | | J | | | | | | | | | | | | W | | | | | | | |
| FOUR | 28 | 20 | 4 | 3 | 27 | 1 | 28 | - | 27 | 1 | 10 | 13 | 5 | 9 | 18 | 4 | 22 | 16 | 12 | 18 | 10 | 18 | 10 | | | | | |
| | 6.4 | 6.7 | 6.1 | 3.5 | 7.4 | 1.6 | 6.8 | | 7.4 | 1.5 | 6.2 | 7.1 | 7.4 | 9.6 | 5.6 | 4.4 | 7.1 | 9.1 | 4.6 | 6.8 | 5.8 | 7.6 | 5.1 | | | | | |
| | | | | | F | | | | J | | | | | | | | | s | | | | | | | | | | |
| FIVE | 26 | 20 | 2 | 4 | 24 | 1 | 24 | - | 24 | 1 | 7 | 14 | 5 | 10 | 15 | 4 | 22 | 11 | 15 | 13 | 13 | 14 | 12 | | | | | |
| | 5.8 | 6.7 | 3.0 | 4.7 | 6.7 | 1.6 | 5.9 | | 6.6 | 1.9 | 4.5 | 7.3 | 7.0 | 9.9 | 4.7 | 4.4 | 7.1 | 6.0 | 5.7 | 4.8 | 7.5 | 5.9 | 5.9 | | | | | |
| | | | | | F | | | | J | | | | | | | | | | | | | | | | | | | |
| SIX | 6 | 5 | - | 2 | 6 | - | 6 | - | 6 | - | 1 | 4 | 1 | - | 6 | 1 | 2 | 3 | 3 | 5 | 1 | 4 | 2 | | | | | |
| | 1.4 | 1.7 | | 2.4 | 1.6 | | 1.5 | | 1.6 | | 0.7 | 1.9 | 2.1 | | 1.9 | 1.6 | 0.8 | 1.8 | 1.1 | 1.8 | 0.6 | 1.6 | 1.1 | | | | | |
| SEVEN OR MORE | 10 | 8 | 1 | - | 10 | - | 10 | - | 10 | - | 4 | 4 | 1 | 2 | 8 | - | 9 | 2 | 6 | 5 | 5 | 4 | 5 | | | | | |
| | 2.3 | 2.7 | 1.5 | | 2.7 | | 2.4 | | 2.7 | | 2.7 | 1.9 | 1.6 | 2.2 | 2.5 | | 2.9 | 1.4 | 2.5 | 2.0 | 2.7 | 1.8 | 2.3 | | | | | |
| DON'T KNOW | 40 | 30 | 4 | 8 | 18 | 22 | 28 | - | 19 | 21 | 24 | 13 | 1 | 4 | 32 | 11 | 27 | 14 | 26 | 22 | 19 | 17 | 23 | | | | | |
| | 9.2 | 10.1 | 6.1 | 9.4 | 4.9 | 32.5 | 6.9 | | 5.2 | 29.6 | 14.7 | 6.9 | 1.7 | 4.5 | 10.2 | 12.7 | 8.7 | 7.9 | 10.1 | 8.2 | 10.9 | 7.4 | 11.5 | | | | | |
| | | | | | E | | | | | I | LM | M | | | N | | | | | | | | | | | | | |
| MEAN | 2.75 | 2.89 | 2.40 | 2.46 | 2.81 | 2.22 | 2.76 | - | 2.82 | 2.13 | 2.78 | 2.78 | 2.66 | 2.83 | 2.73 | 2.46 | 2.84 | 2.74 | 2.74 | 2.76 | 2.74 | 2.80 | 2.67 | | | | | |
| | | cd | | | | | | | J | | | | | | | | | | | | | | | | | | | |
| STANDARD DEVIATION | 1.57 | 1.63 | 1.37 | 1.30 | 1.59 | 1.13 | 1.57 | - | 1.60 | 1.10 | 1.58 | 1.56 | 1.60 | 1.53 | 1.62 | 1.31 | 1.61 | 1.56 | 1.55 | 1.55 | 1.61 | 1.48 | 1.64 | | | | | |
| STANDARD ERROR | 0.10 | 0.12 | 0.20 | 0.17 | 0.11 | 0.24 | 0.10 | | 0.11 | 0.22 | 0.17 | 0.15 | 0.24 | 0.19 | 0.12 | 0.18 | 0.12 | 0.15 | 0.13 | 0.13 | 0.16 | 0.12 | 0.16 | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q19 Page 26

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HAVE YOU FOUND ANY LEAKING OR DRIPPING FAUCETS IN YOUR KITCHEN, BATHROOM, OR UTILITY SINKS WITHIN THE LAST YEAR?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-------------------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|----------------------|-------|-------------|-------|--------|-------|------|
| UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| ===== | | | | | | | | | | | | | | | | | ===== | | | | | | |
| BLV/ | | | | | | | | | | | | | | | | | REDUCE | | PROTECT | | SAVE | | |
| BUILT | | | | | | | | | | | | | | | | | BILLS | | ENVIRONMENT | | SALMON | | |
| HOUSING | | | | | | | | | | | | | | | | | | | | | | | |
| PRIOR CONSRV | | | | | | | | | | | | | | | | | | | | | | | |
| POTENTIAL TO SAVE | | | | | | | | | | | | | | | | | | | | | | | |
| PROGRAMS | | | | | | | | | | | | | | | | | | | | | | | |
| INCOME | | | | | | | | | | | | | | | | | | | | | | | |
| ===== | | | | | | | | | | | | | | | | | | | | | | | |
| WGHTD | REDM/ | SAMM/ | TUKW/ | OWN HOME | | 1994 | OR | SF/ | 5+ | | | | YES | NO | <\$50K | \$50K+ | SMW/ | | SMW/ | | SMW/ | | |
| TOTAL | ISSQ | COVG | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | NOT/ | VERY | NOT/ | VERY | NOT/ | VERY | |
| | | | | | | | | | | | | | | | | | DK | | DK | | DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 108 | 75 | 17 | 13 | 81 | 27 | 84 | 16 | 88 | 20 | 34 | 55 | 14 | 21 | 77 | 22 | 71 | 49 | 59 | 65 | 43 | 55 | 51 |
| | 18.1 | 18.8 | 17.0 | 12.4 | 16.5 | 26.1 | 20.5 | 10.0 | 18.6 | 16.2 | 14.9 | 21.9 | 16.2 | 16.2 | 17.4 | 18.0 | 17.0 | 19.4 | 17.1 | 18.0 | 18.3 | 17.0 | 18.6 |
| | | d | | | | E | H | | | | | k | | | | | | | | | | | |
| NO | 490 | 322 | 83 | 92 | 406 | 75 | 327 | 145 | 384 | 104 | 194 | 194 | 70 | 107 | 363 | 98 | 345 | 204 | 285 | 295 | 192 | 267 | 221 |
| | 81.6 | 80.7 | 83.0 | 87.6 | 83.1 | 73.9 | 79.3 | 89.4 | 80.9 | 83.8 | 84.6 | 78.1 | 83.8 | 83.8 | 82.2 | 82.0 | 82.7 | 80.2 | 82.6 | 81.4 | 81.7 | 82.3 | 81.4 |
| | | | | b | f | | G | | | | 1 | | | | | | | | | | | | |
| DON'T KNOW | 2 | 2 | - | - | 2 | - | 1 | 1 | 2 | - | 1 | - | - | - | 2 | - | 1 | 1 | 1 | 2 | - | 2 | - |
| | 0.4 | 0.5 | | | 0.4 | | 0.3 | 0.7 | 0.5 | | 0.5 | | | | 0.5 | | 0.3 | 0.4 | 0.3 | 0.6 | | 0.7 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q20 Page 27

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HAVE YOU HAD A CHANCE YET TO FIX THE LEAKS OR DRIPS YOU FOUND?
(IF HAVE LEAKY FAUCETS)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | |
|-----------------|---|-------|-------|-------|----------|-------|---------------------|-------|--------------------------|-------|-------------------|-------|---------|----------|-------|---------------|----------------------|---------|-------|--------------------|-------|--------------------|-------|--------------------|--------|--|-------------|--|--------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV | | | | | | | | REDUCE | | PROTECT | | SAVE | |
| | | | | | | | | | ===== | | | | ===== | | | | ===== | | | | | | | | BILLS | | ENVIRONMENT | | SALMON | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SAMM/ WGHTD REDM/ COVG TUKW/ TOTAL ISSQ | | | | OWN HOME | | 1994 OR SKYKY | | 2/3/4 SF/ 5+ UNITS | | POTENTIAL TO SAVE | | | PROGRAMS | | INCOME | | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | | | | | |
| | | | | | OWN RENT | | <1994 LATER | | | | <5% 5-10% 10%+ | | | YES NO | | <\$50K \$50K+ | | | | VERY DK | | VERY DK | | VERY DK | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) (B) (C) (D) | | | | (E) (F) | | (G) (H) | | (I) (J) | | (K) (L) (M) | | | (N) (O) | | (P) (Q) | | (R) (S) | | (T) (U) | | (V) (W) | | | | | | | | |
| TOTAL ANSWERING | 108 | 75 | 17 | 13 | 81 | 27 | 84 | 16 | 88 | 20 | 34 | 55 | 14 | 21 | 77 | 22 | 71 | 49 | 59 | 65 | 43 | 55 | 51 | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | |
| YES | 81 | 54 | 14 | 12 | 61 | 19 | 65 | 11 | 65 | 16 | 24 | 42 | 10 | 18 | 58 | 15 | 55 | 36 | 45 | 47 | 34 | 41 | 37 | | | | | | | |
| | 74.9 | 72.0 | 82.4 | 92.3 | 76.1 | 70.4 | 76.6 | 67.7 | 74.1 | 78.4 | 70.5 | 76.5 | 76.1 | 86.8 | 75.2 | 69.8 | 77.0 | 72.4 | 76.9 | 72.0 | 79.2 | 74.9 | 73.8 | | | | | | | |
| | | | | B | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NO | 26 | 20 | 3 | 1 | 19 | 7 | 19 | 5 | 23 | 3 | 9 | 13 | 3 | 3 | 18 | 6 | 15 | 14 | 12 | 18 | 8 | 14 | 12 | | | | | | | |
| | 24.1 | 26.7 | 17.6 | 7.7 | 23.9 | 25.5 | 22.2 | 32.3 | 25.9 | 16.2 | 26.3 | 23.5 | 23.9 | 13.2 | 23.4 | 30.2 | 21.5 | 27.6 | 21.3 | 28.0 | 18.3 | 25.1 | 24.1 | | | | | | | |
| | | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | - | 1 | 1 | - | - | 1 | 1 | - | - | - | 1 | - | 1 | - | 1 | - | 1 | - | 1 | | | | | | | |
| | 1.0 | 1.3 | | | | 4.1 | 1.3 | | | 5.4 | 3.2 | | | | 1.4 | | 1.5 | | 1.8 | | 2.5 | | 2.1 | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q21 Page 28

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NEXT I'D LIKE TO FIND OUT ABOUT CLOTHES WASHING AT YOUR HOME. DO YOU HAVE A CLOTHES WASHER IN YOUR HOME?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|-----------------|-------|---------------|-------|----------|-------|------------|-------|-------|-------|---------|-------|-------------------|-------|-------|--------------|-------|----------------------|--------|--------------------|--------------------|--------------------|-------|------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | HOUSING | | | | | PRIOR CONSRV | | INCOME | | REDUCE | PROTECT | SAVE | | |
| | BLV/ KIRK/ | | SAMM/ COVG | | OWN HOME | | 1994 OR | | SF/ | | 5+ | | POTENTIAL TO SAVE | | | PROGRAMS | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | |
| | WGHTD | REDM/ | | TUKW/ | | | | | | | | | | | | YES | NO | <\$50K | \$50K+ | VERY | VERY | VERY | VERY | VERY |
| | TOTAL | ISSQ | -TON | SKYKY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 560 | 368 | 98 | 90 | 482 | 70 | 392 | 153 | 468 | 91 | 205 | 242 | 80 | 125 | 407 | 95 | 404 | 239 | 319 | 336 | 222 | 301 | 255 | |
| | 93.2 | 92.2 | 98.0 | 85.7 | 98.4 | 68.8 | 95.0 | 94.4 | 98.7 | 73.3 | 89.8 | 97.2 | 95.7 | 97.5 | 92.1 | 79.3 | 96.9 | 94.0 | 92.6 | 92.7 | 94.5 | 92.8 | 93.6 | |
| | | d | BD | | F | | | | J | | | K | k | O | | | P | | | | | | | |
| NO | 41 | 31 | 2 | 15 | 8 | 32 | 20 | 9 | 6 | 33 | 23 | 7 | 4 | 3 | 35 | 25 | 13 | 15 | 25 | 27 | 13 | 23 | 17 | |
| | 6.8 | 7.8 | 2.0 | 14.3 | 1.6 | 31.2 | 5.0 | 5.6 | 1.3 | 26.7 | 10.2 | 2.8 | 4.3 | 2.5 | 7.9 | 20.7 | 3.1 | 6.0 | 7.4 | 7.3 | 5.5 | 7.2 | 6.4 | |
| | | C | | bc | | E | | | | I | Lm | | | | N | Q | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q22 Page 29

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

IS YOUR CLOTHES WASHER ONE THAT IS SPECIALLY DESIGNED TO SAVE WATER AND ENERGY? THESE MODELS USUALLY DO NOT HAVE AN AGITATOR AND LOAD FROM THE FRONT.
(HAVE CLOTHES WASHER)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|---|-------------------------------|----------|-------|-------|------------|-----------|-------------------|-------|-------|----------|-------|-------|---------|-------|--------------------|--------------------|--------------------|----------------------|-------|--------------|-------|---------------------|-------|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | | | | | | ===== | | ===== | | ===== | | | ===== | | | | | | | |
| | BLV/ KIRK/ SMM/ COVG | OWN HOME | | | 1994 OR | SF/ 5+ | POTENTIAL TO SAVE | | | PROGRAMS | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | | | |
| | WGHTD TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 560 | 368 | 98 | 90 | 482 | 70 | 392 | 153 | 468 | 91 | 205 | 242 | 80 | 125 | 407 | 95 | 404 | 239 | 319 | 336 | 222 | 301 | 255 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| YES, HAVE WATER/ENERGY SAVER WASHER | 222 | 143 | 42 | 31 | 199 | 19 | 136 | 82 | 193 | 29 | 72 | 101 | 32 | 54 | 157 | 32 | 163 | 97 | 124 | 142 | 78 | 130 | 91 | | |
| | 39.6 | 38.9 | 42.9 | 34.4 | 41.3 | 27.5 | 34.6 | 53.3 | 41.2 | 31.4 | 35.1 | 41.7 | 39.4 | 42.8 | 38.5 | 34.0 | 40.4 | 40.6 | 38.7 | 42.3 | 35.2 | 43.1 | 35.6 | | |
| | | | | | F | | | G | j | | | | | | | | | | | | w | | | | |
| NO, DO NOT HAVE WATER/ ENERGY SAVER WASHER | 311 | 207 | 51 | 58 | 268 | 41 | 241 | 63 | 262 | 49 | 123 | 127 | 48 | 67 | 229 | 57 | 224 | 132 | 179 | 179 | 132 | 160 | 149 | | |
| | 55.6 | 56.2 | 52.0 | 64.4 | 55.6 | 58.2 | 61.6 | 41.1 | 56.0 | 53.7 | 60.0 | 52.5 | 60.2 | 53.2 | 56.4 | 59.7 | 55.5 | 55.4 | 55.9 | 53.2 | 59.5 | 53.0 | 58.5 | | |
| | | | | c | | | H | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 27 | 18 | 5 | 1 | 15 | 10 | 15 | 8 | 13 | 14 | 10 | 14 | 0 | 5 | 21 | 6 | 16 | 10 | 17 | 15 | 12 | 12 | 15 | | |
| | 4.8 | 4.9 | 5.1 | 1.1 | 3.2 | 14.3 | 3.8 | 5.5 | 2.8 | 14.9 | 4.9 | 5.9 | 0.4 | 3.9 | 5.1 | 6.3 | 4.0 | 4.0 | 5.4 | 4.5 | 5.3 | 3.9 | 5.9 | | |
| | | D | | | E | | | | I | | M | M | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q23 Page 30

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DID YOU RECEIVE A REBATE FROM YOUR WATER OR ENERGY UTILITY WHEN YOU BOUGHT THIS CLOTHES WASHER?
(HAVE RESOURCE EFFICIENT WASHER)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | |
|---|-----------------|-------|-------|-------|----------|-------|-------|-------|---------|-------|--------|-------|-------------------|-------|----------|--------|----------------------|-------|-------|-------|-----------|-------|--------------|------|---------------------|--|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | ===== | | | | | | | | | | | |
| | ===== | | | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ | | | | OWN HOME | | | | 1994 OR | | SF/ 5+ | | POTENTIAL TO SAVE | | PROGRAMS | | INCOME | | | | SMW/ NOT/ | | SMW/ NOT/ | | SMW/ NOT/ | | | |
| | WGHTD | REDM/ | SAMM/ | TUKW/ | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | |
| TOTAL ANSWERING | 222 | 143 | 42 | 31 | 199 | 19 | 136 | 82 | 193 | 29 | 72 | 101 | 32 | 54 | 157 | 32 | 163 | 97 | 124 | 142 | 78 | 130 | 91 | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| YES | 92 | 67 | 12 | 10 | 88 | 1 | 60 | 32 | 86 | 6 | 23 | 48 | 16 | 20 | 66 | 12 | 70 | 47 | 45 | 61 | 31 | 54 | 38 | | | | | |
| | 41.5 | 46.9 | 28.6 | 32.3 | 44.3 | 7.1 | 44.0 | 39.7 | 44.7 | 19.9 | 32.5 | 47.8 | 50.8 | 38.2 | 41.8 | 36.3 | 42.8 | 48.0 | 36.8 | 43.2 | 39.1 | 41.6 | 41.8 | | | | | |
| | | C | | | F | | | | J | | | k | k | | | | | | | | | | | | | | | |
| NO | 99 | 54 | 25 | 20 | 88 | 11 | 63 | 33 | 86 | 13 | 38 | 43 | 12 | 31 | 67 | 15 | 75 | 39 | 59 | 58 | 39 | 54 | 43 | | | | | |
| | 44.5 | 37.8 | 59.5 | 64.5 | 44.0 | 57.9 | 46.8 | 40.6 | 44.3 | 46.0 | 53.1 | 43.0 | 38.0 | 57.7 | 42.6 | 46.1 | 46.2 | 40.3 | 47.4 | 40.8 | 50.4 | 41.7 | 48.0 | | | | | |
| | | B | | B | | | | | | | | | | O | | | | | | | | | | | | | | |
| DIDN'T BUY THE MACHINE/ IT WAS BOUGHT BY SOMEONE ELSE | 12 | 11 | - | 1 | 4 | 7 | 4 | 5 | 6 | 6 | 5 | 3 | 1 | - | 11 | 4 | 8 | 5 | 8 | 9 | 3 | 9 | 3 | | | | | |
| | 5.5 | 7.7 | | 3.2 | 2.2 | 35.1 | 3.2 | 6.6 | 3.0 | 22.7 | 7.5 | 3.2 | 4.3 | | 7.1 | 11.0 | 4.6 | 4.8 | 6.1 | 6.3 | 4.2 | 6.9 | 3.6 | | | | | |
| | | | | | | E | | | | I | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 19 | 11 | 5 | - | 19 | - | 8 | 11 | 16 | 3 | 5 | 6 | 2 | 2 | 13 | 2 | 10 | 7 | 12 | 14 | 5 | 13 | 6 | | | | | |
| | 8.5 | 7.7 | 11.9 | | 9.5 | | 6.0 | 13.0 | 8.1 | 11.4 | 6.8 | 6.0 | 6.9 | 4.0 | 8.5 | 6.7 | 6.3 | 7.0 | 9.7 | 9.8 | 6.3 | 9.8 | 6.6 | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q24 Page 31

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHEN YOU LOAD YOUR CLOTHES WASHER TO DO A FULL LOAD, WHICH OF THE FOLLOWING BEST DESCRIBES HOW YOU USUALLY PACK THE CLOTHES?
(HAVE RESOURCE EFFICIENT WASHER)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|--|--|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q25 Page 32

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW LIKE LIKELY WOULD YOU BE TO REPLACE YOUR CURRENT WASHER WITH A NEW WATER AND ENERGY SAVING WASHER IF YOU RECEIVED A \$100 REBATE ON THE PURCHASE?
(DO NOT HAVE RESOURCE EFFICIENT WASHER)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-------------------|---------------------------------|--------------------------------|------------------------|-------------------------|---------------------|-----------------------|-------------|-------------------|-------|-------|--------------------------|-------|--------|-------|--------------|-------|----------------------|--------------------|--------------------|--------------------|--------------|-------|---------------------|-----|-------------|--|
| | UNWEIGHTED AREA | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ===== | | | | | | ===== | | | | ===== | | | | ===== | | ===== | | | | ===== | | ===== | | ===== | |
| | BLV/ KIRK/ WGHTD TOTAL | SAMM/ COVG REDM/ ISSQ | TUKW/ SKYWY -TON | OWN HOME OWN RENT | 1994 OR LATER | SF/ 2/3/4 UNITS | 5+ UNITS | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| | TOTAL ANSWERING | 338 | 225 | 56 | 59 | 283 | 51 | 256 | 71 | 275 | 62 | 133 | 141 | 49 | 71 | 250 | 63 | 241 | 142 | 196 | 194 | 144 | 171 | 164 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| LIKELY (NET) | 128 | 85 | 22 | 18 | 116 | 10 | 105 | 21 | 108 | 19 | 41 | 61 | 22 | 26 | 96 | 21 | 96 | 59 | 68 | 83 | 44 | 72 | 55 | | | |
| ===== | 37.8 | 37.8 | 39.3 | 30.5 | 41.1 | 19.3 | 41.1 | 29.7 | 39.3 | 30.9 | 30.5 | 43.3 | 45.4 | 36.7 | 38.6 | 34.0 | 39.7 | 41.7 | 34.9 | 43.0 | 30.7 | 41.9 | 33.3 | | | |
| | | | | | F | | h | | | | | K | k | | | | | | | U | | | | | | |
| VERY LIKELY | 39 | 30 | 4 | 3 | 32 | 6 | 31 | 7 | 29 | 10 | 10 | 18 | 10 | 7 | 31 | 8 | 26 | 21 | 18 | 30 | 9 | 26 | 13 | | | |
| | 11.5 | 13.3 | 7.1 | 5.1 | 11.2 | 11.2 | 12.1 | 9.5 | 10.5 | 16.1 | 7.5 | 12.9 | 19.7 | 10.3 | 12.6 | 13.5 | 10.7 | 14.6 | 9.3 | 15.6 | 6.0 | 14.9 | 8.1 | | | |
| | | D | | | | | | | | | | | k | | | | | | | U | | w | | | | |
| SOMEWHAT LIKELY | 89 | 55 | 18 | 15 | 85 | 4 | 74 | 14 | 79 | 9 | 31 | 43 | 12 | 19 | 65 | 13 | 70 | 39 | 50 | 53 | 35 | 46 | 41 | | | |
| | 26.3 | 24.4 | 32.1 | 25.4 | 29.9 | 8.1 | 29.0 | 20.2 | 28.8 | 14.8 | 22.9 | 30.4 | 25.7 | 26.4 | 26.0 | 20.5 | 29.0 | 27.2 | 25.6 | 27.4 | 24.7 | 27.0 | 25.2 | | | |
| | | | | | F | | | | J | | | | | | | | | | | | | | | | | |
| NOT LIKELY (NET) | 199 | 132 | 33 | 37 | 163 | 34 | 141 | 49 | 161 | 39 | 88 | 78 | 24 | 44 | 144 | 38 | 139 | 79 | 120 | 105 | 94 | 96 | 102 | | | |
| ===== | 58.9 | 58.7 | 58.9 | 62.7 | 57.5 | 66.8 | 55.1 | 68.8 | 58.3 | 61.7 | 66.3 | 55.5 | 49.5 | 61.8 | 57.5 | 60.3 | 57.6 | 55.9 | 61.2 | 54.3 | 65.3 | 55.8 | 62.2 | | | |
| | | | | | | | | G | | | lm | | | | | | | | | t | | | | | | |
| NOT TOO LIKELY | 94 | 61 | 17 | 15 | 88 | 6 | 77 | 17 | 83 | 11 | 36 | 45 | 12 | 20 | 68 | 13 | 73 | 37 | 57 | 50 | 44 | 43 | 49 | | | |
| | 27.8 | 27.1 | 30.4 | 25.4 | 31.1 | 11.8 | 30.1 | 23.3 | 30.1 | 17.3 | 27.4 | 32.1 | 24.3 | 27.9 | 27.3 | 20.5 | 30.5 | 26.1 | 29.0 | 25.7 | 30.6 | 25.1 | 30.1 | | | |
| | | | | | F | | | | J | | | | | | | | | | | | | | | | | |
| NOT AT ALL LIKELY | 105 | 71 | 16 | 22 | 75 | 28 | 64 | 32 | 78 | 28 | 52 | 33 | 12 | 24 | 76 | 25 | 65 | 42 | 63 | 55 | 50 | 53 | 53 | | | |
| | 31.2 | 31.6 | 28.6 | 37.3 | 26.4 | 55.0 | 24.9 | 45.5 | 28.2 | 44.4 | 38.9 | 23.4 | 25.3 | 33.9 | 30.3 | 39.8 | 27.2 | 29.8 | 32.2 | 28.6 | 34.7 | 30.7 | 32.1 | | | |
| | | | | | E | | | G | | I | Lm | | | | | q | | | | | | | | | | |
| DON'T KNOW | 9 | 6 | 1 | 4 | 3 | 6 | 8 | 1 | 4 | 5 | 4 | 2 | 1 | 1 | 8 | 2 | 5 | 2 | 6 | 4 | 5 | 3 | 6 | | | |
| | 2.7 | 2.7 | 1.8 | 6.8 | 1.0 | 11.8 | 3.0 | 1.5 | 1.6 | 7.4 | 3.2 | 1.2 | 2.8 | 1.5 | 3.1 | 3.9 | 2.2 | 1.6 | 3.3 | 2.1 | 3.2 | 1.6 | 3.8 | | | |
| | | | | | E | | | | | | | | | | | | | | | | | | | | | |
| REFUSED | 2 | 2 | - | - | 1 | 1 | 2 | - | 2 | - | - | - | 1 | - | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | 0.6 | 0.9 | | | 0.4 | 2.1 | 0.8 | | 0.8 | | | | 2.2 | | 0.9 | 1.7 | 0.5 | 0.8 | 0.6 | 0.6 | 0.8 | 0.6 | 0.7 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q26 Page 33

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHEN YOU LOAD YOUR CLOTHES WASHER TO DO A FULL LOAD, WHICH OF THE FOLLOWING BEST DESCRIBES HOW YOU USUALLY PACK THE CLOTHES?
(DO NOT HAVE RESOURCE EFFICIENT WASHER)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|-----------------|-------|-------|-------|----------|-------|-------|-------|---------|-------|-------------------|-------|--------------|-------|--------|--------|----------------------|-------|-------------|-------|--------|-------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | | | PRIOR CONSRV | | | | REDUCE | | PROTECT | | SAVE | | |
| | | | | | | | ===== | | ===== | | POTENTIAL TO SAVE | | ===== | | INCOME | | BILLS | | ENVIRONMENT | | SALMON | | |
| | WGHTD | KIRK/ | SAMM/ | TUKW/ | OWN HOME | | 1994 | | 5+ | | | | | YES | NO | | | SMW/ | | SMW/ | | SMW/ | |
| TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | | | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 338 | 225 | 56 | 59 | 283 | 51 | 256 | 71 | 275 | 62 | 133 | 141 | 49 | 71 | 250 | 63 | 241 | 142 | 196 | 194 | 144 | 171 | 164 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| I PACK THE CLOTHES LOOSELY AND FILL IT UP TO THE TOP OF THE TUB | 107 | 72 | 17 | 19 | 90 | 16 | 86 | 18 | 86 | 21 | 35 | 58 | 11 | 27 | 74 | 16 | 78 | 36 | 71 | 54 | 53 | 50 | 57 |
| | 31.6 | 32.0 | 30.4 | 32.2 | 31.8 | 31.0 | 33.6 | 24.8 | 31.3 | 33.0 | 26.5 | 40.8 | 23.6 | 37.7 | 29.6 | 26.3 | 32.5 | 25.2 | 36.3 | 28.0 | 36.6 | 29.1 | 34.8 |
| | | | | | | | | | | | | KM | | | | | | | R | | | | |
| I PACK THE CLOTHES LOOSELY BUT LEAVE SOME ROOM AT THE TOP OF THE TUB | 111 | 73 | 19 | 21 | 97 | 14 | 88 | 20 | 92 | 19 | 48 | 43 | 16 | 21 | 86 | 20 | 78 | 55 | 57 | 75 | 36 | 58 | 52 |
| | 32.9 | 32.4 | 33.9 | 35.6 | 34.3 | 27.8 | 34.5 | 27.5 | 33.4 | 30.9 | 36.3 | 30.7 | 32.6 | 28.7 | 34.4 | 31.8 | 32.6 | 38.5 | 29.0 | 38.7 | 25.2 | 34.0 | 31.5 |
| | | | | | | | | | | | | | | | | | | s | U | | | | |
| I PACK THE CLOTHES TIGHTLY AND FILL IT TO THE TOP OF THE TUB | 45 | 33 | 6 | 4 | 29 | 15 | 29 | 14 | 33 | 12 | 19 | 14 | 12 | 8 | 36 | 11 | 32 | 20 | 25 | 31 | 15 | 29 | 15 |
| | 13.4 | 14.7 | 10.7 | 6.8 | 10.2 | 28.8 | 11.4 | 19.4 | 12.0 | 19.5 | 14.2 | 10.1 | 24.1 | 11.8 | 14.2 | 17.4 | 13.3 | 14.2 | 12.8 | 15.7 | 10.2 | 17.2 | 8.9 |
| | | | | | | E | | | | | | | L | | | | | | | | | W | |
| OR I PACK THE CLOTHES TIGHTLY BUT LEAVE SOME ROOM AT THE TOP OF THE TUB | 45 | 27 | 10 | 7 | 41 | 4 | 28 | 16 | 37 | 8 | 17 | 21 | 6 | 5 | 38 | 6 | 37 | 18 | 27 | 19 | 26 | 18 | 27 |
| | 13.3 | 12.0 | 17.9 | 11.9 | 14.6 | 7.5 | 11.0 | 21.8 | 13.5 | 12.6 | 12.7 | 14.9 | 11.8 | 6.9 | 15.2 | 9.6 | 15.2 | 12.7 | 13.8 | 9.8 | 18.1 | 10.3 | 16.7 |
| | | | | | | | | g | | | | | | | N | | | | | T | | | |
| DON'T KNOW/VARIES WITH LOAD | 28 | 19 | 4 | 7 | 24 | 2 | 23 | 5 | 26 | 2 | 13 | 5 | 4 | 11 | 15 | 9 | 14 | 12 | 16 | 14 | 14 | 15 | 13 |
| | 8.3 | 8.4 | 7.1 | 11.9 | 8.6 | 4.8 | 9.1 | 6.5 | 9.3 | 3.9 | 9.4 | 3.5 | 7.9 | 14.9 | 6.1 | 14.9 | 5.9 | 8.6 | 8.1 | 7.2 | 9.9 | 8.8 | 8.0 |
| | | | | | | | | | j | | 1 | | | o | | q | | | | | | | |
| REFUSED | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | 1 | - | 1 | - | 1 | 0 |
| | 0.4 | 0.4 | | 1.7 | 0.5 | | 0.5 | | 0.5 | | 0.8 | | | | 0.4 | | 0.5 | 0.8 | | 0.6 | | 0.6 | 0.2 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q27 Page 34

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

I'D LIKE TO SWITCH NOW TO OUTDOOR WATER USE. IN YOUR OUTDOOR AREAS, DO YOU HAVE...
(IF SINGLE FAMILY TO FOURPLEX)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | |
|--|-------------------------------|-------|---------------|----------------|-------|----------|-------|---------------------|--------------|-------------|-------------------|-------|-------|--------|--------|---------|--------------------|----------------------|--------------------|-------|-----------------------------|-------|-------|--|--|--------|--|-------|--|-------|-----------------|--|------------------------|--|----------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ -TON | | | | | OWN HOME | | | | | BUILT | | | | | HOUSING | | | | | PRIOR CONSRV PROGRAMS | | | | | INCOME | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | ===== | | ===== | | | | | | |
| | WGHTD TOTAL | ISSQ | REDM/ COVG | TUKW/ SKYWY | OWN | RENT | <1994 | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | | | | | | | |
| TOTAL ANSWERING | 475 | 297 | 94 | 82 | 441 | 27 | 360 | 109 | 475 | - | 165 | 210 | 71 | 104 | 348 | 69 | 348 | 205 | 268 | 284 | 189 | 260 | 211 | | | | | | | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | | | | | | | |
| ONLY LAWN | 44 | 24 | 9 | 21 | 35 | 9 | 24 | 17 | 44 | - | 23 | 16 | 2 | 5 | 38 | 11 | 28 | 19 | 25 | 25 | 19 | 23 | 22 | | | | | | | | | | | | | |
| | 9.4 | 8.1 | 9.6 | 25.6 | 8.0 | 32.2 | 6.8 | 15.6 | 9.4 | | 14.1 | 7.8 | 3.2 | 5.0 | 10.9 | 16.5 | 8.1 | 9.2 | 9.5 | 9.0 | 10.0 | 8.7 | 10.3 | | | | | | | | | | | | | |
| | | | | BC | | E | | G | | | 1M | | | | N | q | | | | | | | | | | | | | | | | | | | | |
| ONLY GARDEN AREAS THAT INCLUDE SHRUBS, TREES, FLOWERS AND VEGETABLE GARDENS | 43 | 32 | 5 | 5 | 42 | - | 31 | 12 | 43 | - | 12 | 14 | 10 | 7 | 35 | 10 | 31 | 24 | 19 | 31 | 12 | 28 | 14 | | | | | | | | | | | | | |
| | 9.1 | 10.8 | 5.3 | 6.1 | 9.4 | | 8.7 | 10.7 | 9.1 | | 7.1 | 6.5 | 13.8 | 6.8 | 9.9 | 14.3 | 8.8 | 11.8 | 7.0 | 11.0 | 6.2 | 10.7 | 6.7 | | | | | | | | | | | | | |
| | | | | c | | | | | | | | | | | | | | s | | u | | | | | | | | | | | | | | | | |
| BOTH LAWN AND GARDEN AREAS | 375 | 231 | 80 | 52 | 356 | 15 | 297 | 78 | 375 | - | 127 | 177 | 56 | 88 | 268 | 43 | 284 | 158 | 216 | 219 | 155 | 203 | 170 | | | | | | | | | | | | | |
| | 79.1 | 77.8 | 85.1 | 63.4 | 80.6 | 54.9 | 82.5 | 71.4 | 79.1 | | 76.6 | 84.2 | 79.1 | 84.1 | 77.1 | 63.1 | 81.6 | 77.1 | 80.6 | 77.1 | 82.0 | 78.2 | 80.3 | | | | | | | | | | | | | |
| | | | | bD | F | | H | | | | | | k | | | | p | | | | | | | | | | | | | | | | | | | |
| OR NEITHER LAWN NOR GARDEN AREA | 11 | 9 | - | 3 | 7 | 4 | 6 | 2 | 11 | - | 2 | 3 | 3 | 4 | 6 | 4 | 4 | 4 | 7 | 8 | 2 | 6 | 4 | | | | | | | | | | | | | |
| | 2.2 | 3.0 | | 3.7 | 1.6 | 12.9 | 1.7 | 2.2 | 2.2 | | 1.5 | 1.5 | 3.9 | 4.2 | 1.8 | 6.0 | 1.2 | 1.9 | 2.5 | 2.9 | 1.3 | 2.4 | 2.1 | | | | | | | | | | | | | |
| | | | | | e | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | 1 | - | 1 | - | 1 | | | | | | | | | | | | | |
| | 0.2 | 0.3 | | | 0.2 | | 0.3 | | 0.2 | | 0.7 | | | | 0.3 | | 0.3 | | 0.4 | | 0.6 | | 0.5 | | | | | | | | | | | | | |
| REFUSED | 0 | - | - | 1 | 0 | - | 0 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | | | | | | | | | | | |
| | 0.1 | | | 1.2 | 0.1 | | 0.1 | | 0.1 | | | | | | | | | | | | | | 0.1 | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q28 Page 35

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW LIKELY ARE YOU TO MAKE MAJOR CHANGES IN YOUR LANDSCAPING WITHIN THE NEXT TWO YEARS? ARE YOU VERY LIKELY, SOMEWHAT LIKELY, NOT TOO LIKELY, OR NOT AT ALL LIKELY? (IF OWNER)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-------------------|--------------------------------|-------|----------------|-------|----------|-------|------------|-------|-----------|-----|-------------------|-------|-------|----------|--------|--------------|-------|----------------------|-------|--------------|-------|---------------------|------|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | BUILT | | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ SMM/ WGHTD | | SMM/ COVG | | OWN HOME | | 1994 OR | | SF/ 5+ | | POTENTIAL TO SAVE | | | PROGRAMS | | | | | | | | | | | |
| | ISSQ | -TON | TUKW/ SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 441 | 276 | 89 | 67 | 441 | - | 341 | 99 | 441 | - | 153 | 202 | 60 | 97 | 322 | 56 | 334 | 190 | 250 | 261 | 179 | 240 | 197 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| LIKELY (NET) | 145 | 79 | 40 | 15 | 145 | - | 109 | 36 | 145 | - | 44 | 73 | 23 | 38 | 99 | 17 | 117 | 72 | 73 | 88 | 57 | 83 | 60 | | |
| ===== | 32.9 | 28.6 | 44.9 | 22.4 | 32.9 | | 32.0 | 36.3 | 32.9 | | 29.0 | 35.9 | 38.4 | 39.4 | 30.8 | 30.1 | 35.1 | 37.8 | 29.4 | 33.6 | 32.2 | 34.8 | 30.7 | | |
| | | | BD | | | | | | | | | | | | | | | s | | | | | | | |
| VERY LIKELY | 87 | 46 | 26 | 6 | 87 | - | 70 | 18 | 87 | - | 27 | 39 | 18 | 25 | 61 | 11 | 69 | 44 | 43 | 59 | 29 | 48 | 39 | | |
| | 19.8 | 16.7 | 29.2 | 9.0 | 19.8 | | 20.4 | 18.0 | 19.8 | | 17.9 | 19.2 | 29.3 | 26.0 | 18.9 | 19.0 | 20.5 | 23.2 | 17.4 | 22.5 | 16.1 | 20.0 | 20.0 | | |
| | | d | BD | | | | | | | | | | | | | | | | | | | | | | |
| SOMEWHAT LIKELY | 58 | 33 | 14 | 9 | 58 | - | 40 | 18 | 58 | - | 17 | 34 | 5 | 13 | 38 | 6 | 49 | 28 | 30 | 29 | 29 | 35 | 21 | | |
| | 13.1 | 12.0 | 15.7 | 13.4 | 13.1 | | 11.6 | 18.2 | 13.1 | | 11.1 | 16.7 | 9.1 | 13.4 | 11.9 | 11.1 | 14.6 | 14.6 | 12.0 | 11.1 | 16.1 | 14.8 | 10.7 | | |
| NOT LIKELY (NET) | 293 | 195 | 49 | 50 | 293 | - | 229 | 63 | 293 | - | 108 | 129 | 36 | 59 | 221 | 37 | 216 | 118 | 174 | 171 | 120 | 155 | 135 | | |
| ===== | 66.5 | 70.7 | 55.1 | 74.6 | 66.5 | | 67.3 | 63.4 | 66.5 | | 70.3 | 63.8 | 59.8 | 60.6 | 68.7 | 65.5 | 64.8 | 62.1 | 69.6 | 65.8 | 67.2 | 64.7 | 68.6 | | |
| | | C | | C | | | | | | | | | | | | | | | | | | | | | |
| NOT TOO LIKELY | 94 | 61 | 18 | 12 | 94 | - | 78 | 16 | 94 | - | 26 | 55 | 10 | 15 | 72 | 6 | 83 | 46 | 48 | 59 | 35 | 54 | 41 | | |
| | 21.4 | 22.1 | 20.2 | 17.9 | 21.4 | | 22.9 | 16.6 | 21.4 | | 17.0 | 27.1 | 17.1 | 15.8 | 22.3 | 10.7 | 24.9 | 24.5 | 19.2 | 22.8 | 19.6 | 22.4 | 20.6 | | |
| | | | | | | | | | | | | Km | | | | | P | | | | | | | | |
| NOT AT ALL LIKELY | 199 | 134 | 31 | 38 | 199 | - | 151 | 46 | 199 | - | 82 | 74 | 26 | 43 | 150 | 31 | 133 | 71 | 126 | 112 | 85 | 102 | 95 | | |
| | 45.1 | 48.6 | 34.8 | 56.7 | 45.1 | | 44.4 | 46.8 | 45.1 | | 53.4 | 36.8 | 42.8 | 44.8 | 46.4 | 54.9 | 39.9 | 37.6 | 50.4 | 43.0 | 47.7 | 42.3 | 48.0 | | |
| | | C | | C | | | | | | | L | | | | | Q | | R | | | | | | | |
| DON'T KNOW | 2 | 1 | - | 2 | 2 | - | 1 | 0 | 2 | - | - | 1 | 1 | - | 2 | 1 | 0 | 0 | 1 | 2 | - | 0 | 1 | | |
| | 0.4 | 0.4 | | 3.0 | 0.4 | | 0.4 | 0.3 | 0.4 | | | 0.3 | 1.8 | | 0.5 | 2.4 | 0.1 | 0.2 | 0.5 | 0.6 | | 0.1 | 0.7 | | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | - | 1 | - | - | 1 | - | 1 | 1 | - | | |
| | 0.2 | 0.4 | | | 0.2 | | 0.3 | | 0.2 | | 0.7 | | | | | 1.9 | | | 0.4 | | 0.6 | 0.5 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q29 Page 36

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NOW I'D LIKE YOU TO THINK ABOUT THE DRY SUMMER MONTHS WHEN IT DOESN'T RAIN. WHICH OF THE FOLLOWING BEST DESCRIBES HOW OFTEN YOU WATER YOUR LAWN?
(IF HAVE LAWN)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|--|--|--|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q30 Page 37

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU USE AN IN-GROUND SPRINKLER SYSTEM THAT HAS AN AUTOMATIC CONTROLLER, USE MOVEABLE SPRINKLERS AND HOSES, OR USE ANOTHER METHOD TO WATER YOUR LAWN?
(IF WATER LAWN)

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | |
|--|---|-------|----------------|----------|-------|---------------------|-------|--------------|-------------|-------------------|---------|-------|-------|-------|-----------------------------|-------|----------------------|--------|--------|-------|-------|-------|-----------------|----|------------------------|--|----------------|--|
| | BLV/ KIRK/ SMM/ WGHTD TOTAL | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV PROGRAMS | | | | INCOME | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ISSQ | COVG | TUKW/ SKYWY | OWN HOME | | 1994 OR LATER | | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | | | YES | | NO | | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | |
| | RENT | OWN | RENT | OWN | RENT | OWN | RENT | OWN | RENT | <5% | 5-10% | 10%+ | YES | NO | <50K | 50K+ | VERY | DK | VERY | DK | VERY | DK | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | |
| TOTAL ANSWERING | 274 | 164 | 63 | 34 | 258 | 13 | 192 | 80 | 274 | - | 84 | 140 | 37 | 49 | 215 | 24 | 214 | 121 | 153 | 159 | 114 | 151 | 123 | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| AN IN-GROUND SPRINKLER SYSTEM WITH AN AUTOMATIC CONTROLLER | 88 | 54 | 21 | 1 | 86 | 1 | 65 | 22 | 88 | - | 28 | 47 | 8 | 16 | 70 | 1 | 78 | 32 | 56 | 50 | 38 | 49 | 38 | | | | | |
| | 32.0 | 32.9 | 33.3 | 2.9 | 33.4 | 10.2 | 33.9 | 27.8 | 32.0 | | 33.3 | 33.5 | 23.0 | 32.8 | 32.3 | 5.7 | 36.5 | 26.7 | 36.4 | 31.2 | 33.4 | 32.6 | 31.3 | | | | | |
| | | D | D | | F | | | | | | | | | | | | P | | | | | | | | | | | |
| AN IN-GROUND SPRINKLER SYSTEM THAT IS MANUALLY OPERATED | 16 | 11 | 3 | - | 15 | 1 | 11 | 5 | 16 | - | 1 | 11 | 4 | 1 | 15 | - | 12 | 10 | 6 | 7 | 9 | 7 | 9 | | | | | |
| | 5.9 | 6.7 | 4.8 | | 5.8 | 8.1 | 5.8 | 6.1 | 5.9 | | 1.3 | 7.6 | 11.8 | 2.2 | 7.0 | | 5.5 | 8.3 | 3.9 | 4.3 | 8.1 | 4.5 | 7.5 | | | | | |
| | | | | | | | | | | | | K | k | | | | | | | | | | | | | | | |
| MOVABLE SPRINKLERS CONNECTED TO A HOSE | 134 | 78 | 31 | 22 | 127 | 7 | 91 | 41 | 134 | - | 42 | 67 | 19 | 24 | 103 | 13 | 101 | 57 | 75 | 71 | 61 | 70 | 63 | | | | | |
| | 48.7 | 47.6 | 49.2 | 64.7 | 49.1 | 48.9 | 47.4 | 51.4 | 48.7 | | 49.2 | 48.3 | 51.9 | 49.9 | 48.1 | 55.3 | 47.1 | 47.3 | 49.4 | 44.7 | 53.6 | 46.5 | 51.4 | | | | | |
| | | | | b | | | | | | | | | | | | | | | | | | | | | | | | |
| OR BY HAND WITH A HOSE (NOT CONNECTED TO A SPRINKLER) | 25 | 15 | 5 | 8 | 21 | 3 | 15 | 10 | 25 | - | 9 | 10 | 3 | 4 | 19 | 8 | 17 | 14 | 11 | 22 | 4 | 16 | 9 | | | | | |
| | 9.3 | 9.1 | 7.9 | 23.5 | 8.1 | 22.5 | 7.7 | 13.0 | 9.3 | | 11.0 | 7.1 | 7.4 | 7.2 | 9.0 | 32.0 | 7.8 | 11.6 | 7.5 | 13.6 | 3.4 | 10.8 | 7.4 | | | | | |
| | | | | bc | | | | | | | | | | | | Q | | | | U | | | | | | | | |
| VOLUNTEERED (NET) | 3 | 3 | - | - | 2 | - | 3 | - | 3 | - | 1 | 2 | - | 1 | 2 | - | 2 | 1 | 2 | 3 | - | 3 | - | | | | | |
| ===== | 1.2 | 1.8 | | | 0.8 | | 1.7 | | 1.2 | | 1.3 | 1.5 | | 2.2 | 1.0 | | 1.0 | 0.9 | 1.4 | 2.0 | | 2.1 | | | | | | |
| SOAKER HOSE/DRIP SYSTEM | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | - | 1 | - | 1 | - | 1 | 1 | - | 1 | - | | | | | |
| | 0.4 | 0.6 | | | 0.4 | | 0.6 | | 0.4 | | | 0.8 | | | 0.5 | | 0.5 | | 0.7 | 0.7 | | 0.7 | | | | | | |
| RAIN BARREL | 2 | 2 | - | - | 1 | - | 2 | - | 2 | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | 1 | 2 | - | 2 | - | | | | | |
| | 0.8 | 1.2 | | | 0.4 | | 1.1 | | 0.8 | | 1.3 | 0.8 | | 2.2 | 0.5 | | 0.5 | 0.9 | 0.7 | 1.4 | | 1.4 | | | | | | |
| OTHER | 3 | 1 | 1 | 3 | 3 | - | 3 | - | 3 | - | 2 | 1 | - | 1 | 2 | 0 | 3 | 3 | 1 | 3 | 0 | 3 | 1 | | | | | |
| | 1.2 | 0.6 | 1.6 | 8.8 | 1.3 | | 1.7 | | 1.2 | | 2.3 | 1.0 | | 2.8 | 0.9 | 1.2 | 1.4 | 2.3 | 0.4 | 1.9 | 0.3 | 1.8 | 0.5 | | | | | |
| | | | | b | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE | 2 | 2 | - | - | 2 | - | 2 | - | 2 | - | - | - | 2 | - | 2 | - | - | 2 | - | 2 | - | 1 | 1 | | | | | |
| | 0.8 | 1.2 | | | 0.8 | | 1.1 | | 0.8 | | | | 5.9 | | 1.0 | | | 1.8 | | 1.4 | | 0.7 | 0.9 | | | | | |
| DON'T KNOW | 3 | - | 2 | - | 1 | 1 | 1 | 1 | 3 | - | 1 | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | |
| | 1.0 | | 3.2 | | 0.5 | 10.3 | 0.7 | 1.7 | 1.0 | | 1.6 | 1.0 | | 2.8 | 0.6 | 5.8 | 0.6 | 1.1 | 0.9 | 0.9 | 1.2 | 0.9 | 1.1 | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q31A Page 38

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW LIKELY ARE YOU TO LET YOUR LAWN GO DORMANT AND TURN BROWN DURING THE DRY SUMMER MONTHS TO SAVE WATER AND REDUCE YOUR WATER BILLS, OR FOR OTHER REASONS? WOULD YOU BE VERY LIKELY, SOMEWHAT LIKELY, NOT TOO LIKELY, OR NOT AT ALL LIKELY?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|------------------------|-----------------|--------------------------------|------------------------|----------|-------|-------------|--------------|-------------|-------|-----|-------------------|-------|-------|--------------------------|--------|--------|----------------------|-------|--------------------|---------------------|-------|--------------------|--------------------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | REDUCE BILLS | | | PROTECT ENVIRONMENT | | | SAVE SALMON | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| BLV/ KIRK/ WGHTD | | SAMM/ COVG REDM/ ISSQ | TUKW/ SKYWY -TON | OWN HOME | | BUILT | | HOUSING | | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | VERY | SMW/ NOT/ DK | PROTECT ENVIRONMENT | | SMW/ NOT/ DK | SMW/ NOT/ DK |
| TOTAL | ISSQ | TON | OWN | RENT | <1994 | OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | | VERY | DK | VERY | DK | VERY |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 274 | 164 | 63 | 34 | 258 | 13 | 192 | 80 | 274 | - | 84 | 140 | 37 | 49 | 215 | 24 | 214 | 121 | 153 | 159 | 114 | 151 | 123 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| LIKELY (NET) | 149 | 87 | 35 | 24 | 143 | 5 | 106 | 43 | 149 | - | 42 | 80 | 21 | 30 | 115 | 12 | 121 | 74 | 76 | 102 | 47 | 89 | 60 |
| ===== | 54.5 | 53.0 | 55.6 | 70.6 | 55.5 | 37.0 | 55.3 | 53.3 | 54.5 | | 49.6 | 57.4 | 57.2 | 62.1 | 53.3 | 51.9 | 56.5 | 61.1 | 49.6 | 64.1 | 41.6 | 59.0 | 48.9 |
| | | | | B | | | | | | | | | | | | | | s | | U | | | |
| VERY LIKELY | 65 | 40 | 14 | 7 | 62 | 1 | 49 | 16 | 65 | - | 18 | 33 | 11 | 14 | 48 | 6 | 46 | 40 | 25 | 53 | 12 | 42 | 23 |
| | 23.6 | 24.4 | 22.2 | 20.6 | 24.2 | 8.1 | 25.5 | 19.3 | 23.6 | | 21.4 | 23.7 | 28.9 | 28.0 | 22.2 | 26.3 | 21.7 | 33.3 | 16.1 | 33.1 | 10.5 | 27.8 | 18.4 |
| | | | | F | | | | | | | | | | | | | | S | | U | | w | |
| SOMEWHAT LIKELY | 85 | 47 | 21 | 17 | 81 | 4 | 57 | 27 | 85 | - | 24 | 47 | 10 | 17 | 67 | 6 | 74 | 34 | 51 | 49 | 35 | 47 | 37 |
| | 30.9 | 28.7 | 33.3 | 50.0 | 31.3 | 28.9 | 29.7 | 34.0 | 30.9 | | 28.1 | 33.7 | 28.3 | 34.2 | 31.1 | 25.6 | 34.8 | 27.8 | 33.6 | 31.0 | 31.1 | 31.2 | 30.5 |
| | | | | B | | | | | | | | | | | | | | | | | | | |
| NOT LIKELY (NET) | 121 | 74 | 28 | 9 | 113 | 7 | 82 | 38 | 121 | - | 43 | 58 | 15 | 17 | 98 | 11 | 91 | 47 | 74 | 57 | 63 | 62 | 60 |
| ===== | 44.2 | 45.1 | 44.4 | 26.5 | 43.7 | 54.9 | 42.9 | 46.7 | 44.2 | | 50.4 | 41.8 | 39.9 | 35.6 | 45.5 | 46.9 | 42.5 | 38.7 | 48.3 | 35.7 | 55.5 | 40.8 | 48.5 |
| | | D | d | | | | | | | | | | | | | | | | | T | | | |
| NOT TOO LIKELY | 68 | 43 | 14 | 6 | 65 | 2 | 48 | 19 | 68 | - | 21 | 35 | 11 | 7 | 57 | 5 | 55 | 27 | 40 | 29 | 38 | 36 | 31 |
| | 24.6 | 26.2 | 22.2 | 17.6 | 25.2 | 18.3 | 25.2 | 23.5 | 24.6 | | 25.2 | 25.2 | 30.3 | 14.5 | 26.5 | 20.6 | 25.8 | 22.6 | 26.5 | 18.5 | 33.5 | 24.0 | 25.4 |
| | | | | | | | | | | | | | | | n | | | | | T | | | |
| NOT AT ALL LIKELY | 54 | 31 | 14 | 3 | 48 | 5 | 34 | 19 | 54 | - | 21 | 23 | 4 | 10 | 41 | 6 | 36 | 19 | 33 | 27 | 25 | 25 | 28 |
| | 19.6 | 18.9 | 22.2 | 8.8 | 18.5 | 36.6 | 17.7 | 23.2 | 19.6 | | 25.2 | 16.6 | 9.6 | 21.2 | 19.0 | 26.3 | 16.7 | 16.1 | 21.8 | 17.2 | 22.0 | 16.8 | 23.1 |
| | | d | d | | | | | | | | M | | | | | | | | | | | | |
| DON'T KNOW | 2 | 2 | - | 1 | 2 | - | 2 | - | 2 | - | - | 1 | - | 1 | 1 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 |
| | 0.9 | 1.2 | | 2.9 | 0.8 | | 1.3 | | 0.9 | | | 0.8 | | 2.2 | 0.6 | 1.2 | 1.0 | 0.2 | 1.4 | 0.2 | 1.9 | 0.2 | 1.8 |
| REFUSED | 1 | 1 | - | - | - | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | 1 |
| | 0.4 | 0.6 | | | | 8.1 | 0.6 | | 0.4 | | | | 2.9 | | 0.5 | | | | 0.7 | | 0.9 | | 0.9 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q31B Page 39

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WITHIN THE NEXT TWO YEARS, HOW LIKELY ARE YOU TO REDUCE THE AMOUNT OF LAWN YOU HAVE TO SAVE WATER AND REDUCE YOUR WATER BILLS, OR FOR OTHER REASONS?
(IF OWNER AND WATER LAWN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-------------------|--|-------|----------------|-------|----------|-------|------------|-------|----------------------|-------|-------------------|-------|-------|----------|-------|--------------|--------|----------------------|-------|-------|-------|--------------|------|---------------------|--|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ SMM/ REDM/ COVG | | TUKW/ SKYWY | | OWN HOME | | 1994 OR | | HOUSING SF/ 5+ | | POTENTIAL TO SAVE | | | PROGRAMS | | INCOME | | | | | | | | | | | |
| | WGHTD TOTAL | ISSQ | -TON | | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| TOTAL ANSWERING | 261 | 155 | 62 | 26 | 258 | - | 185 | 76 | 261 | - | 82 | 134 | 32 | 46 | 205 | 20 | 207 | 116 | 144 | 151 | 108 | 144 | 117 | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| LIKELY (NET) | 67 | 39 | 16 | 8 | 67 | - | 40 | 27 | 67 | - | 18 | 32 | 11 | 12 | 52 | 5 | 54 | 38 | 28 | 45 | 22 | 41 | 25 | | | | |
| ===== | 25.5 | 25.2 | 25.8 | 30.8 | 25.8 | | 21.7 | 35.0 | 25.5 | | 22.3 | 24.3 | 34.6 | 26.8 | 25.5 | 24.2 | 25.9 | 33.2 | 19.6 | 29.8 | 19.9 | 28.6 | 21.8 | | | | |
| | | | | | | | | g | | | | | | | | | | s | | u | | | | | | | |
| VERY LIKELY | 27 | 14 | 8 | 2 | 27 | - | 15 | 12 | 27 | - | 8 | 12 | 6 | 6 | 21 | 1 | 23 | 17 | 10 | 20 | 7 | 17 | 10 | | | | |
| | 10.3 | 9.0 | 12.9 | 7.7 | 10.4 | | 8.3 | 15.2 | 10.3 | | 9.3 | 9.0 | 19.0 | 13.1 | 10.1 | 6.8 | 11.1 | 14.9 | 6.6 | 13.0 | 6.6 | 11.9 | 8.2 | | | | |
| | | | | | | | | | | | | | | | | | | s | | u | | | | | | | |
| SOMEWHAT LIKELY | 40 | 25 | 8 | 6 | 40 | - | 25 | 15 | 40 | - | 11 | 20 | 5 | 6 | 31 | 4 | 31 | 21 | 19 | 25 | 14 | 24 | 16 | | | | |
| | 15.3 | 16.1 | 12.9 | 23.1 | 15.4 | | 13.4 | 19.8 | 15.3 | | 12.9 | 15.3 | 15.5 | 13.7 | 15.3 | 17.4 | 14.8 | 18.3 | 12.9 | 16.8 | 13.4 | 16.6 | 13.6 | | | | |
| NOT LIKELY (NET) | 190 | 113 | 46 | 16 | 188 | - | 141 | 49 | 190 | - | 63 | 99 | 20 | 32 | 150 | 14 | 151 | 76 | 113 | 105 | 84 | 101 | 90 | | | | |
| ===== | 73.0 | 72.9 | 74.2 | 61.5 | 72.9 | | 76.3 | 65.0 | 73.0 | | 76.4 | 74.1 | 64.5 | 70.8 | 73.2 | 67.6 | 73.1 | 65.6 | 78.7 | 69.2 | 78.1 | 69.7 | 77.1 | | | | |
| | | | | | | | | | | | | | | | | | | R | | | | | | | | | |
| NOT TOO LIKELY | 76 | 45 | 18 | 7 | 74 | - | 49 | 27 | 76 | - | 23 | 42 | 9 | 8 | 64 | 3 | 68 | 33 | 43 | 39 | 37 | 37 | 39 | | | | |
| | 29.0 | 29.0 | 29.0 | 26.9 | 28.8 | | 26.4 | 35.2 | 29.0 | | 27.9 | 31.0 | 28.4 | 18.4 | 31.1 | 13.5 | 32.8 | 28.4 | 29.6 | 25.5 | 34.1 | 25.7 | 33.1 | | | | |
| | | | | | | | | | | | | | | n | | P | | | | | | | | | | | |
| NOT AT ALL LIKELY | 115 | 68 | 28 | 9 | 114 | - | 92 | 23 | 115 | - | 40 | 58 | 11 | 24 | 86 | 11 | 83 | 43 | 71 | 66 | 47 | 64 | 51 | | | | |
| | 44.0 | 43.9 | 45.2 | 34.6 | 44.0 | | 49.9 | 29.8 | 44.0 | | 48.5 | 43.1 | 36.2 | 52.4 | 42.1 | 54.1 | 40.3 | 37.2 | 49.1 | 43.6 | 43.9 | 44.1 | 44.0 | | | | |
| | | | | | | | H | | | | | | | | | | | r | | | | | | | | | |
| DON'T KNOW | 3 | 2 | - | 2 | 2 | - | 3 | - | 3 | - | 1 | 1 | 0 | - | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | | | | |
| | 1.0 | 1.3 | | 7.7 | 0.9 | | 1.5 | | 1.0 | | 1.3 | 0.8 | 0.9 | | 1.3 | 2.8 | 1.0 | 1.2 | 1.0 | 0.4 | 2.0 | 0.9 | 1.2 | | | | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | 1 | - | 1 | - | | | | |
| | 0.4 | 0.6 | | | 0.4 | | 0.6 | | 0.4 | | | 0.8 | | 2.4 | | 5.3 | | | 0.8 | 0.7 | | 0.8 | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q32 Page 40

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DURING THE DRY SUMMER MONTHS, HOW OFTEN DO YOU USUALLY WATER YOUR NON-LAWN AREAS, INCLUDING PLANTING BEDS, VEGETABLE GARDENS, AND SHRUBS?
(IF HAVE GARDEN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--------------------------------|-------|--------------------------------|---------------------------------|----------------|----------|--------------------|--------------|-------------|-------------------|-----|-------|----------|-------|--------------|-------|--------|-------|----------------------|--------------------|---------------------|-------|-------------|-------|
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | UNWEIGHTED AREA | | | | BUILT | | | | | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | BLV/ KIRK/ SMM/ WGHTD | SAMM/ COVG REDM/ TOTAL | TUKW/ SKYWY | OWN HOME | 1994 OR 1994 | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | |
| | | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) |
| TOTAL ANSWERING | 418 | 263 | 85 | 57 | 397 | 15 | 328 | 90 | 418 | - | 138 | 190 | 66 | 95 | 303 | 53 | 315 | 182 | 235 | 250 | 167 | 231 | 184 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ONCE A MONTH OR LESS/ NEVER | 74 | 42 | 19 | 9 | 70 | 2 | 63 | 11 | 74 | - | 27 | 33 | 9 | 20 | 50 | 17 | 51 | 33 | 41 | 40 | 34 | 35 | 39 |
| | 17.8 | 16.0 | 22.4 | 15.8 | 17.6 | 11.0 | 19.3 | 12.2 | 17.8 | | 19.8 | 17.5 | 13.8 | 20.9 | 16.5 | 31.9 | 16.1 | 18.1 | 17.6 | 16.2 | 20.3 | 15.4 | 21.1 |
| | | | | | | | | | | | | | | | | Q | | | | | | | |
| TWICE A MONTH | 36 | 26 | 5 | 2 | 36 | - | 29 | 7 | 36 | - | 13 | 17 | 5 | 8 | 26 | 3 | 30 | 14 | 21 | 15 | 20 | 17 | 18 |
| | 8.5 | 9.9 | 5.9 | 3.5 | 9.0 | | 8.8 | 7.6 | 8.5 | | 9.0 | 9.1 | 8.3 | 8.3 | 8.5 | 5.2 | 9.4 | 7.9 | 9.0 | 6.1 | 12.2 | 7.2 | 9.8 |
| | | | | | | | | | | | | | | | | | | | | t | | | |
| ONCE A WEEK | 109 | 71 | 19 | 20 | 101 | 5 | 74 | 34 | 109 | - | 44 | 42 | 16 | 21 | 79 | 14 | 78 | 47 | 62 | 73 | 35 | 65 | 44 |
| | 26.0 | 27.0 | 22.4 | 35.1 | 25.5 | 32.7 | 22.5 | 38.1 | 26.0 | | 31.5 | 22.2 | 24.5 | 22.3 | 26.0 | 27.2 | 24.9 | 25.7 | 26.4 | 29.3 | 21.2 | 27.9 | 24.1 |
| | | | | | | | | G | | | 1 | | | | | | | | | u | | | |
| EVERY THREE DAYS | 119 | 78 | 22 | 15 | 111 | 7 | 98 | 21 | 119 | - | 34 | 61 | 20 | 26 | 91 | 10 | 92 | 50 | 68 | 71 | 48 | 75 | 42 |
| | 28.5 | 29.7 | 25.9 | 26.3 | 27.9 | 47.1 | 29.9 | 23.5 | 28.5 | | 24.4 | 32.2 | 30.7 | 27.3 | 30.0 | 18.6 | 29.1 | 27.2 | 29.1 | 28.5 | 28.6 | 32.4 | 22.7 |
| | | | | | | | | | | | | | | | | | p | | | | | W | |
| EVERY OTHER DAY | 50 | 26 | 15 | 5 | 50 | 0 | 39 | 11 | 50 | - | 16 | 23 | 10 | 13 | 36 | 6 | 43 | 24 | 27 | 27 | 22 | 24 | 27 |
| | 12.0 | 9.9 | 17.6 | 8.8 | 12.6 | 1.9 | 12.0 | 12.2 | 12.0 | | 11.7 | 12.1 | 14.9 | 14.1 | 11.8 | 10.9 | 13.7 | 13.0 | 11.3 | 10.8 | 13.1 | 10.3 | 14.5 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| EVERY DAY | 16 | 10 | 3 | 2 | 14 | 1 | 10 | 6 | 16 | - | 5 | 5 | 3 | 2 | 13 | 1 | 13 | 7 | 9 | 10 | 5 | 8 | 7 |
| | 3.7 | 3.8 | 3.5 | 3.5 | 3.6 | 7.2 | 3.0 | 6.4 | 3.7 | | 3.3 | 2.6 | 4.2 | 2.3 | 4.4 | 1.1 | 4.1 | 3.7 | 3.7 | 4.1 | 3.1 | 3.7 | 3.8 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW/DEPENDS | 15 | 10 | 2 | 4 | 15 | - | 15 | - | 15 | - | 0 | 8 | 2 | 5 | 8 | 3 | 9 | 8 | 7 | 12 | 2 | 7 | 7 |
| | 3.5 | 3.8 | 2.4 | 7.0 | 3.7 | | 4.5 | | 3.5 | | 0.2 | 4.3 | 3.7 | 4.9 | 2.8 | 5.2 | 2.8 | 4.4 | 2.9 | 4.9 | 1.5 | 3.2 | 4.0 |
| | | | | | | | | | | | | K | | | | | | | | u | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q33 Page 41

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU USE AN IN-GROUND SPRINKLER SYSTEM THAT HAS AN AUTOMATIC CONTROLLER, USE MOVEABLE SPRINKLERS AND HOSES, OR USE ANOTHER METHOD TO WATER YOUR NON-LAWN AREAS?
(IF WATER GARDEN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|---|---------------|--------------|----------------|-------|-------|---------------------|----------------|-------------|-----|-------------------|-------|-------|-----------------------|-------|--------|--------|----------------------|--------------------|---------------------|-------|-------------|-------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | BLV/ KIRK/ SMMG/ TUKW/ OWN HOME | | | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | | | | | | | |
| | WGHTD | REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN | RENT | 1994 OR <1994 | 2/3/4 LATER | 5+ UNITS | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | |
| | TOTAL | | | | | | | | | | | | | | | | | VERY | VERY | VERY | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 344 | 221 | 66 | 48 | 327 | 13 | 264 | 79 | 344 | - | 111 | 157 | 57 | 75 | 253 | 36 | 264 | 149 | 194 | 210 | 133 | 196 | 145 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| AN IN-GROUND SPRINKLER SYSTEM WITH AN AUTOMATIC CONTROLLER | 81 | 55 | 15 | 1 | 81 | - | 56 | 25 | 81 | - | 26 | 38 | 11 | 16 | 64 | 3 | 68 | 31 | 49 | 48 | 33 | 49 | 31 | |
| | 23.4 | 24.9 | 22.7 | 2.1 | 24.6 | | 21.2 | 31.2 | 23.4 | | 23.8 | 23.9 | 19.7 | 21.0 | 25.2 | 9.0 | 25.6 | 21.0 | 25.4 | 22.8 | 24.6 | 25.0 | 21.1 | |
| | | D | D | | | | | | | | | | | | | P | | | | | | | | |
| AN IN-GROUND SPRINKLER SYSTEM THAT IS MANUALLY OPERATED | 9 | 7 | 1 | 1 | 8 | 1 | 7 | 2 | 9 | - | - | 4 | 4 | 1 | 8 | 0 | 8 | 2 | 7 | 5 | 5 | 5 | 5 | |
| | 2.7 | 3.2 | 1.5 | 2.1 | 2.5 | 8.1 | 2.7 | 2.8 | 2.7 | | | 2.4 | 7.7 | 1.4 | 3.1 | 0.8 | 3.0 | 1.6 | 3.5 | 2.2 | 3.5 | 2.4 | 3.2 | |
| MOVABLE SPRINKLERS CONNECTED TO A HOSE | 130 | 81 | 26 | 22 | 127 | 3 | 103 | 26 | 130 | - | 39 | 62 | 22 | 26 | 94 | 13 | 99 | 51 | 78 | 71 | 57 | 70 | 59 | |
| | 37.7 | 36.7 | 39.4 | 45.8 | 38.7 | 24.3 | 38.9 | 33.0 | 37.7 | | 34.7 | 39.6 | 38.4 | 34.3 | 37.1 | 34.9 | 37.3 | 34.0 | 40.3 | 34.1 | 42.8 | 35.8 | 40.5 | |
| OR BY HAND WITH A HOSE (NOT CONNECTED TO A SPRINKLER) | 92 | 56 | 19 | 19 | 83 | 7 | 71 | 21 | 92 | - | 35 | 37 | 17 | 22 | 66 | 17 | 62 | 46 | 46 | 61 | 31 | 53 | 37 | |
| | 26.8 | 25.3 | 28.8 | 39.6 | 25.4 | 49.2 | 26.9 | 26.8 | 26.8 | | 32.0 | 23.5 | 29.4 | 29.9 | 26.2 | 47.7 | 23.3 | 30.9 | 23.9 | 29.2 | 23.4 | 27.3 | 25.8 | |
| | | | | b | | e | | | | | | | | | | Q | | | | | | | | |
| VOLUNTEERED (NET) ===== | 24 | 16 | 4 | 5 | 22 | 1 | 22 | 2 | 24 | - | 8 | 12 | 3 | 9 | 14 | 2 | 22 | 15 | 9 | 22 | 2 | 17 | 7 | |
| | 7.1 | 7.2 | 6.1 | 10.4 | 6.7 | 10.3 | 8.3 | 3.1 | 7.1 | | 7.6 | 7.6 | 4.9 | 11.9 | 5.6 | 4.6 | 8.1 | 10.2 | 4.7 | 10.7 | 1.5 | 8.9 | 4.7 | |
| | | | | | | | h | | | | | | | | | | | S | | U | | | | |
| SOAKER HOSE/DRIP SYSTEM | 12 | 8 | 2 | 2 | 11 | 1 | 11 | 1 | 12 | - | 7 | 4 | 1 | 6 | 5 | 1 | 11 | 7 | 5 | 11 | 1 | 10 | 2 | |
| | 3.5 | 3.6 | 3.0 | 4.2 | 3.3 | 8.1 | 4.1 | 1.4 | 3.5 | | 6.4 | 2.3 | 2.4 | 7.6 | 2.1 | 3.8 | 4.0 | 4.7 | 2.5 | 5.4 | 0.4 | 5.1 | 1.3 | |
| | | | | | | | | | | | | | | O | | | | | | U | | W | | |
| RAIN BARREL | 4 | 4 | - | - | 3 | - | 4 | - | 4 | - | 1 | 3 | - | 3 | 1 | - | 3 | 2 | 2 | 3 | 1 | 3 | 1 | |
| | 1.3 | 1.8 | | | 1.0 | | 1.6 | | 1.3 | | 1.0 | 2.1 | | 4.3 | 0.4 | | 1.2 | 1.4 | 1.1 | 1.5 | 0.8 | 1.7 | 0.7 | |
| WATERING CAN/BUCKET | 8 | 4 | 2 | 3 | 8 | 0 | 7 | 1 | 8 | - | 0 | 5 | 1 | - | 8 | 0 | 8 | 6 | 2 | 8 | 0 | 4 | 4 | |
| | 2.3 | 1.8 | 3.0 | 6.2 | 2.3 | 2.1 | 2.5 | 1.7 | 2.3 | | 0.3 | 3.3 | 2.4 | | 3.1 | 0.8 | 2.9 | 4.0 | 1.0 | 3.7 | 0.2 | 2.1 | 2.6 | |
| | | | | | | | | | | | | k | | | | | | | U | | | | | |
| OTHER | 5 | 3 | 1 | - | 5 | - | 2 | 2 | 5 | - | 1 | 4 | - | - | 5 | - | 5 | 1 | 3 | - | 5 | - | 5 | |
| | 1.3 | 1.4 | 1.5 | | 1.4 | | 0.8 | 3.1 | 1.3 | | 1.0 | 2.3 | | | 1.8 | | 1.8 | 0.9 | 1.7 | | 3.5 | | 3.2 | |
| NONE | 3 | 3 | - | - | 2 | 1 | 3 | - | 3 | - | 1 | 1 | - | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | |
| | 0.9 | 1.4 | | | 0.7 | 8.1 | 1.2 | | 0.9 | | 1.0 | 0.7 | | 1.4 | 0.9 | 3.0 | 0.8 | 1.4 | 0.6 | 1.0 | 0.8 | 0.6 | 1.5 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q34 Page 42

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WITHIN THE NEXT TWO YEARS HOW LIKELY ARE YOU TO REDO ALL OR PART OF YOUR NON-LAWN LANDSCAPE USING DROUGHT TOLERANT PLANTS THAT NEED LESS WATER ONCE THEY ARE ESTABLISHED?
(IF OWNER AND WATER GARDEN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-------------------|------------------------|------------------------|--------------|----------------|----------|-------|-------|---------------------|----------------|-------------|-------------------|-------|-------|-------|-------|-----------------------|--------|----------------------|-------|--------------------|-------|---------------------|-------|--------------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | ===== | | | | | POTENTIAL TO SAVE | | | | | ===== | | ===== | | | | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME | OWN | RENT | 1994 OR <1994 | 2/3/4 LATER | 5+ UNITS | | | | | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 331 | 211 | 65 | 44 | 327 | - | 256 | 75 | 331 | - | 106 | 153 | 52 | 70 | 244 | 32 | 258 | 146 | 183 | 203 | 127 | 188 | 139 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| LIKELY (NET) | 99 | 53 | 27 | 15 | 98 | - | 78 | 21 | 99 | - | 33 | 47 | 16 | 22 | 71 | 10 | 80 | 57 | 42 | 71 | 28 | 57 | 41 | | |
| ===== | 29.9 | 25.1 | 41.5 | 34.1 | 29.9 | | 30.3 | 28.4 | 29.9 | | 31.1 | 30.5 | 29.9 | 32.0 | 29.0 | 30.9 | 30.9 | 39.0 | 22.8 | 34.9 | 22.3 | 30.5 | 29.2 | | |
| | | | B | | | | | | | | | | | | | | | S | U | | | | | | |
| VERY LIKELY | 38 | 20 | 11 | 3 | 38 | - | 33 | 5 | 38 | - | 12 | 14 | 8 | 15 | 21 | 1 | 32 | 28 | 10 | 30 | 8 | 23 | 15 | | |
| | 11.4 | 9.5 | 16.9 | 6.8 | 11.5 | | 12.9 | 6.2 | 11.4 | | 11.1 | 9.1 | 16.3 | 21.8 | 8.6 | 4.3 | 12.6 | 19.2 | 5.2 | 14.7 | 6.3 | 12.2 | 10.7 | | |
| | | | d | | | | h | | | | | | | O | | | P | S | U | | | | | | |
| SOMEWHAT LIKELY | 61 | 33 | 16 | 12 | 60 | - | 45 | 17 | 61 | - | 21 | 33 | 7 | 7 | 50 | 9 | 47 | 29 | 32 | 41 | 20 | 34 | 26 | | |
| | 18.5 | 15.6 | 24.6 | 27.3 | 18.4 | | 17.4 | 22.3 | 18.5 | | 20.0 | 21.5 | 13.6 | 10.2 | 20.4 | 26.6 | 18.3 | 19.8 | 17.6 | 20.2 | 16.0 | 18.3 | 18.5 | | |
| | | | | | | | | | | | | | | | N | | | | | | | | | | |
| NOT LIKELY (NET) | 228 | 155 | 38 | 27 | 226 | - | 175 | 54 | 228 | - | 71 | 105 | 36 | 46 | 172 | 22 | 176 | 87 | 140 | 131 | 96 | 127 | 99 | | |
| ===== | 68.9 | 73.5 | 58.5 | 61.4 | 68.9 | | 68.2 | 71.6 | 68.9 | | 66.6 | 68.8 | 70.1 | 64.9 | 70.6 | 69.1 | 68.1 | 59.3 | 76.4 | 64.5 | 75.7 | 67.5 | 70.8 | | |
| | | | C | | | | | | | | | | | | | | | R | T | | | | | | |
| NOT TOO LIKELY | 104 | 66 | 21 | 11 | 102 | - | 77 | 26 | 104 | - | 28 | 61 | 12 | 18 | 82 | 4 | 92 | 45 | 58 | 59 | 44 | 59 | 44 | | |
| | 31.3 | 31.3 | 32.3 | 25.0 | 31.2 | | 30.2 | 35.1 | 31.3 | | 26.2 | 39.7 | 24.0 | 26.2 | 33.6 | 12.0 | 35.8 | 30.9 | 31.8 | 29.3 | 34.9 | 31.5 | 31.9 | | |
| | | | | | | | | | | | | KM | | | | | P | | | | | | | | |
| NOT AT ALL LIKELY | 124 | 89 | 17 | 16 | 123 | - | 97 | 27 | 124 | - | 43 | 44 | 24 | 27 | 90 | 18 | 83 | 42 | 82 | 71 | 52 | 68 | 54 | | |
| | 37.6 | 42.2 | 26.2 | 36.4 | 37.7 | | 37.9 | 36.5 | 37.6 | | 40.4 | 29.0 | 46.0 | 38.8 | 37.0 | 57.2 | 32.3 | 28.4 | 44.6 | 35.2 | 40.8 | 36.1 | 38.9 | | |
| | | | C | | | | | | | | 1 | | L | | | Q | | R | | | | | | | |
| DON'T KNOW | 3 | 2 | - | 2 | 3 | - | 3 | - | 3 | - | 1 | 1 | - | 1 | 1 | - | 3 | 2 | 0 | 1 | 1 | 3 | - | | |
| | 0.8 | 0.9 | | 4.5 | 0.8 | | 1.1 | | 0.8 | | 1.3 | 0.7 | | 1.5 | 0.4 | | 1.1 | 1.7 | 0.2 | 0.7 | 1.1 | 1.5 | | | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | 1 | - | - | - | - | 1 | - | 1 | 1 | - | | |
| | 0.3 | 0.5 | | | 0.3 | | 0.4 | | 0.3 | | 1.0 | | | 1.5 | | | | 0.6 | | 0.9 | 0.6 | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q35A Page 43

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW HELPFUL WOULD THE FOLLOWING SERVICE BE TO YOU?) A CASH REBATE OF UP TO \$300 THAT COULD BE USED TOWARD OUTDOOR CONSERVATION EFFORTS, SUCH AS REDUCING LAWN SIZE/USING MORE DROUGHT TOLERANT PLANTS? (IF OWNER AND WATER LAWN OR GARDEN)

| | | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | |
|--------------------|------------------------|------------------------|--------------|----------------|----------|-------|---------------------|-------|--------------|-------------|---------|-------|-------|-------|-------|-------------------|--------|--------|----------------------|--------------|--------------------|---------------------|--------------------|-------------|--------------------|--|--|--|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | | |
| | | | | | | ===== | | | | | HOUSING | | | | | POTENTIAL TO SAVE | | | | | PROGRAMS | | | | | | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSG | COVG -TON | TUKW/ SKYWY | OWN HOME | ===== | 1994 OR <1994 | ===== | SF/ 2/3/4 | 5+ UNITS | ===== | | | | ===== | | | | | | | | | | | | | | | |
| TOTAL | ISSG | COVG | TUKWY | OWN | RENT | <1994 | OR | SF/ | 5+ | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | |
| TOTAL ANSWERING | 261 | 155 | 62 | 26 | 258 | - | 185 | 76 | 261 | - | 82 | 134 | 32 | 46 | 205 | 20 | 207 | 116 | 144 | 151 | 108 | 144 | 117 | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | |
| HELPFUL (NET) | 179 | 102 | 46 | 16 | 176 | - | 125 | 54 | 179 | - | 44 | 101 | 25 | 29 | 145 | 14 | 144 | 92 | 86 | 114 | 64 | 102 | 76 | | | | | | | |
| ===== | 68.4 | 65.8 | 74.2 | 61.5 | 68.2 | | 67.6 | 70.5 | 68.4 | | 53.8 | 75.6 | 79.4 | 62.7 | 71.1 | 67.7 | 69.3 | 79.6 | 60.0 | 75.3 | 59.6 | 70.8 | 65.6 | | | | | | | |
| | | | | | | | | | | | | K | K | | | | | S | | U | | | | | | | | | | |
| VERY HELPFUL | 85 | 47 | 23 | 7 | 85 | - | 57 | 27 | 85 | - | 20 | 45 | 17 | 18 | 65 | 6 | 64 | 50 | 34 | 65 | 20 | 51 | 33 | | | | | | | |
| | 32.4 | 30.3 | 37.1 | 26.9 | 32.8 | | 31.0 | 36.0 | 32.4 | | 24.6 | 33.7 | 53.6 | 38.2 | 31.7 | 31.0 | 31.0 | 43.3 | 23.9 | 42.9 | 18.2 | 35.6 | 28.6 | | | | | | | |
| | | | | | | | | | | | | | K1 | | | | | S | | U | | | | | | | | | | |
| SOMEWHAT HELPFUL | 94 | 55 | 23 | 9 | 92 | - | 68 | 26 | 94 | - | 24 | 56 | 8 | 11 | 81 | 7 | 79 | 42 | 52 | 49 | 45 | 51 | 43 | | | | | | | |
| | 36.0 | 35.5 | 37.1 | 34.6 | 35.5 | | 36.6 | 34.5 | 36.0 | | 29.2 | 41.9 | 25.8 | 24.4 | 39.3 | 36.7 | 38.3 | 36.3 | 36.0 | 32.4 | 41.4 | 35.2 | 37.0 | | | | | | | |
| | | | | | | | | | | | | km | | | n | | | | | | | | | | | | | | | |
| NOT HELPFUL (NET) | 80 | 51 | 16 | 9 | 80 | - | 57 | 22 | 80 | - | 38 | 32 | 5 | 17 | 57 | 6 | 62 | 22 | 56 | 37 | 41 | 40 | 40 | | | | | | | |
| ===== | 30.6 | 32.9 | 25.8 | 34.6 | 30.9 | | 31.1 | 29.5 | 30.6 | | 46.2 | 23.6 | 17.1 | 37.3 | 27.7 | 30.9 | 30.1 | 19.3 | 39.3 | 24.5 | 38.4 | 27.5 | 34.4 | | | | | | | |
| | | | | | | | | | | | LM | | | | | | | R | | T | | | | | | | | | | |
| NOT TOO HELPFUL | 36 | 23 | 7 | 4 | 36 | - | 26 | 10 | 36 | - | 17 | 16 | 2 | 8 | 25 | 1 | 31 | 9 | 25 | 16 | 20 | 20 | 16 | | | | | | | |
| | 13.7 | 14.8 | 11.3 | 15.4 | 13.8 | | 13.8 | 13.3 | 13.7 | | 21.0 | 12.2 | 6.9 | 17.8 | 12.4 | 5.3 | 14.7 | 8.0 | 17.7 | 10.3 | 18.7 | 13.8 | 13.6 | | | | | | | |
| | | | | | | | | | | | M | | | | | | p | | R | | t | | | | | | | | | |
| NOT AT ALL HELPFUL | 44 | 28 | 9 | 5 | 44 | - | 32 | 12 | 44 | - | 21 | 15 | 3 | 9 | 31 | 5 | 32 | 13 | 31 | 22 | 21 | 20 | 24 | | | | | | | |
| | 16.9 | 18.1 | 14.5 | 19.2 | 17.1 | | 17.2 | 16.2 | 16.9 | | 25.3 | 11.4 | 10.3 | 19.5 | 15.3 | 25.6 | 15.4 | 11.3 | 21.6 | 14.2 | 19.7 | 13.8 | 20.9 | | | | | | | |
| | | | | | | | | | | | Lm | | | | | | | R | | | | | | | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | 1 | - | | | | | | | |
| | 0.4 | 0.6 | | | 0.4 | | 0.6 | | 0.4 | | | 0.8 | | | 0.5 | | 0.5 | 0.9 | | | 1.0 | 0.8 | | | | | | | | |
| REFUSED | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | 0 | - | 0 | 1 | 0 | 1 | 1 | - | | | | | | | |
| | 0.5 | 0.6 | | 3.8 | 0.4 | | 0.7 | | 0.5 | | | | 3.4 | | 0.7 | 1.4 | | 0.2 | 0.8 | 0.2 | 1.0 | 0.9 | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q35B Page 44

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW HELPFUL WOULD THE FOLLOWING SERVICE BE TO YOU?) EDUCATIONAL MATERIALS THAT SHOW YOU HOW YOU CAN REDUCE OUTDOOR WATER USE THROUGH CHANGES IN LANDSCAPING AND GARDENING PRACTICES?
(IF OWNER AND WATER LAWN OR GARDEN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|----------------------------|---|---------------|--------------|----------------|----------------------|-------|---------------------|--------------|-------------|-----|-------------------|-------|-------|-------|-------|-----------------------|--------|----------------------|-------|--------------------|-------|---------------------|-------|--------------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | ===== | | | | | | | | | | ===== | | ===== | | ===== | | ===== | | ===== | |
| | BLV/ KIRK/ SMM/ WGHTD TOTAL | REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME OWN RENT | | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | | POTENTIAL TO SAVE | | | | | | | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | |
| | | | | | | | | | | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | | | VERY | | VERY | | VERY | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 261 | 155 | 62 | 26 | 258 | - | 185 | 76 | 261 | - | 82 | 134 | 32 | 46 | 205 | 20 | 207 | 116 | 144 | 151 | 108 | 144 | 117 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| HELPFUL (NET) ===== | 193 | 112 | 49 | 15 | 191 | - | 133 | 60 | 193 | - | 47 | 108 | 30 | 38 | 151 | 15 | 155 | 97 | 96 | 122 | 71 | 116 | 78 | | |
| | 74.1 | 72.3 | 79.0 | 57.7 | 73.9 | | 72.0 | 79.1 | 74.1 | | 57.1 | 80.7 | 95.7 | 82.2 | 73.7 | 75.5 | 75.0 | 84.0 | 66.6 | 80.9 | 65.5 | 80.2 | 66.5 | | |
| | | | d | | | | | | | | | K | KL | | | | | S | | U | | W | | | |
| VERY HELPFUL | 74 | 43 | 19 | 3 | 74 | - | 53 | 21 | 74 | - | 19 | 38 | 15 | 16 | 56 | 9 | 58 | 42 | 32 | 50 | 23 | 41 | 32 | | |
| | 28.2 | 27.7 | 30.6 | 11.5 | 28.5 | | 28.6 | 27.4 | 28.2 | | 22.6 | 28.4 | 47.4 | 34.6 | 27.2 | 44.6 | 27.8 | 36.0 | 22.2 | 33.3 | 21.5 | 28.7 | 27.6 | | |
| | | D | D | | | | | | | | | | KL | | | | | S | | U | | | | | |
| SOMEWHAT HELPFUL | 120 | 69 | 30 | 12 | 117 | - | 80 | 39 | 120 | - | 28 | 70 | 15 | 22 | 95 | 6 | 98 | 56 | 64 | 72 | 48 | 74 | 45 | | |
| | 45.8 | 44.5 | 48.4 | 46.2 | 45.4 | | 43.4 | 51.8 | 45.8 | | 34.5 | 52.3 | 48.3 | 47.6 | 46.5 | 30.9 | 47.2 | 48.0 | 44.5 | 47.6 | 44.0 | 51.4 | 38.9 | | |
| | | | | | | | | | | | | K | | | | | | | | | | W | | | |
| NOT HELPFUL (NET) ===== | 66 | 42 | 13 | 10 | 66 | - | 50 | 16 | 66 | - | 35 | 26 | 1 | 7 | 53 | 5 | 51 | 18 | 47 | 29 | 36 | 28 | 38 | | |
| | 25.4 | 27.1 | 21.0 | 38.5 | 25.7 | | 27.3 | 20.9 | 25.4 | | 42.9 | 19.3 | 4.3 | 15.4 | 26.1 | 23.1 | 24.5 | 15.8 | 32.6 | 18.9 | 33.5 | 19.6 | 32.6 | | |
| | | | | | | | | | | | LM | M | | | | | | | R | | T | | V | | |
| NOT TOO HELPFUL | 38 | 25 | 7 | 5 | 38 | - | 31 | 7 | 38 | - | 16 | 20 | 1 | 5 | 31 | 2 | 31 | 12 | 25 | 15 | 23 | 15 | 23 | | |
| | 14.6 | 16.1 | 11.3 | 19.2 | 14.8 | | 16.8 | 9.3 | 14.6 | | 19.6 | 14.6 | 4.3 | 10.1 | 15.3 | 8.2 | 15.1 | 10.6 | 17.2 | 9.7 | 21.7 | 10.4 | 19.9 | | |
| | | | | | | | | | | | M | M | | | | | | | | T | | V | | | |
| NOT AT ALL HELPFUL | 28 | 17 | 6 | 5 | 28 | - | 19 | 9 | 28 | - | 19 | 6 | - | 2 | 22 | 3 | 19 | 6 | 22 | 14 | 13 | 13 | 15 | | |
| | 10.8 | 11.0 | 9.7 | 19.2 | 10.9 | | 10.5 | 11.5 | 10.8 | | 23.2 | 4.7 | | 5.4 | 10.8 | 14.9 | 9.4 | 5.2 | 15.4 | 9.2 | 11.8 | 9.3 | 12.7 | | |
| | | | | | | | | | | | L | | | | | | | | R | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | - | - | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | | |
| | 0.4 | 0.6 | | | 0.4 | | 0.6 | | 0.4 | | | | | 2.4 | | | 0.5 | | 0.8 | | 1.0 | | 0.9 | | |
| REFUSED | 0 | - | - | 1 | - | - | 0 | - | 0 | - | - | - | - | - | 0 | 0 | - | 0 | - | 0 | - | 0 | - | | |
| | 0.1 | | | 3.8 | | | 0.2 | | 0.1 | | | | | | 0.1 | 1.4 | | 0.2 | | 0.2 | | 0.2 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q35C Page 45

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW HELPFUL WOULD THE FOLLOWING SERVICE BE TO YOU?) AN ON-SITE AUDIT THAT WOULD IDENTIFY WHERE WATER CAN BE SAVED? WOULD YOU SAY...
(IF OWNER AND WATER LAWN OR GARDEN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-------|-------|-------|----------|-------|-------|-------|-------|-----|---------|-------|-------|-------|-------|-------------------|--------|----------------------|-------|-------|----------|-------|-------|--|------|--------------|----|---------------------|------|-------------|--|--|--|--|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | | |
| | BLV/ | | | | | ===== | | | | | HOUSING | | | | | POTENTIAL TO SAVE | | | | | PROGRAMS | | | | | INCOME | | | | | | | | | | |
| | KIRK/ | SAMM/ | | | OWN HOME | | 1994 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | OWN | RENT | OR | SF/ | 5+ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ | | SMW/ | | SMW/ | | VERY | NOT/ | DK | VERY | NOT/ | DK | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | | | | | | | | | |
| TOTAL ANSWERING | 261 | 155 | 62 | 26 | 258 | - | 185 | 76 | 261 | - | 82 | 134 | 32 | 46 | 205 | 20 | 207 | 116 | 144 | 151 | 108 | 144 | 117 | | | | | | | | | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | | | | | | | | | |
| HELPFUL (NET) | 167 | 97 | 42 | 13 | 166 | - | 118 | 49 | 167 | - | 43 | 94 | 23 | 31 | 132 | 11 | 143 | 86 | 81 | 105 | 62 | 99 | 67 | | | | | | | | | | | | | |
| ===== | 63.9 | 62.6 | 67.7 | 50.0 | 64.1 | | 63.9 | 64.0 | 63.9 | | 52.8 | 70.4 | 74.2 | 68.0 | 64.6 | 52.7 | 68.9 | 74.0 | 56.2 | 69.2 | 57.4 | 68.8 | 57.8 | | | | | | | | | | | | | |
| | | | | | | | | | | | | K | K | | | | | S | | u | | w | | | | | | | | | | | | | | |
| VERY HELPFUL | 67 | 38 | 18 | 2 | 67 | - | 48 | 19 | 67 | - | 11 | 40 | 13 | 11 | 52 | 2 | 58 | 39 | 28 | 50 | 17 | 40 | 27 | | | | | | | | | | | | | |
| | 25.5 | 24.5 | 29.0 | 7.7 | 25.8 | | 25.8 | 24.9 | 25.5 | | 13.7 | 30.0 | 40.5 | 24.5 | 25.5 | 12.1 | 28.2 | 33.4 | 19.4 | 33.0 | 15.4 | 27.4 | 23.1 | | | | | | | | | | | | | |
| | | D | D | | | | | | | | | K | K | | | | P | S | | U | | | | | | | | | | | | | | | | |
| SOMEWHAT HELPFUL | 100 | 59 | 24 | 11 | 99 | - | 70 | 30 | 100 | - | 32 | 54 | 11 | 20 | 80 | 8 | 84 | 47 | 53 | 55 | 45 | 60 | 40 | | | | | | | | | | | | | |
| | 38.4 | 38.1 | 38.7 | 42.3 | 38.3 | | 38.1 | 39.1 | 38.4 | | 39.2 | 40.4 | 33.6 | 43.5 | 39.2 | 40.6 | 40.7 | 40.7 | 36.9 | 36.2 | 42.0 | 41.4 | 34.7 | | | | | | | | | | | | | |
| NOT HELPFUL (NET) | 90 | 56 | 19 | 10 | 89 | - | 64 | 26 | 90 | - | 38 | 38 | 8 | 14 | 69 | 9 | 62 | 28 | 60 | 45 | 44 | 45 | 45 | | | | | | | | | | | | | |
| ===== | 34.4 | 36.1 | 30.6 | 38.5 | 34.3 | | 34.5 | 34.2 | 34.4 | | 46.8 | 28.8 | 24.9 | 29.6 | 33.7 | 44.5 | 29.9 | 24.5 | 41.9 | 29.5 | 40.4 | 31.0 | 38.7 | | | | | | | | | | | | | |
| | | | | | | | | | | | LM | | | | | | | R | | t | | | | | | | | | | | | | | | | |
| NOT TOO HELPFUL | 43 | 28 | 8 | 6 | 43 | - | 32 | 11 | 43 | - | 16 | 22 | 5 | 5 | 34 | 1 | 36 | 16 | 26 | 17 | 26 | 15 | 28 | | | | | | | | | | | | | |
| | 16.5 | 18.1 | 12.9 | 23.1 | 16.7 | | 17.6 | 14.0 | 16.5 | | 19.3 | 16.1 | 14.6 | 11.8 | 16.7 | 6.7 | 17.3 | 13.5 | 18.3 | 11.0 | 24.5 | 10.4 | 24.1 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | P | | | T | | V | | | | | | | | | | | | | | |
| NOT AT ALL HELPFUL | 47 | 28 | 11 | 4 | 46 | - | 31 | 15 | 47 | - | 23 | 17 | 3 | 8 | 35 | 8 | 26 | 13 | 34 | 28 | 17 | 30 | 17 | | | | | | | | | | | | | |
| | 17.9 | 18.1 | 17.7 | 15.4 | 17.6 | | 16.9 | 20.2 | 17.9 | | 27.5 | 12.7 | 10.3 | 17.8 | 17.1 | 37.7 | 12.7 | 11.0 | 23.5 | 18.6 | 15.9 | 20.6 | 14.5 | | | | | | | | | | | | | |
| | | | | | | | | | | | LM | | | | | Q | | R | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 3 | 2 | - | 2 | 2 | - | 3 | - | 3 | - | - | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | | | | | | | | | | | | | |
| | 1.0 | 1.3 | | 7.7 | 0.9 | | 1.5 | | 1.0 | | | 0.8 | 0.9 | 2.4 | 0.8 | 2.8 | 1.0 | 0.2 | 1.7 | 0.4 | 2.0 | 0.2 | 2.1 | | | | | | | | | | | | | |
| REFUSED | 2 | - | 1 | 1 | 2 | - | 0 | 1 | 2 | - | 0 | - | - | - | 2 | - | 0 | 1 | 0 | 1 | 0 | - | 2 | | | | | | | | | | | | | |
| | 0.6 | | 1.6 | 3.8 | 0.6 | | 0.2 | 1.8 | 0.6 | | 0.3 | | | | 0.8 | | 0.1 | 1.2 | 0.2 | 0.9 | 0.3 | | 1.4 | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q36 Page 46

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DOES YOUR IN-GROUND SPRINKLER SYSTEM USE A RAIN SHUT-OFF DEVICE THAT STOPS IT FROM TURNING ON IF IT IS RAINING?
(HAVE AN IN-GROUND SPRINKLER WITH AUTO CONTROL)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|-----------------|--------------------------------|----------------|----------|-------|-------|-------|-------|-------|---------|-------|-------------------|-------|--------------|-------|--------|--------|--------|----------------------|--------------------|--------------------|--------|-------|------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | ===== | | | | | | |
| | | | | | | | BUILT | | HOUSING | | | | PRIOR CONSRV | | | | REDUCE | | PROTECT | | SAVE | | |
| | | | | | | | | | | | POTENTIAL TO SAVE | | PROGRAMS | | INCOME | | BILLS | | ENVIRONMENT | | SALMON | | |
| | | | | | | | 1994 | | 5+ | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ WGHTD | TUKW/ SKYWY | OWN HOME | OWN | RENT | | OR | SF/ | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | VERY | VERY | VERY |
| | TOTAL | ISSQ | COVG | -TON | OWN | RENT | <1994 | LATER | 5+ | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | VERY | VERY | VERY |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 108 | 70 | 23 | 2 | 107 | 1 | 76 | 32 | 108 | - | 32 | 54 | 14 | 21 | 85 | 4 | 94 | 46 | 62 | 63 | 45 | 62 | 46 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 35 | 24 | 6 | 1 | 33 | 1 | 23 | 12 | 35 | - | 15 | 15 | 4 | 6 | 29 | - | 32 | 13 | 22 | 22 | 13 | 17 | 16 |
| | 32.0 | 34.3 | 26.1 | 50.0 | 31.4 | 79.1 | 29.6 | 38.0 | 32.0 | | 46.2 | 28.1 | 31.2 | 27.6 | 33.8 | | 34.2 | 27.9 | 34.9 | 35.0 | 27.7 | 28.3 | 35.3 |
| NO | 64 | 41 | 14 | 1 | 64 | 0 | 48 | 16 | 64 | - | 17 | 33 | 7 | 13 | 49 | 4 | 52 | 29 | 35 | 35 | 29 | 41 | 23 |
| | 59.2 | 58.6 | 60.9 | 50.0 | 59.7 | 20.9 | 62.5 | 50.8 | 59.2 | | 53.8 | 60.8 | 51.0 | 60.5 | 57.8 | 100.0 | 55.7 | 62.6 | 56.7 | 55.9 | 63.8 | 65.9 | 51.5 |
| | | | | | | | | | | | | | | | | Q | | | | | | | |
| DON'T KNOW | 10 | 5 | 3 | - | 10 | - | 6 | 4 | 10 | - | - | 6 | 2 | 2 | 7 | - | 10 | 4 | 5 | 6 | 4 | 4 | 6 |
| | 8.8 | 7.1 | 13.0 | | 9.0 | | 7.9 | 11.2 | 8.8 | | | 11.1 | 17.8 | 11.9 | 8.3 | | 10.2 | 9.5 | 8.4 | 9.1 | 8.5 | 5.8 | 13.2 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q37 Page 47

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

THE COST OF BUYING AND INSTALLING A RAIN SHUT OFF DEVICE IS ABOUT \$150. HOW LIKELY WOULD YOU BE TO INSTALL A RAIN SHUT-OFF DEVICE IF YOUR WATER UTILITY OFFERED YOU A \$100 REBATE?
(IF OWNER AND SPRINKLER DOESN'T HAVE RAIN SHUT OFF)

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | |
|-------------------|-------------------------------|----------------|-------|----------------|----------|------|---------------------|----------------|-------------|-----------|---------|-------|-----------------------------|-------|--------|--------|--------------------|----------------------|------------------------|-------|----------------|-------|-------|--|--|--|
| | ===== | | | | | | | | | | | | | | | | | ===== | | | | | | | | |
| | BLV/ KIRK/ SMM/ COVG | | | | OWN HOME | | | | BUILT | | HOUSING | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | |
| | WGHTD | REDM/ TOTAL | ISSQ | TUKW/ SKYKY | OWN | RENT | 1994 OR <1994 | 2/3/4 LATER | 5+ UNITS | POTENTIAL | TO | SAVE | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL ANSWERING | 73 | 46 | 17 | - | 73 | - | 54 | 20 | 73 | - | 17 | 39 | 9 | 15 | 56 | 3 | 62 | 33 | 41 | 41 | 33 | 44 | 29 | | | |
| | 100.0 | 100.0 | 100.0 | | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| LIKELY (NET) | 51 | 34 | 10 | - | 51 | - | 38 | 13 | 51 | - | 9 | 32 | 5 | 9 | 39 | 1 | 44 | 22 | 29 | 30 | 21 | 33 | 17 | | | |
| ===== | 69.1 | 73.9 | 58.8 | | 69.1 | | 71.0 | 63.8 | 69.1 | | 49.7 | 81.8 | 50.0 | 61.8 | 69.8 | 33.3 | 70.9 | 66.6 | 71.1 | 73.8 | 63.2 | 75.7 | 59.2 | | | |
| | | | | | | | | | | | | Km | | | | | | | | | | | | | | |
| VERY LIKELY | 30 | 19 | 7 | - | 30 | - | 21 | 9 | 30 | - | 6 | 17 | 2 | 5 | 23 | - | 28 | 12 | 19 | 20 | 10 | 21 | 9 | | | |
| | 41.3 | 41.3 | 41.2 | | 41.3 | | 39.1 | 47.2 | 41.3 | | 37.3 | 43.4 | 26.6 | 32.9 | 41.2 | | 44.9 | 35.8 | 45.6 | 49.8 | 30.7 | 47.9 | 31.4 | | | |
| SOMEWHAT LIKELY | 20 | 15 | 3 | - | 20 | - | 17 | 3 | 20 | - | 2 | 15 | 2 | 4 | 16 | 1 | 16 | 10 | 10 | 10 | 11 | 12 | 8 | | | |
| | 27.8 | 32.6 | 17.6 | | 27.8 | | 31.9 | 16.6 | 27.8 | | 12.4 | 38.4 | 23.4 | 28.9 | 28.6 | 33.3 | 26.0 | 30.7 | 25.5 | 24.0 | 32.5 | 27.9 | 27.8 | | | |
| | | | | | | | | | | | | K | | | | | | | | | | | | | | |
| NOT LIKELY (NET) | 19 | 10 | 6 | - | 19 | - | 13 | 6 | 19 | - | 9 | 6 | 2 | 3 | 16 | 2 | 14 | 10 | 9 | 8 | 11 | 10 | 10 | | | |
| ===== | 26.1 | 21.7 | 35.3 | | 26.1 | | 24.4 | 30.7 | 26.1 | | 50.3 | 15.4 | 23.4 | 21.7 | 28.3 | 66.7 | 23.4 | 30.1 | 22.8 | 20.9 | 32.5 | 21.8 | 32.4 | | | |
| | | | | | | | | | | | | L | | | | | | | | | | | | | | |
| NOT TOO LIKELY | 11 | 8 | 2 | - | 11 | - | 8 | 3 | 11 | - | 5 | 4 | 2 | 3 | 8 | 1 | 9 | 7 | 4 | 3 | 8 | 3 | 8 | | | |
| | 15.6 | 17.4 | 11.8 | | 15.6 | | 15.2 | 16.6 | 15.6 | | 26.6 | 9.1 | 23.4 | 21.7 | 14.6 | 33.3 | 15.0 | 21.7 | 10.7 | 8.0 | 25.0 | 7.4 | 27.8 | | | |
| | | | | | | | | | | | | | | | | | | | | t | | | v | | | |
| NOT AT ALL LIKELY | 8 | 2 | 4 | - | 8 | - | 5 | 3 | 8 | - | 4 | 2 | - | - | 8 | 1 | 5 | 3 | 5 | 5 | 2 | 6 | 1 | | | |
| | 10.5 | 4.3 | 23.5 | | 10.5 | | 9.2 | 14.1 | 10.5 | | 23.7 | 6.3 | | | 13.7 | 33.3 | 8.4 | 8.4 | 12.1 | 12.9 | 7.5 | 14.4 | 4.7 | | | |
| | | | b | | | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 4 | 2 | 1 | - | 4 | - | 2 | 1 | 4 | - | - | 1 | 2 | 2 | 1 | - | 4 | 1 | 2 | 2 | 1 | 1 | 2 | | | |
| | 4.8 | 4.3 | 5.9 | | 4.8 | | 4.6 | 5.5 | 4.8 | | | 2.8 | 26.6 | 16.5 | 1.9 | | 5.7 | 3.3 | 6.1 | 5.3 | 4.2 | 2.5 | 8.4 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q38 Page 48

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NOW THINK ABOUT THE WATERING SEASON WHEN YOU USE YOUR IN-GROUND SPRINKLER SYSTEM. IS THE WATER PROGRAM SCHEDULE SET...
(HAVE AN IN-GROUND SPRINKLER WITH AUTO CONTROL)

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-------------------------------|-------------------------------|---------------|---------------|----------------|----------|-------|--------------------|---------------|----------------|-------------|---------|-------|-------------------|-------|-------|--------|--------------------------|-------|----------------------|-------|-----------------|-------|------------------------|--|----------------|--|
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ COVG | | | | OWN HOME | | | | BUILT ===== | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ===== | | | | ===== | | | | ===== | | ===== | | ===== | | | | ===== | | ===== | | ===== | | ===== | | ===== | |
| | WGHTD | REDM/ ISSQ | SAMM/ -TON | TUKW/ SKYWY | OWN | RENT | 1994 OR 1994 | 1994 LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 108 | 70 | 23 | 2 | 107 | 1 | 76 | 32 | 108 | - | 32 | 54 | 14 | 21 | 85 | 4 | 94 | 46 | 62 | 63 | 45 | 62 | 46 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | |
| ONE TIME FOR THE WHOLE SEASON | 30 | 23 | 4 | - | 29 | 1 | 14 | 16 | 30 | - | 12 | 13 | 3 | 2 | 28 | - | 27 | 15 | 16 | 13 | 17 | 14 | 15 | | | |
| | 28.1 | 32.9 | 17.4 | | 27.5 | 79.1 | 18.9 | 50.8 | 28.1 | | 37.7 | 23.6 | 23.4 | 10.5 | 33.1 | | 28.6 | 32.1 | 25.3 | 21.1 | 37.9 | 23.4 | 32.9 | | | |
| | | | | | | | | G | | | | | | | N | | | | | t | | | | | | |
| ONCE A MONTH | 24 | 17 | 4 | 1 | 24 | - | 15 | 9 | 24 | - | 6 | 13 | 3 | 4 | 20 | 1 | 22 | 8 | 16 | 14 | 10 | 14 | 10 | | | |
| | 22.4 | 24.3 | 17.4 | 50.0 | 22.7 | | 20.3 | 27.7 | 22.4 | | 17.6 | 24.1 | 23.4 | 17.1 | 23.0 | 30.6 | 23.5 | 17.8 | 25.7 | 22.5 | 22.2 | 23.0 | 22.1 | | | |
| TWICE A MONTH | 8 | 6 | 1 | - | 8 | - | 8 | - | 8 | - | 3 | 5 | - | 4 | 4 | - | 8 | 5 | 3 | 7 | 1 | 5 | 2 | | | |
| | 7.3 | 8.6 | 4.3 | | 7.4 | | 10.3 | | 7.3 | | 10.0 | 8.5 | | 17.2 | 5.1 | | 8.4 | 10.1 | 5.2 | 10.8 | 2.4 | 8.8 | 5.4 | | | |
| | | | | | | | | | | | | | | | | | | | | u | | | | | | |
| OR MORE THAN TWICE A MONTH | 21 | 8 | 9 | - | 21 | - | 18 | 4 | 21 | - | 5 | 12 | 2 | 4 | 18 | - | 19 | 7 | 14 | 14 | 7 | 14 | 7 | | | |
| | 19.5 | 11.4 | 39.1 | | 19.8 | | 23.0 | 11.2 | 19.5 | | 16.1 | 22.7 | 17.8 | 17.2 | 20.6 | | 19.8 | 16.1 | 22.0 | 21.8 | 16.3 | 22.3 | 16.2 | | | |
| | | | | B | | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW/DEPENDS | 25 | 16 | 5 | 1 | 24 | 0 | 21 | 3 | 25 | - | 6 | 11 | 5 | 8 | 16 | 2 | 19 | 11 | 14 | 15 | 10 | 14 | 11 | | | |
| | 22.7 | 22.9 | 21.7 | 50.0 | 22.7 | 20.9 | 27.5 | 10.3 | 22.7 | | 18.5 | 21.1 | 35.4 | 38.1 | 18.2 | 69.4 | 19.7 | 23.9 | 21.8 | 23.8 | 21.1 | 22.5 | 23.4 | | | |
| | | | | | | | H | | | | | | | | | Q | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q39 Page 49

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

IF YOUR WATER UTILITY OFFERED A \$350 REBATE TOWARD BUYING ONE OF THESE CONTROLLERS, HOW LIKELY WOULD YOU BE TO TAKE ADVANTAGE OF THIS OFFER?
(IF OWNER AND HAVE AN IN-GROUND SPRINKLER WITH AUTO CONTROL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-------------------|-----------------|------------------------|-----------------------|----------------|----------|----------|---------------------|-----------------------|-------------|-------------------|-------------------|-------------------|--------|-------|--------------|--------|----------------------|--------------------|-------------|--------------------|-------|--------------------|------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | |
| | | | | | | | ===== | | ===== | | ===== | | ===== | | | | | | | | | | | |
| | WGHTD | BLV/ KIRK/ TOTAL | SAMM/ COVG ISSQ | TUKW/ SKYKY | OWN HOME | OWN RENT | 1994 OR <1994 | SF/ 2/3/4 LATER | 5+ UNITS | POTENTIAL TO SAVE | POTENTIAL TO SAVE | POTENTIAL TO SAVE | YES | NO | <\$50K | \$50K+ | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 107 | 69 | 23 | 1 | 107 | - | 75 | 32 | 107 | - | 32 | 54 | 13 | 21 | 84 | 3 | 93 | 44 | 62 | 62 | 45 | 60 | 46 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| LIKELY (NET) | 43 | 26 | 11 | - | 43 | - | 28 | 15 | 43 | - | 9 | 29 | 2 | 7 | 35 | 1 | 39 | 12 | 32 | 26 | 18 | 26 | 17 | |
| ===== | 40.6 | 37.7 | 47.8 | | 40.6 | | 37.8 | 47.4 | 40.6 | | 28.6 | 52.8 | 17.3 | 32.9 | 42.3 | 33.3 | 42.0 | 26.4 | 50.7 | 41.6 | 39.2 | 43.9 | 37.2 | |
| | | | | | | | | | | | | KM | | | | | | | R | | | | | |
| VERY LIKELY | 12 | 7 | 3 | - | 12 | - | 11 | 1 | 12 | - | 2 | 7 | 1 | 3 | 8 | - | 11 | 2 | 9 | 8 | 4 | 8 | 4 | |
| | 11.0 | 10.1 | 13.0 | | 11.0 | | 14.2 | 3.4 | 11.0 | | 6.7 | 13.6 | 8.7 | 15.7 | 10.1 | | 11.5 | 5.5 | 14.9 | 13.3 | 7.8 | 13.6 | 7.8 | |
| | | | | | | | h | | | | | | | | | | | | | | | | | |
| SOMEWHAT LIKELY | 32 | 19 | 8 | - | 32 | - | 18 | 14 | 32 | - | 7 | 21 | 1 | 4 | 27 | 1 | 28 | 9 | 22 | 17 | 14 | 18 | 13 | |
| | 29.6 | 27.5 | 34.8 | | 29.6 | | 23.6 | 43.9 | 29.6 | | 21.9 | 39.2 | 8.7 | 17.2 | 32.2 | 33.3 | 30.5 | 20.8 | 35.9 | 28.3 | 31.4 | 30.3 | 29.4 | |
| | | | | | | | g | | | | | M | | | | | | | | | | | | |
| LIKELY (NET) | 56 | 37 | 11 | 1 | 56 | - | 40 | 16 | 56 | - | 21 | 23 | 7 | 11 | 43 | 2 | 47 | 31 | 25 | 33 | 23 | 32 | 23 | |
| ===== | 52.0 | 53.6 | 47.8 | 100.0 | 52.0 | | 53.2 | 49.2 | 52.0 | | 64.7 | 43.2 | 54.3 | 55.2 | 51.3 | 66.7 | 50.7 | 68.7 | 40.1 | 53.1 | 50.5 | 52.5 | 50.2 | |
| | | | | BC | | | | | | | 1 | | | | | | | S | | | | | | |
| NOT TOO LIKELY | 29 | 20 | 5 | - | 29 | - | 22 | 7 | 29 | - | 11 | 13 | 4 | 6 | 23 | 1 | 25 | 18 | 11 | 14 | 14 | 12 | 16 | |
| | 26.8 | 29.0 | 21.7 | | 26.8 | | 29.0 | 21.5 | 26.8 | | 34.3 | 23.6 | 28.4 | 27.6 | 27.2 | 33.3 | 27.3 | 39.9 | 17.4 | 23.4 | 31.4 | 20.3 | 35.9 | |
| | | | | | | | | | | | | | | | | | | S | | | | | | |
| NOT AT ALL LIKELY | 27 | 17 | 6 | 1 | 27 | - | 18 | 9 | 27 | - | 10 | 11 | 3 | 6 | 20 | 1 | 22 | 13 | 14 | 18 | 9 | 19 | 6 | |
| | 25.3 | 24.6 | 26.1 | 100.0 | 25.3 | | 24.2 | 27.7 | 25.3 | | 30.4 | 19.6 | 26.0 | 27.6 | 24.1 | 33.3 | 23.4 | 28.8 | 22.8 | 29.8 | 19.2 | 32.2 | 14.3 | |
| | | | | BC | | | | | | | | | | | | | | | | | W | | | |
| ALREADY HAVE ONE | 5 | 3 | 1 | - | 5 | - | 4 | 1 | 5 | - | 1 | 1 | 2 | 2 | 2 | - | 5 | 1 | 4 | 1 | 4 | - | 5 | |
| | 4.3 | 4.3 | 4.3 | | 4.3 | | 4.7 | 3.4 | 4.3 | | 3.3 | 2.0 | 19.7 | 11.9 | 2.6 | | 5.0 | 2.4 | 5.7 | 1.8 | 7.8 | | 10.2 | |
| DON'T KNOW | 2 | 2 | - | - | 2 | - | 2 | - | 2 | - | - | 1 | 1 | - | 2 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 2.0 | 2.9 | | | 2.0 | | 2.9 | | 2.0 | | | 2.0 | 8.7 | | 2.6 | | 1.2 | 2.4 | 1.7 | 1.8 | 2.4 | 1.8 | 2.4 | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | 1 | 1 | - | 1 | - | |
| | 1.0 | 1.4 | | | 1.0 | | 1.4 | | 1.0 | | 3.3 | | | | 1.3 | | 1.2 | | 1.7 | 1.8 | | 1.8 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q40 Page 50

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU HAVE A PROFESSIONAL INSPECT YOUR IN-GROUND SPRINKLER SYSTEM EVERY YEAR TO IDENTIFY AND FIX ANY LEAKS OR OTHER PROBLEMS?
(IF OWNER AND HAVE AN IN-GROUND SPRINKLER WITH AUTO CONTROL)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|--|---------------|--------------|----------------|-------|-------|---------------------|--------------|-------------|-------|-------------------|-------|-------|-------|--------------------------|--------|--------|-------|----------------------|-------|---------------------|-------|-------------|------|--|
| UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| BLV/ KIRK/ SMM/ TUKW/ OWN HOME | | | | BUILT | | | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | | | | | | | |
| WGHTD | REDM/ ISSQ | COVG -TON | SKYW/ SKYWY | OWN | RENT | 1994 OR <1994 | SF/ LATER | 5+ 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL | 107 | 69 | 23 | 1 | 107 | - | 75 | 32 | 107 | - | 32 | 54 | 13 | 21 | 84 | 3 | 93 | 44 | 62 | 62 | 45 | 60 | 46 | |
| ANSWERING | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| YES | 52 | 35 | 10 | - | 52 | - | 33 | 19 | 52 | - | 19 | 22 | 7 | 9 | 42 | 1 | 47 | 17 | 35 | 32 | 20 | 31 | 19 | |
| | 48.4 | 50.7 | 43.5 | | 48.4 | | 44.2 | 58.6 | 48.4 | | 59.6 | 40.7 | 56.7 | 44.8 | 50.6 | 33.3 | 50.7 | 38.6 | 55.4 | 52.2 | 43.4 | 52.1 | 42.4 | |
| NO | 55 | 34 | 13 | 1 | 55 | - | 42 | 13 | 55 | - | 13 | 32 | 5 | 11 | 41 | 2 | 46 | 27 | 28 | 29 | 26 | 29 | 26 | |
| | 51.6 | 49.3 | 56.5 | 100.0 | 51.6 | | 55.8 | 41.4 | 51.6 | | 40.4 | 59.3 | 43.3 | 55.2 | 49.4 | 66.7 | 49.3 | 61.4 | 44.6 | 47.8 | 56.6 | 47.9 | 57.6 | |
| | | | | BC | | | | | | | | | | | | | | | | | | | | |

BC

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q41 Page 51

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW LIKELY WOULD YOU BE TO USE A FREE SERVICE OFFERED BY YOUR WATER UTILITY TO IDENTIFY EQUIPMENT PROBLEMS OR SCHEDULING ERRORS IN YOUR AUTOMATIC IN-GROUND SPRINKLER SYSTEM?
(IF OWNER AND HAVE AN IN-GROUND SPRINKLER WITH AUTO CONTROL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | |
|-------------------|--|----------------|--------------|-------|---------------------|------|-------|-------------|--|-------------|-------|-------|-------------------|-------|-------|--------|----------------------|-------|--------|-------|-------|-------|-------------|--|---------|--|------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | ===== | | | | | | | | | | | |
| | ===== | | | | | | | | BUILT | | | | | | | | PRIOR CONSRV | | | | | | REDUCE | | PROTECT | | SAVE | |
| | BLV/ KIRK/ SMM/ TUKW/ OWN HOME | | | | 1994 OR LATER | | | | HOUSING SF/ 2/3/4 5+ UNITS | | | | POTENTIAL TO SAVE | | | | PROGRAMS | | INCOME | | BILLS | | ENVIRONMENT | | SALMON | | | |
| | WGHTD | REDM/ TOTAL | COVG ISSQ | SKYWY | OWN | RENT | <1994 | OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | | |
| TOTAL ANSWERING | 107 | 69 | 23 | 1 | 107 | - | 75 | 32 | 107 | - | 32 | 54 | 13 | 21 | 84 | 3 | 93 | 44 | 62 | 62 | 45 | 60 | 46 | | | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | | | |
| LIKELY (NET) | 73 | 47 | 16 | 1 | 73 | - | 52 | 21 | 73 | - | 20 | 41 | 7 | 15 | 56 | 2 | 63 | 33 | 41 | 45 | 28 | 45 | 28 | | | | | |
| ===== | 68.6 | 68.1 | 69.6 | 100.0 | 68.6 | | 69.2 | 67.3 | 68.6 | | 60.5 | 76.4 | 54.3 | 72.4 | 66.9 | 66.7 | 67.4 | 73.6 | 65.1 | 73.4 | 62.1 | 75.1 | 61.7 | | | | | |
| | | | | BC | | | | | | | | | | | | | | | | | | | | | | | | |
| VERY LIKELY | 50 | 32 | 11 | - | 50 | - | 36 | 14 | 50 | - | 14 | 26 | 7 | 9 | 40 | 2 | 41 | 21 | 29 | 31 | 19 | 31 | 19 | | | | | |
| | 46.7 | 46.4 | 47.8 | | 46.7 | | 47.4 | 44.9 | 46.7 | | 42.9 | 47.7 | 54.3 | 43.4 | 47.4 | 66.7 | 44.5 | 47.9 | 45.8 | 50.9 | 41.0 | 52.1 | 40.7 | | | | | |
| SOMEWHAT LIKELY | 23 | 15 | 5 | 1 | 23 | - | 16 | 7 | 23 | - | 6 | 16 | - | 6 | 16 | - | 21 | 11 | 12 | 14 | 10 | 14 | 10 | | | | | |
| | 21.9 | 21.7 | 21.7 | 100.0 | 21.9 | | 21.8 | 22.4 | 21.9 | | 17.6 | 28.7 | | 29.0 | 19.5 | | 22.9 | 25.7 | 19.3 | 22.5 | 21.1 | 23.1 | 21.0 | | | | | |
| | | | | BC | | | | | | | | | | | | | | | | | | | | | | | | |
| NOT LIKELY (NET) | 31 | 21 | 6 | - | 31 | - | 21 | 10 | 31 | - | 13 | 12 | 4 | 4 | 27 | 1 | 28 | 11 | 20 | 15 | 16 | 15 | 15 | | | | | |
| ===== | 29.1 | 30.4 | 26.1 | | 29.1 | | 27.5 | 32.7 | 29.1 | | 39.5 | 21.6 | 34.6 | 21.0 | 31.8 | 33.3 | 29.9 | 24.0 | 32.7 | 24.8 | 34.9 | 24.9 | 32.9 | | | | | |
| NOT TOO LIKELY | 17 | 12 | 3 | - | 17 | - | 12 | 5 | 17 | - | 7 | 8 | 2 | 1 | 16 | - | 16 | 6 | 11 | 6 | 11 | 6 | 11 | | | | | |
| | 16.1 | 17.4 | 13.0 | | 16.1 | | 15.6 | 17.1 | 16.1 | | 21.0 | 15.1 | 17.3 | 5.2 | 19.1 | | 17.3 | 14.2 | 17.4 | 9.3 | 25.3 | 9.5 | 25.1 | | | | | |
| | | | | | | | | | | | | | | | N | | | | | T | | | v | | | | | |
| NOT AT ALL LIKELY | 14 | 9 | 3 | - | 14 | - | 9 | 5 | 14 | - | 6 | 4 | 2 | 3 | 11 | 1 | 12 | 4 | 10 | 10 | 4 | 9 | 4 | | | | | |
| | 13.0 | 13.0 | 13.0 | | 13.0 | | 11.9 | 15.6 | 13.0 | | 18.5 | 6.5 | 17.3 | 15.7 | 12.7 | 33.3 | 12.6 | 9.8 | 15.3 | 15.5 | 9.6 | 15.4 | 7.8 | | | | | |
| DON'T KNOW | 2 | 1 | 1 | - | 2 | - | 2 | - | 2 | - | - | 1 | 1 | 1 | 1 | - | 2 | 1 | 1 | 1 | 1 | - | 2 | | | | | |
| | 2.3 | 1.4 | 4.3 | | 2.3 | | 3.3 | | 2.3 | | | 2.0 | 11.0 | 6.7 | 1.3 | | 2.7 | 2.4 | 2.2 | 1.8 | 3.1 | | 5.4 | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q42 Page 52

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU USE A LANDSCAPE PROFESSIONAL TO HELP YOU TAKE CARE OF YOUR YARD?
(IF HAVE GARDEN/LAWN)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|-----------------|---------------------------------|-----------------------|----------------|----------|-------|---------------------|---------------------|--------------|-------------|-------------------|-------|-----------------------|-------|--------|--------|----------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | | | | | | | ===== | | ===== | | | | | | | | | | | | | | |
| | WGHTD | BLV/ KIRK/ REDM/ TOTAL | SAMM/ COVG ISSQ | TUKW/ SKYKY | OWN HOME | | 1994 OR <1994 | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK |
| | | | | | OWN | RENT | | | | | | | | | | | | VERY | DK | VERY | DK | VERY | DK |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| TOTAL ANSWERING | 463 | 287 | 94 | 78 | 432 | 24 | 352 | 107 | 463 | - | 162 | 207 | 68 | 100 | 341 | 64 | 343 | 201 | 260 | 276 | 186 | 254 | 205 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| YES | 109 | 76 | 17 | 10 | 102 | 6 | 74 | 32 | 109 | - | 37 | 50 | 16 | 24 | 84 | 13 | 78 | 38 | 69 | 64 | 45 | 58 | 49 |
| | 23.5 | 26.5 | 18.1 | 12.8 | 23.6 | 23.9 | 21.0 | 30.4 | 23.5 | | 22.9 | 23.9 | 23.6 | 23.6 | 24.6 | 19.5 | 22.8 | 19.0 | 26.6 | 23.1 | 24.2 | 22.9 | 24.0 |
| | | cd | | | | | | g | | | | | | | | | | | r | | | | |
| NO | 353 | 210 | 77 | 67 | 329 | 18 | 277 | 74 | 353 | - | 123 | 157 | 52 | 76 | 255 | 52 | 264 | 162 | 191 | 210 | 141 | 194 | 156 |
| | 76.2 | 73.2 | 81.9 | 85.9 | 76.1 | 76.1 | 78.7 | 69.6 | 76.2 | | 76.2 | 76.1 | 76.4 | 76.4 | 75.0 | 80.1 | 76.9 | 80.4 | 73.3 | 76.4 | 75.8 | 76.6 | 76.0 |
| | | | b | B | | | h | | | | | | | | | | | s | | | | | |
| DON'T KNOW | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 0 | 1 | 1 | 0 | 1 | - | 1 | - |
| | 0.3 | 0.3 | | 1.3 | 0.3 | | 0.4 | | 0.3 | | 0.8 | | | | 0.4 | 0.4 | 0.3 | 0.5 | 0.1 | 0.5 | | 0.5 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q43A Page 53

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HAS YOUR LANDSCAPE PROFESSIONAL PROVIDED YOU WITH ANY OF THE FOLLOWING ADVICE AND INFORMATION... HOW TO SAVE WATER BY IMPROVING YOUR SOIL?
(IF HAVE LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|-------|------|-------|--|----------|--|--|--|--|---------|--|--|--|--|-------------------|----------------------|--|--|--|--------|--------------|--|---------------------|------|-------------|------|--|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
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| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ | | | | | | | | | | HOUSING | | | | | | | | | | INCOME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | KIRK/ SAMM/ | | | | | OWN HOME | | | | | 1994 | | | | | POTENTIAL TO SAVE | | | | | | | | | SMW/ | | SMW/ | | SMW/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q43B Page 54

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HAS YOUR LANDSCAPE PROFESSIONAL PROVIDED YOU WITH ANY OF THE FOLLOWING ADVICE AND INFORMATION...) CHOOSING WATER EFFICIENT PLANTS?
(IF HAVE LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|------------|------------------------|--------------------------------|------------------------|-------------|-------|-------|---------------------|--------------------|----------------|-------------------|--------------|-------|--------|--------|--------------|-------|----------------------|--------------------|--------------------|-----------|-------|-----------|------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ COVG REDM/ ISSQ | TUKW/ SKYWY -TON | OWN HOME | OWN | RENT | 1994 OR <1994 | 5+ SF/ LATER | 2/3/4 UNITS | POTENTIAL TO SAVE | YES | NO | <\$50K | \$50K+ | YES | NO | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| | TOTAL ANSWERING | 109 | 76 | 17 | 10 | 102 | 6 | 74 | 32 | 109 | - | 37 | 50 | 16 | 24 | 84 | 13 | 78 | 38 | 69 | 64 | 45 | 58 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 30 | 20 | 6 | - | 29 | - | 17 | 13 | 30 | - | 10 | 12 | 5 | 6 | 22 | 5 | 22 | 9 | 21 | 22 | 8 | 21 | 8 |
| | 27.6 | 26.3 | 35.3 | | 28.3 | | 23.2 | 39.5 | 27.6 | | 27.9 | 24.3 | 33.8 | 27.5 | 26.6 | 36.9 | 27.8 | 23.4 | 30.3 | 34.2 u | 18.2 | 35.6 W | 16.6 |
| NO | 73 | 52 | 10 | 10 | 68 | 5 | 52 | 20 | 73 | - | 27 | 34 | 8 | 16 | 57 | 8 | 53 | 28 | 44 | 41 | 32 | 36 | 37 |
| | 67.2 | 68.4 | 58.8 | 100.0 BC | 67.1 | 81.0 | 70.5 | 60.5 | 67.2 | | 72.1 | 69.2 | 50.9 | 66.7 | 68.2 | 63.1 | 67.6 | 73.8 | 63.0 | 64.1 | 71.5 | 62.6 | 74.1 |
| DON'T KNOW | 4 | 4 | - | - | 3 | 1 | 3 | - | 4 | - | - | 3 | 1 | - | 4 | - | 2 | 1 | 3 | 1 | 3 | 1 | 3 |
| | 4.0 | 5.3 | | | 3.2 | 19.0 | 4.4 | | 4.0 | | | 6.6 | 6.8 | | 5.2 | | 2.8 | 2.8 | 4.7 | 1.7 | 7.2 | 1.9 | 6.6 |
| REFUSED | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 |
| | 1.3 | | 5.9 | | 1.4 | | 1.9 | | 1.3 | | | | 8.6 | 5.8 | | | 1.8 | | 2.0 | | 3.1 | | 2.8 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q43C Page 55

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HAS YOUR LANDSCAPE PROFESSIONAL PROVIDED YOU WITH ANY OF THE FOLLOWING ADVICE AND INFORMATION...) HOW TO SCHEDULE YOUR WATERING SO THAT IT'S MOST EFFICIENT?
(IF HAVE LANDSCAPE PROFESSIONAL AND WATER)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|------------------------|--------------------------------|------------------------|----------|-------|-------|---------------------|----------------------|-------------|-------------------|-------------------|-------------------|--------|-------|--------------|--------|----------------------|-------|-------------|-------|-------|-------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | | | | | | | ===== | | ===== | | ===== | | ===== | | ----- | | ----- | | ----- | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ COVG REDM/ ISSQ | TUKW/ SKYWY -TON | OWN HOME | OWN | RENT | 1994 OR <1994 | 5+ 2/3/4 LATER | 5+ UNITS | POTENTIAL TO SAVE | POTENTIAL TO SAVE | POTENTIAL TO SAVE | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| TOTAL ANSWERING | 52 | 35 | 10 | 1 | 51 | 1 | 34 | 18 | 52 | - | 15 | 26 | 9 | 14 | 38 | 4 | 44 | 17 | 35 | 31 | 21 | 30 | 21 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| YES | 26 | 16 | 6 | - | 25 | 1 | 13 | 13 | 26 | - | 7 | 14 | 3 | 7 | 19 | 1 | 23 | 9 | 16 | 18 | 8 | 15 | 9 |
| | 49.3 | 45.7 | 60.0 | | 48.4 | 79.1 | 37.7 | 72.2 | 49.3 | | 46.5 | 53.7 | 35.1 | 50.0 | 49.0 | 30.6 | 52.8 | 54.1 | 46.9 | 56.6 | 38.1 | 51.0 | 44.1 |
| | | | | | | | | G | | | | | | | | | | | | | | | |
| NO | 24 | 18 | 3 | 1 | 24 | 0 | 19 | 5 | 24 | - | 8 | 11 | 5 | 5 | 19 | 2 | 18 | 7 | 17 | 12 | 11 | 15 | 9 |
| | 46.0 | 51.4 | 30.0 | 100.0 | 46.7 | 20.9 | 55.1 | 27.8 | 46.0 | | 53.5 | 42.2 | 49.9 | 39.8 | 48.2 | 69.4 | 41.6 | 39.6 | 49.1 | 39.9 | 55.2 | 49.0 | 44.1 |
| | | | | BC | | | h | | | | | | | | | | | | | | | | |
| DON'T KNOW | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | 1 | - | - | 1 |
| | 2.1 | 2.9 | | | 2.1 | | 3.2 | | 2.1 | | | 4.1 | | | 2.8 | | 2.5 | 6.3 | | 3.5 | | | 5.2 |
| REFUSED | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 |
| | 2.7 | | 10.0 | | 2.7 | | 4.1 | | 2.7 | | | | 14.9 | 10.2 | | | 3.1 | | 4.0 | | 6.7 | | 6.6 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q43D Page 56

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HAS YOUR LANDSCAPE PROFESSIONAL PROVIDED YOU WITH ANY OF THE FOLLOWING ADVICE AND INFORMATION...) WATER-SAVING LAWN CARE SUCH AS AERATING YOUR LAWN?
(IF HAVE LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|--|--|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

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CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU OR YOUR LANDSCAPE PROFESSIONAL USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD... KEEP A 1-3 INCH LAYER OF MULCH, SUCH AS BARK OR WOOD CHIPS, AROUND SHRUBS/TREES/PLANTING BEDS?
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q44B Page 58

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU OR YOUR LANDSCAPE PROFESSIONAL USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) ADD COMPOST TO YOUR SOIL?
(IF HAVE LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|-----------------|-------|-------|----------|-------|-------|-------|-------|-------|-----|-------------------|-------|-------|-------------|-------|--------|----------|----------------------|-------|--------|-------|-------|-------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | REDUCE | | | PROTECT | | | SAVE | | | | | | | |
| | | | | | | | | | | | BILLS | | | ENVIRONMENT | | | SALMON | | | | | | | |
| | | | | | | | | | | | BLV/ | | | HOUSING | | | PRIOR | | | INCOME | | | | |
| | | | | | | | | | | | KIRK/ | | | CONSRV | | | PROGRAMS | | | | | | | |
| WGHTD | REDM/ | SAMM/ | TUKW/ | OWN HOME | | | 1994 | | 5+ | | POTENTIAL TO SAVE | | | | | | | | SMW/ | | SMW/ | | SMW/ | |
| TOTAL | ISSQ | COVG | -TON | OWN | RENT | | OR | SF/ | UNITS | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 109 | 76 | 17 | 10 | 102 | 6 | 74 | 32 | 109 | - | 37 | 50 | 16 | 24 | 84 | 13 | 78 | 38 | 69 | 64 | 45 | 58 | 49 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| USUALLY | 42 | 26 | 9 | 4 | 41 | 1 | 29 | 12 | 42 | - | 8 | 24 | 7 | 11 | 30 | 5 | 31 | 10 | 31 | 26 | 16 | 24 | 18 | |
| | 38.4 | 34.2 | 52.9 | 40.0 | 39.9 | 19.0 | 38.8 | 37.1 | 38.4 | | 22.8 | 48.5 | 42.3 | 48.3 | 36.1 | 36.9 | 40.2 | 27.1 | 45.3 | 41.1 | 34.6 | 41.1 | 36.0 | |
| | | | | | | | | | | | | K | | | | | | | r | | | | | |
| SOMETIMES | 16 | 13 | 1 | 1 | 14 | 1 | 11 | 4 | 16 | - | 6 | 8 | 2 | 3 | 11 | 4 | 10 | 8 | 8 | 9 | 7 | 10 | 6 | |
| | 14.5 | 17.1 | 5.9 | 10.0 | 13.3 | 19.0 | 15.5 | 13.4 | 14.5 | | 16.2 | 15.3 | 13.5 | 13.8 | 13.6 | 28.2 | 12.9 | 19.8 | 11.8 | 13.6 | 15.7 | 17.3 | 11.6 | |
| NEVER | 44 | 33 | 5 | 4 | 42 | 2 | 31 | 13 | 44 | - | 20 | 17 | 5 | 8 | 36 | 4 | 34 | 17 | 26 | 24 | 20 | 21 | 21 | |
| | 40.3 | 43.4 | 29.4 | 40.0 | 40.9 | 38.0 | 42.4 | 38.6 | 40.3 | | 54.3 | 34.0 | 33.8 | 32.1 | 43.1 | 32.7 | 43.8 | 43.1 | 37.8 | 37.6 | 44.2 | 36.9 | 43.0 | |
| | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| DON'T KNOW | 7 | 4 | 2 | 1 | 6 | 1 | 2 | 4 | 7 | - | 2 | 1 | 2 | 1 | 6 | 0 | 2 | 4 | 4 | 5 | 2 | 3 | 5 | |
| | 6.8 | 5.3 | 11.8 | 10.0 | 5.9 | 24.0 | 3.3 | 10.9 | 6.8 | | 6.6 | 2.2 | 10.4 | 5.8 | 7.1 | 2.3 | 3.2 | 10.0 | 5.1 | 7.7 | 5.5 | 4.7 | 9.4 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q44C Page 59

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU OR YOUR LANDSCAPE PROFESSIONAL USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) CHOOSE DROUGHT TOLERANT PLANTS WHEN NEW PLANTS ARE ADDED TO YOUR LANDSCAPE
(IF HAVE LANDSCAPE PROFESSIONAL)

| | UNWEIGHTED AREA | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-----------------|-----------------------|-------|-------|-------|----------|-------|-------|-------|-------|-----|----------------------|-------|-------|-------|-------|-----------------------------|--------|--------------------|--------------------|--------------------|
| | ===== | | | | | | | | | | ===== | | | | | | | | | |
| | BLV/ KIRK/ SMM/ | | | | | BUILT | | | | | POTENTIAL TO SAVE | | | | | PRIOR CONSRV PROGRAMS | | | | |
| | ===== | | | | | ===== | | | | | ===== | | | | | ===== | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | OWN HOME | 1994 | OR | SF/ | 5+ | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK |
| | TOTAL | ISSQ | -TON | SKYWY | OWN RENT | <1994 | LATER | 2/3/4 | UNITS | | | | | | | | | VERY | VERY | VERY |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) |
| | | | | | | | | | | | | | | | | | | | | |
| TOTAL ANSWERING | 109 | 76 | 17 | 10 | 102 | 6 | 74 | 32 | 109 | - | 37 | 50 | 16 | 24 | 84 | 13 | 78 | 38 | 69 | 64 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| USUALLY | 33 | 28 | 2 | 1 | 31 | 2 | 21 | 12 | 33 | - | 7 | 16 | 7 | 11 | 23 | 4 | 27 | 12 | 21 | 27 |
| | 30.7 | 36.8 | 11.8 | 10.0 | 30.6 | 38.0 | 28.7 | 37.7 | 30.7 | | 19.1 | 32.8 | 42.3 | 45.8 | 26.9 | 34.5 | 34.0 | 32.6 | 30.2 | 41.8 |
| | | CD | | | | | | | | | | | | | | | | | U | W |
| SOMETIMES | 17 | 10 | 4 | 2 | 16 | - | 8 | 9 | 17 | - | 3 | 10 | 3 | 3 | 14 | 4 | 12 | 6 | 11 | 12 |
| | 15.6 | 13.2 | 23.5 | 20.0 | 15.6 | | 10.4 | 28.6 | 15.6 | | 7.4 | 19.3 | 20.3 | 13.8 | 16.3 | 30.5 | 15.4 | 14.9 | 16.2 | 18.4 |
| | | | | | | | | g | | | | | | | | | | | | |
| NEVER | 46 | 29 | 9 | 6 | 43 | 2 | 35 | 10 | 46 | - | 24 | 18 | 3 | 7 | 38 | 4 | 34 | 16 | 29 | 18 |
| | 41.9 | 38.2 | 52.9 | 60.0 | 42.6 | 38.0 | 46.9 | 30.4 | 41.9 | | 63.9 | 37.0 | 20.3 | 30.0 | 45.8 | 32.7 | 42.9 | 40.5 | 41.8 | 28.7 |
| | | | | | | | | | | | LM | | | | | | | | T | V |
| DON'T KNOW | 13 | 9 | 2 | 1 | 11 | 1 | 10 | 1 | 13 | - | 4 | 5 | 3 | 2 | 9 | 0 | 6 | 5 | 8 | 7 |
| | 11.8 | 11.8 | 11.8 | 10.0 | 11.2 | 24.0 | 14.0 | 3.3 | 11.8 | | 9.6 | 10.9 | 17.1 | 10.4 | 11.0 | 2.3 | 7.7 | 12.0 | 11.8 | 11.1 |
| | | | | | | | h | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q44D Page 60

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU OR YOUR LANDSCAPE PROFESSIONAL USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) AERATE YOUR LAWN?
(IF HAVE LANDSCAPE PROFESSIONAL AND LAWN)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|------------------------|--------------------------------|---------------------------------|-------------------------|---------------------|-------------------------|-------------|---|--|----------------------------|------------|--------------------|------------|--------------------|------------|--------------------|----------------------|--------------------|------------|--------------------|------------|-------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | |
| | | | | | | | | | | | REDUCE | | | PROTECT | | | SAVE | | | | | | |
| | | | | | | | | | | | BILLS | | | ENVIRONMENT | | | SALMON | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ COVG REDM/ ISSQ | TUKW/ SKYWY -TON TOTAL | OWN HOME OWN RENT | 1994 OR <1994 | HOUSING SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE <5% 5-10% 10%+ | PRIOR CONSRV PROGRAMS YES NO | INCOME <\$50K \$50K+ | VERY DK | SMW/ NOT/ DK | VERY DK | SMW/ NOT/ DK | VERY DK | SMW/ NOT/ DK | VERY DK | SMW/ NOT/ DK | VERY DK | SMW/ NOT/ DK | VERY DK | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| TOTAL ANSWERING | 100 | 68 | 17 | 10 | 93 | 6 | 69 | 28 | 100 | - | 35 | 47 | 13 | 21 | 77 | 9 | 73 | 32 | 67 | 56 | 44 | 52 | 48 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| USUALLY | 37 | 25 | 7 | 2 | 34 | 3 | 25 | 13 | 37 | - | 7 | 22 | 5 | 10 | 27 | 1 | 33 | 8 | 28 | 24 | 14 | 20 | 17 |
| | 37.3 | 36.8 | 41.2 | 20.0 | 36.6 | 57.0 | 35.7 | 44.6 | 37.3 | | 20.3 | 47.2 | 36.1 | 48.1 | 34.8 | 11.6 | 44.9 | 26.5 | 41.4 | 42.3 | 30.9 | 38.5 | 36.1 |
| | | | | | | | | | | | | K | | | | | P | | | | | | |
| SOMETIMES | 35 | 24 | 6 | 3 | 34 | 1 | 25 | 9 | 35 | - | 14 | 17 | 4 | 4 | 30 | 4 | 25 | 15 | 20 | 19 | 16 | 19 | 16 |
| | 35.1 | 35.3 | 35.3 | 30.0 | 36.2 | 24.0 | 36.0 | 31.2 | 35.1 | | 41.4 | 36.2 | 27.7 | 20.2 | 38.4 | 41.1 | 33.7 | 46.9 | 30.1 | 34.4 | 36.1 | 37.3 | 32.8 |
| | | | | | | | | | | | | | | | n | | | | | | | | |
| NEVER | 23 | 16 | 3 | 5 | 23 | - | 17 | 6 | 23 | - | 12 | 7 | 2 | 5 | 17 | 3 | 13 | 5 | 18 | 10 | 13 | 11 | 11 |
| | 22.9 | 23.5 | 17.6 | 50.0 | 24.6 | | 24.7 | 20.4 | 22.9 | | 35.2 | 14.4 | 16.9 | 25.2 | 22.6 | 35.7 | 18.0 | 16.3 | 26.4 | 17.5 | 29.8 | 22.1 | 23.8 |
| | | | | c | | | | | | | L | | | | | | | | | | | | |
| DON'T KNOW | 5 | 3 | 1 | - | 2 | 1 | 2 | 1 | 5 | - | 1 | 1 | 2 | 1 | 3 | 1 | 2 | 3 | 1 | 3 | 1 | 1 | 4 |
| | 4.6 | 4.4 | 5.9 | | 2.6 | 19.0 | 3.5 | 3.9 | 4.6 | | 3.1 | 2.3 | 19.3 | 6.4 | 4.2 | 11.6 | 3.4 | 10.2 | 2.1 | 5.8 | 3.1 | 2.1 | 7.3 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q44E Page 61

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU OR YOUR LANDSCAPE PROFESSIONAL USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) LEAVE GRASS CLIPPINGS ON YOUR LAWN WHEN YOU MOW IT?
(IF HAVE LANDSCAPE PROFESSIONAL AND LAWN)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-----------------|--|------------|--------------|-------------|----------------|-------|-------|-------|---------|-----|-------------------|-------|-------|-------|--------------------------|--------|--------|----------------------|--------------------|----------------------|------------------------|-------|----------------|--|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ WGHTD REDM/ COVG TUKW/ OWN HOME | | | | BUILT ===== | | | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | OWN RENT | 1994 OR | SF/ 2/3/4 | 5+ UNITS | | | | | | | | | | | | | | SMW/ NOT/ VERY | SMW/ NOT/ DK | SMW/ NOT/ VERY | SMW/ NOT/ DK | | | | |
| TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 100 | 68 | 17 | 10 | 93 | 6 | 69 | 28 | 100 | - | 35 | 47 | 13 | 21 | 77 | 9 | 73 | 32 | 67 | 56 | 44 | 52 | 48 | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | |
| USUALLY | 22 | 14 | 4 | 4 | 19 | 1 | 15 | 7 | 22 | - | 9 | 10 | 3 | 6 | 15 | 5 | 12 | 12 | 10 | 14 | 7 | 11 | 11 | | |
| | 21.8 | 20.6 | 23.5 | 40.0 | 20.8 | 24.0 | 21.2 | 24.2 | 21.8 | | 26.5 | 20.2 | 21.4 | 28.0 | 19.0 | 52.8 | 16.5 | 37.0 | 15.0 | 25.8 | 16.8 | 20.5 | 23.2 | | |
| | | | | | | | | | | | | | | | | Q | | S | | | | | | | |
| SOMETIMES | 10 | 5 | 3 | - | 10 | - | 7 | 2 | 10 | - | 6 | 4 | - | 1 | 8 | - | 8 | 1 | 8 | 5 | 5 | 3 | 6 | | |
| | 9.6 | 7.4 | 17.6 | | 10.3 | | 10.6 | 7.7 | 9.6 | | 17.2 | 7.5 | | 5.0 | 10.9 | | 11.6 | 3.4 | 12.6 | 8.3 | 11.2 | 6.3 | 13.1 | | |
| | | | | | | | | | | | | | | | | | | r | | | | | | | |
| NEVER | 63 | 46 | 8 | 6 | 59 | 3 | 43 | 18 | 63 | - | 19 | 32 | 8 | 13 | 50 | 4 | 47 | 16 | 46 | 34 | 29 | 34 | 28 | | |
| | 62.6 | 67.6 | 47.1 | 60.0 | 63.7 | 57.0 | 62.6 | 64.2 | 62.6 | | 53.2 | 67.2 | 59.3 | 60.6 | 64.0 | 47.2 | 65.1 | 49.4 | 68.3 | 60.2 | 65.7 | 66.3 | 58.6 | | |
| | | | | | | | | | | | | | | | | | | r | | | | | | | |
| DON'T KNOW | 6 | 3 | 2 | - | 5 | 1 | 4 | 1 | 6 | - | 1 | 2 | 2 | 1 | 5 | - | 5 | 3 | 3 | 3 | 3 | 4 | 2 | | |
| | 6.0 | 4.4 | 11.8 | | 5.3 | 19.0 | 5.5 | 3.9 | 6.0 | | 3.1 | 5.2 | 19.3 | 6.4 | 6.0 | | 6.8 | 10.2 | 4.1 | 5.8 | 6.3 | 6.9 | 5.1 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q45A Page 62

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD... KEEP A 1-3 INCH LAYER OF MULCH, SUCH AS BARK OR WOOD CHIPS, AROUND YOUR SHRUBS/TREES/PLANTING BEDS?
(IF HAVE GARDEN/LAWN AND NOT LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|---------------------|--|-------------|--|
| UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q45B Page 63

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) ADD COMPOST TO YOUR SOIL?
(IF HAVE GARDEN/LAWN AND NOT LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-----------------|--|-------|-------|-------|----------------|-------|-------|-------|---------|------|-------------------|-------|--------|--------|-----------------------------|-------|----------------------|-------|-----------------|-------|------------------------|-------|----------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ WGHTD REDM/ COVG TUKW/ OWN HOME | | | | BUILT ===== | | | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | ===== | | | | ===== | | | | ===== | | ===== | | | | ===== | | ===== | | ===== | | ===== | | ===== | |
| | OWN | RENT | <1994 | LATER | 2/3/4 | 5+ | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 354 | 211 | 77 | 68 | 331 | 18 | 278 | 74 | 354 | - | 125 | 157 | 52 | 76 | 257 | 52 | 265 | 163 | 191 | 212 | 141 | 196 | 156 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| USUALLY | 118 | 76 | 21 | 22 | 114 | 3 | 97 | 21 | 118 | - | 36 | 55 | 23 | 32 | 83 | 12 | 92 | 57 | 61 | 81 | 37 | 78 | 40 | |
| | 33.2 | 36.0 | 27.3 | 32.4 | 34.4 | 15.1 | 34.7 | 28.0 | 33.2 | | 29.0 | 35.2 | 43.7 | 41.5 | 32.4 | 22.8 | 34.5 | 34.7 | 31.9 | 38.2 | 25.9 | 39.7 | 25.5 | |
| | | | | | F | | | | | | | | k | | | | p | | | U | | W | | |
| SOMETIMES | 100 | 65 | 19 | 13 | 96 | 3 | 78 | 23 | 100 | - | 41 | 40 | 14 | 22 | 69 | 15 | 74 | 57 | 44 | 62 | 36 | 55 | 44 | |
| | 28.3 | 30.8 | 24.7 | 19.1 | 29.0 | 16.8 | 27.9 | 30.6 | 28.3 | | 32.6 | 25.4 | 26.8 | 29.4 | 26.7 | 28.4 | 28.0 | 34.8 | 22.8 | 29.5 | 25.9 | 27.8 | 28.5 | |
| | | D | | | | | | | | | | | | | | | S | | | | | | | |
| NEVER | 133 | 69 | 36 | 31 | 118 | 12 | 101 | 31 | 133 | - | 47 | 61 | 15 | 22 | 102 | 25 | 96 | 49 | 84 | 67 | 67 | 60 | 72 | |
| | 37.6 | 32.7 | 46.8 | 45.6 | 35.7 | 66.5 | 36.5 | 41.4 | 37.6 | | 37.4 | 38.6 | 29.6 | 29.1 | 39.8 | 48.7 | 36.3 | 30.2 | 44.0 | 31.5 | 47.2 | 30.9 | 46.0 | |
| | | | B | b | | E | | | | | | | | n | | | | | R | T | | V | | |
| DON'T KNOW | 3 | 1 | 1 | 2 | 3 | 0 | 3 | - | 3 | - | 1 | 1 | - | - | 3 | - | 3 | 1 | 2 | 2 | 1 | 3 | - | |
| | 0.9 | 0.5 | 1.3 | 2.9 | 0.8 | 1.6 | 1.0 | | 0.9 | | 1.1 | 0.9 | | | 1.1 | | 1.1 | 0.4 | 1.3 | 0.8 | 1.0 | 1.6 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q45C Page 64

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) CHOOSE DROUGHT TOLERANT PLANTS WHEN NEW PLANTS ARE ADDED TO YOUR LANDSCAPE
(IF HAVE GARDEN/LAWN AND NOT LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|------------------------|---------------------------------|------------------------|----------|-------|-------|---------------------|--------------|-------------|-------------------|--------------|-------|----------|-------|--------------|--------|----------------------|--------------------|--------------------|-------|-------|-------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | ===== | | | | | | |
| | ===== | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ COVG REDM/ TOTAL | TUKW/ SKYWY -TON | OWN HOME | OWN | RENT | 1994 OR <1994 | SF/ LATER | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | |
| | ISSQ | ISSQ | ISSQ | ISSQ | ISSQ | ISSQ | ISSQ | ISSQ | ISSQ | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) |
| TOTAL ANSWERING | 354 | 211 | 77 | 68 | 331 | 18 | 278 | 74 | 354 | - | 125 | 157 | 52 | 76 | 257 | 52 | 265 | 163 | 191 | 212 | 141 | 196 | 156 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| USUALLY | 111 | 71 | 22 | 14 | 108 | 2 | 90 | 21 | 111 | - | 36 | 55 | 16 | 33 | 72 | 14 | 88 | 57 | 54 | 84 | 27 | 75 | 35 |
| | 31.4 | 33.6 | 28.6 | 20.6 | 32.7 | 12.0 | 32.3 | 28.7 | 31.4 | | 28.7 | 34.9 | 31.0 | 43.4 | 27.9 | 26.3 | 33.1 | 35.1 | 28.2 | 39.9 | 19.0 | 38.3 | 22.6 |
| | | D | | | F | | | | | | | | | O | | | | | U | | W | | |
| SOMETIMES | 99 | 64 | 18 | 16 | 95 | 3 | 82 | 17 | 99 | - | 31 | 48 | 14 | 16 | 77 | 11 | 78 | 45 | 54 | 55 | 43 | 56 | 42 |
| | 27.9 | 30.3 | 23.4 | 23.5 | 28.6 | 15.1 | 29.3 | 23.2 | 27.9 | | 24.9 | 30.4 | 27.3 | 20.7 | 30.1 | 21.2 | 29.4 | 27.4 | 28.2 | 26.1 | 30.8 | 28.8 | 27.1 |
| NEVER | 128 | 66 | 34 | 33 | 114 | 11 | 94 | 33 | 128 | - | 54 | 46 | 20 | 23 | 96 | 26 | 86 | 54 | 74 | 61 | 66 | 57 | 69 |
| | 36.1 | 31.3 | 44.2 | 48.5 | 34.3 | 62.2 | 33.7 | 44.0 | 36.1 | | 43.5 | 29.0 | 39.1 | 29.9 | 37.5 | 50.9 | 32.4 | 33.2 | 38.5 | 29.0 | 47.1 | 29.2 | 44.4 |
| | | | B | B | | E | | | | | L | | | | | Q | | | | T | | V | |
| DON'T KNOW | 14 | 8 | 3 | 4 | 12 | 2 | 12 | 2 | 14 | - | 2 | 9 | 0 | 4 | 10 | 1 | 12 | 7 | 7 | 9 | 3 | 5 | 9 |
| | 3.9 | 3.8 | 3.9 | 5.9 | 3.6 | 10.7 | 4.3 | 2.2 | 3.9 | | 2.0 | 5.6 | 0.6 | 4.6 | 3.9 | 1.1 | 4.6 | 4.0 | 3.9 | 4.4 | 2.3 | 2.4 | 5.9 |
| | | | | | | | | | | | | M | | | | | P | | | | | | |
| REFUSED | 2 | 2 | - | 1 | 2 | - | 1 | 1 | 2 | - | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 1 | 1 | 2 | - |
| | 0.7 | 0.9 | | 1.5 | 0.7 | | 0.4 | 1.8 | 0.7 | | 0.9 | 0.2 | 2.1 | 1.4 | 0.5 | 0.6 | 0.4 | 0.2 | 1.1 | 0.6 | 0.8 | 1.3 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

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CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
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(DO YOU USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) AERATE YOUR LAWN?
(IF HAVE LAWN AND NOT LANDSCAPE PROFESSIONAL)

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Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q45E Page 66

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(DO YOU USUALLY, SOMETIMES OR NEVER DO ANY OF THE FOLLOWING IN YOUR YARD...) LEAVE GRASS CLIPPINGS ON YOUR LAWN WHEN YOU MOW IT?
(IF HAVE LAWN AND NOT LANDSCAPE PROFESSIONAL)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|-----------------|------------------------|-----------------------|----------------|----------|-------|---------------------|--------------|-------------|-------------------|--------------|-------|----------|--------|--------------|-------|----------------------|-------|--------------------|--------------------|--------------------|-------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | | | |
| | | | | | | | ===== | | ===== | | ===== | | ===== | | ===== | | ===== | | ===== | | | | |
| | WGHTD | KIRK/ REDM/ ISSQ | SAMM/ COVG -TON | TUKW/ SKYWY | OWN HOME | | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | |
| TOTAL | ISSQ | COVG | SKYWY | OWN | RENT | <1994 | OR | 5+ | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 320 | 187 | 72 | 63 | 298 | 18 | 251 | 67 | 320 | - | 115 | 146 | 45 | 71 | 229 | 45 | 240 | 145 | 175 | 188 | 130 | 174 | 143 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| USUALLY | 125 | 68 | 31 | 29 | 113 | 9 | 101 | 23 | 125 | - | 42 | 59 | 17 | 35 | 86 | 17 | 95 | 61 | 64 | 83 | 42 | 76 | 48 |
| | 39.0 | 36.4 | 43.1 | 46.0 | 37.8 | 51.5 | 40.3 | 34.9 | 39.0 | | 36.8 | 40.5 | 38.6 | 49.1 | 37.7 | 37.1 | 39.5 | 42.0 | 36.5 | 44.1 | 31.9 | 43.4 | 33.6 |
| | | | | | | | | | | | | | | | | | | | | U | | W | |
| SOMETIMES | 81 | 48 | 17 | 21 | 77 | 3 | 60 | 21 | 81 | - | 27 | 39 | 13 | 15 | 59 | 10 | 60 | 39 | 43 | 40 | 40 | 39 | 43 |
| | 25.5 | 25.7 | 23.6 | 33.3 | 26.0 | 15.5 | 23.9 | 31.6 | 25.5 | | 23.8 | 26.7 | 28.4 | 20.7 | 25.9 | 21.9 | 25.1 | 26.7 | 24.5 | 21.5 | 30.4 | 22.1 | 30.0 |
| | | | | | | | | | | | | | | | | | | | | t | | | |
| NEVER | 111 | 70 | 23 | 13 | 105 | 6 | 88 | 22 | 111 | - | 44 | 48 | 14 | 20 | 82 | 16 | 85 | 46 | 66 | 62 | 49 | 59 | 51 |
| | 34.8 | 37.4 | 31.9 | 20.6 | 35.4 | 33.1 | 34.8 | 33.5 | 34.8 | | 38.2 | 32.7 | 30.7 | 28.2 | 35.9 | 35.6 | 35.5 | 31.3 | 37.7 | 33.0 | 37.7 | 33.8 | 35.6 |
| | | D | | | | | | | | | | | | | | | | | | | | | |
| DON'T KNOW | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | - | 1 | - | 1 | - | - | 1 | 1 | - | 1 | - |
| | 0.4 | | 1.4 | | 0.5 | | 0.5 | | 0.4 | | 1.2 | | | 1.9 | | 3.0 | | | 0.8 | 0.7 | | 0.8 | |
| REFUSED | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | 1 | - | - | 1 | 1 | - | - | 1 |
| | 0.3 | 0.5 | | | 0.4 | | 0.4 | | 0.3 | | | | 2.4 | | 0.5 | 2.4 | | | 0.6 | 0.6 | | | 0.8 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q46 Page 67

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

DO YOU COLLECT RAIN WATER FROM YOUR ROOF TO WATER YOUR PLANTS, BY USING A RAIN BARREL OR OTHER SYSTEM?
(IF HAVE GARDEN/LAWN)

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|-----------------|-------------------------------|----------------|----------|---------------------|--------------|-------------|-------------|-------|-------------|-----|-------------------|-------|-----------------------|-------|--------|--------|----------------------|---------------------|--------------------|-------|-------|-------|------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | PROTECT ENVIRONMENT | SAVE SALMON | | | | |
| | | | | | | | ===== | | ===== | | ===== | | ===== | | ===== | | | | | | | | |
| | BLV/ KIRK/ SMM/ COVG | TUKW/ SKYWY | OWN HOME | 1994 OR LATER | SF/ 2/3/4 | 5+ UNITS | | | | | | | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | |
| | WGHTD TOTAL | ISSQ | -TON | OWN | RENT | <1994 | OR LATER | 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 463 | 287 | 94 | 78 | 432 | 24 | 352 | 107 | 463 | - | 162 | 207 | 68 | 100 | 341 | 64 | 343 | 201 | 260 | 276 | 186 | 254 | 205 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 55 | 32 | 11 | 18 | 49 | 5 | 42 | 13 | 55 | - | 12 | 28 | 11 | 23 | 31 | 12 | 31 | 28 | 27 | 36 | 19 | 30 | 23 |
| | 11.9 | 11.1 | 11.7 | 23.1 | 11.3 | 21.8 | 11.8 | 12.6 | 11.9 | | 7.3 | 13.3 | 16.2 | 22.8 | 9.1 | 19.3 | 9.1 | 14.0 | 10.3 | 13.0 | 10.3 | 12.0 | 11.3 |
| | | | | Bc | | | | | | | | k | k | O | | q | | | | | | | |
| NO | 406 | 253 | 83 | 60 | 382 | 19 | 311 | 91 | 406 | - | 149 | 179 | 56 | 77 | 308 | 52 | 310 | 171 | 234 | 239 | 166 | 224 | 180 |
| | 87.7 | 88.2 | 88.3 | 76.9 | 88.2 | 78.2 | 88.2 | 85.3 | 87.7 | | 92.0 | 86.7 | 82.2 | 77.2 | 90.3 | 80.7 | 90.2 | 84.9 | 89.7 | 86.6 | 89.1 | 88.0 | 87.6 |
| | | D | d | | | | | | | | m | | | N | | p | | | | | | | |
| DON'T KNOW | 2 | 2 | - | - | 2 | - | - | 2 | 2 | - | 1 | - | 1 | - | 2 | - | 2 | 2 | - | 1 | 1 | - | 2 |
| | 0.5 | 0.7 | | | 0.5 | | | 2.0 | 0.5 | | 0.7 | | 1.6 | | 0.6 | | 0.6 | 1.1 | | 0.4 | 0.6 | | 1.1 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q47 Page 68

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

I'D ALSO LIKE TO KNOW HOW YOU WASH YOUR CAR. DO YOU GENERALLY WASH YOUR CAR AT HOME OR DO YOU GO TO A CAR WASH?

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|----------------------|---------------------------------|-----------------------|------------------------|--------------|--------------|---------------------|--------------|--------------|--------------|--------------|-------------------|--------------|-------------|--------------|--------------|--------------|----------------------|--------------|--------------------|--------------------|--------------|--------------------|---------------------|--|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | BUILT | | HOUSING | | | PRIOR CONSRV | | INCOME | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | | | | | | ===== | | ===== | | | ===== | | ===== | | | ----- | | ----- | | ----- | |
| | BLV/ KIRK/ WGHTD TOTAL | SAMM/ COVG ISSQ | TUKW/ -TON SKYWY | OWN HOME | | 1994 OR LATER | | SF/ 2/3/4 | | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | | SMW/ NOT/ DK | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| TOTAL ANSWERING | 600 100.0 | 399 100.0 | 100 100.0 | 105 100.0 | 489 100.0 | 102 100.0 | 412 100.0 | 162 100.0 | 475 100.0 | 124 100.0 | 229 100.0 | 249 100.0 | 84 100.0 | 128 100.0 | 442 100.0 | 120 100.0 | 417 100.0 | 254 100.0 | 345 100.0 | 363 100.0 | 235 100.0 | 325 100.0 | 272 100.0 | | | |
| DO NOT WASH CAR | 31 5.2 | 25 6.3 | 2 2.0 | 4 3.8 | 16 3.3 | 14 13.3 | 23 5.5 | 8 5.0 | 19 4.0 | 12 9.8 | 18 7.7 | 2 0.9 | 4 5.2 | 4 2.8 | 25 5.7 | 16 13.2 | 12 2.9 | 12 4.6 | 19 5.6 | 20 5.6 | 11 4.6 | 16 4.8 | 15 5.7 | | | |
| | | C | | | | E | | | | I | L | | 1 | | | Q | | | | | | | | | | |
| WASH CAR AT HOME | 204 34.1 | 125 31.3 | 42 42.0 | 39 37.1 | 195 39.8 | 10 9.4 | 153 37.2 | 48 29.7 | 194 40.9 | 10 8.1 | 62 27.2 | 97 39.0 | 34 40.7 | 45 35.0 | 150 34.1 | 30 25.0 | 148 35.4 | 93 36.6 | 111 32.2 | 112 30.8 | 91 38.8 | 98 30.3 | 105 38.5 | | | |
| | | | b | | F | | | | J | | | K | K | | | | P | | | | t | | V | | | |
| WASH CAR AT CAR WASH | 332 55.4 | 225 56.4 | 54 54.0 | 49 46.7 | 256 52.3 | 71 69.1 | 213 51.6 | 97 59.7 | 242 51.0 | 90 72.6 | 134 58.5 | 136 54.6 | 44 52.5 | 71 55.5 | 245 55.4 | 65 54.7 | 238 57.1 | 143 56.1 | 190 55.0 | 217 59.9 | 115 49.0 | 194 59.7 | 136 50.1 | | | |
| | | d | | | E | | | g | | I | | | | | | | | | | U | | W | | | | |
| DO NOT OWN CAR | 10 1.6 | 8 2.0 | - | 4 3.8 | 4 0.8 | 5 4.8 | 5 1.3 | 4 2.7 | 2 0.4 | 7 5.5 | 6 2.7 | 2 0.9 | 0 0.3 | 3 2.5 | 7 1.5 | 5 4.6 | 2 0.5 | 1 0.5 | 8 2.4 | 4 1.1 | 5 2.0 | 4 1.3 | 6 2.1 | | | |
| | | | | | | e | | | | I | m | | | | | Q | | | r | | | | | | | |
| DON'T KNOW/DEPENDS | 22 3.6 | 15 3.8 | 2 2.0 | 9 8.6 | 18 3.6 | 4 3.5 | 17 4.0 | 5 2.9 | 17 3.5 | 5 3.9 | 9 3.8 | 10 4.2 | 1 1.3 | 4 3.4 | 15 3.3 | 3 2.5 | 16 3.9 | 4 1.7 | 16 4.7 | 9 2.3 | 13 5.6 | 12 3.6 | 10 3.6 | | | |
| | | | | bC | | | | | | | | | | | | | | | R | | t | | | | | |
| REFUSED | 1 0.2 | 1 0.3 | - | - | 1 0.2 | - | 1 0.3 | - | 1 0.2 | - | - | 1 0.4 | - | 1 0.8 | - | - | 1 0.3 | 1 0.4 | - | 1 0.3 | - | 1 0.3 | - | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q48 Page 69

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HAVE YOU HEARD ANY NEWS ABOUT A POTENTIAL DROUGHT THIS YEAR?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|-----|-------------------------------|-------|-------|-------|----------|-------|-------|-------|---------|-------|-------------------|-------|-------|-------|--------------|--------|--------|------------|----------------------|------------|-------|-------|-------|-----|
| | ===== | | | | | | | | | | | | | | | | | | ===== | | | | | |
| | BLV/ KIRK/ SMM/ COVG | | | | OWN HOME | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV | | INCOME | | REDUCE | PROTECT | SAVE | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | OWN | RENT | 1994 | OR | SF/ | 5+ | | | | | | | | SMW/ | SMW/ | SMW/ | | | | |
| | TOTAL | ISSQ | -TON | SKYKY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | NOT/ DK | NOT/ DK | NOT/ DK | | | | |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | | | |
| | (V) | (W) | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| YES | 535 | 352 | 93 | 88 | 455 | 72 | 375 | 145 | 440 | 94 | 187 | 234 | 82 | 124 | 387 | 101 | 376 | 227 | 307 | 328 | 204 | 294 | 238 | |
| | 89.1 | 88.2 | 93.0 | 83.8 | 93.1 | 70.5 | 91.1 | 89.4 | 92.6 | 75.7 | 81.8 | 94.0 | 97.7 | 96.4 | 87.5 | 84.4 | 90.2 | 89.2 | 89.0 | 90.4 | 86.9 | 90.4 | 87.4 | |
| | | | D | | F | | | | J | | | K | K | O | | | | | | | | | | |
| NO | 65 | 47 | 7 | 17 | 34 | 30 | 37 | 17 | 35 | 30 | 42 | 15 | 2 | 5 | 55 | 19 | 41 | 28 | 38 | 35 | 31 | 31 | 34 | |
| | 10.9 | 11.8 | 7.0 | 16.2 | 6.9 | 29.5 | 8.9 | 10.6 | 7.4 | 24.3 | 18.2 | 6.0 | 2.3 | 3.6 | 12.5 | 15.6 | 9.8 | 10.8 | 11.0 | 9.6 | 13.1 | 9.6 | 12.6 | |
| | | | | C | | E | | | | I | LM | | | | N | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q49 Page 70

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW CONCERNED ARE YOU THAT YOU WILL BE ASKED TO VOLUNTARILY CUT BACK ON YOUR WATER USE THIS SUMMER DUE TO A POTENTIAL DROUGHT? ARE YOU VERY CONCERNED, SOMEWHAT CONCERNED, NOT TOO CONCERNED, OR NOT AT ALL CONCERNED? (IF AWARE OF DROUGHT)

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|------------------------------|------------------------|---------------|---------------------------|----------------|--------------|--------------|---------------------|-----------------|--|-------------|-------------------|------------------|------------------|-----------------|--------------|-----------------------|------------------|----------------------|------------------|------------------|------------------|---------------------|-----------------|-------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | BUILT | | | | | | | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ SMM/ | | SMM/ TUKW/ OWN HOME | | OWN HOME | | 1994 OR LATER | | HOUSING SF/ 2/3/4 5+ UNITS | | POTENTIAL TO SAVE | | | | | | | | | | | | | | |
| | WGHTD TOTAL ISSQ | REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN OWN | RENT RENT | <1994 | OR LATER | SF/ 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | NOT/ DK | VERY | NOT/ DK | VERY | NOT/ DK | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 535 100.0 | 352 100.0 | 93 100.0 | 88 100.0 | 455 100.0 | 72 100.0 | 375 100.0 | 145 100.0 | 440 100.0 | 94 100.0 | 187 100.0 | 234 100.0 | 82 100.0 | 124 100.0 | 387 100.0 | 101 100.0 | 376 100.0 | 227 100.0 | 307 100.0 | 328 100.0 | 204 100.0 | 294 100.0 | 238 100.0 | | |
| CONCERNED (NET) ===== | 215 40.1 | 146 41.5 | 33 35.5 | 38 43.2 | 185 40.6 | 27 37.9 | 155 41.2 | 54 37.5 | 175 39.8 | 39 41.0 | 63 33.7 | 109 46.6 K | 32 39.6 | 58 47.0 o | 147 38.0 | 51 50.6 Q | 132 35.1 | 103 45.2 s | 112 36.5 | 147 44.7 U | 68 33.3 | 127 43.3 | 88 36.8 | | |
| VERY CONCERNED | 73 13.7 | 52 14.8 | 9 9.7 | 15 17.0 | 63 13.9 | 8 11.8 | 48 12.9 | 21 14.7 | 60 13.8 | 11 12.2 | 17 9.1 | 31 13.3 | 18 22.3 K1 | 24 19.6 o | 47 12.3 | 20 20.3 Q | 42 11.2 | 46 20.4 S | 27 8.7 | 64 19.4 U | 9 4.5 | 48 16.5 W | 25 10.3 | | |
| SOMEWHAT CONCERNED | 141 26.5 | 94 26.7 | 24 25.8 | 23 26.1 | 122 26.7 | 19 26.1 | 106 28.3 | 33 22.8 | 114 26.0 | 27 28.9 | 46 24.5 | 78 33.3 KM | 14 17.3 | 34 27.4 | 99 25.7 | 31 30.3 | 90 23.8 | 56 24.8 | 85 27.8 | 83 25.3 | 59 28.8 | 79 26.8 | 63 26.5 | | |
| NOT CONCERNED (NET) ===== | 311 58.2 | 202 57.4 | 57 61.3 | 49 55.7 | 263 57.7 | 43 60.2 | 213 56.7 | 89 61.8 | 256 58.3 | 55 58.7 | 120 64.3 L | 121 51.9 | 48 58.7 | 64 52.1 | 232 60.0 | 50 49.4 | 237 63.0 P | 121 53.4 | 189 61.6 r | 174 53.0 | 135 66.2 T | 160 54.7 | 147 62.0 | | |
| NOT TOO CONCERNED | 195 36.4 | 124 35.2 | 37 39.8 | 33 37.5 | 165 36.3 | 26 35.9 | 126 33.5 | 64 44.4 G | 159 36.2 | 36 38.1 | 71 38.2 | 79 33.9 | 33 40.4 | 39 31.6 | 149 38.5 | 31 31.1 | 150 39.9 | 75 33.2 | 120 39.0 | 102 31.0 | 91 44.4 T | 94 32.0 | 97 40.9 V | | |
| NOT AT ALL CONCERNED | 117 21.8 | 78 22.2 | 20 21.5 | 16 18.2 | 98 21.4 | 17 24.3 | 87 23.2 | 25 17.4 | 97 22.1 | 19 20.6 | 49 26.1 1 | 42 18.0 | 15 18.3 | 25 20.6 | 83 21.6 | 19 18.4 | 87 23.1 | 46 20.3 | 69 22.6 | 72 22.0 | 44 21.7 | 67 22.7 | 50 21.1 | | |
| DON'T KNOW | 9 1.6 | 4 1.1 | 3 3.2 | 1 1.1 | 7 1.6 | 1 1.9 | 8 2.0 | 1 0.7 | 8 1.9 j | 0 0.3 | 4 2.1 | 4 1.5 | 1 1.7 | 1 0.9 | 8 2.0 | - 2.0 | 7 2.0 | 3 1.3 | 6 1.9 | 8 2.3 u | 1 0.5 | 6 2.0 | 3 1.2 | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q50 Page 71

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHEN YOU THINK ABOUT ALL THE WAYS WE'VE BEEN TALKING ABOUT USING WATER, HOW MUCH DO YOU THINK YOU COULD REALISTICALLY CUT YOUR WATER USE WITHOUT IT HAVING A NEGATIVE EFFECT ON YOUR LIFESTYLE?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|---|---------------------------------|-----------------------|------------------------|-------------------------|---------------------|-------------------------------|---|--|----------------------------|------------|--------------------|--------------------------------------|--------------------|------------------------------|--------------------|--------------------|----------------|-------|----------------------|-------|-------|-------|-------|--|--|--|
| | ===== | | | | | | | | | | ===== | | | | | | | | | | | | | | | |
| | | | | | | | | | | | REDUCE BILLS | | | PROTECT ENVIRONMENT | | | SAVE SALMON | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ WGHTD TOTAL | SAMM/ COVG ISSQ | TUKW/ SKYWY -TON | OWN HOME OWN RENT | 1994 OR <1994 | HOUSING SF/ 5+ LATER | POTENTIAL TO SAVE <5% 5-10% 10%+ | PRIOR CONSRV PROGRAMS YES NO | INCOME <\$50K \$50K+ | VERY DK | SMW/ NOT/ DK | PROTECT ENVIRONMENT VERY DK | SMW/ NOT/ DK | SAVE SALMON VERY DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | | | | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| COULD REDUCE BY LESS THAN 5% (SMALL) | 229 | 153 | 38 | 37 | 175 | 49 | 149 | 66 | 165 | 62 | 229 | - | - | 36 | 179 | 55 | 148 | 90 | 137 | 126 | 101 | 111 | 115 | | | |
| | 38.1 | 38.3 | 38.0 | 35.2 | 35.9 | 48.4 | 36.2 | 40.8 | 34.8 | 50.3 | 100.0 | | | 28.3 | 40.5 | 46.1 | 35.5 | 35.5 | 39.9 | 34.9 | 43.0 | 34.3 | 42.3 | | | |
| | | | | | | E | | | | I | | | | | N | Q | | | | t | | v | | | | |
| COULD REDUCE BY 5-10% (MEDIUM) | 249 | 155 | 51 | 36 | 220 | 26 | 178 | 63 | 210 | 38 | - | 249 | - | 65 | 175 | 30 | 199 | 108 | 141 | 153 | 96 | 140 | 109 | | | |
| | 41.4 | 38.8 | 51.0 | 34.3 | 45.0 | 25.7 | 43.2 | 39.0 | 44.3 | 30.9 | | 100.0 | | 50.8 | 39.6 | 25.2 | 47.6 | 42.3 | 40.9 | 42.1 | 40.8 | 43.1 | 39.9 | | | |
| | | | BD | | F | | | | J | | | | | O | | P | | | | | | | | | | |
| COULD REDUCE BY 10% OR MORE (LARGE) | 84 | 61 | 8 | 23 | 66 | 15 | 65 | 17 | 71 | 13 | - | - | 84 | 22 | 58 | 21 | 51 | 40 | 43 | 60 | 23 | 53 | 29 | | | |
| | 13.9 | 15.3 | 8.0 | 21.9 | 13.6 | 14.5 | 15.7 | 10.7 | 14.9 | 10.6 | | | 100.0 | 17.3 | 13.2 | 17.6 | 12.3 | 15.9 | 12.6 | 16.7 | 9.9 | 16.4 | 10.6 | | | |
| | | C | | C | | | | | | | | | | | | | | | | U | | W | | | | |
| DON'T KNOW | 34 | 27 | 2 | 8 | 22 | 12 | 17 | 14 | 24 | 10 | - | - | - | 2 | 27 | 13 | 16 | 14 | 20 | 19 | 14 | 17 | 17 | | | |
| | 5.7 | 6.8 | 2.0 | 7.6 | 4.6 | 11.4 | 4.1 | 8.6 | 5.0 | 8.3 | | | | 1.9 | 6.1 | 10.9 | 3.8 | 5.4 | 5.9 | 5.3 | 5.9 | 5.4 | 6.2 | | | |
| | | C | | c | | E | | g | | | | | | | N | Q | | | | | | | | | | |
| REFUSED | 5 | 3 | 1 | 1 | 5 | - | 4 | 1 | 5 | - | - | - | - | 2 | 3 | 0 | 3 | 2 | 2 | 4 | 1 | 2 | 2 | | | |
| | 0.8 | 0.8 | 1.0 | 1.0 | 1.0 | | 0.9 | 0.9 | 1.0 | | | | | 1.7 | 0.6 | 0.2 | 0.8 | 1.0 | 0.7 | 1.1 | 0.5 | 0.8 | 0.9 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q51M1 Page 72

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

ASIDE FROM A DROUGHT SITUATION, WHAT WOULD BE THE MOST IMPORTANT REASONS FOR YOU TO REDUCE THE AMOUNT OF WATER YOU USE IN YOUR HOME?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|--|-----------------------------------|-------|-------|-------|----------|-------|------------|-------|---------|-------|-------------------|-------|-------|-------|-----------------------------|--------|----------------------|--------------------|--------------------|------------------------|----------------|-------|-------|--|--|--|
| | BLV/ KIRK/ SMM/ OWN HOME | | | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | PROTECT ENVIRONMENT | SAVE SALMON | | | | | |
| | WGHTD | REDM/ | COVG | TUKW/ | OWN RENT | | 1994 OR | SF/ | 5+ | | | | | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| COST/BILL/RATE/MONEY/ ECONOMICAL | 297 | 183 | 61 | 51 | 268 | 27 | 214 | 80 | 264 | 33 | 104 | 128 | 53 | 65 | 219 | 49 | 219 | 157 | 139 | 160 | 137 | 143 | 150 | | | |
| | 49.5 | 45.9 | 61.0 | 48.6 | 54.7 | 26.1 | 51.8 | 49.5 | 55.5 | 26.7 | 45.6 | 51.5 | 63.8 | 51.0 | 49.5 | 41.2 | 52.6 | 61.9 | 40.5 | 44.2 | 58.2 | 44.2 | 55.1 | | | |
| | | | Bd | | F | | | | J | | | | Kl | | | | P | S | | | T | | V | | | |
| CONSERVATION/SAVE RESOURCES/FOR THE FUTURE/ TO NOT WASTE | 148 | 104 | 21 | 23 | 121 | 23 | 100 | 43 | 116 | 32 | 51 | 70 | 20 | 44 | 95 | 41 | 97 | 60 | 87 | 103 | 44 | 90 | 59 | | | |
| | 24.7 | 26.1 | 21.0 | 21.9 | 24.7 | 23.0 | 24.3 | 26.3 | 24.4 | 26.1 | 22.4 | 28.2 | 24.5 | 34.2 | 21.5 | 34.0 | 23.2 | 23.6 | 25.2 | 28.3 | 18.7 | 27.6 | 21.6 | | | |
| | | | | | | | | | | | | | | O | | Q | | | | U | | | | | | |
| ENVIRONMENT/ECOLOGICAL/ NATURE | 65 | 46 | 9 | 8 | 53 | 11 | 44 | 17 | 49 | 16 | 16 | 35 | 10 | 10 | 52 | 11 | 48 | 27 | 38 | 56 | 9 | 51 | 14 | | | |
| | 10.8 | 11.5 | 9.0 | 7.6 | 10.9 | 11.2 | 10.8 | 10.4 | 10.2 | 12.9 | 7.0 | 13.9 | 12.3 | 7.8 | 11.8 | 9.0 | 11.4 | 10.6 | 10.9 | 15.4 | 3.7 | 15.6 | 5.1 | | | |
| | | | | | | | | | | | | K | | | | | | | | U | | W | | | | |
| MENTION DROUGHT/WATER SHORTAGE | 31 | 16 | 9 | 6 | 22 | 8 | 24 | 5 | 21 | 10 | 11 | 17 | 2 | 3 | 23 | 4 | 22 | 13 | 18 | 19 | 12 | 17 | 14 | | | |
| | 5.2 | 4.0 | 9.0 | 5.7 | 4.5 | 7.7 | 5.8 | 3.2 | 4.5 | 8.3 | 4.6 | 6.8 | 2.9 | 2.4 | 5.1 | 3.2 | 5.4 | 5.2 | 5.3 | 5.4 | 5.1 | 5.2 | 5.3 | | | |
| | | | b | | | | | | | | | | | | | | | | | | | | | | | |
| SAVING METHODS | 22 | 16 | 2 | 7 | 18 | 4 | 12 | 9 | 16 | 6 | 8 | 8 | 5 | 3 | 19 | 3 | 15 | 13 | 9 | 18 | 4 | 16 | 7 | | | |
| | 3.7 | 4.0 | 2.0 | 6.7 | 3.7 | 4.0 | 2.9 | 5.5 | 3.5 | 4.6 | 3.6 | 3.4 | 6.2 | 2.1 | 4.2 | 2.8 | 3.6 | 5.0 | 2.6 | 5.0 | 1.5 | 4.8 | 2.4 | | | |
| | | | c | | | | | | | | | | | | | | | | U | | | | | | | |
| FORCED/MANDATED | 3 | 3 | - | - | 3 | - | 1 | 1 | 3 | - | 2 | 1 | - | 2 | 1 | - | 3 | - | 3 | 2 | 1 | 1 | 2 | | | |
| | 0.5 | 0.8 | | | 0.7 | | 0.3 | 0.7 | 0.7 | | 0.9 | 0.4 | | 1.7 | 0.2 | | 0.8 | | 0.9 | 0.6 | 0.5 | 0.3 | 0.8 | | | |
| OTHER | 11 | 8 | 1 | 2 | 8 | 2 | 11 | - | 7 | 3 | 2 | 5 | 2 | 5 | 6 | 1 | 8 | 2 | 8 | 6 | 5 | 6 | 5 | | | |
| | 1.8 | 2.0 | 1.0 | 1.9 | 1.7 | 2.1 | 2.6 | | 1.6 | 2.6 | 0.9 | 2.0 | 2.6 | 3.6 | 1.3 | 1.1 | 1.9 | 0.9 | 2.4 | 1.6 | 2.0 | 1.8 | 1.8 | | | |
| NOTHING MORE/NONE | 16 | 10 | 3 | 2 | 11 | 4 | 7 | 6 | 11 | 4 | 5 | 5 | 2 | 0 | 14 | 1 | 12 | 2 | 13 | 10 | 6 | 9 | 7 | | | |
| | 2.6 | 2.5 | 3.0 | 1.9 | 2.3 | 4.2 | 1.7 | 3.9 | 2.4 | 3.5 | 2.1 | 2.0 | 2.6 | 0.2 | 3.2 | 1.1 | 2.8 | 1.0 | 3.8 | 2.7 | 2.4 | 2.7 | 2.5 | | | |
| | | | | | | | | | | | | | | | N | | | | R | | | | | | | |
| DON'T KNOW | 84 | 62 | 9 | 17 | 57 | 26 | 53 | 23 | 54 | 30 | 45 | 22 | 5 | 14 | 69 | 19 | 49 | 26 | 59 | 51 | 32 | 44 | 40 | | | |
| | 14.1 | 15.5 | 9.0 | 16.2 | 11.6 | 25.9 | 12.9 | 14.1 | 11.3 | 23.8 | 19.5 | 8.9 | 6.2 | 10.6 | 15.5 | 15.9 | 11.8 | 10.1 | 17.1 | 14.1 | 13.8 | 13.7 | 14.7 | | | |
| | | c | | | | E | | | | I | LM | | | | | | | | R | | | | | | | |
| REFUSED | 7 | 5 | 1 | 1 | 6 | 1 | 7 | - | 6 | 1 | 4 | 1 | - | 2 | 2 | 4 | 4 | 0 | 7 | 2 | 5 | 2 | 5 | | | |
| | 1.2 | 1.3 | 1.0 | 1.0 | 1.2 | 1.1 | 1.7 | | 1.3 | 0.9 | 1.7 | 0.4 | | 1.9 | 0.6 | 3.0 | 0.9 | 0.1 | 2.0 | 0.7 | 2.0 | 0.8 | 1.7 | | | |
| | | | | | | | | | | | | | | | | | | | R | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q52A Page 73

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW IMPORTANT ARE THE FOLLOWING IN DECIDING TO REDUCE WATER USE AT HOME? VERY IMPORTANT, SOMEWHAT IMPORTANT, NOT TOO IMPORTANT, OR NOT AT ALL IMPORTANT...)
REDUCING WATER AND SEWER BILLS

| | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|-------|------------|-------|----------|-------|---------|-------|--------------|-------|-------------------|-------|--------------|-------|--------|--------|--------------|-------|-----------|-------|-----------|-------|---------------------|----|-------------|--|
| | | | | | | | | | | | | | | | | | REDUCE BILLS | | | | | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | UNWEIGHTED AREA | | | | | | | | BUILT | | HOUSING | | PRIOR CONSRV | | INCOME | | | | | | | | | | | |
| | BLV/ KIRK/ | | SAMM/ COVG | | OWN HOME | | 1994 OR | | 5+ SF/ 2/3/4 | | POTENTIAL TO SAVE | | PROGRAMS | | | | | | SMW/ NOT/ | | SMW/ NOT/ | | SMW/ NOT/ | | | |
| | WGHTD | REDM/ | | TUKW/ | | | | | | | | | | | | | | | | | | | | | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | OR | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | DK | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| VERY IMPORTANT | 254 | 165 | 45 | 47 | 211 | 37 | 169 | 78 | 205 | 48 | 90 | 108 | 40 | 59 | 182 | 57 | 167 | 254 | - | 196 | 58 | 162 | 92 | | | |
| | 42.4 | 41.4 | 45.0 | 44.8 | 43.1 | 36.4 | 41.1 | 47.8 | 43.2 | 38.6 | 39.5 | 43.3 | 48.2 | 45.8 | 41.3 | 47.3 | 40.1 | 100.0 | | 54.1 | 24.7 | 49.9 | 33.9 | | | |
| | | | | | | | | | | | | | | | | | | | | U | | W | | | | |
| SOMEWHAT/NOT IMPORTANT/ DON'T KNOW (NET) | 345 | 233 | 55 | 57 | 277 | 65 | 241 | 85 | 268 | 76 | 137 | 141 | 43 | 69 | 258 | 63 | 249 | - | 345 | 166 | 176 | 163 | 178 | | | |
| ===== | 57.4 | 58.4 | 55.0 | 54.3 | 56.6 | 63.6 | 58.6 | 52.2 | 56.5 | 61.4 | 60.1 | 56.7 | 51.8 | 54.2 | 58.5 | 52.7 | 59.6 | | 100.0 | 45.9 | 74.9 | 50.1 | 65.5 | | | |
| | | | | | | | | | | | | | | | | | | | | T | | V | | | | |
| SOMEWHAT IMPORTANT | 243 | 156 | 45 | 41 | 207 | 33 | 173 | 59 | 206 | 37 | 86 | 109 | 37 | 50 | 185 | 37 | 185 | - | 243 | 122 | 121 | 121 | 118 | | | |
| | 40.5 | 39.1 | 45.0 | 39.0 | 42.3 | 32.5 | 42.0 | 36.5 | 43.3 | 29.7 | 37.8 | 43.7 | 44.6 | 38.9 | 41.9 | 31.3 | 44.3 | | 70.5 | 33.6 | 51.5 | 37.4 | 43.3 | | | |
| | | | | | f | | | | J | | | | | | | | P | | | T | | | | | | |
| NOT TOO IMPORTANT | 54 | 40 | 6 | 7 | 39 | 14 | 36 | 13 | 32 | 22 | 23 | 25 | 1 | 11 | 37 | 7 | 41 | - | 54 | 24 | 30 | 24 | 29 | | | |
| | 8.9 | 10.0 | 6.0 | 6.7 | 8.0 | 14.1 | 8.9 | 7.9 | 6.7 | 17.7 | 10.2 | 10.2 | 1.6 | 8.4 | 8.4 | 6.1 | 9.7 | | 15.6 | 6.6 | 12.6 | 7.5 | 10.7 | | | |
| | | | | | | | | | I | | M | M | | | | | | | | T | | | | | | |
| NOT AT ALL IMPORTANT | 35 | 28 | 2 | 6 | 24 | 10 | 25 | 7 | 24 | 10 | 20 | 7 | 4 | 5 | 29 | 9 | 21 | - | 35 | 15 | 20 | 11 | 24 | | | |
| | 5.8 | 7.0 | 2.0 | 5.7 | 5.0 | 10.1 | 6.1 | 4.2 | 5.2 | 8.3 | 8.6 | 2.8 | 4.2 | 3.8 | 6.5 | 7.3 | 5.0 | | 10.1 | 4.2 | 8.3 | 3.3 | 8.9 | | | |
| | | | C | | | | | | | | L | | | | | | | | | t | | V | | | | |
| DON'T KNOW | 13 | 9 | 2 | 3 | 6 | 7 | 6 | 6 | 6 | 7 | 8 | - | 1 | 4 | 7 | 10 | 3 | - | 13 | 5 | 6 | 6 | 7 | | | |
| | 2.2 | 2.3 | 2.0 | 2.9 | 1.3 | 6.9 | 1.5 | 3.5 | 1.3 | 5.7 | 3.5 | | 1.3 | 3.0 | 1.7 | 8.0 | 0.7 | | 3.9 | 1.4 | 2.4 | 1.9 | 2.6 | | | |
| | | | | | E | | | | | I | | | | | | Q | | | | | | | | | | |
| REFUSED | 1 | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | - | - | 1 | - | 1 | | | |
| | 0.2 | 0.3 | | 1.0 | 0.3 | | 0.3 | | 0.3 | | 0.5 | | | | 0.2 | | 0.3 | | | | 0.5 | | 0.5 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q52B Page 74

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW IMPORTANT ARE THE FOLLOWING IN DECIDING TO REDUCE WATER USE AT HOME? VERY IMPORTANT, SOMEWHAT IMPORTANT, NOT TOO IMPORTANT, OR NOT AT ALL IMPORTANT...)
PROTECTING THE ENVIRONMENT IN GENERAL

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | |
|---|-----------------|---------------------------------|-------|-------------------------------|----------------|----------|-------|---------------------|-------|-------------------------|-------|-------------|-------|-------------------|-------|-------|-----------------------------|----------------------|--------|------------|-----------------|--------------------|------------------------|--------------------|----------------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | BLV/ KIRK/ REDM/ TOTAL | | SAMM/ COVG -TON ISSQ | TUKW/ SKYKY | OWN HOME | | BUILT 1994 OR | | HOUSING SF/ 2/3/4 | | 5+ UNITS | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| WGHTD | ISSQ | | | | | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| VERY IMPORTANT | 363 | 244 | 57 | 69 | 290 | 65 | 249 | 96 | 284 | 78 | 126 | 153 | 60 | 87 | 256 | 86 | 240 | 196 | 166 | 363 | - | 278 | 83 | | | |
| | 60.4 | 61.2 | 57.0 | 65.7 | 59.3 | 63.3 | 60.5 | 59.2 | 59.7 | 62.7 | 55.3 | 61.5 | 72.3 | 67.9 | 58.0 | 71.5 | 57.6 | 77.2 | 48.3 | 100.0 | | 85.7 | 30.7 | | | |
| | | | | | | | | | | | | | K1 | O | | Q | | S | | | | W | | | | |
| SOMEWHAT/NOT IMPORTANT/ DON'T KNOW (NET) | 235 | 154 | 42 | 35 | 197 | 36 | 161 | 65 | 189 | 45 | 101 | 96 | 23 | 39 | 186 | 33 | 176 | 58 | 176 | - | 235 | 47 | 186 | | | |
| ===== | 39.1 | 38.6 | 42.0 | 33.3 | 40.3 | 35.6 | 39.1 | 40.2 | 39.9 | 36.4 | 44.1 | 38.5 | 27.7 | 30.2 | 42.0 | 27.6 | 42.1 | 22.8 | 51.0 | | 100.0 | 14.3 | 68.3 | | | |
| | | | | | | | | | | | M | m | | | N | | P | | R | | | V | | | | |
| SOMEWHAT IMPORTANT | 199 | 130 | 36 | 30 | 168 | 30 | 136 | 57 | 158 | 41 | 78 | 91 | 19 | 35 | 156 | 29 | 151 | 54 | 145 | - | 199 | 40 | 157 | | | |
| | 33.2 | 32.6 | 36.0 | 28.6 | 34.4 | 29.0 | 32.9 | 35.1 | 33.4 | 32.7 | 34.2 | 36.4 | 22.5 | 27.2 | 35.3 | 24.2 | 36.2 | 21.4 | 42.0 | | 84.8 | 12.3 | 57.6 | | | |
| | | | | | | | | | | | M | M | | | n | | P | | R | | | V | | | | |
| NOT TOO IMPORTANT | 12 | 8 | 2 | 2 | 8 | 4 | 6 | 5 | 10 | 2 | 8 | 2 | 1 | 1 | 10 | 0 | 11 | 2 | 9 | - | 12 | 2 | 10 | | | |
| | 2.0 | 2.0 | 2.0 | 1.9 | 1.7 | 3.5 | 1.5 | 2.9 | 2.0 | 2.0 | 3.7 | 1.0 | 1.3 | 0.8 | 2.2 | 0.2 | 2.5 | 0.9 | 2.5 | | 5.1 | 0.7 | 3.6 | | | |
| | | | | | | | | | | | 1 | | | | | | P | | | | | V | | | | |
| NOT AT ALL IMPORTANT | 16 | 10 | 3 | 2 | 13 | 2 | 12 | 2 | 13 | 2 | 11 | 3 | 1 | 2 | 12 | 4 | 10 | 1 | 14 | - | 16 | 2 | 13 | | | |
| | 2.6 | 2.5 | 3.0 | 1.9 | 2.7 | 2.1 | 3.0 | 1.3 | 2.8 | 1.7 | 4.6 | 1.1 | 1.3 | 1.9 | 2.7 | 3.2 | 2.3 | 0.5 | 4.1 | | 6.6 | 0.7 | 4.9 | | | |
| | | | | | | | | | | | Lm | | | | | | | | R | | | V | | | | |
| DON'T KNOW | 8 | 6 | 1 | 1 | 7 | 1 | 7 | 1 | 8 | - | 4 | - | 2 | 0 | 8 | - | 5 | - | 8 | - | 8 | 2 | 6 | | | |
| | 1.4 | 1.5 | 1.0 | 1.0 | 1.4 | 1.1 | 1.6 | 0.9 | 1.7 | | 1.5 | | 2.6 | 0.2 | 1.8 | | 1.1 | | 2.4 | | 3.5 | 0.7 | 2.2 | | | |
| | | | | | | | | | | | | | | n | | | | | | | | | | | | |
| REFUSED | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | - | - | 2 | - | 1 | 1 | - | 2 | - | - | - | 3 | | | |
| | 0.5 | 0.3 | 1.0 | 1.0 | 0.3 | 1.1 | 0.4 | 0.7 | 0.4 | 0.9 | 0.6 | | | 1.9 | | 0.9 | 0.3 | | 0.7 | | | | 1.0 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q52C Page 75

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW IMPORTANT ARE THE FOLLOWING IN DECIDING TO REDUCE WATER USE AT HOME? VERY IMPORTANT, SOMEWHAT IMPORTANT, NOT TOO IMPORTANT, OR NOT AT ALL IMPORTANT...)
HAVING ENOUGH WATER FOR SALMON

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | |
|---|--|-------|-------|-------|----------|-------|---------------------|-------|--|-------|-------------------|-------|-------|-----------------------------|--------|--------|-------|----------------------|-------|------------------------|-------|--------------------|-------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ SMM/ TUKW/ WGHTD TOTAL | | | | OWN HOME | | BUILT 1994 OR | | HOUSING SF/ 5+ 2/3/4 UNITS | | POTENTIAL TO SAVE | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | 2/3/4 | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | SMW/ DK | VERY | SMW/ NOT/ DK | VERY | SMW/ NOT/ DK | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| VERY IMPORTANT | 325 | 222 | 49 | 58 | 265 | 53 | 224 | 88 | 260 | 63 | 111 | 140 | 53 | 77 | 231 | 83 | 212 | 162 | 163 | 278 | 47 | 325 | - | |
| | 54.1 | 55.6 | 49.0 | 55.2 | 54.3 | 52.1 | 54.3 | 54.6 | 54.8 | 51.0 | 48.7 | 56.3 | 63.8 | 59.7 | 52.2 | 69.0 | 51.0 | 63.7 | 47.2 | 76.7 | 19.8 | 100.0 | | |
| | | | | | | | | | | | | | K | | | Q | | S | | U | | | | |
| SOMEWHAT/NOT IMPORTANT/ DON'T KNOW (NET) | 272 | 175 | 50 | 47 | 220 | 49 | 186 | 73 | 211 | 61 | 115 | 109 | 29 | 50 | 209 | 37 | 202 | 92 | 178 | 83 | 186 | - | 272 | |
| | 45.3 | 43.9 | 50.0 | 44.8 | 45.0 | 47.9 | 45.1 | 44.8 | 44.5 | 49.0 | 50.3 | 43.7 | 34.6 | 39.2 | 47.3 | 31.0 | 48.5 | 36.3 | 51.7 | 23.0 | 79.1 | | 100.0 | |
| | | | | | | | | | | | M | | | | | P | | R | | T | | | | |
| SOMEWHAT IMPORTANT | 199 | 121 | 42 | 35 | 164 | 33 | 138 | 50 | 157 | 42 | 73 | 91 | 21 | 42 | 149 | 26 | 153 | 72 | 127 | 69 | 129 | - | 199 | |
| | 33.2 | 30.3 | 42.0 | 33.3 | 33.6 | 32.5 | 33.4 | 31.0 | 33.1 | 33.7 | 31.7 | 36.7 | 24.5 | 32.6 | 33.8 | 21.7 | 36.8 | 28.3 | 36.8 | 19.0 | 54.8 | | 73.2 | |
| | | | B | | | | | | | | | M | | | | P | | R | | T | | | | |
| NOT TOO IMPORTANT | 37 | 28 | 4 | 5 | 28 | 8 | 21 | 15 | 26 | 11 | 24 | 7 | 5 | 1 | 33 | 6 | 25 | 13 | 23 | 7 | 30 | - | 37 | |
| | 6.2 | 7.0 | 4.0 | 4.8 | 5.7 | 7.7 | 5.1 | 9.4 | 5.5 | 8.9 | 10.7 | 2.7 | 5.5 | 1.1 | 7.6 | 4.8 | 6.1 | 5.0 | 6.8 | 2.0 | 12.7 | | 13.7 | |
| | | | | | | | | | | | L | | | | N | | | | | T | | | | |
| NOT AT ALL IMPORTANT | 25 | 17 | 4 | 4 | 22 | 3 | 20 | 5 | 21 | 4 | 13 | 9 | 2 | 6 | 17 | 3 | 19 | 5 | 20 | 5 | 20 | - | 25 | |
| | 4.2 | 4.3 | 4.0 | 3.8 | 4.5 | 3.2 | 5.0 | 2.9 | 4.4 | 3.5 | 5.8 | 3.7 | 2.9 | 4.5 | 3.8 | 2.5 | 4.5 | 2.0 | 5.8 | 1.3 | 8.7 | | 9.2 | |
| | | | | | | | | | | | | | | | | | | R | | T | | | | |
| DON'T KNOW | 11 | 9 | - | 3 | 6 | 5 | 7 | 2 | 7 | 4 | 5 | 1 | 1 | 1 | 9 | 2 | 5 | 2 | 8 | 3 | 7 | - | 11 | |
| | 1.8 | 2.3 | | 2.9 | 1.2 | 4.5 | 1.6 | 1.5 | 1.5 | 2.8 | 2.0 | 0.6 | 1.6 | 1.1 | 2.1 | 2.0 | 1.2 | 1.0 | 2.4 | 0.8 | 2.9 | | 3.9 | |
| | | | | | | | | | | | | | | | | | | | | t | | | | |
| REFUSED | 4 | 2 | 1 | - | 4 | - | 2 | 1 | 4 | - | 2 | - | 1 | 1 | 2 | - | 2 | - | 4 | 1 | 2 | - | - | |
| | 0.6 | 0.5 | 1.0 | | 0.7 | | 0.6 | 0.7 | 0.7 | | 0.9 | | 1.6 | 1.1 | 0.5 | | 0.5 | | 1.0 | 0.3 | 1.0 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q52D Page 76

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

(HOW IMPORTANT ARE THE FOLLOWING IN DECIDING TO REDUCE WATER USE AT HOME? VERY IMPORTANT, SOMEWHAT IMPORTANT, NOT TOO IMPORTANT, OR NOT AT ALL IMPORTANT...)
ENSURING ENOUGH WATER FOR THE FUTURE

| | IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------|----------------|-----------------|------------------|---------------------|---------------------|--------------------|-------------|-------------|-------|-------|-------|-------|-------|--------|--------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-------|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | |
| | BUILT | | | | | | | | | | | | | | | | | | | | | | |
| | HOUSING | | | | | | | | | | | | | | | | | | | | | | |
| | POTENTIAL TO SAVE | | | | | | | | | | | | | | | | | | | | | | |
| | PRIOR CONSRV PROGRAMS | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| BLV/ KIRK/ WGHTD TOTAL | SAMM/ COVG ISSQ | TUKW/ SKYWY | OWN HOME OWN | OWN HOME RENT | 1994 OR <1994 | 1994 OR LATER | 5+ SF/ 2/3/4 | 5+ UNITS | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| VERY IMPORTANT | 440 | 294 | 73 | 73 | 359 | 72 | 304 | 117 | 350 | 89 | 159 | 193 | 64 | 104 | 311 | 96 | 305 | 207 | 233 | 342 | 96 | 301 | 137 |
| | 73.3 | 73.7 | 73.0 | 69.5 | 73.4 | 70.5 | 73.9 | 72.3 | 73.8 | 71.4 | 69.4 | 77.7 | 76.9 | 81.1 | 70.4 | 80.1 | 73.1 | 81.4 | 67.6 | 94.4 | 41.1 | 92.6 | 50.4 |
| | | | | | | | | | | | | k | | | O | | | S | | U | | W | |
| SOMEWHAT/NOT IMPORTANT/ DON'T KNOW (NET) | 157 | 102 | 27 | 31 | 128 | 29 | 105 | 44 | 122 | 34 | 69 | 55 | 19 | 22 | 130 | 23 | 110 | 47 | 108 | 20 | 136 | 24 | 131 |
| | 26.1 | 25.6 | 27.0 | 29.5 | 26.1 | 28.4 | 25.5 | 27.1 | 25.7 | 27.7 | 30.2 | 22.3 | 23.1 | 17.2 | 29.3 | 19.0 | 26.4 | 18.6 | 31.4 | 5.6 | 58.0 | 7.4 | 48.3 |
| | | | | | | | | | | | 1 | | | | N | | P | | R | | T | | V |
| SOMEWHAT IMPORTANT | 117 | 73 | 23 | 21 | 101 | 16 | 80 | 34 | 93 | 24 | 48 | 47 | 12 | 18 | 95 | 15 | 87 | 41 | 74 | 15 | 102 | 17 | 100 |
| | 19.5 | 18.3 | 23.0 | 20.0 | 20.6 | 15.7 | 19.3 | 20.9 | 19.6 | 19.0 | 21.0 | 18.9 | 14.7 | 14.0 | 21.6 | 12.8 | 20.8 | 16.2 | 21.6 | 4.2 | 43.3 | 5.1 | 36.8 |
| | | | | | | | | | | | | | | | n | | P | | | | T | | V |
| NOT TOO IMPORTANT | 16 | 12 | 1 | 5 | 10 | 5 | 9 | 4 | 11 | 4 | 10 | 4 | 2 | - | 14 | 4 | 11 | 4 | 11 | 3 | 13 | 2 | 14 |
| | 2.6 | 3.0 | 1.0 | 4.8 | 2.1 | 5.3 | 2.3 | 2.7 | 2.4 | 3.5 | 4.3 | 1.4 | 2.9 | | 3.3 | 3.0 | 2.7 | 1.7 | 3.3 | 0.8 | 5.6 | 0.6 | 5.1 |
| | | | | | | | | | | | 1 | | | | | | | | | | T | | V |
| NOT AT ALL IMPORTANT | 16 | 10 | 3 | 3 | 13 | 3 | 13 | 2 | 13 | 3 | 9 | 5 | 2 | 4 | 12 | 2 | 10 | 0 | 16 | 2 | 14 | 3 | 11 |
| | 2.6 | 2.5 | 3.0 | 2.9 | 2.6 | 3.2 | 3.1 | 1.3 | 2.6 | 2.6 | 3.8 | 1.9 | 2.9 | 3.0 | 2.7 | 1.4 | 2.3 | 0.1 | 4.5 | 0.6 | 5.8 | 1.0 | 4.1 |
| | | | | | | | | | | | | | | | | | | | R | | T | | V |
| DON'T KNOW | 8 | 7 | - | 2 | 4 | 4 | 4 | 4 | 5 | 3 | 2 | 0 | 2 | 0 | 8 | 2 | 3 | 1 | 7 | 0 | 8 | 2 | 6 |
| | 1.4 | 1.8 | | 1.9 | 0.8 | 4.2 | 0.9 | 2.2 | 1.0 | 2.6 | 1.1 | 0.1 | 2.6 | 0.2 | 1.8 | 1.8 | 0.7 | 0.5 | 2.0 | 0.1 | 3.4 | 0.7 | 2.2 |
| | | | | | | e | | | | | | | | | n | | | | | T | | | |
| REFUSED | 4 | 3 | - | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | - | - | 2 | 1 | 1 | 2 | - | 3 | - | 2 | - | 4 |
| | 0.6 | 0.8 | | 1.0 | 0.5 | 1.1 | 0.6 | 0.7 | 0.5 | 0.9 | 0.5 | | | 1.7 | 0.2 | 0.9 | 0.5 | | 0.9 | | 0.9 | | 1.3 |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|---|------------------------|-------|---------------|----------------|----------|-------|------------|-------|---------|-------------|-------------------|-------|--------------|----------|-------|--------|----------------------|--------------------|-------|---------------------|--------------------|-------------|--------------------|--|
| | UNWEIGHTED AREA | | | | | | BUILT | | | | | | PRIOR CONSRV | | | | REDUCE BILLS | | | PROTECT ENVIRONMENT | | SAVE SALMON | | |
| | ===== | | | | | | ===== | | | | | | ===== | | | | ===== | | | ===== | | ===== | | |
| | BLV/ KIRK/ WGHTD | | SAMM/ COVG | | OWN HOME | | 1994 OR | | HOUSING | | POTENTIAL TO SAVE | | | PROGRAMS | | INCOME | | SMW/ NOT/ DK | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | |
| | TOTAL | ISSQ | -TON | TUKW/ SKYW/ | OWN | RENT | <1994 | LATER | 2/3/4 | 5+ UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| VERY IMPORTANT | 387 | 262 | 61 | 65 | 314 | 65 | 268 | 102 | 306 | 79 | 134 | 172 | 59 | 92 | 273 | 82 | 267 | 189 | 198 | 320 | 65 | 270 | 114 | |
| | 64.4 | 65.7 | 61.0 | 61.9 | 64.2 | 63.5 | 65.0 | 63.1 | 64.4 | 64.0 | 58.5 | 69.2 | 70.3 | 71.9 | 61.9 | 68.3 | 63.9 | 74.2 | 57.3 | 88.1 | 27.8 | 83.3 | 41.8 | |
| | | | | | | | | | | | | K | k | O | | | | S | | U | | W | | |
| SOMEWHAT/NOT IMPORTANT/ DON'T KNOW (NET) | 213 | 136 | 39 | 40 | 175 | 36 | 144 | 59 | 169 | 44 | 95 | 77 | 25 | 35 | 168 | 37 | 150 | 66 | 146 | 43 | 170 | 54 | 157 | |
| ===== | 35.4 | 34.1 | 39.0 | 38.1 | 35.8 | 35.4 | 35.0 | 36.2 | 35.6 | 35.2 | 41.5 | 30.8 | 29.7 | 27.2 | 38.1 | 30.8 | 36.1 | 25.8 | 42.3 | 11.9 | 72.2 | 16.7 | 57.8 | |
| | | | | | | | | | | | Lm | | | | N | | | | R | | T | | V | |
| SOMEWHAT IMPORTANT | 187 | 117 | 36 | 36 | 156 | 30 | 126 | 52 | 148 | 38 | 79 | 73 | 23 | 32 | 146 | 31 | 135 | 59 | 127 | 40 | 147 | 50 | 136 | |
| | 31.1 | 29.3 | 36.0 | 34.3 | 31.8 | 29.1 | 30.7 | 31.8 | 31.3 | 30.8 | 34.7 | 29.2 | 27.1 | 25.1 | 33.1 | 26.1 | 32.3 | 23.1 | 36.8 | 10.9 | 62.7 | 15.4 | 49.9 | |
| | | | | | | | | | | | | | | | n | | | | R | | T | | V | |
| NOT TOO IMPORTANT | 11 | 10 | - | - | 8 | 3 | 5 | 4 | 8 | 3 | 5 | 2 | 1 | 1 | 10 | 2 | 8 | 4 | 6 | 1 | 10 | 1 | 10 | |
| | 1.8 | 2.5 | | | 1.5 | 3.2 | 1.3 | 2.7 | 1.6 | 2.6 | 2.4 | 0.9 | 1.3 | 0.8 | 2.2 | 1.8 | 1.8 | 1.7 | 1.9 | 0.3 | 4.2 | 0.3 | 3.6 | |
| | | | | | | | | | | | | | | | | | | | | | T | | V | |
| NOT AT ALL IMPORTANT | 10 | 5 | 3 | 2 | 9 | 1 | 8 | 2 | 9 | 1 | 9 | 1 | - | 1 | 9 | 1 | 8 | 1 | 9 | - | 10 | 1 | 9 | |
| | 1.7 | 1.3 | 3.0 | 1.9 | 1.8 | 1.1 | 1.9 | 1.5 | 1.9 | 0.9 | 3.8 | 0.6 | | 1.1 | 2.0 | 1.1 | 1.8 | 0.4 | 2.6 | | 4.3 | 0.3 | 3.3 | |
| | | | | | | | | | | | L | | | | | | | | R | | | | V | |
| DON'T KNOW | 5 | 4 | - | 2 | 3 | 2 | 5 | 0 | 4 | 1 | 1 | 0 | 1 | 0 | 4 | 2 | 1 | 1 | 4 | 2 | 2 | 2 | 3 | |
| | 0.8 | 1.0 | | 1.9 | 0.6 | 2.1 | 1.1 | 0.2 | 0.8 | 0.9 | 0.6 | 0.1 | 1.3 | 0.2 | 0.8 | 1.8 | 0.1 | 0.5 | 1.0 | 0.7 | 1.0 | 0.7 | 1.0 | |
| REFUSED | 1 | 1 | - | - | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | - | - | 1 | - | - | - | 1 | |
| | 0.2 | 0.3 | | | | 1.1 | | 0.7 | | 0.9 | | | | 0.8 | | 0.9 | | | 0.3 | | | | 0.1 | |

Cascade Water Alliance
Conservation Potential Assessment – Appendix A-2

Table Q53 Page 78

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HAVE YOU PARTICIPATED IN ANY WATER CONSERVATION PROGRAMS OFFERED THROUGH YOUR LOCAL WATER UTILITY IN THE PAST?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-----------------|------------------------|------------------------|--------------|----------------|----------|-------|---------------------|--------------------|-------|-------------------|---------|-------|-------|-------|-----------------------|--------|----------------------|-------|--------|-------|--------------|-------|---------------------|--|-------------|--|
| | | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV PROGRAMS | | | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | OWN HOME | RENT | 1994 OR <1994 | SF/ 5+ 2/3/4 | UNITS | POTENTIAL TO SAVE | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| YES | 128 | 80 | 26 | 20 | 110 | 14 | 93 | 32 | 104 | 23 | 36 | 65 | 22 | 128 | - | 25 | 90 | 59 | 69 | 87 | 39 | 77 | 50 | | | |
| | 21.4 | 20.1 | 26.0 | 19.0 | 22.5 | 14.1 | 22.7 | 19.5 | 22.0 | 18.4 | 15.9 | 26.2 | 26.4 | 100.0 | | 21.2 | 21.7 | 23.1 | 20.2 | 24.0 | 16.5 | 23.6 | 18.5 | | | |
| | | | | | F | | | | | | | K | k | | | | | | | U | | | | | | |
| NO | 442 | 295 | 72 | 80 | 352 | 84 | 294 | 127 | 348 | 94 | 179 | 175 | 58 | - | 442 | 82 | 312 | 182 | 258 | 256 | 186 | 231 | 209 | | | |
| | 73.6 | 73.9 | 72.0 | 76.2 | 72.0 | 82.4 | 71.5 | 78.3 | 73.3 | 75.5 | 78.2 | 70.4 | 69.7 | | 100.0 | 68.6 | 74.8 | 71.7 | 75.0 | 70.6 | 79.1 | 71.0 | 76.8 | | | |
| | | | | | E | | | | | | 1 | | | | | | | | | T | | | | | | |
| DON'T KNOW | 30 | 24 | 2 | 3 | 26 | 4 | 24 | 4 | 22 | 8 | 14 | 8 | 3 | - | - | 12 | 15 | 13 | 17 | 19 | 10 | 17 | 13 | | | |
| | 4.9 | 6.0 | 2.0 | 2.9 | 5.3 | 3.5 | 5.7 | 2.2 | 4.6 | 6.1 | 5.9 | 3.4 | 3.9 | | | 10.2 | 3.5 | 5.0 | 4.9 | 5.3 | 4.4 | 5.3 | 4.6 | | | |
| | | C | | | | | H | | | | | | | | | Q | | | | | | | | | | |
| REFUSED | 1 | - | - | 2 | 1 | - | 1 | - | 1 | - | - | - | - | - | - | - | 0 | 0 | - | 0 | - | 0 | 0 | | | |
| | 0.1 | | | 1.9 | 0.1 | | 0.1 | | 0.1 | | | | | | | | 0.1 | 0.1 | | 0.1 | | 0.1 | 0.1 | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q54 Page 79

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

NOW I HAVE A FEW FINAL QUESTIONS TO HELP US ANALYZE OUR DATA BETTER. YOUR ANSWERS WILL BE USED FOR ANALYSIS PURPOSES ONLY. HOW MANY PEOPLE, INCLUDING YOURSELF, LIVE IN YOUR HOUSEHOLD?

| IMPORTANT MOTIVATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------|-------|-------|-------|-------------------|-------|-------|-------|-----------------------|-------|-------|-------|---------------|-------|---------|-------|--------------|-------|--------------|-------|--------------|-------|-------|--|
| UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | REDUCE BILLS | | | | | | | | PROTECT ENVIRONMENT | | | | SAVE SALMON | | | | | | | | | | | |
| BLV/ KIRK/ SAMM/ OWN HOME | | | | | | | | | | | | | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV PROGRAMS | | | | INCOME | | | | | | | | | | | |
| WGHTD REDM/ COVG TUKW/ | | | | | | | | | | | | | | | | | | 1994 OR SF/ 5+ | | | | POTENTIAL TO SAVE | | | | YES NO | | | | <\$50K \$50K+ | | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | | |
| TOTAL ISSQ -TON SKYWY OWN RENT | | | | | | | | | | | | | | | | | | <1994 OR LATER | | | | 2/3/4 UNITS | | | | <5% 5-10% 10%+ | | | | <50K \$50K+ | | | | VERY | | VERY | | VERY | | | |
| (A) (B) (C) (D) (E) (F) | | | | | | | | | | | | | | | | | | (G) (H) (I) (J) | | | | (K) (L) (M) | | | | (N) (O) (P) (Q) | | | | (R) (S) | | (T) (U) | | (V) (W) | | | | | | | |
| TOTAL ANSWERING | | | | | | | | | | | | | | | | | | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | | | | | | | | | | | | | | | | | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| 1 | | | | | | | | | | | | | | | | | | 107 | 86 | 5 | 26 | 72 | 33 | 67 | 32 | 56 | 51 | 25 | 25 | 12 | 20 | 79 | 49 | 50 | 37 | 70 | 69 | 37 | 63 | 44 | |
| | | | | | | | | | | | | | | | | | | 17.9 | 21.6 | 5.0 | 24.8 | 14.6 | 32.7 | 16.2 | 19.5 | 11.8 | 41.3 | 25.7 | 10.1 | 14.3 | 15.9 | 17.9 | 41.0 | 12.0 | 14.7 | 20.3 | 19.1 | 15.7 | 19.5 | 16.3 | |
| | | | | | | | | | | | | | | | | | | | C | | C | | E | | | | I | LM | | | | | Q | | | r | | | | | |
| 2 | | | | | | | | | | | | | | | | | | 192 | 134 | 26 | 40 | 164 | 26 | 143 | 37 | 155 | 38 | 79 | 79 | 25 | 46 | 137 | 30 | 134 | 82 | 109 | 110 | 81 | 94 | 98 | |
| | | | | | | | | | | | | | | | | | | 32.1 | 33.6 | 26.0 | 38.1 | 33.6 | 25.0 | 34.7 | 22.8 | 32.6 | 30.4 | 34.3 | 31.9 | 29.3 | 35.7 | 31.1 | 25.4 | 32.1 | 32.4 | 31.6 | 30.2 | 34.7 | 29.0 | 36.1 | |
| | | | | | | | | | | | | | | | | | | | | | c | f | | H | | | | | | | | | | | | | | | | v | |
| 3 | | | | | | | | | | | | | | | | | | 113 | 67 | 25 | 21 | 91 | 20 | 76 | 37 | 91 | 22 | 34 | 55 | 21 | 26 | 82 | 16 | 90 | 51 | 62 | 65 | 48 | 56 | 56 | |
| | | | | | | | | | | | | | | | | | | 18.8 | 16.8 | 25.0 | 20.0 | 18.7 | 19.8 | 18.5 | 22.6 | 19.1 | 18.0 | 15.1 | 22.1 | 25.5 | 20.1 | 18.6 | 13.5 | 21.5 | 20.2 | 17.9 | 18.0 | 20.4 | 17.3 | 20.5 | |
| | | | | | | | | | | | | | | | | | | | | b | | | | | | | | k | k | | | | P | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | 110 | 65 | 27 | 8 | 99 | 11 | 75 | 32 | 101 | 8 | 32 | 53 | 15 | 19 | 86 | 10 | 91 | 44 | 66 | 71 | 39 | 68 | 41 | |
| | | | | | | | | | | | | | | | | | | 18.3 | 16.3 | 27.0 | 7.6 | 20.2 | 10.7 | 18.2 | 19.9 | 21.4 | 6.8 | 14.1 | 21.4 | 18.2 | 14.9 | 19.5 | 8.2 | 21.9 | 17.4 | 19.1 | 19.6 | 16.5 | 20.9 | 15.1 | |
| | | | | | | | | | | | | | | | | | | | D | BD | | F | | | | J | | K | | | | | P | | | | | | w | | |
| 5+ (NET) | | | | | | | | | | | | | | | | | | 74 | 45 | 16 | 10 | 61 | 11 | 47 | 25 | 69 | 3 | 22 | 35 | 11 | 17 | 53 | 14 | 52 | 35 | 38 | 44 | 30 | 41 | 32 | |
| ===== | | | | | | | | | | | | | | | | | | 12.3 | 11.3 | 16.0 | 9.5 | 12.4 | 10.7 | 11.5 | 15.2 | 14.6 | 2.7 | 9.8 | 14.1 | 12.7 | 13.4 | 12.0 | 11.9 | 12.5 | 14.0 | 11.1 | 12.1 | 12.7 | 12.5 | 11.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | J | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | 55 | 34 | 12 | 5 | 48 | 7 | 38 | 16 | 53 | 2 | 16 | 27 | 7 | 13 | 38 | 8 | 41 | 25 | 30 | 31 | 24 | 30 | 24 | |
| | | | | | | | | | | | | | | | | | | 9.1 | 8.5 | 12.0 | 4.8 | 9.9 | 6.4 | 9.1 | 10.0 | 11.1 | 1.6 | 7.0 | 10.9 | 8.8 | 10.4 | 8.6 | 6.7 | 9.9 | 9.8 | 8.7 | 8.4 | 10.3 | 9.2 | 8.7 | |
| | | | | | | | | | | | | | | | | | | | | d | | | | | | J | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | 13 | 7 | 3 | 4 | 8 | 4 | 7 | 5 | 11 | 1 | 4 | 5 | 2 | 2 | 11 | 2 | 9 | 5 | 8 | 8 | 5 | 5 | 8 | |
| | | | | | | | | | | | | | | | | | | 2.1 | 1.8 | 3.0 | 3.8 | 1.7 | 4.3 | 1.8 | 3.0 | 2.4 | 1.1 | 1.7 | 2.2 | 2.6 | 1.3 | 2.5 | 2.0 | 2.1 | 1.8 | 2.4 | 2.1 | 2.2 | 1.6 | 2.8 | |
| 7 | | | | | | | | | | | | | | | | | | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | 1 | - | - | 1 | 1 | - | 1 | - | 1 | - | |
| | | | | | | | | | | | | | | | | | | 0.2 | 0.3 | | | 0.2 | | 0.3 | | 0.2 | | | 0.4 | | 0.8 | | | 0.3 | 0.4 | | 0.3 | | 0.3 | | |
| 8 | | | | | | | | | | | | | | | | | | 2 | - | 1 | 1 | 2 | - | 0 | 1 | 2 | - | 0 | 1 | - | - | 2 | 2 | - | 2 | - | 1 | 0 | 1 | 0 | |
| | | | | | | | | | | | | | | | | | | 0.3 | | 1.0 | 1.0 | 0.3 | | 0.1 | 0.9 | 0.4 | | 0.1 | 0.6 | | | 0.4 | 1.4 | | 0.7 | | 0.4 | 0.1 | 0.4 | 0.1 | |
| 9 | | | | | | | | | | | | | | | | | | 1 | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | - | - | 1 | - | 1 | 1 | - | 1 | - | 1 | - | |
| | | | | | | | | | | | | | | | | | | 0.2 | 0.3 | | | 0.2 | | 0.3 | | 0.2 | | 0.5 | | | | 0.2 | | 0.3 | 0.4 | | 0.3 | | 0.3 | | |
| 12 | | | | | | | | | | | | | | | | | | 1 | 1 | - | - | - | - | - | 1 | 1 | - | - | - | 1 | - | 1 | 1 | - | 1 | - | 1 | - | 1 | - | |
| | | | | | | | | | | | | | | | | | | 0.2 | 0.3 | | | | | | 0.7 | 0.2 | | | | 1.3 | | 0.2 | 0.9 | | 0.4 | | 0.3 | | 0.3 | | |
| 14 | | | | | | | | | | | | | | | | | | 1 | 1 | - | - | - | - | - | 1 | - | - | 1 | - | - | 1 | - | 1 | - | 1 | - | 1 | - | 1 | - | |
| | | | | | | | | | | | | | | | | | | 0.2 | 0.3 | | | | | | 0.7 | | | 0.5 | | | 0.8 | | 0.9 | | 0.4 | | 0.3 | | 0.3 | | |
| REFUSED | | | | | | | | | | | | | | | | | | 4 | 2 | 1 | - | 2 | 1 | 4 | - | 2 | 1 | 2 | 1 | - | - | 4 | - | - | 4 | - | 4 | - | 2 | 1 | |
| | | | | | | | | | | | | | | | | | | 0.6 | 0.5 | 1.0 | | 0.5 | 1.1 | 0.9 | | 0.5 | 0.9 | 1.1 | 0.4 | | | 0.8 | | | 1.4 | | 1.0 | | 0.8 | 0.4 | |
| MEAN | | | | | | | | | | | | | | | | | | 2.82 | 2.69 | 3.29 | 2.46 | 2.86 | 2.45 | 2.77 | 3.05 | 3.01 | 1.99 | 2.56 | 3.02 | 2.97 | 2.85 | 2.83 | 2.45 | 2.94 | 2.97 | 2.71 | 2.85 | 2.78 | 2.88 | 2.73 | |
| | | | | | | | | | | | | | | | | | | | | BD | | F | | | g | J | | | K | k | | | P | s | | | | | | | |
| STANDARD DEVIATION | | | | | | | | | | | | | | | | | | 1.51 | 1.56 | 1.30 | 1.39 | 1.37 | 1.43 | 1.35 | 1.86 | 1.44 | 1.10 | 1.60 | 1.34 | 1.65 | 1.68 | 1.47 | 2.08 | 1.32 | 1.71 | 1.34 | 1.63 | 1.32 | 1.66 | 1.32 | |
| STANDARD ERROR | | | | | | | | | | | | | | | | | | 0.07 | 0.08 | 0.13 | 0.14 | 0.07 | 0.15 | 0.07 | 0.16 | 0.07 | 0.10 | 0.11 | 0.09 | 0.19 | 0.16 | 0.07 | 0.19 | 0.07 | 0.11 | 0.08 | 0.09 | 0.09 | 0.10 | 0.08 | |
| Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Independent T-Test for Means, Independent Z-Test for Percentages | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Upper case letters indicate significance at the 95% level. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lower case letters indicate significance at the 90% level. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table Q55 Page 81

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

WHICH OF THE FOLLOWING CATEGORIES BEST DESCRIBES YOUR AGE?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|-----------------|------------------------|------------------------|--------------|----------------|----------|-------|------------|-------|--------------------|-------|---------|-------|-------------------|-------|-------|-------|-----------------------|-------|--------|--------------------|--------------------|--------------------|-------|--|--|--|
| | | | | | OWN HOME | | | | BUILT | | HOUSING | | POTENTIAL TO SAVE | | | | PRIOR CONSRV PROGRAMS | | INCOME | | REDUCE | PROTECT | SAVE | | | |
| | BLV/ KIRK/ WGHTD | SAMM/ REDM/ ISSQ | COVG -TON | TUKW/ SKYWY | | | 1994 OR | | 2/3/4 SF/ 5+ | | | | | | | | | | | SMW/ NOT/ DK | SMW/ NOT/ DK | SMW/ NOT/ DK | | | | |
| | OWN | RENT | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| 18-34 (NET) | 127 | 83 | 23 | 18 | 73 | 51 | 59 | 55 | 77 | 50 | 50 | 59 | 12 | 14 | 110 | 26 | 93 | 51 | 76 | 67 | 60 | 59 | 68 | | | |
| ===== | 21.1 | 20.8 | 23.0 | 17.1 | 14.9 | 50.4 | 14.2 | 33.7 | 16.2 | 40.0 | 22.0 | 23.7 | 14.1 | 11.1 | 24.9 | 21.7 | 22.3 | 19.9 | 22.1 | 18.4 | 25.6 | 18.2 | 24.9 | | | |
| | | | | | | E | | G | | I | | M | | | N | | | | | t | | v | | | | |
| 18 TO 24 | 24 | 19 | 1 | 6 | 7 | 17 | 7 | 11 | 9 | 15 | 10 | 9 | 3 | 2 | 22 | 9 | 11 | 8 | 16 | 11 | 13 | 8 | 16 | | | |
| | 3.9 | 4.8 | 1.0 | 5.7 | 1.4 | 16.2 | 1.7 | 6.7 | 1.9 | 11.8 | 4.4 | 3.5 | 3.3 | 1.3 | 5.0 | 7.5 | 2.8 | 3.2 | 4.5 | 3.0 | 5.4 | 2.4 | 5.8 | | | |
| | | | | C | | E | | G | | I | | | | | N | q | | | | | | | v | | | |
| 25 TO 34 | 103 | 64 | 22 | 12 | 66 | 35 | 51 | 44 | 68 | 35 | 40 | 50 | 9 | 13 | 88 | 17 | 81 | 42 | 61 | 56 | 47 | 51 | 52 | | | |
| | 17.2 | 16.0 | 22.0 | 11.4 | 13.4 | 34.1 | 12.5 | 27.0 | 14.3 | 28.2 | 17.6 | 20.2 | 10.8 | 9.8 | 19.9 | 14.2 | 19.5 | 16.7 | 17.6 | 15.4 | 20.2 | 15.7 | 19.1 | | | |
| | | | | D | | E | | G | | I | | M | | | N | | | | | | | | | | | |
| 35-54 (NET) | 278 | 172 | 58 | 41 | 245 | 33 | 192 | 80 | 235 | 43 | 93 | 124 | 44 | 64 | 201 | 33 | 218 | 118 | 160 | 176 | 102 | 155 | 122 | | | |
| ===== | 46.3 | 43.1 | 58.0 | 39.0 | 50.1 | 32.3 | 46.5 | 49.3 | 49.4 | 34.9 | 40.8 | 50.0 | 52.1 | 50.1 | 45.5 | 27.9 | 52.3 | 46.5 | 46.4 | 48.6 | 43.3 | 47.8 | 44.7 | | | |
| | | | | BD | | F | | J | | k | | k | | | | | P | | | | | | | | | |
| 35 TO 44 | 138 | 88 | 26 | 24 | 115 | 23 | 85 | 49 | 113 | 25 | 48 | 64 | 17 | 24 | 107 | 17 | 104 | 56 | 82 | 89 | 49 | 86 | 52 | | | |
| | 23.0 | 22.1 | 26.0 | 22.9 | 23.6 | 22.2 | 20.7 | 29.9 | 23.7 | 20.4 | 20.8 | 25.6 | 20.6 | 18.3 | 24.3 | 14.0 | 25.0 | 21.9 | 23.9 | 24.5 | 20.9 | 26.6 | 19.0 | | | |
| | | | | | | | | G | | | | | | | | | P | | | | W | | | | | |
| 45 TO 54 | 140 | 84 | 32 | 17 | 130 | 10 | 106 | 31 | 122 | 18 | 46 | 61 | 26 | 41 | 94 | 17 | 114 | 63 | 77 | 87 | 53 | 69 | 70 | | | |
| | 23.3 | 21.1 | 32.0 | 16.2 | 26.5 | 10.1 | 25.8 | 19.4 | 25.7 | 14.5 | 19.9 | 24.4 | 31.5 | 31.7 | 21.2 | 13.9 | 27.3 | 24.6 | 22.5 | 24.1 | 22.4 | 21.2 | 25.6 | | | |
| | | | | BD | | F | | J | | | | | k | | O | | P | | | | | | | | | |
| 55+ (NET) | 189 | 139 | 18 | 46 | 167 | 17 | 156 | 26 | 157 | 30 | 82 | 64 | 27 | 48 | 126 | 60 | 104 | 80 | 107 | 114 | 72 | 104 | 83 | | | |
| ===== | 31.4 | 34.8 | 18.0 | 43.8 | 34.1 | 16.3 | 37.9 | 16.3 | 33.1 | 24.3 | 35.7 | 25.8 | 32.5 | 37.1 | 28.5 | 50.4 | 24.9 | 31.4 | 31.2 | 31.4 | 30.6 | 32.0 | 30.4 | | | |
| | | C | | bC | F | | H | | j | | L | | | o | | Q | | | | | | | | | | |
| 55 TO 64 | 86 | 59 | 13 | 15 | 76 | 8 | 72 | 10 | 76 | 10 | 37 | 33 | 13 | 26 | 56 | 15 | 62 | 39 | 47 | 53 | 32 | 43 | 42 | | | |
| | 14.4 | 14.8 | 13.0 | 14.3 | 15.5 | 7.5 | 17.6 | 6.1 | 16.1 | 7.9 | 16.0 | 13.4 | 15.6 | 20.0 | 12.7 | 12.3 | 15.0 | 15.2 | 13.8 | 14.6 | 13.6 | 13.2 | 15.6 | | | |
| | | | | | F | | H | | J | | | | | o | | | | | | | | | | | | |
| OR 65 OR OLDER | 102 | 80 | 5 | 31 | 91 | 9 | 84 | 17 | 81 | 20 | 45 | 31 | 14 | 22 | 70 | 46 | 41 | 41 | 60 | 61 | 40 | 61 | 40 | | | |
| | 17.1 | 20.1 | 5.0 | 29.5 | 18.6 | 8.8 | 20.3 | 10.2 | 17.1 | 16.4 | 19.7 | 12.5 | 16.9 | 17.2 | 15.9 | 38.1 | 9.9 | 16.2 | 17.4 | 16.8 | 17.0 | 18.8 | 14.8 | | | |
| | | C | | bC | F | | H | | | | L | | | | | Q | | | | | | | | | | |
| REFUSED | 7 | 5 | 1 | - | 5 | 1 | 6 | 1 | 6 | 1 | 4 | 1 | 1 | 2 | 5 | - | 2 | 6 | 1 | 6 | 1 | 7 | - | | | |
| | 1.1 | 1.3 | 1.0 | | 0.9 | 1.1 | 1.4 | 0.7 | 1.2 | 0.9 | 1.6 | 0.4 | 1.3 | 1.7 | 1.0 | | 0.5 | 2.2 | 0.3 | 1.6 | 0.5 | 2.1 | | | | |
| | | | | | | | | | | | | | | | | | | s | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW

Independent T-Test for Means, Independent Z-Test for Percentages

Upper case letters indicate significance at the 95% level.

Lower case letters indicate significance at the 90% level.

Table Q56 Page 82

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

HOW WOULD YOU DESCRIBE YOUR RACIAL OR ETHNIC HERITAGE?

| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | | | |
|--|-----------------|-------|-------|-------|----------|-------|-------|-------|-------|-------------------|---------|----------|--------|--------|--------------|--------|----------------------|-------|-------|-------|--------|-------|---------|--|------|--|
| | ===== | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV | | INCOME | | | | REDUCE | | PROTECT | | SAVE | |
| | BLV/ | | SMM/ | | OWN HOME | 1994 | | 2/3/4 | | POTENTIAL TO SAVE | | PROGRAMS | | | | SMW/ | SMW/ | SMW/ | | | | | | | | |
| | KIRK/ | COVG | OWN | OR | | SF/ | 5+ | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | NOT/ | | | | NOT/ | NOT/ | | | | | | |
| | WGHTD | REDM/ | TUKW/ | OWN | RENT | <1994 | LATER | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | | |
| | TOTAL | ISSQ | -TON | SKYWY | OWN | RENT | <1994 | LATER | UNITS | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | | | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| WHITE/CAUCASIAN | 484 | 314 | 89 | 75 | 408 | 70 | 348 | 121 | 394 | 89 | 193 | 194 | 69 | 111 | 343 | 106 | 340 | 192 | 291 | 291 | 190 | 259 | 222 | | | |
| | 80.7 | 78.7 | 89.0 | 71.4 | 83.3 | 68.7 | 84.5 | 74.4 | 82.9 | 71.9 | 84.3 | 78.1 | 82.3 | 86.8 | 77.7 | 88.5 | 81.6 | 75.6 | 84.4 | 80.3 | 81.1 | 79.7 | 81.7 | | | |
| | | | BD | | F | | H | | J | | | | | O | | q | | | R | | | | | | | |
| MINORITY (NET) | 88 | 63 | 9 | 24 | 59 | 27 | 41 | 37 | 56 | 32 | 26 | 46 | 12 | 16 | 71 | 12 | 66 | 50 | 38 | 53 | 35 | 49 | 39 | | | |
| ===== | 14.6 | 15.8 | 9.0 | 22.9 | 12.1 | 26.8 | 10.0 | 22.7 | 11.8 | 25.4 | 11.2 | 18.3 | 13.8 | 12.3 | 16.2 | 10.1 | 15.9 | 19.7 | 10.9 | 14.6 | 14.7 | 15.0 | 14.3 | | | |
| | | C | | C | E | | G | | I | | | K | | | | | p | S | | | | | | | | |
| BLACK/AFRICAN AMERICAN | 11 | 5 | 2 | 10 | 5 | 6 | 6 | 2 | 4 | 7 | 1 | 7 | 2 | 4 | 7 | 3 | 8 | 8 | 3 | 8 | 3 | 8 | 3 | | | |
| | 1.8 | 1.3 | 2.0 | 9.5 | 1.0 | 5.9 | 1.3 | 1.5 | 0.8 | 6.0 | 0.5 | 3.0 | 2.7 | 3.0 | 1.6 | 2.3 | 1.9 | 3.0 | 1.0 | 2.1 | 1.4 | 2.4 | 1.2 | | | |
| | | | | BC | E | | | | I | | | K | | | | | | | | | | | | | | |
| ASIAN/PACIFIC ISLANDER | 49 | 37 | 5 | 6 | 36 | 13 | 25 | 20 | 34 | 15 | 19 | 20 | 5 | 7 | 42 | 4 | 39 | 26 | 23 | 30 | 19 | 26 | 23 | | | |
| | 8.1 | 9.3 | 5.0 | 5.7 | 7.3 | 12.5 | 6.0 | 12.6 | 7.2 | 11.8 | 8.2 | 8.2 | 5.9 | 5.3 | 9.5 | 3.7 | 9.3 | 10.2 | 6.6 | 8.2 | 8.1 | 8.0 | 8.4 | | | |
| | | | | | | | G | | | | | | | | | P | | | | | | | | | | |
| NATIVE AMERICAN INDIAN ESKIMO/ALEUT | 2 | 2 | - | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | | | |
| | 0.4 | 0.5 | | 1.0 | 0.3 | 1.1 | 0.5 | 0.2 | 0.3 | 0.9 | 0.5 | 0.4 | 0.3 | 0.2 | 0.5 | 0.9 | 0.3 | 0.5 | 0.3 | 0.1 | 0.9 | 0.4 | 0.4 | | | |
| LATINO/HISPANIC | 12 | 10 | - | 5 | 5 | 6 | 3 | 6 | 6 | 6 | 2 | 9 | 1 | 1 | 11 | 3 | 6 | 8 | 4 | 9 | 3 | 8 | 5 | | | |
| | 2.0 | 2.5 | | 4.8 | 1.1 | 5.6 | 0.8 | 3.9 | 1.3 | 4.8 | 0.9 | 3.5 | 1.6 | 1.1 | 2.4 | 2.3 | 1.4 | 3.3 | 1.1 | 2.5 | 1.4 | 2.4 | 1.7 | | | |
| | | | | | e | | | g | i | | | k | | | | | s | | | | | | | | | |
| MIXED RACIAL/ETHNIC HERITAGE | 10 | 6 | 2 | 1 | 8 | 2 | 4 | 6 | 8 | 1 | 2 | 5 | 2 | 4 | 6 | 1 | 8 | 5 | 4 | 6 | 4 | 6 | 4 | | | |
| | 1.6 | 1.5 | 2.0 | 1.0 | 1.6 | 1.6 | 0.9 | 3.7 | 1.7 | 1.1 | 1.1 | 2.2 | 2.0 | 2.8 | 1.4 | 0.9 | 2.0 | 2.1 | 1.3 | 1.7 | 1.5 | 1.8 | 1.3 | | | |
| | | | | | | | | g | | | | | | | | | | | | | | | | | | |
| OTHER | 4 | 3 | - | 1 | 4 | - | 2 | 1 | 2 | 1 | - | 2 | 1 | - | 4 | - | 4 | 1 | 2 | 0 | 3 | - | 4 | | | |
| | 0.6 | 0.8 | | 1.0 | 0.7 | | 0.5 | 0.8 | 0.5 | 0.9 | | 1.0 | 1.3 | | 0.8 | | 0.8 | 0.5 | 0.6 | 0.1 | 1.4 | | 1.3 | | | |
| DON'T KNOW/REFUSED | 28 | 22 | 2 | 6 | 23 | 5 | 23 | 5 | 25 | 3 | 10 | 9 | 3 | 1 | 27 | 2 | 11 | 12 | 16 | 18 | 10 | 17 | 11 | | | |
| | 4.7 | 5.5 | 2.0 | 5.7 | 4.6 | 4.5 | 5.5 | 2.9 | 5.3 | 2.6 | 4.5 | 3.6 | 3.9 | 0.8 | 6.2 | 1.4 | 2.5 | 4.7 | 4.7 | 5.1 | 4.2 | 5.4 | 4.0 | | | |
| | | c | | | | | | | | | | | | | N | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table Q57 Page 83

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

IS YOUR TOTAL ANNUAL HOUSEHOLD INCOME ABOVE OR BELOW \$50,000?

| | | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | |
|--------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|-------------|--|--------|--|
| UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | REDUCE | | PROTECT | | SAVE | |
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| BLV/ | | | | | | | | | | | | | | | | | | | | | | | |
| KIRK/ | | | | | | | | | | | | | | | | | | | | | | | |
| SMM/ | | | | | | | | | | | | | | | | | | | | | | | |
| COVG | | | | | | | | | | | | | | | | | | | | | | | |
| TUKW/ | | | | | | | | | | | | | | | | | | | | | | | |
| OWN HOME | | | | | | | | | | | | | | | | | | | | | | | |
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| POTENTIAL TO SAVE | | | | | | | | | | | | | | | | | | | | | | | |
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| PRIOR CONSRV | | | | | | | | | | | | | | | | | | | | | | | |
| PROGRAMS | | | | | | | | | | | | | | | | | | | | | | | |
| INCOME | | | | | | | | | | | | | | | | | | | | | | | |
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| VERY | | | | | | | | | | | | | | | | | | | | | | | |
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| (A) | | | | | | | | | | | | | | | | | | (R) | | (T) | | (V) | |
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| (E) | | | | | | | | | | | | | | | | | | | | | | | |
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| (K) | | | | | | | | | | | | | | | | | | | | | | | |
| (L) | | | | | | | | | | | | | | | | | | | | | | | |
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| (N) | | | | | | | | | | | | | | | | | | | | | | | |
| (O) | | | | | | | | | | | | | | | | | | | | | | | |
| (P) | | | | | | | | | | | | | | | | | | | | | | | |
| (Q) | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | | | VERY | | VERY | | VERY | |
| ISSQ | | | | | | | | | | | | | | | | | | NOT/ | | NOT/ | | NOT/ | |
| -TON | | | | | | | | | | | | | | | | | | DK | | DK | | DK | |
| SKYWK | | | | | | | | | | | | | | | | | | | | | | | |
| OWN | | | | | | | | | | | | | | | | | | | | | | | |
| RENT | | | | | | | | | | | | | | | | | | | | | | | |
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| UNITS | | | | | | | | | | | | | | | | | | | | | | | |
| POTENTIAL TO SAVE | | | | | | | | | | | | | | | | | | | | | | | |
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| PRIOR CONSRV | | | | | | | | | | | | | | | | | | | | | | | |
| PROGRAMS | | | | | | | | | | | | | | | | | | | | | | | |
| INCOME | | | | | | | | | | | | | | | | | | | | | | | |
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| TOTAL ANSWERING | | | | | | | | | | | | | | | | | | 254 | | 363 | | 325 | |
| 600 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 399 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 100 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 105 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 489 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 102 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 412 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 162 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 475 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 124 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 229 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 249 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 84 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 128 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 442 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 120 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 417 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| - | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 57 | | | | | | | | | | | | | | | | | | 22.3 | | 23.6 | | 25.4 | |
| 63 | | | | | | | | | | | | | | | | | | 18.3 | | 14.1 | | 25.4 | |
| 86 | | | | | | | | | | | | | | | | | | 23.6 | | 14.1 | | 25.4 | |
| 33 | | | | | | | | | | | | | | | | | | 23.6 | | 14.1 | | 25.4 | |
| 83 | | | | | | | | | | | | | | | | | | 23.6 | | 14.1 | | 25.4 | |
| 37 | | | | | | | | | | | | | | | | | | 23.6 | | 14.1 | | 25.4 | |
| BELOW \$50,000 | | | | | | | | | | | | | | | | | | 22.3 | | 23.6 | | 25.4 | |
| 120 | | | | | | | | | | | | | | | | | | 19.9 | | 14.0 | | 14.0 | |
| 80 | | | | | | | | | | | | | | | | | | 20.1 | | 14.0 | | 14.0 | |
| 14 | | | | | | | | | | | | | | | | | | 14.0 | | 14.0 | | 14.0 | |
| 48 | | | | | | | | | | | | | | | | | | 45.7 | | 45.7 | | 45.7 | |
| 71 | | | | | | | | | | | | | | | | | | 14.4 | | 42.0 | | 42.0 | |
| 43 | | | | | | | | | | | | | | | | | | 42.0 | | 42.0 | | 42.0 | |
| 81 | | | | | | | | | | | | | | | | | | 19.7 | | 19.7 | | 19.7 | |
| 32 | | | | | | | | | | | | | | | | | | 19.7 | | 19.7 | | 19.7 | |
| 69 | | | | | | | | | | | | | | | | | | 14.4 | | 40.3 | | 40.3 | |
| 50 | | | | | | | | | | | | | | | | | | 40.3 | | 40.3 | | 40.3 | |
| 55 | | | | | | | | | | | | | | | | | | 24.1 | | 12.1 | | 12.1 | |
| 30 | | | | | | | | | | | | | | | | | | 12.1 | | 25.2 | | 25.2 | |
| 21 | | | | | | | | | | | | | | | | | | 25.2 | | 19.8 | | 19.8 | |
| 25 | | | | | | | | | | | | | | | | | | 19.8 | | 18.6 | | 18.6 | |
| 82 | | | | | | | | | | | | | | | | | | 18.6 | | 100.0 | | 100.0 | |
| 120 | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| - | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 167 | | | | | | | | | | | | | | | | | | 65.8 | | 72.1 | | 72.1 | |
| 249 | | | | | | | | | | | | | | | | | | 72.1 | | 66.2 | | 66.2 | |
| 240 | | | | | | | | | | | | | | | | | | 66.2 | | 74.8 | | 74.8 | |
| 176 | | | | | | | | | | | | | | | | | | 74.8 | | 65.4 | | 65.4 | |
| 212 | | | | | | | | | | | | | | | | | | 65.4 | | 74.4 | | 74.4 | |
| 202 | | | | | | | | | | | | | | | | | | 74.4 | | 74.4 | | 74.4 | |
| \$50,000 OR ABOVE | | | | | | | | | | | | | | | | | | 65.8 | | 66.2 | | 66.2 | |
| 417 | | | | | | | | | | | | | | | | | | 69.5 | | 74.0 | | 74.0 | |
| 278 | | | | | | | | | | | | | | | | | | 69.7 | | 45.7 | | 45.7 | |
| 74 | | | | | | | | | | | | | | | | | | 74.0 | | 74.8 | | 74.8 | |
| 48 | | | | | | | | | | | | | | | | | | 45.7 | | 50.0 | | 50.0 | |
| 366 | | | | | | | | | | | | | | | | | | 74.8 | | 70.2 | | 70.2 | |
| 51 | | | | | | | | | | | | | | | | | | 50.0 | | 68.5 | | 68.5 | |
| 289 | | | | | | | | | | | | | | | | | | 70.2 | | 73.4 | | 73.4 | |
| 111 | | | | | | | | | | | | | | | | | | 73.4 | | 55.1 | | 55.1 | |
| 348 | | | | | | | | | | | | | | | | | | 55.1 | | 64.8 | | 64.8 | |
| 68 | | | | | | | | | | | | | | | | | | 64.8 | | 79.9 | | 79.9 | |
| 148 | | | | | | | | | | | | | | | | | | 79.9 | | 61.2 | | 61.2 | |
| 51 | | | | | | | | | | | | | | | | | | 61.2 | | 70.4 | | 70.4 | |
| 90 | | | | | | | | | | | | | | | | | | 70.4 | | 70.6 | | 70.6 | |
| 312 | | | | | | | | | | | | | | | | | | 70.6 | | 100.0 | | 100.0 | |
| - | | | | | | | | | | | | | | | | | | 100.0 | | 100.0 | | 100.0 | |
| 417 | | | | | | | | | | | | | | | | | | 65.8 | | 72.1 | | 72.1 | |
| 167 | | | | | | | | | | | | | | | | | | 72.1 | | 66.2 | | 66.2 | |
| 249 | | | | | | | | | | | | | | | | | | 66.2 | | 74.8 | | 74.8 | |
| 240 | | | | | | | | | | | | | | | | | | 74.8 | | 65.4 | | 65.4 | |
| 176 | | | | | | | | | | | | | | | | | | 65.4 | | 74.4 | | 74.4 | |
| 212 | | | | | | | | | | | | | | | | | | 74.4 | | 74.4 | | 74.4 | |
| 202 | | | | | | | | | | | | | | | | | | 74.4 | | 74.4 | | 74.4 | |
| DON'T KNOW/REFUSED | | | | | | | | | | | | | | | | | | 11.9 | | 9.6 | | 9.6 | |
| 64 | | | | | | | | | | | | | | | | | | 10.6 | | 12.0 | | 12.0 | |
| 41 | | | | | | | | | | | | | | | | | | 10.3 | | 8.6 | | 8.6 | |
| 12 | | | | | | | | | | | | | | | | | | 12.0 | | 10.8 | | 10.8 | |
| 9 | | | | | | | | | | | | | | | | | | 8.6 | | 8.0 | | 8.0 | |
| 53 | | | | | | | | | | | | | | | | | | 10.8 | | 10.1 | | 10.1 | |
| 8 | | | | | | | | | | | | | | | | | | 10.1 | | 11.8 | | 11.8 | |
| 42 | | | | | | | | | | | | | | | | | | 11.8 | | 12.2 | | 12.2 | |
| 19 | | | | | | | | | | | | | | | | | | 12.2 | | 4.6 | | 4.6 | |
| 58 | | | | | | | | | | | | | | | | | | 4.6 | | 11.1 | | 11.1 | |
| 6 | | | | | | | | | | | | | | | | | | 11.1 | | 8.0 | | 8.0 | |
| 25 | | | | | | | | | | | | | | | | | | 8.0 | | 13.7 | | 13.7 | |
| 20 | | | | | | | | | | | | | | | | | | 13.7 | | 9.8 | | 9.8 | |
| 11 | | | | | | | | | | | | | | | | | | 9.8 | | 10.8 | | 10.8 | |
| 13 | | | | | | | | | | | | | | | | | | 10.8 | | | | | |
| 48 | | | | | | | | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | 11.9 | | 9.6 | | 9.6 | |
| 33 | | | | | | | | | | | | | | | | | | 9.6 | | 10.2 | | 10.2 | |
| 37 | | | | | | | | | | | | | | | | | | 10.2 | | 11.2 | | 11.2 | |
| 26 | | | | | | | | | | | | | | | | | | 11.2 | | 9.1 | | 9.1 | |
| 30 | | | | | | | | | | | | | | | | | | 9.1 | | 11.9 | | 11.9 | |
| 32 | | | | | | | | | | | | | | | | | | 11.9 | | 11.9 | | 11.9 | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table INCOM Page 84

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

INCOME

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|----------------------------------|--------------------------------|-----------------------|----------------|----------|-------|---------------------|-------|--------------|-------------|-------------------|-------|-------|--------------|-------|--------|--------|----------------------|--------------------|-------------|--------------------|--------|--------------------|-------|--|
| | UNWEIGHTED AREA | | | | | | | | | | | | | | | | | | | | | | | |
| | ===== | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | BUILT | | HOUSING | | | | PRIOR CONSRV | | | | REDUCE | | PROTECT | | SAVE | | | |
| | | | | | | | | | | | | | | | | | BILLS | | ENVIRONMENT | | SALMON | | | |
| | BLV/ KIRK/ REDM/ ISSQ | SAMM/ COVG -TON | TUKW/ SKYWY | OWN HOME | | 1994 OR LATER | | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | INCOME | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | |
| WGHTD | ISSQ | | | OWN | RENT | <1994 | | | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | DK | VERY | DK | VERY | DK | | |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| LESS THAN \$15,000 | 14 | 8 | 2 | 10 | 1 | 12 | 5 | 7 | 3 | 11 | 6 | 3 | 3 | 4 | 10 | 14 | - | 6 | 8 | 10 | 4 | 9 | 5 | |
| | 2.4 | 2.0 | 2.0 | 9.5 | 0.3 | 11.5 | 1.3 | 4.1 | 0.5 | 8.6 | 2.7 | 1.1 | 3.3 | 2.8 | 2.2 | 11.9 | | 2.5 | 2.3 | 2.7 | 1.5 | 2.9 | 1.8 | |
| | | | | BC | | E | | | | I | | | | | | | | | | | | | | |
| \$15,000 TO JUST UNDER \$25,000 | 20 | 15 | - | 12 | 10 | 7 | 15 | 2 | 12 | 7 | 7 | 4 | 4 | 3 | 14 | 20 | - | 11 | 8 | 17 | 3 | 17 | 3 | |
| | 3.3 | 3.8 | | 11.4 | 2.1 | 7.0 | 3.7 | 1.5 | 2.6 | 5.9 | 3.2 | 1.7 | 4.9 | 2.5 | 3.2 | 16.4 | | 4.4 | 2.5 | 4.7 | 1.2 | 5.1 | 1.1 | |
| | | | | B | | e | | | | | | | | | | | | | | U | | W | | |
| \$25,000 TO JUST UNDER \$50,000 | 76 | 51 | 11 | 21 | 53 | 22 | 54 | 20 | 47 | 30 | 37 | 23 | 12 | 16 | 52 | 76 | - | 34 | 42 | 53 | 24 | 52 | 24 | |
| | 12.7 | 12.8 | 11.0 | 20.0 | 10.8 | 21.3 | 13.1 | 12.6 | 9.9 | 23.8 | 16.0 | 9.2 | 14.6 | 12.6 | 11.9 | 63.8 | | 13.4 | 12.3 | 14.6 | 10.0 | 16.0 | 8.9 | |
| | | | | bc | | E | | | | I | | L | | | | | | | | | | W | | |
| 50,000 TO JUST UNDER \$75,000 | 113 | 78 | 14 | 31 | 93 | 20 | 77 | 29 | 85 | 27 | 44 | 51 | 14 | 26 | 79 | - | 113 | 52 | 60 | 61 | 52 | 61 | 52 | |
| | 18.8 | 19.5 | 14.0 | 29.5 | 18.9 | 19.7 | 18.7 | 17.7 | 18.0 | 22.1 | 19.1 | 20.6 | 17.0 | 20.4 | 18.0 | | 27.0 | 20.6 | 17.5 | 16.7 | 22.2 | 18.7 | 19.1 | |
| | | | | BC | | | | | | | | | | | | | | | | | | | | |
| \$75,000 TO JUST UNDER \$100,000 | 90 | 57 | 19 | 8 | 73 | 18 | 61 | 22 | 71 | 19 | 33 | 46 | 9 | 16 | 70 | - | 90 | 37 | 53 | 51 | 38 | 43 | 47 | |
| | 15.0 | 14.3 | 19.0 | 7.6 | 14.8 | 17.3 | 14.8 | 13.5 | 14.9 | 15.5 | 14.3 | 18.5 | 11.0 | 12.4 | 15.8 | | 21.6 | 14.6 | 15.4 | 14.0 | 16.3 | 13.2 | 17.4 | |
| | | D | D | | | | | | | | | m | | | | | | | | | | | | |
| OR \$100,000 OR MORE | 175 | 114 | 36 | 5 | 163 | 11 | 120 | 53 | 157 | 17 | 57 | 85 | 23 | 37 | 136 | - | 175 | 68 | 107 | 105 | 69 | 91 | 83 | |
| | 29.1 | 28.6 | 36.0 | 4.8 | 33.4 | 10.9 | 29.1 | 32.5 | 33.2 | 13.8 | 25.0 | 34.0 | 27.6 | 28.5 | 30.8 | | 41.9 | 26.6 | 31.1 | 29.1 | 29.5 | 27.9 | 30.4 | |
| | | D | D | | F | | | | J | | | K | | | | | | | | | | | | |
| REFUSED UNDER \$50,000 | 9 | 6 | 1 | 5 | 6 | 2 | 7 | 2 | 7 | 2 | 5 | 0 | 2 | 2 | 6 | 9 | - | 5 | 4 | 6 | 3 | 4 | 5 | |
| | 1.6 | 1.5 | 1.0 | 4.8 | 1.2 | 2.1 | 1.7 | 1.5 | 1.4 | 2.0 | 2.1 | 0.1 | 2.3 | 1.9 | 1.3 | 7.8 | | 1.9 | 1.3 | 1.7 | 1.4 | 1.4 | 1.8 | |
| | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| REFUSED \$50,000 OR MORE | 39 | 29 | 5 | 4 | 37 | 2 | 32 | 8 | 35 | 5 | 15 | 17 | 5 | 12 | 27 | - | 39 | 10 | 28 | 23 | 16 | 18 | 20 | |
| | 6.6 | 7.3 | 5.0 | 3.8 | 7.6 | 2.1 | 7.7 | 4.9 | 7.3 | 3.7 | 6.4 | 6.8 | 5.5 | 9.1 | 6.0 | | 9.5 | 4.1 | 8.1 | 6.5 | 6.8 | 5.6 | 7.4 | |
| | | | | | F | | | | j | | | | | | | | | | R | | | | | |
| TOTAL REFUSAL | 64 | 41 | 12 | 9 | 53 | 8 | 42 | 19 | 58 | 6 | 25 | 20 | 11 | 13 | 48 | - | - | 30 | 33 | 37 | 26 | 30 | 32 | |
| | 10.6 | 10.3 | 12.0 | 8.6 | 10.8 | 8.0 | 10.1 | 11.8 | 12.2 | 4.6 | 11.1 | 8.0 | 13.7 | 9.8 | 10.8 | | | 11.9 | 9.6 | 10.2 | 11.2 | 9.1 | 11.9 | |
| | | | | | | | | | J | | | | | | | | | | | | | | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Table GENDR Page 85

CASCADE CONSERVATION POTENTIAL ASSESSMENT SURVEY
JOB #C05079 GILMORE RESEARCH GROUP
JUNE 2005

GENDER

| | | | | | | | | | | | | | | | | | IMPORTANT MOTIVATION | | | | | | | |
|-----------------|-----------------|---------------|---------------|----------------|----------|-------|------------|-------|--------------|-------------|-------------------|-------|-------|----------|--------------|--------|----------------------|--------------------|--------------|--------------------|---------------------|--------------------|-------------|--|
| | UNWEIGHTED AREA | | | | | | BUILT | | | | HOUSING | | | | PRIOR CONSRV | | INCOME | | REDUCE BILLS | | PROTECT ENVIRONMENT | | SAVE SALMON | |
| | BLV/ KIRK/ | | SAMM/ COVG | TUKW/ SKYKY | OWN HOME | | 1994 OR | | SF/ 2/3/4 | 5+ UNITS | POTENTIAL TO SAVE | | | PROGRAMS | | | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | SMW/ NOT/ DK | | |
| | WGHTD TOTAL | REDM/ ISSQ | | | OWN | RENT | <1994 | LATER | | | <5% | 5-10% | 10%+ | YES | NO | <\$50K | \$50K+ | VERY | | VERY | | VERY | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) | (M) | (N) | (O) | (P) | (Q) | (R) | (S) | (T) | (U) | (V) | (W) | |
| TOTAL ANSWERING | 600 | 399 | 100 | 105 | 489 | 102 | 412 | 162 | 475 | 124 | 229 | 249 | 84 | 128 | 442 | 120 | 417 | 254 | 345 | 363 | 235 | 325 | 272 | |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| MALE | 260 | 177 | 39 | 49 | 210 | 48 | 176 | 69 | 203 | 56 | 107 | 94 | 39 | 53 | 196 | 43 | 186 | 93 | 165 | 116 | 143 | 115 | 142 | |
| | 43.2 | 44.4 | 39.0 | 46.7 | 42.9 | 47.2 | 42.7 | 42.8 | 42.9 | 45.1 | 46.9 | 37.9 | 46.6 | 41.3 | 44.4 | 36.1 | 44.6 | 36.7 | 47.9 | 32.0 | 60.9 | 35.5 | 52.1 | |
| | | | | | | | | | | | 1 | | | | | | p | | R | | T | | v | |
| FEMALE | 341 | 222 | 61 | 56 | 280 | 54 | 236 | 93 | 271 | 68 | 121 | 154 | 45 | 75 | 246 | 76 | 231 | 161 | 180 | 246 | 92 | 209 | 130 | |
| | 56.8 | 55.6 | 61.0 | 53.3 | 57.1 | 52.8 | 57.3 | 57.2 | 57.1 | 54.9 | 53.1 | 62.1 | 53.4 | 58.7 | 55.6 | 63.9 | 55.4 | 63.3 | 52.1 | 68.0 | 39.1 | 64.5 | 47.9 | |
| | | | | | | | | | | | | k | | | | q | | s | | u | | w | | |

Comparison Groups: BCD/EF/GH/IJ/KLM/NO/PQ/RS/TU/VW
Independent T-Test for Means, Independent Z-Test for Percentages
Upper case letters indicate significance at the 95% level.
Lower case letters indicate significance at the 90% level.

Appendix C-3

Analysis of Savings and Costs

Issaquah Spreadsheets

Issaquah 6-Year

Cascade Water Alliance/Issaquah 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2009 | a 6 | i | |
| 2 | Population | 16,728 | b 17,359 | b 631 | j | |
| 3 | SF Accounts/Households | 3,812 | c 3,913 | c 101 | j | |
| 4 | MF Accounts | 371 | d 393 | r 22 | j | |
| 5 | Units per MF account | 8.0 | e 8.0 | s 0 | j | |
| 6 | MF Households | 2,986 | c 3,164 | c 178 | j | |
| 7 | Commercial Accounts | 548 | d 583 | f 35 | j | |
| 8 | Persons Per SF HH Q54 | 2.90 | g 2.90 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 1.9 | g 1.9 | g 0 | j | |
| 10 | Employees Per ICI Account | 25.8 | h 25.8 | h 0 | j | |
| 11 | Employment | 14,133 | c 15,037 | c 904 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connections data. | | | | | | |
| d. Provided by client, via data request. | | | | | | |
| e. Calculation. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Calculation. | | | | | | |
| s. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|----------------|------|----------------|------|--------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH | | Eligible MF HH | | Eligible ICI Acct. | | Life remaining for code fixtures ^f |
| | Existing | New | Existing | New | Existing | New | |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | k 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | l 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | k 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | m 99% | 100% | 77% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | n 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | k 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | o 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | p 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | q 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | q 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Issaquah 6 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------------|---------------------------------------|---|--|-----------------------------|-----------------------|---|---------------------|-----------------------|--|---------------------|---------------------|------------------------------------|---|---|
| | Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^a | Participation | | | | | | | | | |
| | | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | |
| | | | | | Eligible ^b | Not Already Implemented ^d | Target ^e | Eligible ^b | Not Implemented Naturally ^d | Target ^e | Target ^a | Participation Rate ^d | Participating | |
| | | | | | | | | | | | | | W/ free riders ^c (affects cost) | W/out free riders ^c (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 34% | 1,677 | 100% | 0% | 0 | 1,677 | 50% | 839 | 419 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 34% | 1,677 | 100% | 0% | 0 | 1,677 | 10% | 168 | 168 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 31% | 3,088 | 100% | 31% | 82 | 3,170 | 25% | 792 | 792 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 30% | 1,754 | 100% | 30% | 46 | 1,800 | 25% | 450 | 450 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 33% | 1,258 | 100% | 0% | 0 | 1,258 | 50% | 629 | 314 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 33% | 1,258 | 100% | 0% | 0 | 1,258 | 50% | 629 | 629 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 1,906 | 100% | 50% | 51 | 1,957 | 25% | 489 | 489 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 2,859 | 100% | 100% | 101 | 2,960 | 50% | 1,480 | 1,332 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 33% | 1,639 | 100% | 0% | 0 | 1,639 | 50% | 820 | 410 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 1,906 | 100% | 50% | 51 | 1,957 | 25% | 489 | 489 |
| | Efficient clotheswashers | SF HH w/ less efficient model: Q22 | EN | 25% | 99% | 37% | 2,151 | 100% | 37% | 58 | 2,209 | 25% | 552 | 414 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 50% | 1,887 | 100% | 50% | 51 | 1,937 | 25% | 484 | 484 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 30% | 443 | 42% | 30% | 21 | 464 | 25% | 116 | 116 |
| | Audits for manual irrigator | SF HH w/ manual systems | EN | 0% | 60% | 100% | 2,278 | 42% | 100% | 42 | 2,320 | 25% | 580 | 580 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 886 | 42% | 100% | 42 | 928 | 25% | 232 | 232 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 316 | 83% | 100% | 84 | 400 | 25% | 100 | 90 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 3,164 | 83% | 100% | 84 | 3,248 | 25% | 812 | 812 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 31% | 1,523 | 100% | 0% | 0 | 1,523 | 50% | 761 | 571 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 30% | 1,523 | 100% | 0% | 0 | 1,523 | 60% | 914 | 685 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 31% | 1,523 | 100% | 0% | 0 | 1,523 | 10% | 152 | 152 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 2,240 | 100% | 75% | 134 | 2,373 | 25% | 593 | 593 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 30% | 2,269 | 100% | 30% | 135 | 2,405 | 25% | 601 | 601 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 30% | 1,493 | 100% | 0% | 0 | 1,493 | 50% | 747 | 560 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 30% | 1,493 | 100% | 0% | 0 | 1,493 | 50% | 747 | 747 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 1,493 | 100% | 50% | 89 | 1,582 | 25% | 396 | 396 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 2,240 | 100% | 100% | 178 | 2,418 | 50% | 1,209 | 1,088 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 35% | 1,642 | 100% | 0% | 0 | 1,642 | 50% | 821 | 616 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 1,493 | 100% | 50% | 89 | 1,582 | 25% | 396 | 396 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 38% | 1,182 | 90% | 38% | 88 | 1,271 | 25% | 318 | 238 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 30% | 1,075 | 90% | 30% | 80 | 1,155 | 25% | 289 | 289 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 58 | 42% | 50% | 5 | 63 | 25% | 16 | 16 |
| | Audits for manual irrigator | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 143 | 28% | 100% | 6 | 149 | 25% | 37 | 37 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 105 | 42% | 90% | 8 | 114 | 25% | 28 | 26 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 13 | 70% | 100% | 15 | 28 | 10% | 3 | 3 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 260 | 70% | 100% | 15 | 275 | 10% | 28 | 28 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 274 | 100% | 0% | 0 | 274 | 50% | 137 | 103 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 274 | 100% | 0% | 0 | 274 | 10% | 27 | 27 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 82 | 20% | 75% | 5 | 87 | 25% | 22 | 22 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 285 | 80% | 0% | 0 | 285 | 50% | 142 | 107 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 438 | 80% | 100% | 28 | 466 | 10% | 47 | 47 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 411 | 100% | 0% | 0 | 411 | 50% | 206 | 185 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 8 | 2% | 75% | 1 | 9 | 25% | 2 | 2 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 15 | 11% | 0% | 0 | 15 | 75% | 11 | 10 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 30 | 11% | 25% | 1 | 31 | 25% | 8 | 7 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 69 | 30% | 50% | 5 | 74 | 25% | 18 | 18 |
| | Audits for manual irrigator | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 137 | 20% | 100% | 7 | 144 | 25% | 36 | 36 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 123 | 30% | 90% | 9 | 133 | 25% | 33 | 30 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 14 | 25% | 100% | 9 | 22 | 10% | 2 | 2 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 274 | 50% | 100% | 18 | 292 | 10% | 29 | 29 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient mode

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient mo

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowle

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation.

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations.

Cascade Water Alliance/Issaquah 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|-----------|----------------|--|---|--|---|--|---|--|---|--------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 8,601,817 | 4,300,909 | Full Yr | 365 | 23,567 | 11,783 | 23,567 | 11,783 | 51,610,904 | 25,805,452 | 68,989 | 34,495 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 2,263,636 | 2,263,636 | Full Yr | 365 | 6,202 | 6,202 | 6,202 | 6,202 | 13,406,534 | 13,406,534 | 17,921 | 17,921 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 2,868,480 | 2,868,480 | Full Yr | 365 | 7,859 | 7,859 | 7,859 | 7,859 | 16,988,762 | 16,988,762 | 22,709 | 22,709 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 1,238,431 | 1,238,431 | Full Yr | 365 | 3,393 | 3,393 | 3,393 | 3,393 | 7,334,691 | 7,334,691 | 9,804 | 9,804 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 295,521 | 147,761 | Full Yr | 365 | 810 | 405 | 810 | 405 | 1,773,126 | 886,563 | 2,370 | 1,185 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 2,955,210 | 2,955,210 | Full Yr | 365 | 8,096 | 8,096 | 8,096 | 8,096 | 17,502,427 | 17,502,427 | 23,396 | 23,396 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 1,139,025 | 1,139,025 | Full Yr | 365 | 3,121 | 3,121 | 3,121 | 3,121 | 6,745,953 | 6,745,953 | 9,017 | 9,017 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 5,327,813 | 4,795,032 | Full Yr | 365 | 14,597 | 13,137 | 14,597 | 13,137 | 31,554,325 | 28,398,892 | 42,179 | 37,961 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 1,387,540 | 1,387,540 | Full Yr | 365 | 3,801 | 3,801 | 3,801 | 3,801 | 8,217,797 | 8,217,797 | 10,985 | 10,985 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 3,027,567 | 2,270,675 | Full Yr | 365 | 8,295 | 6,221 | 8,295 | 6,221 | 17,930,964 | 13,448,223 | 23,969 | 17,977 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 644,970 | 644,970 | Full Yr | 365 | 1,767 | 1,767 | 1,767 | 1,767 | 3,819,880 | 3,819,880 | 5,106 | 5,106 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 513,834 | 513,834 | Peak | 122 | 1,408 | 1,408 | 4,212 | 4,212 | 3,043,214 | 3,043,214 | 4,068 | 4,068 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 856,540 | 856,540 | Peak | 122 | 2,347 | 2,347 | 7,021 | 7,021 | 5,072,913 | 5,072,913 | 6,781 | 6,781 |
| | ET controllers | n/a | u | n/a | n/a | 513,834 | 513,834 | Peak | 122 | 1,408 | 1,408 | 4,212 | 4,212 | 3,043,214 | 3,043,214 | 4,068 | 4,068 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 295,530 | 265,977 | Peak | 122 | 810 | 729 | 2,422 | 2,180 | 1,750,294 | 1,575,265 | 2,340 | 2,106 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 7,674,212 | 7,674,212 | Peak | 122 | 21,025 | 21,025 | 62,903 | 62,903 | 45,451,028 | 45,451,028 | 60,755 | 60,755 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 5,116,821 | 3,837,616 | Full Yr | 365 | 14,019 | 10,514 | 14,019 | 10,514 | 30,700,926 | 23,025,695 | 41,039 | 30,779 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 6,140,185 | 4,605,139 | Full Yr | 365 | 16,822 | 12,617 | 16,822 | 12,617 | 36,841,111 | 27,630,834 | 49,246 | 36,935 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 1,346,532 | 1,346,532 | Full Yr | 365 | 3,689 | 3,689 | 3,689 | 3,689 | 7,851,932 | 7,851,932 | 10,496 | 10,496 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 1,407,053 | 1,407,053 | Full Yr | 365 | 3,855 | 3,855 | 3,855 | 3,855 | 8,204,842 | 8,204,842 | 10,968 | 10,968 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 1,083,952 | 1,083,952 | Full Yr | 365 | 2,970 | 2,970 | 2,970 | 2,970 | 6,320,767 | 6,320,767 | 8,449 | 8,449 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 229,793 | 172,345 | Full Yr | 365 | 630 | 472 | 630 | 472 | 1,378,759 | 1,034,069 | 1,843 | 1,382 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 2,297,931 | 2,297,931 | Full Yr | 365 | 6,296 | 6,296 | 6,296 | 6,296 | 13,399,755 | 13,399,755 | 17,912 | 17,912 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 603,414 | 603,414 | Full Yr | 365 | 1,653 | 1,653 | 1,653 | 1,653 | 3,518,646 | 3,518,646 | 4,703 | 4,703 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 2,850,883 | 2,565,795 | Full Yr | 365 | 7,811 | 7,030 | 7,811 | 7,030 | 16,624,143 | 14,961,729 | 22,222 | 20,000 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 735,068 | 735,068 | Full Yr | 365 | 2,014 | 2,014 | 2,014 | 2,014 | 4,286,350 | 4,286,350 | 5,730 | 5,730 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 1,141,073 | 855,805 | Full Yr | 365 | 3,126 | 2,345 | 3,126 | 2,345 | 6,653,855 | 4,990,392 | 8,894 | 6,671 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 125,963 | 125,963 | Full Yr | 365 | 345 | 345 | 345 | 345 | 734,517 | 734,517 | 982 | 982 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,089,036 | 1,089,036 | Peak | 122 | 2,984 | 2,984 | 8,927 | 8,927 | 6,350,413 | 6,350,413 | 8,489 | 8,489 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 857,664 | 857,664 | Peak | 122 | 2,350 | 2,350 | 7,030 | 7,030 | 5,001,233 | 5,001,233 | 6,685 | 6,685 |
| | ET controllers | n/a | u | n/a | n/a | 1,089,036 | 980,132 | Peak | 122 | 2,984 | 2,685 | 8,927 | 8,034 | 6,350,413 | 5,715,372 | 8,489 | 7,640 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 131,060 | 117,954 | Peak | 122 | 359 | 323 | 1,074 | 967 | 764,239 | 687,815 | 1,022 | 919 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 4,054,241 | 4,054,241 | Peak | 122 | 11,108 | 11,108 | 33,231 | 33,231 | 23,641,196 | 23,641,196 | 31,602 | 31,602 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 107.8 | 39,348 | 5,390,680 | 4,043,010 | Full Yr | 365 | 14,769 | 11,077 | 14,769 | 11,077 | 32,344,077 | 24,258,058 | 43,235 | 32,426 |
| | Dual flush toilets | 5.5 | o | 141.8 | 51,774 | 1,418,600 | 1,418,600 | Full Yr | 365 | 3,887 | 3,887 | 3,887 | 3,887 | 8,255,747 | 8,255,747 | 11,036 | 11,036 |
| | Toilet leak detection repair | 9.5 | c | 245.0 | 89,427 | 703,901 | 703,901 | Full Yr | 365 | 1,928 | 1,928 | 1,928 | 1,928 | 4,096,452 | 4,096,452 | 5,476 | 5,476 |
| | 1.0 gpf urinals | 1.8 | p | 45.1 | 16,473 | 1,955,948 | 1,466,961 | Full Yr | 365 | 5,359 | 4,019 | 5,359 | 4,019 | 11,735,690 | 8,801,767 | 15,687 | 11,765 |
| | Waterless urinals | 2.1 | q | 54.2 | 19,768 | 922,069 | 922,069 | Full Yr | 365 | 2,526 | 2,526 | 2,526 | 2,526 | 5,366,113 | 5,366,113 | 7,173 | 7,173 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 111.0 | 40,529 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 1,072,583 | 804,437 | Full Yr | 365 | 2,939 | 2,204 | 2,939 | 2,204 | 6,242,051 | 4,681,538 | 8,344 | 6,258 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 235,492 | 211,943 | Full Yr | 365 | 645 | 581 | 645 | 581 | 1,412,954 | 1,271,658 | 1,889 | 1,700 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 423,748 | 381,374 | Full Yr | 365 | 1,161 | 1,045 | 1,161 | 1,045 | 2,466,065 | 2,219,458 | 3,296 | 2,967 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,236,752 | 2,236,752 | Peak | 122 | 6,128 | 6,128 | 18,334 | 18,334 | 13,017,102 | 13,017,102 | 17,400 | 17,400 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,455,735 | 1,455,735 | Peak | 122 | 3,988 | 3,988 | 11,932 | 11,932 | 8,471,863 | 8,471,863 | 11,325 | 11,325 |
| | ET controllers | n/a | u | n/a | n/a | 2,236,752 | 2,013,077 | Peak | 122 | 6,128 | 5,515 | 18,334 | 16,501 | 13,017,102 | 11,715,392 | 17,400 | 15,660 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 252,520 | 227,268 | Peak | 122 | 692 | 623 | 2,070 | 1,863 | 1,469,577 | 1,322,619 | 1,964 | 1,768 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 7,544,072 | 7,544,072 | Peak | 122 | 20,669 | 20,669 | 61,837 | 61,837 | 43,903,822 | 43,903,822 | 58,687 | 58,687 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Issaquah 6 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$46,000 | 2.80 | \$112.00 | 25 | 1.0 | \$93,928 | \$1.36 | \$2.72 |
| | Dual flush toilets Q4 | \$100.00 | 2.80 | \$280.00 | 25 | 1.0 | \$46,964 | \$2.62 | \$2.62 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.80 | \$0.28 | 7.5 | 1.0 | \$222 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$4,340 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$4,340 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$4.26 | 10 | 1.0 | \$6,297 | \$0.15 | \$0.17 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$902 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$55,217 | \$2.30 | \$3.07 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$80,137 | \$19.70 | \$19.70 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$137,402 | \$20.26 | \$20.26 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$57,989 | \$14.26 | \$14.26 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$30,017 | \$12.83 | \$14.26 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.70 | \$136.00 | 25 | 1.0 | \$103,554 | \$2.52 | \$3.36 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$155,332 | \$3.15 | \$4.21 |
| | Dual flush toilets Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$25,889 | \$2.47 | \$2.47 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.70 | \$0.17 | 7.5 | 1.0 | \$101 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$3,359 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$3,359 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 1.0 | \$3,197 | \$0.14 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$903 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$6,353 | \$0.71 | \$0.95 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$33,716 | \$3.97 | \$3.97 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$37,657 | \$5.63 | \$5.63 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$14,192 | \$1.67 | \$1.86 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$854 | \$0.84 | \$0.93 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$54,800 | \$1.27 | \$1.69 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$10,960 | \$0.99 | \$0.99 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$9 | \$0.002 | \$0.002 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$10,686 | \$0.68 | \$0.91 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$6,997 | \$0.98 | \$0.98 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$945 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$7,871 | \$0.94 | \$1.26 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$735 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$5,832 | \$1.77 | \$1.97 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$39,347 | \$2.26 | \$2.26 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$36,317 | \$3.21 | \$3.21 |
| ICI Outdoor | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$16,596 | \$0.95 | \$1.06 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$674 | \$0.34 | \$0.38 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Issaquah 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 15,098 | 16,171 | 16,051 | 15,773 | 11,798,453 | Non-peak |
| Feb | 19,306 | 18,054 | 19,706 | 19,022 | 14,228,456 | Non-peak |
| Mar | 13,069 | 12,380 | 26,114 | 17,188 | 12,856,375 | Non-peak |
| Apr | 16,292 | 16,548 | 18,466 | 17,102 | 12,792,296 | Non-peak |
| May | 12,978 | 14,289 | 19,398 | 15,555 | 11,635,140 | Non-peak |
| June | 19,925 | 20,903 | 22,108 | 20,979 | 15,692,043 | Peak |
| July | 22,146 | 30,230 | 30,041 | 27,472 | 20,549,305 | Peak |
| Aug | 25,266 | 34,759 | 31,896 | 30,640 | 22,918,969 | Peak |
| Sep | 28,499 | 28,876 | 32,780 | 30,052 | 22,478,647 | Peak |
| Oct | 21,665 | 25,165 | 21,948 | 22,926 | 17,148,648 | Peak |
| Nov | 14,733 | 15,927 | 17,320 | 15,993 | 11,963,013 | Non-peak |
| Dec | 17,928 | 15,265 | 26,996 | 20,063 | 15,007,124 | Non-peak |
| Total | 226,905 | 248,567 | 282,824 | 252,765 | 189,068,469 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | |
| | | | | 17,709 | 13,246,613 | |
| Base use during entire peak season: | | | | 70,838 | 52,986,450 | |
| Peak Season Total: | | | | 111,090 | 83,095,569 | |
| Peak Season Increased Use: | | | | 40,253 | 30,109,119 | |

| Multi Family Sale: | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | |
| | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | |
| | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| Total Sales: | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | |
| | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: A hybrid approach to the above process was used for Issaquah due to the nature of their customer categories. For SF, this exact process was used and SF irrigation water is calculated as 90% of the SF PSIU. For MF and ICI, irrigation water goes through separate irrigation meters. However, those meters do not distinguish between MF and ICI. Therefore, Issaquah staff allocated the irrigation meter water to MF and ICI based on parcel data and other information in their database. It should be noted that MF irrigation water is larger than SF since SF homeowner association water was allocated to the MF category.

Cascade Water Alliance/Issaquah 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

177% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|--|----------------|-----------------|-----------|---|
| | n/a | n/a | n/a | PSIU Total |
| All Sectors | 30,109,119 | 53,293,141 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | n/a | n/a | n/a | PSIU ICI |
| | | | | |
| Single Family | 27,098,207 | 47,963,827 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 3,010,912 | 5,329,314 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 30,109,119 | 53,293,141 | n/a | Subtotal |
| | | | | |
| | 21,678,566 | 38,371,062 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 5,419,641 | 9,592,765 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 27,098,207 | 47,963,827 | n/a | Subtotal |
| | | | | |
| | 17,342,853 | 30,696,849 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 4,335,713 | 7,674,212 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 21,678,566 | 38,371,062 | n/a | Subtotal |
| | | | | |
| | 1,138,125 | 2,055,335 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 1,951,071 | 3,426,159 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁵ |
| | 1,138,125 | 2,055,335 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁴ |
| | 5,419,641 | 9,592,765 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁵ |
| Multi Family | 17,342,853 | 30,696,849 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 26,989,815 | 47,826,444 | n/a | Subtotal |
| | | | | |
| | 35,789,556 | 63,347,514 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 35,789,556 | 63,347,514 | n/a | Subtotal |
| | | | | |
| | 28,631,645 | 50,678,011 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 7,157,911 | 12,669,503 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 35,789,556 | 63,347,514 | n/a | Subtotal |
| | | | | |
| | 22,905,316 | 40,542,409 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 5,726,329 | 10,135,602 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 28,631,645 | 50,678,011 | n/a | Subtotal |
| | | | | |
| | 2,415,795 | 4,356,143 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| ICI | 1,968,426 | 3,430,656 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁵ |
| | 2,415,795 | 4,356,143 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁴ |
| | 7,157,911 | 12,669,503 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁵ |
| | 22,905,316 | 40,542,409 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 36,863,243 | 65,354,853 | n/a | Subtotal |
| | | | | |
| | 66,596,684 | 117,876,131 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 66,596,684 | 117,876,131 | n/a | Subtotal |
| | | | | |
| | 53,277,347 | 94,300,905 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 13,319,337 | 23,575,226 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 66,596,684 | 117,876,131 | n/a | Subtotal |
| | | | | |
| | 42,621,878 | 75,440,724 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 10,655,469 | 18,860,181 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 53,277,347 | 94,300,905 | n/a | Subtotal |
| | | | | |
| | 4,994,751 | 8,947,008 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 3,329,834 | 5,822,941 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁵ |
| | 4,994,751 | 8,947,008 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁴ |
| | 13,319,337 | 23,575,226 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁵ |
| | 42,621,878 | 75,440,724 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁵ |
| | 69,260,551 | 122,732,906 | n/a | Subtotal |
| All Sectors (Double check by making sure totals 100%.) | 3,010,912 | 5,329,314 | n/a | SF Non-Landscape |
| | 5,419,641 | 9,592,765 | n/a | SF Landscape Non-Lawn |
| | 17,342,853 | 30,696,849 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 4,335,713 | 7,674,212 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 7,157,911 | 12,669,503 | n/a | MF Landscape Non-Lawn |
| | 22,905,316 | 40,542,409 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 5,726,329 | 10,135,602 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 13,319,337 | 23,575,226 | n/a | ICI Landscape Non-Lawn |
| | 42,621,878 | 75,440,724 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 10,655,469 | 18,860,181 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 132,495,359 | 234,516,786 | 0.0% | Total |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client
White cells are calculations.

Issaquah 20-Year

Cascade Water Alliance/Issaquah 20 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|----------------------------------|-------------------|------------------|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2023 | a | 20 |
| 2 | Population | 16,728 | b | 18,873 | b | 2,145 |
| 3 | SF Accounts/Households | 3,812 | c | 4,207 | c | 395 |
| 4 | MF Accounts | 371 | d | 436 | r | 65 |
| 5 | Units per MF account | 8.0 | e | 8.0 | s | 0 |
| 6 | MF Households | 2,986 | c | 3,512 | e | 526 |
| 7 | Commercial Accounts | 548 | d | 698 | f | 150 |
| 8 | Persons Per SF HH ^{Q54} | 2.90 | g | 2.90 | g | 0 |
| 9 | Persons Per MF HH ^{Q54} | 1.9 | g | 1.9 | g | 0 |
| 10 | Employees Per ICI Account | 25.8 | h | 25.8 | h | 0 |
| 11 | Employment | 14,133 | c | 18,014 | c | 3,881 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connections data. | | | | | | |
| d. Provided by client, via data request. | | | | | | |
| e. Calculation. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Calculation. | | | | | | |
| s. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks ^{Q11} | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher ^{Q21} | 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system ^{Q30&33} | 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs ^{Q28} | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping ^{Q29&32} | 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Issaquah 20 Yr- Water Conservation Potential Assessment

Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|-------------------------------|-------------------------------------|-------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | W/ free riders (affects cost) | W/out free riders (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 84% | 1,677 | 100% | 0% | 0 | 1,677 | 84% | 839 | 419 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 84% | 1,677 | 100% | 0% | 0 | 1,677 | 10% | 168 | 168 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 84% | 3,088 | 100% | 84% | 320 | 3,408 | 25% | 852 | 852 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 86% | 1,754 | 100% | 46% | 182 | 1,935 | 25% | 484 | 484 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 83% | 1,258 | 100% | 0% | 0 | 1,258 | 50% | 629 | 314 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 83% | 1,258 | 100% | 0% | 0 | 1,258 | 50% | 629 | 629 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 1,906 | 100% | 50% | 198 | 2,104 | 25% | 526 | 526 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 2,859 | 100% | 100% | 395 | 3,254 | 50% | 1,627 | 1,464 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 83% | 1,639 | 100% | 0% | 0 | 1,639 | 50% | 820 | 410 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 1,906 | 100% | 50% | 198 | 2,104 | 25% | 526 | 526 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 87% | 2,151 | 100% | 87% | 225 | 2,376 | 50% | 1,188 | 891 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 80% | 1,887 | 100% | 80% | 198 | 2,084 | 25% | 521 | 521 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 80% | 443 | 42% | 80% | 82 | 525 | 25% | 131 | 131 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 2,278 | 42% | 100% | 164 | 2,442 | 25% | 610 | 610 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 886 | 42% | 100% | 164 | 1,050 | 25% | 262 | 262 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 316 | 83% | 100% | 328 | 644 | 25% | 161 | 145 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 3,164 | 83% | 100% | 328 | 3,492 | 25% | 873 | 873 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,523 | 100% | 0% | 0 | 1,523 | 50% | 761 | 571 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,523 | 100% | 0% | 0 | 1,523 | 60% | 914 | 685 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 81% | 1,523 | 100% | 0% | 0 | 1,523 | 10% | 152 | 152 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 2,240 | 100% | 75% | 395 | 2,634 | 25% | 659 | 659 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 70% | 2,269 | 100% | 70% | 400 | 2,669 | 25% | 667 | 667 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 80% | 1,493 | 100% | 0% | 0 | 1,493 | 50% | 747 | 560 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 80% | 1,493 | 100% | 0% | 0 | 1,493 | 50% | 747 | 747 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 1,493 | 100% | 50% | 263 | 1,756 | 25% | 439 | 439 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 2,240 | 100% | 100% | 526 | 2,766 | 50% | 1,383 | 1,244 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 85% | 1,642 | 100% | 0% | 0 | 1,642 | 50% | 821 | 616 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 1,493 | 100% | 50% | 263 | 1,756 | 25% | 439 | 439 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 85% | 1,182 | 90% | 85% | 260 | 1,443 | 50% | 721 | 541 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 80% | 1,075 | 90% | 80% | 237 | 1,312 | 25% | 328 | 328 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 58 | 42% | 50% | 14 | 72 | 25% | 18 | 18 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 143 | 28% | 100% | 18 | 161 | 25% | 40 | 40 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 105 | 42% | 90% | 25 | 130 | 25% | 32 | 29 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 13 | 70% | 100% | 46 | 59 | 10% | 6 | 5 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 260 | 70% | 100% | 46 | 305 | 10% | 31 | 31 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 274 | 100% | 0% | 0 | 274 | 50% | 137 | 103 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 274 | 100% | 0% | 0 | 274 | 10% | 27 | 27 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 82 | 20% | 75% | 23 | 105 | 25% | 26 | 26 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 285 | 80% | 0% | 0 | 285 | 50% | 142 | 107 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 438 | 80% | 100% | 120 | 559 | 10% | 56 | 56 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 411 | 100% | 0% | 0 | 411 | 50% | 206 | 185 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 8 | 2% | 75% | 2 | 10 | 50% | 5 | 4 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 15 | 11% | 0% | 0 | 15 | 75% | 11 | 10 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 20% | 12 | 11% | 25% | 4 | 16 | 25% | 4 | 4 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 69 | 30% | 50% | 23 | 91 | 25% | 23 | 23 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 137 | 20% | 100% | 30 | 167 | 25% | 42 | 42 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 123 | 30% | 90% | 41 | 164 | 25% | 41 | 37 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 14 | 25% | 100% | 38 | 51 | 10% | 5 | 5 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 274 | 50% | 100% | 75 | 349 | 10% | 35 | 35 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers:

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowl

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations.

Cascade Water Alliance/Issaquah 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|-----------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 3,010,636 | 1,505,318 | Full Yr | 365 | 8,248 | 4,124 | 8,248 | 4,124 | 60,212,721 | 30,106,360 | 80,488 | 40,244 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 2,263,636 | 2,263,636 | Full Yr | 365 | 6,202 | 6,202 | 6,202 | 6,202 | 43,147,369 | 43,147,369 | 57,676 | 57,676 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 3,084,001 | 3,084,001 | Full Yr | 365 | 8,449 | 8,449 | 8,449 | 8,449 | 58,784,416 | 58,784,416 | 78,578 | 78,578 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 1,331,480 | 1,331,480 | Full Yr | 365 | 3,648 | 3,648 | 3,648 | 3,648 | 25,379,453 | 25,379,453 | 33,925 | 33,925 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 88,656 | 44,328 | Full Yr | 365 | 243 | 121 | 243 | 121 | 1,773,126 | 886,563 | 2,370 | 1,185 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 2,955,210 | 2,955,210 | Full Yr | 365 | 8,096 | 8,096 | 8,096 | 8,096 | 56,329,525 | 56,329,525 | 75,297 | 75,297 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 1,224,605 | 1,224,605 | Full Yr | 365 | 3,355 | 3,355 | 3,355 | 3,355 | 23,342,307 | 23,342,307 | 31,202 | 31,202 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 5,856,995 | 5,271,295 | Full Yr | 365 | 16,047 | 14,442 | 16,047 | 14,442 | 111,640,695 | 100,476,626 | 149,232 | 134,309 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 1,491,792 | 1,491,792 | Full Yr | 365 | 4,087 | 4,087 | 4,087 | 4,087 | 28,435,174 | 28,435,174 | 38,010 | 38,010 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 6,514,557 | 4,885,918 | Full Yr | 365 | 17,848 | 13,386 | 17,848 | 13,386 | 124,174,545 | 93,130,909 | 165,987 | 124,490 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 693,906 | 693,906 | Full Yr | 365 | 1,901 | 1,901 | 1,901 | 1,901 | 13,226,612 | 13,226,612 | 17,680 | 17,680 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 650,761 | 650,761 | Peak | 122 | 1,783 | 1,783 | 5,334 | 5,334 | 12,404,209 | 12,404,209 | 16,581 | 16,581 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,009,139 | 1,009,139 | Peak | 122 | 2,765 | 2,765 | 8,272 | 8,272 | 19,235,288 | 19,235,288 | 25,712 | 25,712 |
| | ET controllers | n/a | u | n/a | n/a | 650,761 | 650,761 | Peak | 122 | 1,783 | 1,783 | 5,334 | 5,334 | 12,404,209 | 12,404,209 | 16,581 | 16,581 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 532,465 | 479,219 | Peak | 122 | 1,459 | 1,313 | 4,364 | 3,928 | 10,149,368 | 9,134,431 | 13,567 | 12,210 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 9,235,069 | 9,235,069 | Peak | 122 | 25,302 | 25,302 | 75,697 | 75,697 | 176,030,471 | 176,030,471 | 235,303 | 235,303 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 1,790,887 | 1,343,166 | Full Yr | 365 | 4,907 | 3,680 | 4,907 | 3,680 | 35,817,747 | 26,863,310 | 47,878 | 35,909 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 2,149,065 | 1,611,799 | Full Yr | 365 | 5,888 | 4,416 | 5,888 | 4,416 | 42,981,297 | 32,235,972 | 57,454 | 43,090 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 1,346,532 | 1,346,532 | Full Yr | 365 | 3,689 | 3,689 | 3,689 | 3,689 | 24,913,906 | 24,913,906 | 33,303 | 33,303 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 1,561,811 | 1,561,811 | Full Yr | 365 | 4,279 | 4,279 | 4,279 | 4,279 | 28,897,053 | 28,897,053 | 38,627 | 38,627 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 1,203,173 | 1,203,173 | Full Yr | 365 | 3,296 | 3,296 | 3,296 | 3,296 | 22,261,433 | 22,261,433 | 29,757 | 29,757 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 68,938 | 51,703 | Full Yr | 365 | 189 | 142 | 189 | 142 | 1,378,759 | 1,034,069 | 1,843 | 1,382 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 2,297,931 | 2,297,931 | Full Yr | 365 | 6,296 | 6,296 | 6,296 | 6,296 | 42,516,956 | 42,516,956 | 56,833 | 56,833 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 669,782 | 669,782 | Full Yr | 365 | 1,835 | 1,835 | 1,835 | 1,835 | 12,392,498 | 12,392,498 | 16,565 | 16,565 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 3,261,268 | 2,935,142 | Full Yr | 365 | 8,935 | 8,041 | 8,935 | 8,041 | 60,340,895 | 54,306,806 | 80,659 | 72,593 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 815,917 | 815,917 | Full Yr | 365 | 2,235 | 2,235 | 2,235 | 2,235 | 15,096,316 | 15,096,316 | 20,180 | 20,180 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 2,591,554 | 1,943,665 | Full Yr | 365 | 7,100 | 5,325 | 7,100 | 5,325 | 47,949,644 | 35,962,233 | 64,095 | 48,071 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 143,040 | 143,040 | Full Yr | 365 | 392 | 392 | 392 | 392 | 2,646,571 | 2,646,571 | 3,538 | 3,538 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,350,634 | 1,350,634 | Peak | 122 | 3,700 | 3,700 | 11,071 | 11,071 | 24,989,800 | 24,989,800 | 33,404 | 33,404 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,005,371 | 1,005,371 | Peak | 122 | 2,754 | 2,754 | 8,241 | 8,241 | 18,601,661 | 18,601,661 | 24,865 | 24,865 |
| | ET controllers | n/a | u | n/a | n/a | 1,350,634 | 1,215,570 | Peak | 122 | 3,700 | 3,330 | 11,071 | 9,964 | 24,989,800 | 22,490,820 | 33,404 | 30,064 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 293,162 | 263,846 | Peak | 122 | 803 | 723 | 2,403 | 2,163 | 5,424,171 | 4,881,754 | 7,251 | 6,526 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 4,878,832 | 4,878,832 | Peak | 122 | 13,367 | 13,367 | 39,990 | 39,990 | 90,269,511 | 90,269,511 | 120,665 | 120,665 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 107.8 | 39,348 | 1,886,738 | 1,415,053 | Full Yr | 365 | 5,169 | 3,877 | 5,169 | 3,877 | 37,734,757 | 28,301,068 | 50,441 | 37,831 |
| | Dual flush toilets | 5.5 | o | 141.8 | 51,774 | 1,418,600 | 1,418,600 | Full Yr | 365 | 3,887 | 3,887 | 3,887 | 3,887 | 25,315,716 | 25,315,716 | 33,840 | 33,840 |
| | Toilet leak detection repair | 9.5 | c | 245.0 | 89,427 | 843,258 | 843,258 | Full Yr | 365 | 2,310 | 2,310 | 2,310 | 2,310 | 15,048,413 | 15,048,413 | 20,116 | 20,116 |
| | 1.0 gpf urinals | 1.8 | p | 45.1 | 16,473 | 586,784 | 440,088 | Full Yr | 365 | 1,608 | 1,206 | 1,608 | 1,206 | 11,735,690 | 8,801,767 | 15,687 | 11,765 |
| | Waterless urinals | 2.1 | q | 54.2 | 19,768 | 1,104,618 | 1,104,618 | Full Yr | 365 | 3,026 | 3,026 | 3,026 | 3,026 | 19,712,540 | 19,712,540 | 26,350 | 26,350 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 111.0 | 40,529 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 2,569,862 | 1,927,396 | Full Yr | 365 | 7,041 | 5,281 | 7,041 | 5,281 | 45,860,633 | 34,395,475 | 61,303 | 45,977 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 70,648 | 63,583 | Full Yr | 365 | 194 | 174 | 194 | 174 | 1,412,954 | 1,271,658 | 1,889 | 1,700 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 220,625 | 198,563 | Full Yr | 365 | 604 | 544 | 604 | 544 | 3,937,180 | 3,543,462 | 5,263 | 4,737 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,774,308 | 2,774,308 | Peak | 122 | 7,601 | 7,601 | 22,740 | 22,740 | 49,509,098 | 49,509,098 | 66,180 | 66,180 |
| ICI Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 1,696,735 | 1,696,735 | Peak | 122 | 4,649 | 4,649 | 13,908 | 13,908 | 30,279,186 | 30,279,186 | 40,475 | 40,475 |
| | ET controllers | n/a | u | n/a | n/a | 2,774,308 | 2,496,877 | Peak | 122 | 7,601 | 6,841 | 22,740 | 20,466 | 49,509,098 | 44,558,188 | 66,180 | 59,562 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 722,507 | 650,257 | Peak | 122 | 1,979 | 1,782 | 5,922 | 5,330 | 12,893,553 | 11,604,198 | 17,235 | 15,512 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 9,078,460 | 9,078,460 | Peak | 122 | 24,872 | 24,872 | 74,414 | 74,414 | 162,010,243 | 162,010,243 | 216,562 | 216,562 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Issaquah 20 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$460.00 | 2.80 | \$112.00 | 25 | 1.0 | \$93,928 | \$1.17 | \$2.33 |
| | Dual flush toilets Q4 | \$100.00 | 2.80 | \$280.00 | 25 | 1.0 | \$46,964 | \$0.81 | \$0.81 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.80 | \$0.28 | 7.5 | 3.0 | \$690 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.80 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$4,340 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 2.0 | \$8,423 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 2.30 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$4.26 | 10 | 2.0 | \$13,504 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$902 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$229,993 | \$1.39 | \$1.85 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$176,912 | \$10.67 | \$10.67 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$282,177 | \$10.97 | \$10.97 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$127,987 | \$7.72 | \$7.72 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$48,318 | \$3.56 | \$3.96 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.70 | \$136.00 | 25 | 1.0 | \$103,554 | \$2.16 | \$2.88 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$155,332 | \$2.70 | \$3.60 |
| | Dual flush toilets Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$25,889 | \$0.78 | \$0.78 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.70 | \$0.17 | 7.5 | 3.0 | \$316 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.70 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$3,359 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 2.0 | \$6,401 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 2.0 | \$7,026 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$903 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$27,378 | \$0.43 | \$0.57 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$74,680 | \$2.24 | \$2.24 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$78,836 | \$3.17 | \$3.17 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$31,191 | \$0.93 | \$1.04 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,762 | \$0.24 | \$0.27 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$54,800 | \$1.09 | \$1.45 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$10,960 | \$0.32 | \$0.32 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$29 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$10,686 | \$0.68 | \$0.91 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$8,382 | \$0.32 | \$0.32 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$945 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$34,938 | \$0.57 | \$0.76 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$735 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$8,283 | \$1.57 | \$1.75 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$91,660 | \$1.39 | \$1.39 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$79,501 | \$1.96 | \$1.96 |
| ICI Outdoor | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$38,659 | \$0.58 | \$0.65 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,540 | \$0.09 | \$0.10 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Issaquah 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 15,098 | 16,171 | 16,051 | 15,773 | 11,798,453 | Non-peak |
| Feb | 19,306 | 18,054 | 19,706 | 19,022 | 14,228,456 | Non-peak |
| Mar | 13,069 | 12,380 | 26,114 | 17,188 | 12,856,375 | Non-peak |
| Apr | 16,292 | 16,548 | 18,466 | 17,102 | 12,792,296 | Non-peak |
| May | 12,978 | 14,289 | 19,398 | 15,555 | 11,635,140 | Non-peak |
| June | 19,925 | 20,903 | 22,108 | 20,979 | 15,692,043 | Non-peak |
| July | 22,146 | 30,230 | 30,041 | 27,472 | 20,549,305 | Peak |
| Aug | 25,266 | 34,759 | 31,896 | 30,640 | 22,918,969 | Peak |
| Sep | 28,499 | 28,876 | 32,780 | 30,052 | 22,478,647 | Peak |
| Oct | 21,665 | 25,165 | 21,948 | 22,926 | 17,148,648 | Peak |
| Nov | 14,733 | 15,927 | 17,329 | 15,993 | 11,963,013 | Non-peak |
| Dec | 17,928 | 15,265 | 26,998 | 20,063 | 15,007,124 | Non-peak |
| Total | 226,905 | 248,567 | 282,824 | 252,765 | 189,068,469 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 17,709 | 13,246,613 | |
| Base use during entire peak season: | | | | 70,838 | 52,986,450 | |
| Peak Season Total: | | | | 111,090 | 83,095,569 | |
| Peak Season Increased Use: | | | | 40,253 | 30,109,119 | |

| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

Shaded cells contain data entered specifically for the client.
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: A hybrid approach to the above process was used for Issaquah due to the nature of their customer categories. For SF, this exact process was used and SF irrigation water is calculated as 90% of the SF PSIU. For MF and ICI, irrigation water goes through separate irrigation meters. However, those meters do not distinguish between MF and ICI. Therefore, Issaquah staff allocated the irrigation meter water to MF and ICI based on parcel data and other information in their database. It should be noted that MF irrigation water is larger than SF since SF homeowner association water was allocated to the MF category.

Cascade Water Alliance/Issaquah 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

213% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---|----------------|-----------------|-----------|---|
| | n/a | n/a | n/a | PSIU Total |
| All Sectors | 30,109,119 | 64,132,424 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | n/a | n/a | n/a | PSIU ICI |
| | | | | |
| Single Family | 27,098,207 | 57,719,182 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 3,010,912 | 6,413,242 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 30,109,119 | 64,132,424 | n/a | Subtotal |
| | | | | |
| | 21,678,566 | 46,175,345 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 5,419,641 | 11,543,836 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 27,098,207 | 57,719,182 | n/a | Subtotal |
| | | | | |
| | 17,342,853 | 36,940,276 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ² |
| | 4,335,713 | 9,235,069 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ² |
| | 21,678,566 | 46,175,345 | n/a | Subtotal |
| | | | | |
| | 1,138,125 | 2,603,043 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 1,951,071 | 4,036,556 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 1,138,125 | 2,603,043 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 5,419,641 | 11,543,836 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 17,342,853 | 36,940,276 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 26,989,815 | 57,726,755 | n/a | Subtotal |
| Multi Family | 35,789,556 | 76,231,754 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 35,789,556 | 76,231,754 | n/a | Subtotal |
| | | | | |
| | 28,631,645 | 60,985,403 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 7,157,911 | 15,246,351 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 35,789,556 | 76,231,754 | n/a | Subtotal |
| | | | | |
| | 22,905,316 | 48,788,323 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ² |
| | 5,726,329 | 12,197,081 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ² |
| | 28,631,645 | 60,985,403 | n/a | Subtotal |
| | | | | |
| | 2,415,795 | 5,402,535 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 1,968,426 | 4,021,486 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 2,415,795 | 5,402,535 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 7,157,911 | 15,246,351 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 22,905,316 | 48,788,323 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 36,863,243 | 78,861,229 | n/a | Subtotal |
| ICI | 66,596,684 | 141,850,937 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 66,596,684 | 141,850,937 | n/a | Subtotal |
| | | | | |
| | 53,277,347 | 113,480,750 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 13,319,337 | 28,370,187 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 66,596,684 | 141,850,937 | n/a | Subtotal |
| | | | | |
| | 42,621,878 | 90,784,600 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ² |
| | 10,655,469 | 22,696,150 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ² |
| | 53,277,347 | 113,480,750 | n/a | Subtotal |
| | | | | |
| | 4,994,751 | 11,097,233 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 3,329,834 | 6,786,938 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 4,994,751 | 11,097,233 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 13,319,337 | 28,370,187 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 42,621,878 | 90,784,600 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁵ |
| | 69,260,551 | 148,136,192 | n/a | Subtotal |
| All Sectors (Double check by making sure totals 100%) | 3,010,912 | 6,413,242 | n/a | SF Non-Landscape |
| | 5,419,641 | 11,543,836 | n/a | SF Landscape Non-Lawn |
| | 17,342,853 | 36,940,276 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 4,335,713 | 9,235,069 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 7,157,911 | 15,246,351 | n/a | MF Landscape Non-Lawn |
| | 22,905,316 | 48,788,323 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 5,726,329 | 12,197,081 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 13,319,337 | 28,370,187 | n/a | ICI Landscape Non-Lawn |
| | 42,621,878 | 90,784,600 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 10,655,469 | 22,696,150 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 132,495,359 | 282,215,115 | 0.0% | Total |
| | | | | |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Appendix C-4

Analysis of Savings and Costs

Kirkland Spreadsheets

Kirkland 6-Year

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2009 | a | 6 |
| 2 | Population | 41,888 | b | 44,070 | b | 2,182 |
| 3 | SF Accounts/Households | 9,508 | c | 9,672 | c | 164 |
| 4 | MF Accounts | 473 | e | 529 | k | 56 |
| 5 | Units per MF account | 15.9 | d | 15.9 | r | 0 |
| 6 | MF Households | 7,534 | c | 8,432 | c | 898 |
| 7 | Commercial Accounts | 828 | e | 857 | f | 29 |
| 8 | Persons Per SF HH Q54 | 2.90 | g | 2.90 | g | 0 |
| 9 | Persons Per MF HH Q54 | 1.9 | g | 1.9 | g | 0 |
| 10 | Employees Per ICI Account | 35.5 | h | 35.5 | h | 0 |
| 11 | Employment | 29,371 | c | 30,400 | c | 1,029 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connections data. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via 9-15-05 email. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|----------------|----------------|--------------------|--------------------|--------------------|--------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH | Eligible MF HH | Eligible ICI Acct. | Eligible ICI Acct. | Eligible ICI Acct. | Eligible ICI Acct. | Life remaining for code fixtures ^r |
| Existing | New | Existing | New | Existing | New | Existing | New |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Kirkland 6 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|--|--|-------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^g | Target ^h | Target ⁱ | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | W/ free riders ^j (affects cost) | W/out free riders ^k (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 64% | 4,184 | 100% | 0% | 0 | 4,184 | 80% | 2,092 | 1,046 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 64% | 4,184 | 100% | 0% | 0 | 4,184 | 100% | 418 | 418 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 81% | 7,701 | 100% | 81% | 133 | 7,834 | 25% | 1,959 | 1,959 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 96% | 4,374 | 100% | 46% | 75 | 4,449 | 25% | 1,112 | 1,112 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 33% | 3,138 | 100% | 0% | 0 | 3,138 | 50% | 1,569 | 784 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 59% | 3,138 | 100% | 0% | 0 | 3,138 | 50% | 1,569 | 1,569 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 4,754 | 100% | 50% | 82 | 4,836 | 25% | 1,209 | 1,209 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 7,131 | 100% | 100% | 164 | 7,295 | 50% | 3,648 | 3,283 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 63% | 4,088 | 100% | 0% | 0 | 4,088 | 50% | 2,044 | 1,022 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 4,754 | 100% | 50% | 82 | 4,836 | 25% | 1,209 | 1,209 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 57% | 5,365 | 100% | 57% | 93 | 5,459 | 25% | 1,365 | 1,024 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 90% | 4,706 | 100% | 80% | 82 | 4,788 | 25% | 1,197 | 1,197 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 80% | 1,105 | 42% | 80% | 34 | 1,139 | 25% | 285 | 285 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 5,682 | 42% | 100% | 68 | 5,750 | 25% | 1,438 | 1,438 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 2,210 | 42% | 100% | 68 | 2,278 | 25% | 569 | 569 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 789 | 83% | 100% | 136 | 925 | 25% | 231 | 208 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 7,892 | 83% | 100% | 136 | 8,028 | 25% | 2,007 | 2,007 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 3,842 | 100% | 0% | 0 | 3,842 | 50% | 1,921 | 1,441 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 3,842 | 100% | 0% | 0 | 3,842 | 60% | 2,305 | 1,729 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 81% | 3,842 | 100% | 0% | 0 | 3,842 | 100% | 384 | 384 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 5,651 | 100% | 75% | 674 | 6,324 | 25% | 1,581 | 1,581 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 96% | 5,726 | 100% | 96% | 682 | 6,408 | 25% | 1,602 | 1,602 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 50% | 3,767 | 100% | 0% | 0 | 3,767 | 50% | 1,884 | 1,413 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 50% | 3,767 | 100% | 0% | 0 | 3,767 | 50% | 1,884 | 1,884 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 3,767 | 100% | 50% | 449 | 4,216 | 25% | 1,054 | 1,054 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 5,651 | 100% | 100% | 898 | 6,549 | 50% | 3,274 | 2,947 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 58% | 4,144 | 100% | 0% | 0 | 4,144 | 50% | 2,072 | 1,554 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 3,767 | 100% | 50% | 449 | 4,216 | 25% | 1,054 | 1,054 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 89% | 2,983 | 90% | 85% | 445 | 3,428 | 25% | 857 | 643 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 90% | 2,712 | 90% | 90% | 404 | 3,116 | 25% | 779 | 779 |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 74 | 42% | 50% | 12 | 86 | 25% | 22 | 22 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 182 | 28% | 100% | 16 | 198 | 25% | 49 | 49 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 134 | 42% | 90% | 21 | 155 | 25% | 39 | 35 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 17 | 70% | 100% | 39 | 56 | 10% | 6 | 5 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 331 | 70% | 100% | 39 | 371 | 10% | 37 | 37 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 414 | 100% | 0% | 0 | 414 | 50% | 207 | 155 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 414 | 100% | 0% | 0 | 414 | 10% | 41 | 41 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 124 | 20% | 75% | 4 | 129 | 25% | 32 | 32 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 431 | 80% | 0% | 0 | 431 | 50% | 215 | 161 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 662 | 80% | 100% | 23 | 686 | 10% | 69 | 69 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 621 | 100% | 0% | 0 | 621 | 50% | 311 | 279 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 12 | 2% | 75% | 0 | 13 | 25% | 3 | 2 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 23 | 11% | 0% | 0 | 23 | 75% | 17 | 15 |
| ICI Outdoor | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 46 | 11% | 25% | 1 | 46 | 25% | 12 | 10 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 104 | 30% | 50% | 4 | 108 | 25% | 27 | 27 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 207 | 20% | 100% | 6 | 213 | 25% | 53 | 53 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 186 | 30% | 90% | 8 | 194 | 25% | 49 | 44 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 21 | 25% | 100% | 7 | 28 | 10% | 3 | 3 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 414 | 50% | 100% | 15 | 429 | 10% | 43 | 43 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 21,454,900 | 10,727,450 | Full Yr | 365 | 58,781 | 29,390 | 58,781 | 29,390 | 128,729,400 | 64,364,700 | 172,075 | 86,038 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 5,646,026 | 5,646,026 | Full Yr | 365 | 15,469 | 15,469 | 15,469 | 15,469 | 33,588,953 | 33,588,953 | 44,899 | 44,899 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 7,090,197 | 7,090,197 | Full Yr | 365 | 19,425 | 19,425 | 19,425 | 19,425 | 42,180,513 | 42,180,513 | 56,384 | 56,384 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 3,061,106 | 3,061,106 | Full Yr | 365 | 8,387 | 8,387 | 8,387 | 8,387 | 18,210,921 | 18,210,921 | 24,343 | 24,343 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 737,097 | 368,549 | Full Yr | 365 | 2,019 | 1,010 | 2,019 | 1,010 | 4,422,582 | 2,211,291 | 5,912 | 2,956 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 7,370,970 | 7,370,970 | Full Yr | 365 | 20,194 | 20,194 | 20,194 | 20,194 | 43,850,872 | 43,850,872 | 58,616 | 58,616 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 2,815,398 | 2,815,398 | Full Yr | 365 | 7,713 | 7,713 | 7,713 | 7,713 | 16,749,175 | 16,749,175 | 22,389 | 22,389 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 13,130,540 | 11,817,486 | Full Yr | 365 | 35,974 | 32,377 | 35,974 | 32,377 | 78,115,308 | 70,303,777 | 104,418 | 93,976 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 3,429,667 | 3,429,667 | Full Yr | 365 | 9,396 | 9,396 | 9,396 | 9,396 | 20,403,540 | 20,403,540 | 27,274 | 27,274 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 7,482,752 | 5,612,064 | Full Yr | 365 | 20,501 | 15,376 | 20,501 | 15,376 | 44,515,875 | 33,386,906 | 59,505 | 44,629 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 1,594,070 | 1,594,070 | Full Yr | 365 | 4,367 | 4,367 | 4,367 | 4,367 | 9,483,332 | 9,483,332 | 12,677 | 12,677 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,580,369 | 1,580,369 | Peak | 122 | 4,330 | 4,330 | 12,954 | 12,954 | 9,401,824 | 9,401,824 | 12,568 | 12,568 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 2,659,733 | 2,659,733 | Peak | 122 | 7,287 | 7,287 | 21,801 | 21,801 | 15,823,101 | 15,823,101 | 21,151 | 21,151 |
| | ET controllers | n/a | u | n/a | n/a | 1,580,369 | 1,580,369 | Peak | 122 | 4,330 | 4,330 | 12,954 | 12,954 | 9,401,824 | 9,401,824 | 12,568 | 12,568 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 855,997 | 770,397 | Peak | 122 | 2,345 | 2,111 | 7,016 | 6,315 | 5,092,438 | 4,583,194 | 6,807 | 6,126 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 23,765,200 | 23,765,200 | Peak | 122 | 65,110 | 65,110 | 194,797 | 194,797 | 141,382,298 | 141,382,298 | 188,989 | 188,989 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 12,910,291 | 9,682,718 | Full Yr | 365 | 35,371 | 26,528 | 35,371 | 26,528 | 77,461,747 | 58,096,310 | 103,545 | 77,658 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 15,492,349 | 11,619,262 | Full Yr | 365 | 42,445 | 31,834 | 42,445 | 31,834 | 92,954,097 | 69,715,573 | 124,254 | 93,190 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 3,397,445 | 3,397,445 | Full Yr | 365 | 9,308 | 9,308 | 9,308 | 9,308 | 19,299,196 | 19,299,196 | 25,798 | 25,798 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 3,749,768 | 3,749,768 | Full Yr | 365 | 10,273 | 10,273 | 10,273 | 10,273 | 21,300,570 | 21,300,570 | 28,473 | 28,473 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 2,888,710 | 2,888,710 | Full Yr | 365 | 7,914 | 7,914 | 7,914 | 7,914 | 16,409,328 | 16,409,328 | 21,935 | 21,935 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 579,793 | 434,845 | Full Yr | 365 | 1,588 | 1,191 | 1,588 | 1,191 | 3,478,756 | 2,609,067 | 4,650 | 3,488 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 5,797,927 | 5,797,927 | Full Yr | 365 | 15,885 | 15,885 | 15,885 | 15,885 | 32,935,143 | 32,935,143 | 44,025 | 44,025 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 1,608,088 | 1,608,088 | Full Yr | 365 | 4,406 | 4,406 | 4,406 | 4,406 | 9,134,747 | 9,134,747 | 12,211 | 12,211 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 7,722,443 | 6,950,199 | Full Yr | 365 | 21,157 | 19,042 | 21,157 | 19,042 | 43,867,360 | 39,480,624 | 58,638 | 52,775 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 1,958,943 | 1,958,943 | Full Yr | 365 | 5,367 | 5,367 | 5,367 | 5,367 | 11,127,783 | 11,127,783 | 14,875 | 14,875 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 3,078,603 | 2,308,953 | Full Yr | 365 | 8,435 | 6,326 | 8,435 | 6,326 | 17,488,016 | 13,116,012 | 23,377 | 17,532 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 339,846 | 339,846 | Full Yr | 365 | 931 | 931 | 931 | 931 | 1,930,495 | 1,930,495 | 2,581 | 2,581 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 590,263 | 590,263 | Peak | 122 | 1,617 | 1,617 | 4,838 | 4,838 | 3,352,992 | 3,352,992 | 4,482 | 4,482 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 450,976 | 450,976 | Peak | 122 | 1,236 | 1,236 | 3,697 | 3,697 | 2,561,772 | 2,561,772 | 3,424 | 3,424 |
| | ET controllers | n/a | u | n/a | n/a | 590,263 | 531,237 | Peak | 122 | 1,617 | 1,455 | 4,838 | 4,354 | 3,352,992 | 3,017,693 | 4,482 | 4,034 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 102,131 | 91,918 | Peak | 122 | 280 | 252 | 837 | 753 | 580,158 | 522,142 | 776 | 698 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 2,161,882 | 2,161,882 | Peak | 122 | 5,923 | 5,923 | 17,720 | 17,720 | 12,280,578 | 12,280,578 | 16,416 | 16,416 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 148.3 | 54,120 | 11,202,834 | 8,402,125 | Full Yr | 365 | 30,693 | 23,020 | 30,693 | 23,020 | 67,217,002 | 50,412,752 | 89,850 | 67,388 |
| | Dual flush toilets | 5.5 | o | 195.1 | 71,210 | 2,948,114 | 2,948,114 | Full Yr | 365 | 8,077 | 8,077 | 8,077 | 8,077 | 17,389,315 | 17,389,315 | 23,245 | 23,245 |
| | Toilet leak detection repair | 9.5 | c | 337.0 | 123,000 | 1,423,062 | 1,423,062 | Full Yr | 365 | 3,899 | 3,899 | 3,899 | 3,899 | 8,393,866 | 8,393,866 | 11,220 | 11,220 |
| | 1.0 gpf urinals | 1.8 | p | 62.1 | 22,658 | 4,064,824 | 3,048,618 | Full Yr | 365 | 11,137 | 8,352 | 11,137 | 8,352 | 24,388,944 | 18,291,708 | 32,601 | 24,451 |
| | Waterless urinals | 2.1 | q | 74.5 | 27,189 | 1,864,128 | 1,864,128 | Full Yr | 365 | 5,107 | 5,107 | 5,107 | 5,107 | 10,995,473 | 10,995,473 | 14,698 | 14,698 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 152.7 | 55,744 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 1,576,553 | 1,182,415 | Full Yr | 365 | 4,319 | 3,239 | 4,319 | 3,239 | 9,299,226 | 6,974,419 | 12,430 | 9,323 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 355,817 | 320,235 | Full Yr | 365 | 975 | 877 | 975 | 877 | 2,134,901 | 1,921,411 | 2,854 | 2,568 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 631,288 | 568,159 | Full Yr | 365 | 1,730 | 1,557 | 1,730 | 1,557 | 3,723,623 | 3,351,261 | 4,977 | 4,480 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,210,679 | 2,210,679 | Peak | 122 | 6,057 | 6,057 | 18,120 | 18,120 | 13,039,589 | 13,039,589 | 17,430 | 17,430 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,453,966 | 1,453,966 | Peak | 122 | 3,983 | 3,983 | 11,918 | 11,918 | 8,576,151 | 8,576,151 | 11,464 | 11,464 |
| | ET controllers | n/a | u | n/a | n/a | 2,210,679 | 1,989,611 | Peak | 122 | 6,057 | 5,451 | 18,120 | 16,308 | 13,039,589 | 11,735,630 | 17,430 | 15,687 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 192,426 | 173,184 | Peak | 122 | 527 | 474 | 1,577 | 1,420 | 1,135,019 | 1,021,517 | 1,517 | 1,365 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 7,495,045 | 7,495,045 | Peak | 122 | 20,534 | 20,534 | 61,435 | 61,435 | 44,209,178 | 44,209,178 | 59,095 | 59,095 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows

a.-t. Handbook of Water Use and Conservation by Amy Vicker

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$480.00 | 2.80 | \$112.00 | 25 | 1.0 | \$234,277 | \$1.36 | \$2.72 |
| | Dual flush toilets Q4 | \$100.00 | 2.80 | \$280.00 | 25 | 1.0 | \$117,139 | \$2.61 | \$2.61 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.80 | \$0.28 | 7.5 | 1.0 | \$548 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$10,825 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$10,825 | \$0.18 | \$0.18 |
| | Decreased shower use Q14 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$4.26 | 10 | 1.0 | \$15,520 | \$0.15 | \$0.17 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,249 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$136,471 | \$2.29 | \$3.06 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$197,611 | \$15.72 | \$15.72 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$342,077 | \$16.17 | \$16.17 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$142,357 | \$11.33 | \$11.33 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$69,396 | \$10.19 | \$11.33 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 2.80 | \$136.00 | 25 | 1.0 | \$261,279 | \$2.52 | \$3.36 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 2.80 | \$170.00 | 25 | 1.0 | \$391,919 | \$3.15 | \$4.21 |
| | Dual flush toilets Q4 | \$100.00 | 2.80 | \$170.00 | 25 | 1.0 | \$65,320 | \$2.53 | \$2.53 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.80 | \$0.17 | 7.5 | 1.0 | \$269 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.30 | \$4.50 | 12.5 | 1.0 | \$8,476 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.30 | \$4.50 | 12.5 | 1.0 | \$8,476 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 1.0 | \$8,660 | \$0.15 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,279 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$17,140 | \$0.73 | \$0.98 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$44,957 | \$10.03 | \$10.03 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$48,712 | \$14.23 | \$14.23 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$19,426 | \$4.33 | \$4.82 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,681 | \$2.17 | \$2.41 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$82,800 | \$0.92 | \$1.23 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$16,560 | \$0.71 | \$0.71 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$13 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$16,146 | \$0.50 | \$0.66 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$10,284 | \$0.70 | \$0.70 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,428 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$11,570 | \$0.93 | \$1.24 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$1,110 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$8,688 | \$1.75 | \$1.94 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$58,314 | \$3.35 | \$3.35 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$54,392 | \$4.74 | \$4.74 |
| ICI Outdoor | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$24,267 | \$1.39 | \$1.55 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$839 | \$0.55 | \$0.61 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sale | | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|--|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season | |
| Jan | 75,158 | 53,742 | 76,018 | 68,306 | 51,092,888 | Non-peak | |
| Feb | 61,347 | 56,009 | 64,995 | 60,784 | 45,466,183 | Non-peak | |
| Mar | 57,493 | 90,835 | 63,884 | 70,737 | 52,911,525 | Non-peak | |
| Apr | 55,256 | 73,411 | 66,527 | 65,065 | 48,668,371 | Non-peak | |
| May | 56,823 | 59,999 | 67,327 | 61,383 | 45,914,484 | Non-peak | |
| June | 89,274 | 65,730 | 74,553 | 76,519 | 57,236,212 | Non-peak | |
| July | 78,623 | 117,477 | 138,941 | 111,680 | 83,536,889 | Peak | |
| Aug | 113,574 | 107,608 | 113,968 | 111,717 | 83,564,067 | Peak | |
| Sep | 129,729 | 157,135 | 123,534 | 136,799 | 102,325,901 | Peak | |
| Oct | 80,409 | 108,043 | 97,166 | 95,206 | 71,214,088 | Peak | |
| Nov | 74,589 | 78,705 | 82,016 | 77,771 | 58,172,708 | Non-peak | |
| Dec | 73,978 | 42,896 | 22,699 | 46,524 | 34,800,201 | Non-peak | |
| Total | 946,253 | 1,009,590 | 991,631 | 982,491 | 734,903,517 | | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | | |
| | | | | 65,886 | 49,282,822 | | |
| Base use during entire peak season: | | | | 263,545 | 197,131,286 | | |
| Peak Season Total: | | | | 455,402 | 340,640,945 | | |
| Peak Season Increased Use: | | | | 191,858 | 143,509,659 | | |

| Multi Family Sale | | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|--|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season | |
| Jan | 43,840 | 16,787 | 19,545 | 26,724 | 19,989,552 | Non-peak | |
| Feb | 37,701 | 41,997 | 42,684 | 40,794 | 30,513,912 | Non-peak | |
| Mar | 19,478 | 22,397 | 22,021 | 21,299 | 15,931,403 | Non-peak | |
| Apr | 34,685 | 35,643 | 40,086 | 36,805 | 27,529,891 | Non-peak | |
| May | 26,008 | 28,571 | 25,014 | 26,531 | 19,845,188 | Non-peak | |
| June | 31,825 | 30,299 | 38,747 | 33,624 | 25,150,503 | Non-peak | |
| July | 29,729 | 33,838 | 110,624 | 58,064 | 43,431,623 | Peak | |
| Aug | 41,483 | 34,446 | 41,936 | 39,288 | 29,387,673 | Peak | |
| Sep | 24,505 | 27,181 | 26,216 | 25,967 | 19,423,565 | Peak | |
| Oct | 37,566 | 44,764 | 34,034 | 38,788 | 29,013,424 | Peak | |
| Nov | 16,567 | 28,766 | 16,331 | 20,555 | 15,374,891 | Non-peak | |
| Dec | 48,901 | 23,322 | 19,634 | 30,619 | 22,903,012 | Non-peak | |
| Total | 392,288 | 368,011 | 436,872 | 399,057 | 298,494,636 | | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | | |
| | | | | 29,619 | 22,154,794 | | |
| Base use during entire peak season: | | | | 118,475 | 88,619,175 | | |
| Peak Season Total: | | | | 162,107 | 121,256,285 | | |
| Peak Season Increased Use: | | | | 43,633 | 32,637,110 | | |

| ICI Sales | | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|--|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season | |
| Jan | 32,867 | 20,930 | 23,411 | 25,736 | 19,250,528 | Non-peak | |
| Feb | 32,261 | 28,417 | 35,110 | 31,929 | 23,883,141 | Non-peak | |
| Mar | 20,630 | 20,649 | 22,986 | 21,422 | 16,023,407 | Non-peak | |
| Apr | 28,754 | 27,801 | 32,109 | 29,555 | 22,106,891 | Non-peak | |
| May | 26,433 | 31,838 | 42,779 | 33,683 | 25,195,133 | Non-peak | |
| June | 43,663 | 32,497 | 75,422 | 50,527 | 37,794,445 | Non-peak | |
| July | 48,126 | 71,992 | 67,431 | 62,516 | 46,762,217 | Peak | |
| Aug | 84,567 | 68,780 | 90,956 | 81,434 | 60,912,881 | Peak | |
| Sep | 75,831 | 86,444 | 57,350 | 73,208 | 54,759,833 | Peak | |
| Oct | 58,534 | 74,801 | 43,076 | 58,804 | 43,985,143 | Peak | |
| Nov | 26,888 | 38,779 | 28,882 | 31,516 | 23,574,217 | Non-peak | |
| Dec | 39,612 | 20,926 | 14,513 | 25,017 | 18,712,716 | Non-peak | |
| Total | 518,166 | 523,854 | 534,025 | 525,348 | 392,960,553 | | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | | |
| | | | | 31,173 | 23,317,560 | | |
| Base use during entire peak season: | | | | 124,693 | 93,270,239 | | |
| Peak Season Total: | | | | 275,963 | 206,420,075 | | |
| Peak Season Increased Use: | | | | 151,270 | 113,149,835 | | |

| Total Sales | | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|--|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season | |
| Jan | 151,865 | 91,459 | 118,974 | 120,766 | 90,332,968 | Non-peak | |
| Feb | 131,309 | 126,423 | 142,789 | 133,507 | 99,863,236 | Non-peak | |
| Mar | 97,601 | 133,881 | 108,891 | 113,458 | 84,866,335 | Non-peak | |
| Apr | 118,695 | 136,855 | 138,722 | 131,424 | 98,305,152 | Non-peak | |
| May | 109,264 | 120,408 | 135,120 | 121,597 | 90,954,805 | Non-peak | |
| June | 164,762 | 128,526 | 188,722 | 160,670 | 120,181,160 | Non-peak | |
| July | 156,478 | 223,307 | 316,996 | 232,260 | 173,730,729 | Peak | |
| Aug | 239,624 | 210,834 | 246,860 | 232,439 | 173,864,621 | Peak | |
| Sep | 230,065 | 270,760 | 207,100 | 235,975 | 176,509,300 | Peak | |
| Oct | 176,509 | 227,608 | 174,276 | 192,798 | 144,212,655 | Peak | |
| Nov | 118,044 | 144,250 | 127,232 | 129,842 | 97,121,816 | Non-peak | |
| Dec | 162,491 | 87,144 | 56,846 | 102,160 | 76,415,929 | Non-peak | |
| Total | 1,856,707 | 1,901,455 | 1,962,528 | 1,906,897 | 1,426,358,707 | | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | | | | |
| | | | | 126,678 | 94,755,175 | | |
| Base use during entire peak season: | | | | 506,712 | 379,020,701 | | |
| Peak Season Total: | | | | 893,472 | 668,317,305 | | |
| Peak Season Increased Use: | | | | 386,760 | 289,296,605 | | |

Shaded cells contain data entered specifically for the client.
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

115% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---------------|----------------|-----------------|-----------|---|
| | 289,296,605 | 332,691,095 | 100.0% | PSIU Total |
| All Sectors | 143,509,659 | 165,036,108 | 49.6% | PSIU SF |
| | 32,637,110 | 37,532,677 | 11.3% | PSIU MF |
| | 113,149,835 | 130,122,311 | 39.1% | PSIU ICI |
| | | | | |
| Single Family | 129,158,693 | 148,532,497 | 44.6% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 14,350,966 | 16,503,611 | 5.0% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 143,509,659 | 165,036,108 | 49.6% | Subtotal |
| | | | | |
| | 103,326,955 | 118,825,998 | 35.7% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 25,831,739 | 29,706,499 | 8.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 129,158,693 | 148,532,497 | 44.6% | Subtotal |
| | | | | |
| | 82,661,564 | 95,060,798 | 28.6% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 20,665,391 | 23,765,200 | 7.1% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 103,326,955 | 118,825,998 | 35.7% | Subtotal |
| | | | | |
| | 5,424,665 | 6,321,477 | 1.88% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 9,299,426 | 10,638,932 | 3.2% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁴ |
| | 5,424,665 | 6,321,477 | 1.88% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁴ |
| | 25,831,739 | 29,706,499 | 8.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 82,661,564 | 95,060,798 | 28.6% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 128,642,059 | 148,049,183 | 44.5% | Subtotal |
| | | | | |
| Multi Family | 29,373,399 | 33,779,409 | 10.2% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 3,263,711 | 3,753,268 | 1.1% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 32,637,110 | 37,532,677 | 11.3% | Subtotal |
| | | | | |
| | 23,498,719 | 27,023,527 | 8.1% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 5,874,680 | 6,755,882 | 2.0% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 29,373,399 | 33,779,409 | 10.2% | Subtotal |
| | | | | |
| | 18,798,975 | 21,618,822 | 6.5% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 4,699,744 | 5,404,705 | 1.6% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 23,498,719 | 27,023,527 | 8.1% | Subtotal |
| | | | | |
| | 1,982,704 | 2,361,053 | 0.7% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| | 1,615,537 | 1,803,905 | 0.6% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁴ |
| | 1,982,704 | 2,361,053 | 0.7% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁴ |
| | 5,874,680 | 6,755,882 | 2.0% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 18,798,975 | 21,618,822 | 6.5% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 30,254,601 | 34,900,715 | 10.5% | Subtotal |
| | | | | |
| ICI | 101,834,852 | 117,110,080 | 35.2% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 11,314,984 | 13,012,231 | 3.9% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 113,149,835 | 130,122,311 | 39.1% | Subtotal |
| | | | | |
| | 81,467,881 | 93,688,064 | 28.2% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,366,970 | 23,422,016 | 7.0% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 101,834,852 | 117,110,080 | 35.2% | Subtotal |
| | | | | |
| | 65,174,305 | 74,950,451 | 22.5% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 16,293,576 | 18,737,613 | 5.6% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 81,467,881 | 93,688,064 | 28.2% | Subtotal |
| | | | | |
| | 7,637,614 | 8,842,716 | 2.6% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 5,091,743 | 5,815,864 | 1.8% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁴ |
| | 7,637,614 | 8,842,716 | 2.6% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁴ |
| | 20,366,970 | 23,422,016 | 7.0% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 65,174,305 | 74,950,451 | 22.5% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁴ |
| | 105,908,246 | 121,873,763 | 36.6% | Subtotal |

Cascade Water Alliance/Kirkland 6 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|--|--------------------|--------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%) | 14,350,966 | 16,503,611 | 5.0% | SF Non-Landscape |
| | 25,831,739 | 29,706,499 | 8.9% | SF Landscape Non-Lawn |
| | 82,661,564 | 95,060,798 | 28.6% | SF Landscape Lawn Not Needed If Dormant |
| | 20,665,391 | 23,765,200 | 7.1% | SF Landscape Lawn Needed Even If Dormant |
| | 3,263,711 | 3,753,268 | 1.1% | MF Non-Landscape |
| | 5,874,680 | 6,755,882 | 2.0% | MF Landscape Non-Lawn |
| | 18,798,975 | 21,618,822 | 6.5% | MF Landscape Lawn Not Needed If Dormant |
| | 4,699,744 | 5,404,705 | 1.6% | MF Landscape Lawn Needed Even If Dormant |
| | 11,314,984 | 13,012,231 | 3.9% | ICI Non-Landscape |
| | 20,366,970 | 23,422,016 | 7.0% | ICI Landscape Non-Lawn |
| | 65,174,305 | 74,950,451 | 22.5% | ICI Landscape Lawn Not Needed If Dormant |
| | 16,293,576 | 18,737,613 | 5.6% | ICI Landscape Lawn Needed Even If Dormant |
| | 289,296,605 | 332,691,095 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

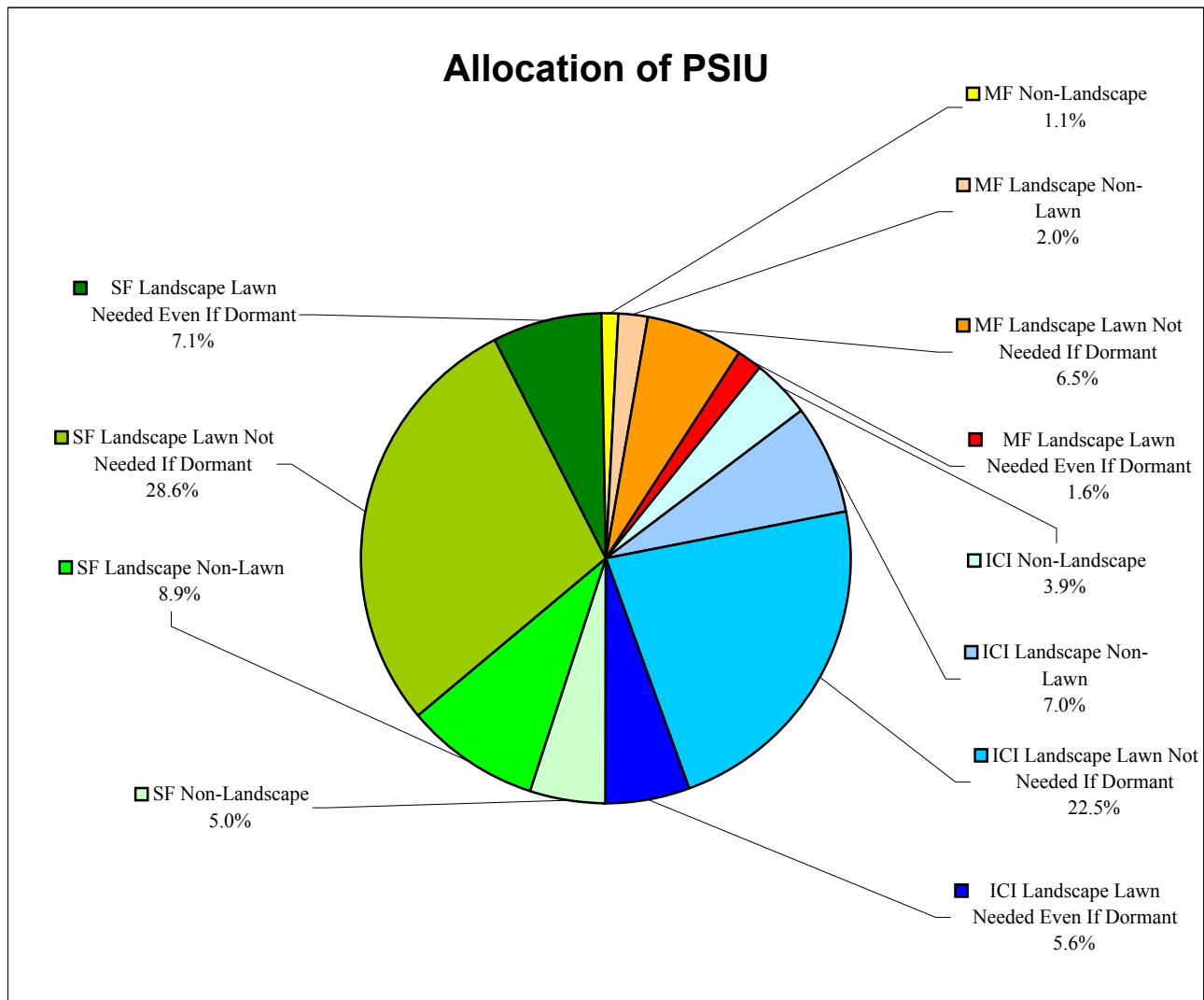
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Kirkland 20-Year

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|-------|---|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2023 | a | 20 | i |
| 2 | Population | 41,888 | b 51,507 | b | 9,619 | j |
| 3 | SF Accounts/Households | 9,508 | c 10,611 | c | 1,103 | j |
| 4 | MF Accounts | 473 | e 685 | k | 212 | j |
| 5 | Units per MF account | 15.9 | d 15.9 | r | 0 | j |
| 6 | MF Households | 7,534 | e 10,913 | e | 3,379 | j |
| 7 | Commercial Accounts | 828 | e 961 | f | 133 | j |
| 8 | Persons Per SF HH Q54 | 2.90 | g 2.90 | g | 0 | j |
| 9 | Persons Per MF HH Q54 | 1.9 | g 1.9 | g | 0 | j |
| 10 | Employees Per ICI Account | 35.5 | h 35.5 | h | 0 | j |
| 11 | Employment | 29,371 | c 34,099 | c | 4,728 | j |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connections data. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via 9-15-05 email. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^d |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | k 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | l 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | k 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | m 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | n 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | k 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | o 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | p 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | q 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | q 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
|-----------------------------------|---------------------------------------|---|--------------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|---------------|--|--|----|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | Participating | | | |
| | | | | | | | | | | | | | W/ free riders ⁱ (affects cost) | W/out free riders ⁱ (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 44% | 4,184 | 100% | 0% | 0 | 4,184 | 40% | 2,092 | 1,046 | |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 44% | 4,184 | 100% | 0% | 0 | 4,184 | 10% | 418 | 418 | |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 47% | 7,701 | 100% | 41% | 893 | 8,595 | 25% | 2,149 | 2,149 | |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 46% | 4,374 | 100% | 40% | 507 | 4,881 | 25% | 1,220 | 1,220 | |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 43% | 3,138 | 100% | 0% | 0 | 3,138 | 50% | 1,569 | 784 | |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 43% | 3,138 | 100% | 0% | 0 | 3,138 | 50% | 1,569 | 1,569 | |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 4,754 | 100% | 50% | 552 | 5,306 | 25% | 1,326 | 1,326 | |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 7,131 | 100% | 100% | 1,103 | 8,234 | 50% | 4,117 | 3,705 | |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 45% | 4,088 | 100% | 0% | 0 | 4,088 | 50% | 2,044 | 1,022 | |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 4,754 | 100% | 50% | 552 | 5,306 | 25% | 1,326 | 1,326 | |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 47% | 5,365 | 100% | 47% | 629 | 5,994 | 50% | 2,997 | 2,248 | |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 50% | 4,706 | 100% | 50% | 552 | 5,258 | 25% | 1,314 | 1,314 | |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 50% | 1,105 | 42% | 50% | 229 | 1,334 | 25% | 333 | 333 | |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 5,682 | 42% | 100% | 458 | 6,140 | 25% | 1,535 | 1,535 | |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 2,210 | 42% | 100% | 458 | 2,667 | 25% | 667 | 667 | |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 789 | 83% | 100% | 915 | 1,705 | 25% | 426 | 384 | |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 7,892 | 83% | 100% | 915 | 8,807 | 25% | 2,202 | 2,202 | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 47% | 3,842 | 100% | 0% | 0 | 3,842 | 50% | 1,921 | 1,441 | |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 47% | 3,842 | 100% | 0% | 0 | 3,842 | 60% | 2,305 | 1,729 | |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 51% | 3,842 | 100% | 0% | 0 | 3,842 | 10% | 384 | 384 | |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 5,651 | 100% | 75% | 2,534 | 8,185 | 25% | 2,046 | 2,046 | |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 75% | 5,726 | 100% | 76% | 2,568 | 8,294 | 25% | 2,073 | 2,073 | |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 50% | 3,767 | 100% | 0% | 0 | 3,767 | 50% | 1,884 | 1,413 | |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 50% | 3,767 | 100% | 0% | 0 | 3,767 | 50% | 1,884 | 1,884 | |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 3,767 | 100% | 50% | 1,690 | 5,457 | 25% | 1,364 | 1,364 | |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 5,651 | 100% | 100% | 3,379 | 9,030 | 50% | 4,515 | 4,063 | |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 55% | 4,144 | 100% | 0% | 0 | 4,144 | 50% | 2,072 | 1,554 | |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 3,767 | 100% | 50% | 1,690 | 5,457 | 25% | 1,364 | 1,364 | |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 45% | 2,983 | 90% | 35% | 1,673 | 4,656 | 50% | 2,328 | 1,746 | |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 50% | 2,712 | 90% | 50% | 1,521 | 4,233 | 25% | 1,058 | 1,058 | |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 74 | 42% | 50% | 45 | 119 | 25% | 30 | 30 | |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 182 | 28% | 100% | 59 | 242 | 25% | 60 | 60 | |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 134 | 42% | 90% | 80 | 214 | 25% | 54 | 48 | |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 17 | 70% | 100% | 148 | 165 | 10% | 17 | 15 | |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 331 | 70% | 100% | 148 | 480 | 10% | 48 | 48 | |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 414 | 100% | 0% | 0 | 414 | 50% | 207 | 155 | |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 414 | 100% | 0% | 0 | 414 | 10% | 41 | 41 | |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 124 | 20% | 75% | 20 | 144 | 25% | 36 | 36 | |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 431 | 80% | 0% | 0 | 431 | 50% | 215 | 161 | |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 662 | 80% | 100% | 107 | 769 | 10% | 77 | 77 | |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 621 | 100% | 0% | 0 | 621 | 50% | 311 | 279 | |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 12 | 2% | 75% | 2 | 14 | 50% | 7 | 5 | |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 23 | 11% | 0% | 0 | 23 | 75% | 17 | 15 | |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 46 | 11% | 25% | 4 | 49 | 25% | 12 | 11 | |
| | ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 104 | 30% | 50% | 20 | 123 | 25% | 31 | 31 |
| | | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 207 | 20% | 100% | 27 | 234 | 25% | 58 | 58 |
| ET controllers | | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 186 | 30% | 90% | 36 | 222 | 25% | 56 | 50 | |
| Limited lawn/low water use plants | | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 21 | 25% | 100% | 33 | 54 | 10% | 5 | 5 | |
| Allow lawn to go dormant | | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 414 | 50% | 100% | 67 | 481 | 10% | 48 | 48 | |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Blue bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model.

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge.

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 7,509,215 | 3,754,607 | Full Yr | 365 | 20,573 | 10,287 | 20,573 | 10,287 | 150,184,300 | 75,092,150 | 200,754 | 100,377 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 5,646,026 | 5,646,026 | Full Yr | 365 | 15,469 | 15,469 | 15,469 | 15,469 | 107,051,553 | 107,051,553 | 143,098 | 143,098 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 7,778,544 | 7,778,544 | Full Yr | 365 | 21,311 | 21,311 | 21,311 | 21,311 | 147,485,181 | 147,485,181 | 197,146 | 197,146 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 3,358,291 | 3,358,291 | Full Yr | 365 | 9,201 | 9,201 | 9,201 | 9,201 | 63,674,925 | 63,674,925 | 85,116 | 85,116 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 221,129 | 110,565 | Full Yr | 365 | 606 | 303 | 606 | 303 | 4,422,582 | 2,211,291 | 5,912 | 2,956 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 7,370,970 | 7,370,970 | Full Yr | 365 | 20,194 | 20,194 | 20,194 | 20,194 | 139,757,377 | 139,757,377 | 186,816 | 186,816 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 3,088,729 | 3,088,729 | Full Yr | 365 | 8,462 | 8,462 | 8,462 | 8,462 | 58,563,894 | 58,563,894 | 78,284 | 78,284 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 14,820,681 | 13,338,612 | Full Yr | 365 | 40,605 | 36,544 | 40,605 | 36,544 | 281,007,701 | 252,906,931 | 375,629 | 338,066 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 3,762,634 | 3,762,634 | Full Yr | 365 | 10,309 | 10,309 | 10,309 | 10,309 | 71,341,471 | 71,341,471 | 95,364 | 95,364 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 16,432,845 | 12,324,634 | Full Yr | 365 | 45,021 | 33,766 | 45,021 | 33,766 | 311,575,164 | 233,681,373 | 416,489 | 312,366 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 1,750,366 | 1,750,366 | Full Yr | 365 | 4,796 | 4,796 | 4,796 | 4,796 | 33,187,831 | 33,187,831 | 44,363 | 44,363 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,921,678 | 1,921,678 | Peak | 122 | 5,265 | 5,265 | 15,751 | 15,751 | 36,436,001 | 36,436,001 | 48,705 | 48,705 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 2,948,829 | 2,948,829 | Peak | 122 | 8,079 | 8,079 | 24,171 | 24,171 | 55,911,300 | 55,911,300 | 74,738 | 74,738 |
| | ET controllers | n/a | u | n/a | n/a | 1,921,678 | 1,921,678 | Peak | 122 | 5,265 | 5,265 | 15,751 | 15,751 | 36,436,001 | 36,436,001 | 48,705 | 48,705 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,637,445 | 1,473,701 | Peak | 122 | 4,486 | 4,038 | 13,422 | 12,080 | 31,046,801 | 27,942,121 | 41,501 | 37,351 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 27,071,662 | 27,071,662 | Peak | 122 | 74,169 | 74,169 | 221,899 | 221,899 | 513,292,593 | 513,292,593 | 686,128 | 686,128 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 4,518,602 | 3,388,951 | Full Yr | 365 | 12,380 | 9,285 | 12,380 | 9,285 | 90,372,039 | 67,779,029 | 120,802 | 90,602 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 5,422,322 | 4,066,742 | Full Yr | 365 | 14,856 | 11,142 | 14,856 | 11,142 | 108,446,446 | 81,334,835 | 144,962 | 108,722 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 3,397,445 | 3,397,445 | Full Yr | 365 | 9,308 | 9,308 | 9,308 | 9,308 | 57,429,368 | 57,429,368 | 76,767 | 76,767 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 4,853,086 | 4,853,086 | Full Yr | 365 | 13,296 | 13,296 | 13,296 | 13,296 | 82,035,077 | 82,035,077 | 109,658 | 109,658 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 3,738,674 | 3,738,674 | Full Yr | 365 | 10,243 | 10,243 | 10,243 | 10,243 | 63,197,393 | 63,197,393 | 84,477 | 84,477 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 173,938 | 130,453 | Full Yr | 365 | 477 | 357 | 477 | 357 | 3,478,756 | 2,609,067 | 4,650 | 3,488 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 5,797,927 | 5,797,927 | Full Yr | 365 | 15,885 | 15,885 | 15,885 | 15,885 | 98,006,384 | 98,006,384 | 131,007 | 131,007 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 2,081,246 | 2,081,246 | Full Yr | 365 | 5,702 | 5,702 | 5,702 | 5,702 | 35,180,735 | 35,180,735 | 47,027 | 47,027 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 10,648,210 | 9,583,389 | Full Yr | 365 | 29,173 | 26,256 | 29,173 | 26,256 | 179,994,063 | 161,994,657 | 240,602 | 216,541 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 2,535,335 | 2,535,335 | Full Yr | 365 | 6,946 | 6,946 | 6,946 | 6,946 | 42,856,532 | 42,856,532 | 57,287 | 57,287 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 8,363,068 | 6,272,301 | Full Yr | 365 | 22,913 | 17,184 | 22,913 | 17,184 | 141,366,736 | 106,025,052 | 188,968 | 141,726 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 461,598 | 461,598 | Full Yr | 365 | 1,265 | 1,265 | 1,265 | 1,265 | 7,802,709 | 7,802,709 | 10,430 | 10,430 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 716,354 | 716,354 | Peak | 122 | 1,963 | 1,963 | 5,872 | 5,872 | 12,109,025 | 12,109,025 | 16,186 | 16,186 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 484,410 | 484,410 | Peak | 122 | 1,327 | 1,327 | 3,971 | 3,971 | 8,188,311 | 8,188,311 | 10,945 | 10,945 |
| | ET controllers | n/a | u | n/a | n/a | 716,354 | 644,718 | Peak | 122 | 1,963 | 1,766 | 5,872 | 5,285 | 12,109,025 | 10,898,122 | 16,186 | 14,568 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 264,851 | 238,366 | Peak | 122 | 726 | 653 | 2,171 | 1,954 | 4,476,966 | 4,029,270 | 5,984 | 5,386 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 2,462,666 | 2,462,666 | Peak | 122 | 6,747 | 6,747 | 20,186 | 20,186 | 41,628,146 | 41,628,146 | 55,645 | 55,645 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 148.3 | 54,120 | 3,920,992 | 2,940,744 | Full Yr | 365 | 10,742 | 8,057 | 10,742 | 8,057 | 78,419,836 | 58,814,877 | 104,825 | 78,619 |
| | Dual flush toilets | 5.5 | o | 195.1 | 71,210 | 2,948,114 | 2,948,114 | Full Yr | 365 | 8,077 | 8,077 | 8,077 | 8,077 | 54,874,572 | 54,874,572 | 73,352 | 73,352 |
| | Toilet leak detection repair | 9.5 | c | 337.0 | 123,000 | 1,596,217 | 1,596,217 | Full Yr | 365 | 4,373 | 4,373 | 4,373 | 4,373 | 29,711,100 | 29,711,100 | 39,715 | 39,715 |
| | 1.0 gpf urinals | 1.8 | p | 62.1 | 22,658 | 1,219,447 | 914,585 | Full Yr | 365 | 3,341 | 2,506 | 3,341 | 2,506 | 24,388,944 | 18,291,708 | 32,601 | 24,451 |
| | Waterless urinals | 2.1 | q | 74.5 | 27,189 | 2,090,951 | 2,090,951 | Full Yr | 365 | 5,729 | 5,729 | 5,729 | 5,729 | 38,919,804 | 38,919,804 | 52,025 | 52,025 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 152.7 | 55,744 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 3,536,769 | 2,652,576 | Full Yr | 365 | 9,690 | 7,267 | 9,690 | 7,267 | 65,831,462 | 49,373,596 | 87,998 | 65,999 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 106,745 | 96,071 | Full Yr | 365 | 292 | 263 | 292 | 263 | 2,134,901 | 1,921,411 | 2,854 | 2,568 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 670,356 | 603,320 | Full Yr | 365 | 1,837 | 1,653 | 1,837 | 1,653 | 12,477,637 | 11,229,873 | 16,679 | 15,011 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,570,683 | 2,570,683 | Peak | 122 | 7,043 | 7,043 | 21,071 | 21,071 | 47,849,271 | 47,849,271 | 63,961 | 63,961 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,621,303 | 1,621,303 | Peak | 122 | 4,442 | 4,442 | 13,289 | 13,289 | 30,178,040 | 30,178,040 | 40,340 | 40,340 |
| | ET controllers | n/a | u | n/a | n/a | 2,570,683 | 2,313,614 | Peak | 122 | 7,043 | 6,339 | 21,071 | 18,964 | 47,849,271 | 43,064,344 | 63,961 | 57,565 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 484,848 | 436,364 | Peak | 122 | 1,328 | 1,196 | 3,974 | 3,577 | 9,024,703 | 8,122,232 | 12,063 | 10,857 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 8,537,834 | 8,537,834 | Peak | 122 | 23,391 | 23,391 | 69,982 | 69,982 | 158,918,538 | 158,918,538 | 212,430 | 212,430 |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows

a.-t. Handbook of Water Use and Conservation by Amy Vicker

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------------|--|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| Conservation Measure | | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 2.00 | \$112.00 | 25 | 1.0 | \$234,277 | \$1.17 | \$2.33 |
| | Dual flush toilets Q4 | \$100.00 | 2.00 | \$280.00 | 25 | 1.0 | \$117,139 | \$0.82 | \$0.82 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.00 | \$0.28 | 7.5 | 3.0 | \$1,733 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.50 | \$6.90 | 12.5 | 1.0 | \$10,825 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.50 | \$6.90 | 12.5 | 2.0 | \$20,939 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 2.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.50 | \$4.26 | 10 | 2.0 | \$34,077 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,249 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 4.70 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$578,092 | \$1.39 | \$1.85 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$447,642 | \$9.19 | \$9.19 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$706,536 | \$9.45 | \$9.45 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$324,305 | \$6.66 | \$6.66 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$127,849 | \$3.08 | \$3.42 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.70 | \$136.00 | 25 | 1.0 | \$261,279 | \$2.16 | \$2.88 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$391,919 | \$2.70 | \$3.60 |
| | Dual flush toilets Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$65,320 | \$0.85 | \$0.85 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.70 | \$0.17 | 7.5 | 3.0 | \$919 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.70 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$8,476 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 2.0 | \$15,294 | \$0.12 | \$0.12 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.50 | \$2.65 | 10 | 2.0 | \$21,937 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,279 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 3.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$83,257 | \$0.44 | \$0.59 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$114,946 | \$7.10 | \$7.10 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$110,233 | \$10.07 | \$10.07 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$49,206 | \$3.04 | \$3.38 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$4,952 | \$0.83 | \$0.92 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$82,800 | \$0.79 | \$1.05 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$16,560 | \$0.23 | \$0.23 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$41 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$16,146 | \$0.50 | \$0.66 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$11,535 | \$0.22 | \$0.22 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,428 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$49,447 | \$0.56 | \$0.75 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$1,110 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$26,062 | \$1.56 | \$1.74 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$128,407 | \$2.01 | \$2.01 |
| ICI Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$114,852 | \$2.85 | \$2.85 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$53,544 | \$0.84 | \$0.93 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,621 | \$0.13 | \$0.15 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Blue bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

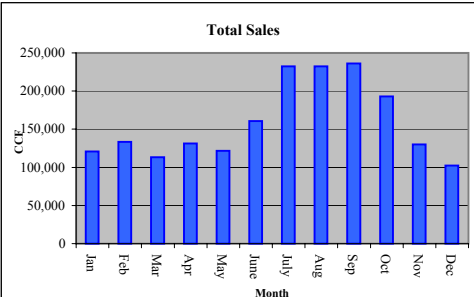
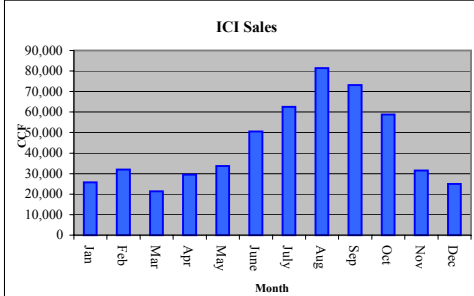
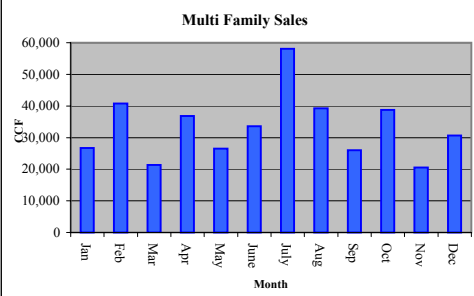
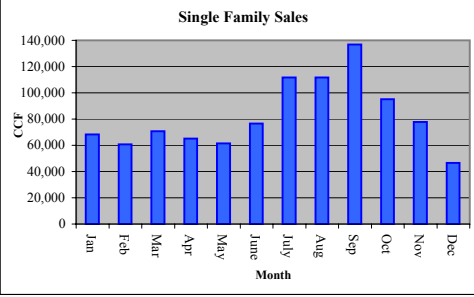
Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 75,138 | 35,782 | 76,818 | 68,306 | 51,092,888 | Non-peak |
| Feb | 61,347 | 58,009 | 64,995 | 60,784 | 45,466,183 | Non-peak |
| Mar | 57,493 | 50,835 | 63,884 | 70,737 | 52,911,525 | Non-peak |
| Apr | 55,256 | 73,411 | 66,527 | 65,065 | 48,668,371 | Non-peak |
| May | 56,823 | 59,999 | 67,327 | 61,383 | 45,914,484 | Non-peak |
| June | 89,274 | 65,730 | 74,553 | 76,519 | 57,236,212 | Non-peak |
| July | 78,623 | 117,477 | 138,941 | 111,680 | 83,536,889 | Peak |
| Aug | 113,574 | 107,608 | 113,968 | 111,717 | 83,564,067 | Peak |
| Sep | 129,729 | 157,135 | 123,534 | 136,799 | 102,325,901 | Peak |
| Oct | 80,409 | 108,043 | 97,166 | 95,206 | 71,214,088 | Peak |
| Nov | 74,589 | 76,705 | 82,019 | 77,771 | 58,172,708 | Non-peak |
| Dec | 73,978 | 42,896 | 22,699 | 46,524 | 34,800,201 | Non-peak |
| Total | 946,253 | 1,009,590 | 991,631 | 982,491 | 734,903,517 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 65,886 | 49,282,822 | |
| Base use during entire peak season: | | | | 263,545 | 197,131,286 | |
| Peak Season Total: | | | | 455,402 | 340,640,945 | |
| Peak Season Increased Use: | | | | 191,858 | 143,509,659 | |

| Multi Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 43,840 | 16,787 | 19,545 | 26,724 | 19,989,552 | Non-peak |
| Feb | 37,701 | 41,997 | 42,684 | 40,794 | 30,513,912 | Non-peak |
| Mar | 19,478 | 22,397 | 22,021 | 21,299 | 15,931,403 | Non-peak |
| Apr | 34,685 | 35,643 | 40,086 | 36,805 | 27,529,891 | Non-peak |
| May | 26,008 | 28,571 | 25,014 | 26,531 | 19,845,188 | Non-peak |
| June | 31,825 | 30,299 | 38,747 | 33,624 | 25,150,503 | Non-peak |
| July | 29,729 | 33,838 | 110,624 | 58,064 | 43,431,623 | Peak |
| Aug | 41,483 | 34,446 | 41,936 | 39,288 | 29,387,673 | Peak |
| Sep | 24,505 | 27,181 | 26,216 | 25,967 | 19,423,565 | Peak |
| Oct | 37,566 | 44,764 | 34,034 | 38,788 | 29,013,424 | Peak |
| Nov | 16,567 | 28,766 | 16,331 | 20,555 | 15,374,891 | Non-peak |
| Dec | 48,901 | 23,322 | 19,634 | 30,619 | 22,903,012 | Non-peak |
| Total | 392,288 | 368,011 | 436,872 | 399,057 | 298,494,636 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 29,619 | 22,154,794 | |
| Base use during entire peak season: | | | | 118,475 | 88,619,175 | |
| Peak Season Total: | | | | 162,107 | 121,256,285 | |
| Peak Season Increased Use: | | | | 43,633 | 32,637,110 | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 32,867 | 20,930 | 23,411 | 25,736 | 19,250,528 | Non-peak |
| Feb | 32,261 | 28,417 | 35,110 | 31,929 | 23,883,141 | Non-peak |
| Mar | 20,630 | 20,649 | 22,986 | 21,422 | 16,023,407 | Non-peak |
| Apr | 28,754 | 27,801 | 32,109 | 29,555 | 22,106,891 | Non-peak |
| May | 26,433 | 31,838 | 42,779 | 33,683 | 25,195,133 | Non-peak |
| June | 43,663 | 32,497 | 75,422 | 50,527 | 37,794,445 | Non-peak |
| July | 48,126 | 71,992 | 67,431 | 62,516 | 46,762,217 | Peak |
| Aug | 84,567 | 68,780 | 90,956 | 81,434 | 60,912,881 | Peak |
| Sep | 75,831 | 86,444 | 57,350 | 73,208 | 54,759,833 | Peak |
| Oct | 58,534 | 74,801 | 43,076 | 58,804 | 43,985,143 | Peak |
| Nov | 26,888 | 38,779 | 28,882 | 31,516 | 23,574,217 | Non-peak |
| Dec | 39,612 | 20,926 | 14,513 | 25,017 | 18,712,716 | Non-peak |
| Total | 518,166 | 523,854 | 534,025 | 525,348 | 392,960,553 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 31,173 | 23,317,560 | |
| Base use during entire peak season: | | | | 124,693 | 93,270,239 | |
| Peak Season Total: | | | | 275,963 | 206,420,075 | |
| Peak Season Increased Use: | | | | 151,270 | 113,149,835 | |

| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 151,865 | 91,459 | 118,974 | 120,766 | 90,332,968 | Non-peak |
| Feb | 131,309 | 126,423 | 142,789 | 133,507 | 99,863,236 | Non-peak |
| Mar | 97,601 | 133,881 | 108,891 | 113,458 | 84,866,335 | Non-peak |
| Apr | 118,695 | 136,855 | 138,722 | 131,424 | 98,305,152 | Non-peak |
| May | 109,264 | 120,408 | 135,120 | 121,597 | 90,954,805 | Non-peak |
| June | 164,762 | 128,526 | 188,722 | 160,670 | 120,181,160 | Non-peak |
| July | 156,478 | 223,307 | 316,996 | 232,260 | 173,730,729 | Peak |
| Aug | 239,624 | 210,834 | 246,860 | 232,439 | 173,864,621 | Peak |
| Sep | 230,065 | 270,760 | 207,100 | 235,975 | 176,509,300 | Peak |
| Oct | 176,509 | 227,608 | 174,276 | 192,798 | 144,212,655 | Peak |
| Nov | 118,044 | 144,250 | 127,232 | 129,842 | 97,121,816 | Non-peak |
| Dec | 162,491 | 87,144 | 56,846 | 102,160 | 76,415,929 | Non-peak |
| Total | 1,856,707 | 1,901,455 | 1,962,528 | 1,906,897 | 1,426,358,707 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 126,678 | 94,755,175 | |
| Base use during entire peak season: | | | | 506,712 | 379,020,701 | |
| Peak Season Total: | | | | 893,472 | 668,317,305 | |
| Peak Season Increased Use: | | | | 386,760 | 289,296,605 | |



Green shaded cells contain data entered specifically for the client.

White cells are calculations.

Yellow shaded cells are results.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

131% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 289,296,605 | 378,978,552 | 100.0% | PSIU Total |
| | 143,509,659 | 187,997,654 | 49.6% | PSIU SF |
| | 32,637,110 | 42,754,614 | 11.3% | PSIU MF |
| | 113,149,835 | 148,226,284 | 39.1% | PSIU ICI |

| | | | | |
|---------------|-------------|-------------|-------|---|
| Single Family | 129,158,693 | 169,197,888 | 44.6% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 14,350,966 | 18,799,765 | 5.0% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 143,509,659 | 187,997,654 | 49.6% | Subtotal |
| | 103,326,955 | 135,358,311 | 35.7% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 25,831,739 | 33,839,578 | 8.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 129,158,693 | 169,197,888 | 44.6% | Subtotal |
| | 82,661,564 | 108,286,649 | 28.6% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ² |
| | 20,665,391 | 27,071,662 | 7.1% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ² |
| | 103,326,955 | 135,358,311 | 35.7% | Subtotal |
| | 5,424,665 | 7,686,712 | 1.88% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 9,299,426 | 11,795,314 | 3.2% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ² |
| | 5,424,665 | 7,686,712 | 1.88% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 25,831,739 | 33,839,578 | 8.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 82,661,564 | 108,286,649 | 28.6% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ² |
| | 128,642,059 | 169,294,965 | 44.5% | Subtotal |

| | | | | |
|--------------|------------|------------|-------|---|
| Multi Family | 29,373,399 | 38,479,153 | 10.2% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 3,263,711 | 4,275,461 | 1.1% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 32,637,110 | 42,754,614 | 11.3% | Subtotal |
| | 23,498,719 | 30,783,322 | 8.1% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 5,874,680 | 7,695,831 | 2.0% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 29,373,399 | 38,479,153 | 10.2% | Subtotal |
| | 18,798,975 | 24,626,658 | 6.5% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ² |
| | 4,699,744 | 6,156,664 | 1.6% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ² |
| | 23,498,719 | 30,783,322 | 8.1% | Subtotal |
| | 1,982,704 | 2,865,415 | 0.7% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 1,615,537 | 1,937,638 | 0.6% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ² |
| | 1,982,704 | 2,865,415 | 0.7% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 5,874,680 | 7,695,831 | 2.0% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 18,798,975 | 24,626,658 | 6.5% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ² |
| | 30,254,601 | 39,990,957 | 10.5% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 101,834,852 | 133,403,656 | 35.2% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 11,314,984 | 14,822,628 | 3.9% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 113,149,835 | 148,226,284 | 39.1% | Subtotal |
| | 81,467,881 | 106,722,925 | 28.2% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,366,970 | 26,680,731 | 7.0% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 101,834,852 | 133,403,656 | 35.2% | Subtotal |
| | 65,174,305 | 85,378,340 | 22.5% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ² |
| | 16,293,576 | 21,344,585 | 5.6% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ² |
| | 81,467,881 | 106,722,925 | 28.2% | Subtotal |
| | 7,637,614 | 10,282,731 | 2.6% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 5,091,743 | 6,485,212 | 1.8% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ² |
| | 7,637,614 | 10,282,731 | 2.6% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 20,366,970 | 26,680,731 | 7.0% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 65,174,305 | 85,378,340 | 22.5% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ² |
| | 105,908,246 | 139,109,744 | 36.6% | Subtotal |

Cascade Water Alliance/Kirkland 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

| | | | | |
|--|-------------|-------------|--------|---|
| All Sectors (Double check by making sure totals 100%.) | 14,350,966 | 18,799,765 | 5.0% | SF Non-Landscape |
| | 25,831,739 | 33,839,578 | 8.9% | SF Landscape Non-Lawn |
| | 82,661,564 | 108,286,649 | 28.6% | SF Landscape Lawn Not Needed If Dormant |
| | 20,665,391 | 27,071,662 | 7.1% | SF Landscape Lawn Needed Even If Dormant |
| | 3,263,711 | 4,275,461 | 1.1% | MF Non-Landscape |
| | 5,874,680 | 7,695,831 | 2.0% | MF Landscape Non-Lawn |
| | 18,798,975 | 24,626,658 | 6.5% | MF Landscape Lawn Not Needed If Dormant |
| | 4,699,744 | 6,156,664 | 1.6% | MF Landscape Lawn Needed Even If Dormant |
| | 11,314,984 | 14,822,628 | 3.9% | ICI Non-Landscape |
| | 20,366,970 | 26,680,731 | 7.0% | ICI Landscape Non-Lawn |
| | 65,174,305 | 85,378,340 | 22.5% | ICI Landscape Lawn Not Needed If Dormant |
| | 16,293,576 | 21,344,585 | 5.6% | ICI Landscape Lawn Needed Even If Dormant |
| | 289,296,605 | 378,978,552 | 100.0% | Total |
| | | | | |

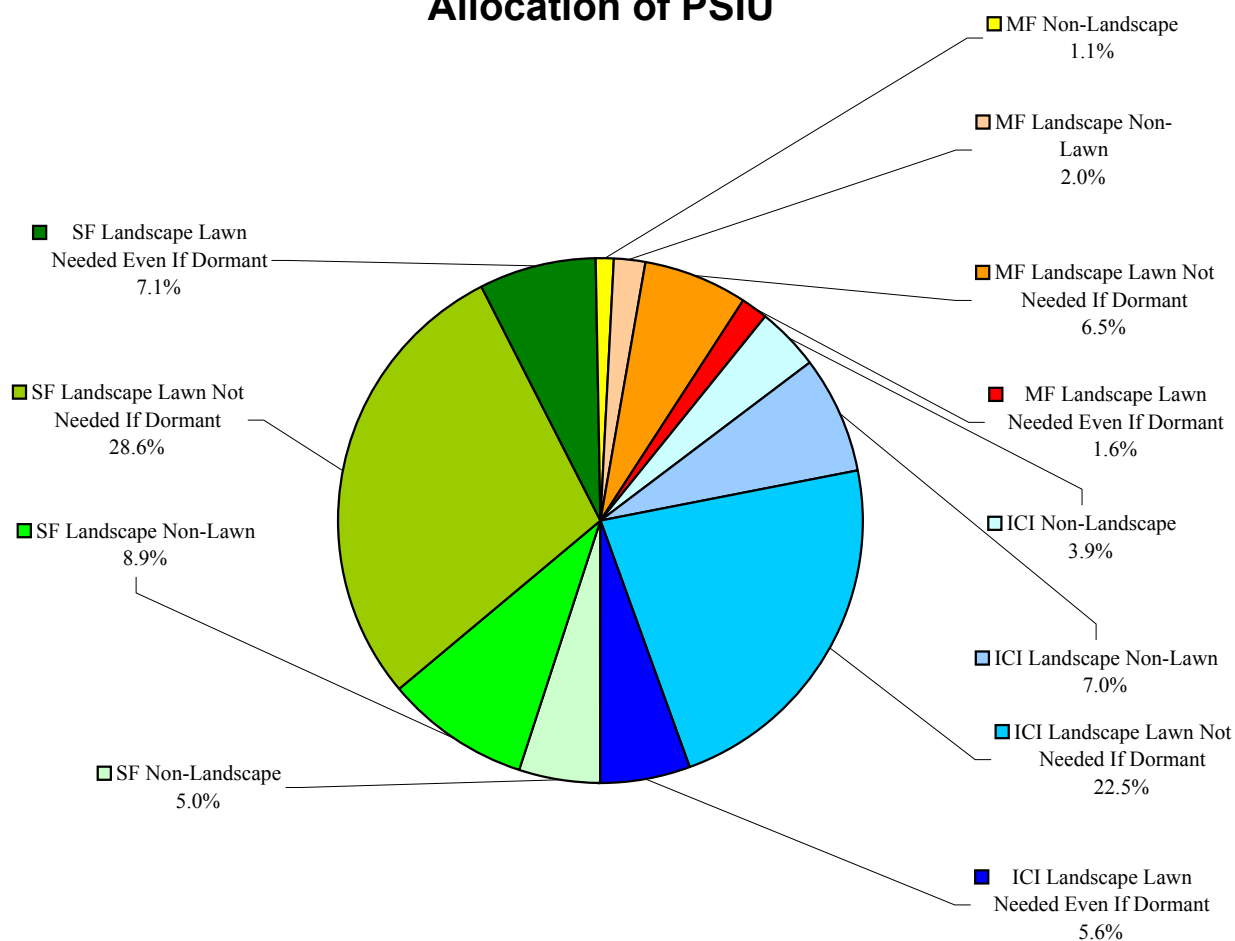
¹ Source is Vickers pg 141.² Source is professional knowledge.³ Source is Vickers pg 152.⁴ Source is Vickers pg 176.⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Green shaded cells contain data entered specifically for the client.

White cells are calculations.

Yellow shaded cells are results.

Allocation of PSIU



Appendix C-5

Analysis of Savings and Costs

Redmond Spreadsheets

Redmond 6-Year

Cascade Water Alliance/Redmond 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|----------------------------------|-------------------|------------------|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2009 | a | 6 |
| 2 | Population | 58,214 | b | 65,860 | b | 7,646 |
| 3 | SF Accounts/Households | 11,755 | c | 13,800 | e | 2,045 |
| 4 | MF Accounts | 210 | d | 225 | d | 15 |
| 5 | Units per MF account | 60.5 | c | 60.5 | r | 0 |
| 6 | MF Households | 12,697 | e | 13,600 | e | 903 |
| 7 | Commercial Accounts | 1,012 | c | 1,087 | f | 75 |
| 8 | Persons Per SF HH ^{Q54} | 2.90 | g | 2.90 | g | 0 |
| 9 | Persons Per MF HH ^{Q54} | 1.9 | g | 1.9 | g | 0 |
| 10 | Employees Per ICI Account | 71.6 | h | 71.6 | h | 0 |
| 11 | Employment | 72,432 | c | 77,827 | e | 5,395 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provided by client via data request. | | | | | | |
| d. Calculation. | | | | | | |
| e. Based on Puget Sound Regional Council data, with adjustments based on utility connections and accounts data. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks ^{Q11} | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher ^{Q21} | 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system ^{Q30&33} | 28% | 50% | 80% | 100% | 80% | 100% | n/a |
| Irrigators using manual system | 72% | 50% | 20% | 0% | 20% | 0% | n/a |
| New landscapes in next 2 yrs | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping ^{Q29&32} | 83% | 83% | 70% | 100% | 50% | 100% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Redmond 6 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|--|--|-------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^g | Target ^h | Target ⁱ | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | W/ free riders ^j (affects cost) | W/out free riders ^k (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 64% | 5,172 | 100% | 0% | 0 | 5,172 | 80% | 2,586 | 1,293 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 64% | 5,172 | 100% | 0% | 0 | 5,172 | 100% | 517 | 517 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 81% | 9,522 | 100% | 81% | 1,656 | 11,178 | 25% | 2,795 | 2,795 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 96% | 5,407 | 100% | 40% | 941 | 6,348 | 25% | 1,587 | 1,587 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 33% | 3,879 | 100% | 0% | 0 | 3,879 | 50% | 1,940 | 970 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 50% | 3,879 | 100% | 0% | 0 | 3,879 | 50% | 1,940 | 1,940 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 5,878 | 100% | 50% | 1,023 | 6,900 | 25% | 1,725 | 1,725 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 8,816 | 100% | 100% | 2,045 | 10,861 | 50% | 5,431 | 4,888 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 63% | 5,055 | 100% | 0% | 0 | 5,055 | 50% | 2,527 | 1,264 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 5,878 | 100% | 50% | 1,023 | 6,900 | 25% | 1,725 | 1,725 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 57% | 6,633 | 100% | 57% | 1,166 | 7,799 | 25% | 1,950 | 1,462 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 90% | 5,819 | 100% | 80% | 1,023 | 6,841 | 25% | 1,710 | 1,710 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 80% | 1,366 | 42% | 80% | 424 | 1,790 | 25% | 448 | 448 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 7,025 | 42% | 100% | 849 | 7,873 | 25% | 1,968 | 1,968 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 2,732 | 42% | 100% | 849 | 3,581 | 25% | 895 | 895 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 976 | 83% | 100% | 1,697 | 2,673 | 25% | 668 | 601 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 9,757 | 83% | 100% | 1,697 | 11,454 | 25% | 2,864 | 2,864 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 6,475 | 100% | 0% | 0 | 6,475 | 50% | 3,238 | 2,428 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 6,475 | 100% | 0% | 0 | 6,475 | 60% | 3,885 | 2,914 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 80% | 6,475 | 100% | 0% | 0 | 6,475 | 100% | 648 | 648 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 9,523 | 100% | 75% | 677 | 10,200 | 25% | 2,550 | 2,550 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 96% | 9,650 | 100% | 70% | 686 | 10,336 | 25% | 2,584 | 2,584 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 50% | 6,349 | 100% | 0% | 0 | 6,349 | 50% | 3,174 | 2,381 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 50% | 6,349 | 100% | 0% | 0 | 6,349 | 50% | 3,174 | 3,174 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 6,349 | 100% | 50% | 452 | 6,800 | 25% | 1,700 | 1,700 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 9,523 | 100% | 100% | 903 | 10,426 | 50% | 5,213 | 4,692 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 50% | 6,983 | 100% | 0% | 0 | 6,983 | 50% | 3,492 | 2,619 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 6,349 | 100% | 50% | 452 | 6,800 | 25% | 1,700 | 1,700 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 89% | 5,028 | 90% | 85% | 447 | 5,475 | 25% | 1,369 | 1,027 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 90% | 4,571 | 90% | 90% | 406 | 4,977 | 25% | 1,244 | 1,244 |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 56% | 50% | 59 | 100% | 50% | 7 | 66 | 25% | 17 | 17 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 14% | 100% | 29 | 0% | 100% | 0 | 29 | 25% | 7 | 7 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 56% | 90% | 106 | 100% | 90% | 13 | 119 | 25% | 30 | 27 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 7 | 100% | 100% | 15 | 22 | 10% | 2 | 2 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 147 | 100% | 100% | 15 | 162 | 10% | 16 | 16 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 506 | 100% | 0% | 0 | 506 | 50% | 253 | 190 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 506 | 100% | 0% | 0 | 506 | 100% | 51 | 51 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 152 | 20% | 75% | 11 | 163 | 25% | 41 | 41 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 526 | 80% | 0% | 0 | 526 | 50% | 263 | 197 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 810 | 80% | 100% | 60 | 870 | 10% | 87 | 87 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 759 | 100% | 0% | 0 | 759 | 50% | 380 | 342 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 15 | 2% | 75% | 1 | 16 | 25% | 4 | 3 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 28 | 11% | 0% | 0 | 28 | 75% | 21 | 19 |
| ICI Outdoor | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 56 | 11% | 25% | 2 | 58 | 25% | 14 | 13 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 40% | 50% | 202 | 100% | 50% | 38 | 240 | 25% | 60 | 60 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 10% | 100% | 101 | 0% | 100% | 0 | 101 | 25% | 25 | 25 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 40% | 90% | 364 | 100% | 90% | 68 | 432 | 25% | 108 | 97 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 25 | 50% | 100% | 38 | 63 | 10% | 6 | 6 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 506 | 100% | 100% | 75 | 581 | 10% | 58 | 58 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations

Cascade Water Alliance/Redmond 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|----------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|---------|---|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | | |
| | | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 26,525,279 | 13,262,639 | Full Yr | 365 | 72,672 | 36,336 | 72,672 | 36,336 | 159,151,671 | 79,575,836 | 212,741 | 106,371 | |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 6,980,336 | 6,980,336 | Full Yr | 365 | 19,124 | 19,124 | 19,124 | 19,124 | 38,778,804 | 38,778,804 | 51,836 | 51,836 | |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 10,116,286 | 10,116,286 | Full Yr | 365 | 27,716 | 27,716 | 27,716 | 27,716 | 56,200,365 | 56,200,365 | 75,124 | 75,124 | |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 4,367,583 | 4,367,583 | Full Yr | 365 | 11,966 | 11,966 | 11,966 | 11,966 | 24,263,821 | 24,263,821 | 32,434 | 32,434 | |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 911,293 | 455,647 | Full Yr | 365 | 2,497 | 1,248 | 2,497 | 1,248 | 5,467,759 | 2,733,880 | 7,309 | 3,654 | |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 9,112,932 | 9,112,932 | Full Yr | 365 | 24,967 | 24,967 | 24,967 | 24,967 | 50,626,299 | 50,626,299 | 67,673 | 67,673 | |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 4,017,008 | 4,017,008 | Full Yr | 365 | 11,006 | 11,006 | 11,006 | 11,006 | 22,316,223 | 22,316,223 | 29,831 | 29,831 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 19,549,565 | 17,594,608 | Full Yr | 365 | 53,560 | 48,204 | 53,560 | 48,204 | 108,606,332 | 97,745,699 | 145,176 | 130,659 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 4,893,446 | 4,893,446 | Full Yr | 365 | 13,407 | 13,407 | 13,407 | 13,407 | 27,185,217 | 27,185,217 | 36,339 | 36,339 | |
| SF Out. | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 10,690,533 | 8,017,900 | Full Yr | 365 | 29,289 | 21,967 | 29,289 | 21,967 | 59,390,559 | 44,542,919 | 79,389 | 59,541 | |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 2,277,432 | 2,277,432 | Full Yr | 365 | 6,240 | 6,240 | 6,240 | 6,240 | 12,652,124 | 12,652,124 | 16,912 | 16,912 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,883,289 | 1,883,289 | Peak | 122 | 5,160 | 5,160 | 15,437 | 15,437 | 10,462,489 | 10,462,489 | 13,985 | 13,985 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 2,760,853 | 2,760,853 | Peak | 122 | 7,564 | 7,564 | 22,630 | 22,630 | 15,337,741 | 15,337,741 | 20,502 | 20,502 | |
| | ET controllers | n/a | u | n/a | n/a | 1,883,289 | 1,883,289 | Peak | 122 | 5,160 | 5,160 | 15,437 | 15,437 | 10,462,489 | 10,462,489 | 13,985 | 13,985 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,874,601 | 1,687,141 | Peak | 122 | 5,136 | 4,622 | 15,366 | 13,829 | 10,414,226 | 9,372,803 | 13,921 | 12,529 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 25,704,828 | 25,704,828 | Peak | 122 | 70,424 | 70,424 | 210,695 | 210,695 | 142,801,497 | 142,801,497 | 190,886 | 190,886 | |
| | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 21,757,628 | 16,318,221 | Full Yr | 365 | 59,610 | 44,707 | 59,610 | 44,707 | 130,545,767 | 97,909,325 | 174,503 | 130,877 | |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 26,109,153 | 19,581,865 | Full Yr | 365 | 71,532 | 53,649 | 71,532 | 53,649 | 156,654,920 | 117,491,190 | 209,404 | 157,053 | |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 5,725,692 | 5,725,692 | Full Yr | 365 | 15,687 | 15,687 | 15,687 | 15,687 | 33,213,642 | 33,213,642 | 44,397 | 44,397 | |
| MF Indoor | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 6,048,014 | 6,048,014 | Full Yr | 365 | 16,570 | 16,570 | 16,570 | 16,570 | 35,083,370 | 35,083,370 | 46,897 | 46,897 | |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 4,659,210 | 4,659,210 | Full Yr | 365 | 12,765 | 12,765 | 12,765 | 12,765 | 27,027,189 | 27,027,189 | 36,128 | 36,128 | |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 977,121 | 732,841 | Full Yr | 365 | 2,677 | 2,008 | 2,677 | 2,008 | 5,862,725 | 4,397,044 | 7,837 | 5,878 | |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 9,771,208 | 9,771,208 | Full Yr | 365 | 26,770 | 26,770 | 26,770 | 26,770 | 56,680,912 | 56,680,912 | 75,766 | 75,766 | |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 2,593,690 | 2,593,690 | Full Yr | 365 | 7,106 | 7,106 | 7,106 | 7,106 | 15,045,500 | 15,045,500 | 20,112 | 20,112 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 12,294,764 | 11,065,287 | Full Yr | 365 | 33,684 | 30,316 | 33,684 | 30,316 | 71,319,575 | 64,187,617 | 95,334 | 85,801 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 3,159,586 | 3,159,586 | Full Yr | 365 | 8,656 | 8,656 | 8,656 | 8,656 | 18,328,154 | 18,328,154 | 24,500 | 24,500 | |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 4,916,999 | 3,687,749 | Full Yr | 365 | 13,471 | 10,103 | 13,471 | 10,103 | 28,522,571 | 21,391,928 | 38,127 | 28,595 | |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 542,786 | 542,786 | Full Yr | 365 | 1,487 | 1,487 | 1,487 | 1,487 | 3,148,596 | 3,148,596 | 4,209 | 4,209 | |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 9,346,043 | 9,346,043 | Peak | 122 | 25,606 | 25,606 | 76,607 | 76,607 | 54,214,608 | 54,214,608 | 72,470 | 72,470 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,430,504 | 1,430,504 | Peak | 122 | 3,919 | 3,919 | 11,725 | 11,725 | 8,298,078 | 8,298,078 | 11,092 | 11,092 | |
| | ET controllers | n/a | u | n/a | n/a | 9,346,043 | 8,411,439 | Peak | 122 | 25,606 | 23,045 | 76,607 | 68,946 | 54,214,608 | 48,793,147 | 72,470 | 65,223 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 693,046 | 623,741 | Peak | 122 | 1,899 | 1,709 | 5,681 | 5,113 | 4,020,225 | 3,618,202 | 5,374 | 4,837 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 19,612,669 | 19,612,669 | Peak | 122 | 53,733 | 53,733 | 160,760 | 160,760 | 113,769,342 | 113,769,342 | 152,078 | 152,078 | |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 299.2 | 109,199 | 27,627,376 | 20,720,532 | Full Yr | 365 | 75,691 | 56,769 | 75,691 | 56,769 | 165,764,254 | 124,323,190 | 221,580 | 166,185 | |
| | Dual flush toilets | 5.5 | o | 393.7 | 143,683 | 7,270,362 | 7,270,362 | Full Yr | 365 | 19,919 | 19,919 | 19,919 | 19,919 | 42,110,218 | 42,110,218 | 56,290 | 56,290 | |
| | Toilet leak detection repair | 9.5 | c | 679.9 | 248,180 | 3,643,179 | 3,643,179 | Full Yr | 365 | 9,981 | 9,981 | 9,981 | 9,981 | 21,101,435 | 21,101,435 | 28,207 | 28,207 | |
| | 1.0 gpf urinals | 1.8 | p | 125.3 | 45,717 | 10,024,287 | 7,518,215 | Full Yr | 365 | 27,464 | 20,598 | 27,464 | 20,598 | 60,145,722 | 45,109,292 | 80,398 | 60,298 | |
| | Waterless urinals | 2.1 | q | 150.3 | 54,861 | 4,772,352 | 4,772,352 | Full Yr | 365 | 13,075 | 13,075 | 13,075 | 13,075 | 27,641,646 | 27,641,646 | 36,949 | 36,949 | |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 308.2 | 112,476 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 2,000,340 | 1,500,255 | Full Yr | 365 | 5,480 | 4,110 | 5,480 | 4,110 | 11,586,044 | 8,689,533 | 15,487 | 11,615 | |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 434,887 | 391,399 | Full Yr | 365 | 1,191 | 1,072 | 1,191 | 1,072 | 2,609,323 | 2,348,391 | 3,488 | 3,139 | |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 786,531 | 707,878 | Full Yr | 365 | 2,155 | 1,939 | 2,155 | 1,939 | 4,555,619 | 4,100,057 | 6,090 | 5,481 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 10,660,516 | 10,660,516 | Peak | 122 | 29,207 | 29,207 | 87,381 | 87,381 | 61,746,122 | 61,746,122 | 82,537 | 82,537 | |
| ICI Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 1,625,419 | 1,625,419 | Peak | 122 | 4,453 | 4,453 | 13,323 | 13,323 | 9,414,489 | 9,414,489 | 12,585 | 12,585 | |
| | ET controllers | n/a | u | n/a | n/a | 10,660,516 | 9,594,464 | Peak | 122 | 29,207 | 26,286 | 87,381 | 78,643 | 61,746,122 | 55,571,510 | 82,537 | 74,284 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 809,352 | 728,417 | Peak | 122 | 2,217 | 1,996 | 6,634 | 5,971 | 4,687,800 | 4,219,020 | 6,266 | 5,640 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 22,355,020 | 22,355,020 | Peak | 122 | 61,247 | 61,247 | 183,238 | 183,238 | 129,481,139 | 129,481,139 | 173,080 | 173,080 | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Redmond 6 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 2.80 | \$112.00 | 25 | 1.0 | \$289,643 | \$1.36 | \$2.72 |
| | Dual flush toilets Q4 | \$100.00 | 2.80 | \$280.00 | 25 | 1.0 | \$144,822 | \$2.79 | \$2.79 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.80 | \$0.28 | 7.5 | 1.0 | \$782 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$13,383 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.30 | \$6.90 | 12.5 | 1.0 | \$13,383 | \$0.20 | \$0.20 |
| | Decreased shower use Q14 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.70 | \$4.26 | 10 | 1.0 | \$23,107 | \$0.16 | \$0.18 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,780 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$194,975 | \$2.46 | \$3.27 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$290,083 | \$20.74 | \$20.74 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$437,405 | \$21.33 | \$21.33 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$223,784 | \$16.00 | \$16.00 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$200,476 | \$14.40 | \$16.00 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 Q4 | \$80.00 | 1.70 | \$136.00 | 25 | 1.0 | \$440,332 | \$2.52 | \$3.36 |
| | 1.6 gpf toilets - \$100 Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$660,498 | \$3.15 | \$4.21 |
| | Dual flush toilets Q4 | \$100.00 | 1.70 | \$170.00 | 25 | 1.0 | \$110,083 | \$2.48 | \$2.48 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.70 | \$0.17 | 7.5 | 1.0 | \$434 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$14,284 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$14,284 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 1.0 | \$13,788 | \$0.14 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,841 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$27,375 | \$0.72 | \$0.96 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$35,215 | \$0.49 | \$0.49 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$7,386 | \$0.67 | \$0.67 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$14,901 | \$0.21 | \$0.23 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$668 | \$0.12 | \$0.14 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$101,200 | \$0.46 | \$0.61 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$20,240 | \$0.36 | \$0.36 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$16 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$19,734 | \$0.25 | \$0.33 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$13,049 | \$0.35 | \$0.35 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,746 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$14,680 | \$0.95 | \$1.26 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$1,357 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$10,825 | \$1.78 | \$1.98 |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$127,472 | \$1.54 | \$1.54 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$25,400 | \$2.02 | \$2.02 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$54,020 | \$0.65 | \$0.73 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,890 | \$0.30 | \$0.34 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

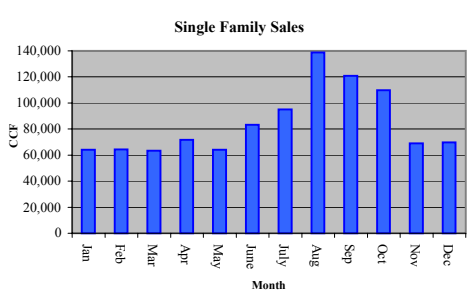
a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

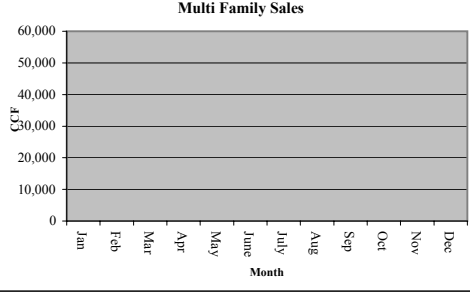
Cascade Water Alliance/Redmond 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

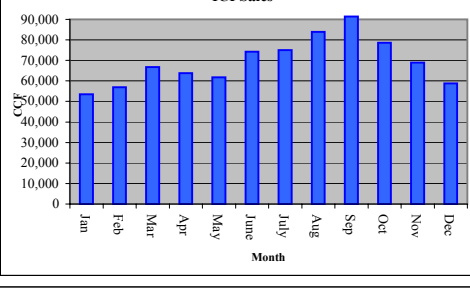
| Single Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 67,138 | 65,787 | 59,749 | 64,218 | 48,034,964 | Non-peak |
| Feb | 61,730 | 64,994 | 66,519 | 64,414 | 48,181,921 | Non-peak |
| Mar | 59,592 | 65,247 | 65,021 | 63,287 | 47,338,427 | Non-peak |
| Apr | 68,444 | 69,871 | 77,022 | 71,779 | 53,690,692 | Non-peak |
| May | 67,818 | 59,666 | 64,955 | 64,146 | 47,981,457 | Non-peak |
| June | 66,507 | 88,428 | 94,508 | 83,148 | 62,194,405 | Non-peak |
| July | 83,039 | 103,273 | 98,867 | 95,060 | 71,104,633 | Peak |
| Aug | 116,180 | 148,474 | 151,526 | 138,727 | 103,767,547 | Peak |
| Sep | 113,410 | 132,364 | 116,405 | 120,726 | 90,303,297 | Peak |
| Oct | 106,955 | 114,453 | 108,054 | 109,821 | 82,145,859 | Peak |
| Nov | 67,912 | 70,662 | 68,805 | 69,126 | 51,706,487 | Non-peak |
| Dec | 68,734 | 67,342 | 73,169 | 69,748 | 52,171,856 | Non-peak |
| Total | 947,479 | 1,050,521 | 1,044,600 | 1,014,200 | 758,621,545 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 68,733 | 51,412,526 | |
| Base use during entire peak season: | | | | 274,933 | 205,650,105 | |
| Peak Season Total: | | | | 464,333 | 347,321,336 | |
| Peak Season Increased Use: | | | | 189,400 | 141,671,231 | |



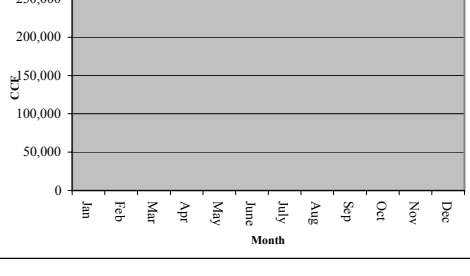
| Multi Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |



| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 49,074 | 60,033 | 50,806 | 53,334 | 40,043,671 | Non-peak |
| Feb | 57,803 | 58,805 | 54,186 | 56,931 | 42,584,707 | Non-peak |
| Mar | 58,750 | 69,739 | 71,932 | 66,807 | 49,971,524 | Non-peak |
| Apr | 72,215 | 57,154 | 61,856 | 63,742 | 47,678,717 | Non-peak |
| May | 62,029 | 60,072 | 63,405 | 61,835 | 46,252,720 | Non-peak |
| June | 62,031 | 76,374 | 84,144 | 74,183 | 55,488,926 | Non-peak |
| July | 83,994 | 69,546 | 71,532 | 75,024 | 56,117,905 | Peak |
| Aug | 74,311 | 77,100 | 100,334 | 83,915 | 62,768,355 | Peak |
| Sep | 96,986 | 98,178 | 78,928 | 91,364 | 68,340,272 | Peak |
| Oct | 74,364 | 72,684 | 89,025 | 78,691 | 58,860,856 | Peak |
| Nov | 66,257 | 77,306 | 63,233 | 68,932 | 51,561,136 | Non-peak |
| Dec | 62,167 | 55,572 | 58,536 | 58,758 | 43,951,233 | Non-peak |
| Total | 819,980 | 833,153 | 848,017 | 833,717 | 623,620,022 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 63,090 | 47,191,579 | |
| Base use during entire peak season: | | | | 252,361 | 188,766,317 | |
| Peak Season Total: | | | | 328,994 | 246,087,387 | |
| Peak Season Increased Use: | | | | 76,632 | 57,321,070 | |



| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |



Shaded cells contain data entered specifically for the client.
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: A hybrid approach to the above process was used for Redmond due to the nature of their customer categories. For SF, this exact process was used and SF irrigation water is calculated as 90% of the SF PSIU. For MF, irrigation water is the MF proportion (based on ratio of MF and ICI meters) of irrigation meter sales. For ICI, this process was used to determine the PSIU of the ICI sales data provided by Redmond. The total amount of ICI irrigation water is 90% of the ICI PSIU, plus the ICI proportion (based on ratio of MF and ICI meters) of irrigation meter sales.

Cascade Water Alliance
Conservation Potential Assessment - Appendix C-5

5
CascadeWaterAlliance\HDR23301\CPAR\Report\Redfyr.xls

Cascade Water Alliance/Redmond 6 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

126% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---|--------------------|--------------------|-------------|---|
| | n/a | n/a | n/a | PSIU Total |
| | 141,671,231 | 178,505,751 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | 57,321,070 | n/a | n/a | PSIU ICI |
| Single Family | 127,504,108 | 160,655,176 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 14,167,123 | 17,850,575 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 141,671,231 | 178,505,751 | n/a | Subtotal |
| | 102,003,286 | 128,524,141 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 25,500,822 | 32,131,035 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 127,504,108 | 160,655,176 | n/a | Subtotal |
| | 81,602,629 | 102,819,313 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 20,400,657 | 25,704,828 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 102,003,286 | 128,524,141 | n/a | Subtotal |
| | 5,355,173 | 7,533,156 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 9,180,296 | 11,043,414 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁴ |
| | 5,355,173 | 7,533,156 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁴ |
| | 25,500,822 | 32,131,035 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 81,602,629 | 102,819,313 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 126,994,092 | 161,060,074 | n/a | Subtotal |
| Multi Family | 243,212,659 | 306,447,950 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 243,212,659 | 306,447,950 | n/a | Subtotal |
| | 194,570,127 | 245,158,360 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 48,642,532 | 61,289,590 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 243,212,659 | 306,447,950 | n/a | Subtotal |
| | 155,656,102 | 196,126,688 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 38,914,025 | 49,031,672 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 194,570,127 | 245,158,360 | n/a | Subtotal |
| | 29,185,519 | 37,384,171 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| | 4,864,253 | 5,722,014 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁴ |
| | 29,185,519 | 37,384,171 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁴ |
| | 48,642,532 | 61,289,590 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 155,656,102 | 196,126,688 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 267,533,925 | 337,906,635 | n/a | Subtotal |
| ICI | 277,219,984 | 349,297,180 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 277,219,984 | 349,297,180 | n/a | Subtotal |
| | 221,775,987 | 279,437,744 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 55,443,997 | 69,859,436 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 277,219,984 | 349,297,180 | n/a | Subtotal |
| | 177,420,790 | 223,550,195 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 44,355,197 | 55,887,549 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 221,775,987 | 279,437,744 | n/a | Subtotal |
| | 33,266,398 | 42,642,064 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 5,544,400 | 6,501,675 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁴ |
| | 33,266,398 | 42,642,064 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁴ |
| | 55,443,997 | 69,859,436 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 177,420,790 | 223,550,195 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁴ |
| | 304,941,983 | 385,195,435 | n/a | Subtotal |
| All Sectors (Double check by making sure totals 100%) | 14,167,123 | 17,850,575 | n/a | SF Non-Landscape |
| | 25,500,822 | 32,131,035 | n/a | SF Landscape Non-Lawn |
| | 81,602,629 | 102,819,313 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 20,400,657 | 25,704,828 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 48,642,532 | 61,289,590 | n/a | MF Landscape Non-Lawn |
| | 155,656,102 | 196,126,688 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 38,914,025 | 49,031,672 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 55,443,997 | 69,859,436 | n/a | ICI Landscape Non-Lawn |
| | 177,420,790 | 223,550,195 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 44,355,197 | 55,887,549 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 662,103,874 | 834,250,882 | 0.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Redmond 20-Year

Cascade Water Alliance/Redmond 20 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2023 | a | 20 |
| 2 | Population | 58,214 | b | 83,730 | b | 25,516 |
| 3 | SF Accounts/Households | 11,755 | c | 17,800 | e | 6,045 |
| 4 | MF Accounts | 210 | d | 279 | d | 69 |
| 5 | Units per MF account | 60.5 | c | 60.5 | r | 0 |
| 6 | MF Households | 12,697 | c | 16,900 | e | 4,203 |
| 7 | Commercial Accounts | 1,012 | c | 1,335 | f | 323 |
| 8 | Persons Per SF HH Q54 | 2.90 | g | 2.90 | g | 0 |
| 9 | Persons Per MF HH Q54 | 1.9 | g | 1.9 | g | 0 |
| 10 | Employees Per ICI Account | 71.6 | h | 71.6 | h | 0 |
| 11 | Employment | 72,432 | c | 95,564 | e | 23,132 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provided by client via data request. | | | | | | |
| d. Calculation. | | | | | | |
| e. Based on Puget Sound Regional Council data, with adjustments based on utility connections and accounts data. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|----------------------------------|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 99% | 100% | 77% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 18% | 50% | 80% | 100% | 80% | 100% | n/a |
| Irrigators using manual system | 72% | 50% | 20% | 0% | 20% | 0% | n/a |
| New landscapes in next 2 yrs | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 83% | 83% | 70% | 100% | 50% | 100% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Redmond 20 Yr- Water Conservation Potential Assessment

Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|---------------|--|--|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^g | Target ^g | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | | W/ free riders ⁱ (affects cost) | W/out free riders ^j (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 40% | 5,172 | 100% | 0% | 0 | 5,172 | 40% | 2,586 | 1,293 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 40% | 5,172 | 100% | 0% | 0 | 5,172 | 10% | 517 | 517 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 80% | 9,522 | 100% | 40% | 4,896 | 14,418 | 25% | 3,605 | 3,605 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 40% | 5,407 | 100% | 40% | 2,781 | 8,188 | 25% | 2,047 | 2,047 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 33% | 3,879 | 100% | 0% | 0 | 3,879 | 50% | 1,940 | 970 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 33% | 3,879 | 100% | 0% | 0 | 3,879 | 50% | 1,940 | 1,940 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 5,878 | 100% | 50% | 3,023 | 8,900 | 25% | 2,225 | 2,225 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 8,816 | 100% | 100% | 6,045 | 14,861 | 50% | 7,431 | 6,688 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 40% | 5,055 | 100% | 0% | 0 | 5,055 | 50% | 2,527 | 1,264 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 5,878 | 100% | 50% | 3,023 | 8,900 | 25% | 2,225 | 2,225 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 80% | 6,633 | 100% | 80% | 3,446 | 10,079 | 50% | 5,039 | 3,780 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 80% | 5,819 | 100% | 80% | 3,023 | 8,841 | 25% | 2,210 | 2,210 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 80% | 1,366 | 42% | 80% | 1,254 | 2,620 | 25% | 655 | 655 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 7,025 | 42% | 100% | 2,509 | 9,533 | 25% | 2,383 | 2,383 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 2,732 | 42% | 100% | 2,509 | 5,241 | 25% | 1,310 | 1,310 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 976 | 83% | 100% | 5,017 | 5,993 | 25% | 1,498 | 1,348 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 9,757 | 83% | 100% | 5,017 | 14,774 | 25% | 3,694 | 3,694 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 80% | 6,475 | 100% | 0% | 0 | 6,475 | 50% | 3,238 | 2,428 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 80% | 6,475 | 100% | 0% | 0 | 6,475 | 60% | 3,885 | 2,914 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 80% | 6,475 | 100% | 0% | 0 | 6,475 | 10% | 648 | 648 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 9,523 | 100% | 75% | 3,152 | 12,675 | 25% | 3,169 | 3,169 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 70% | 9,650 | 100% | 70% | 3,194 | 12,844 | 25% | 3,211 | 3,211 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 80% | 6,349 | 100% | 0% | 0 | 6,349 | 50% | 3,174 | 2,381 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 80% | 6,349 | 100% | 0% | 0 | 6,349 | 50% | 3,174 | 3,174 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 6,349 | 100% | 50% | 2,102 | 8,450 | 25% | 2,113 | 2,113 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 9,523 | 100% | 100% | 4,203 | 13,726 | 50% | 6,863 | 6,177 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 85% | 6,983 | 100% | 0% | 0 | 6,983 | 50% | 3,492 | 2,619 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 6,349 | 100% | 50% | 2,102 | 8,450 | 25% | 2,113 | 2,113 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 85% | 5,028 | 90% | 85% | 2,080 | 7,108 | 50% | 3,554 | 2,666 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 80% | 4,571 | 90% | 80% | 1,891 | 6,462 | 25% | 1,616 | 1,616 |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 56% | 50% | 59 | 100% | 50% | 35 | 93 | 25% | 23 | 23 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 14% | 100% | 29 | 0% | 100% | 0 | 29 | 25% | 7 | 7 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 56% | 90% | 106 | 100% | 90% | 63 | 168 | 25% | 42 | 38 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 7 | 100% | 100% | 69 | 77 | 10% | 8 | 7 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 147 | 100% | 100% | 69 | 216 | 10% | 22 | 22 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 506 | 100% | 0% | 0 | 506 | 50% | 253 | 190 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 506 | 100% | 0% | 0 | 506 | 10% | 51 | 51 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 152 | 20% | 75% | 48 | 200 | 25% | 50 | 50 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 526 | 80% | 0% | 0 | 526 | 50% | 263 | 197 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 810 | 80% | 100% | 259 | 1,068 | 10% | 107 | 107 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 759 | 100% | 0% | 0 | 759 | 50% | 380 | 342 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 15 | 2% | 75% | 5 | 20 | 50% | 10 | 8 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 28 | 11% | 0% | 0 | 28 | 75% | 21 | 19 |
| Air cooled ice machine | ICI accounts | EN | 10% | 11% | 50% | 56 | 11% | 25% | 9 | 65 | 25% | 16 | 15 | |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 40% | 50% | 202 | 100% | 50% | 162 | 364 | 25% | 91 | 91 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 10% | 100% | 101 | 0% | 100% | 0 | 101 | 25% | 25 | 25 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 40% | 90% | 364 | 100% | 90% | 291 | 655 | 25% | 164 | 147 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 25 | 50% | 100% | 162 | 187 | 10% | 19 | 17 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 506 | 100% | 100% | 323 | 829 | 10% | 83 | 83 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations

Cascade Water Alliance/Redmond 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 9,283,848 | 4,641,924 | Full Yr | 365 | 25,435 | 12,718 | 25,435 | 12,718 | 185,676,950 | 92,838,475 | 248,198 | 124,099 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 6,980,336 | 6,980,336 | Full Yr | 365 | 19,124 | 19,124 | 19,124 | 19,124 | 115,901,036 | 115,901,036 | 154,927 | 154,927 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 13,048,542 | 13,048,542 | Full Yr | 365 | 35,749 | 35,749 | 35,749 | 35,749 | 216,657,117 | 216,657,117 | 289,610 | 289,610 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 5,633,549 | 5,633,549 | Full Yr | 365 | 15,434 | 15,434 | 15,434 | 15,434 | 93,539,063 | 93,539,063 | 125,036 | 125,036 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 273,388 | 136,694 | Full Yr | 365 | 749 | 375 | 749 | 375 | 5,467,759 | 2,733,880 | 7,309 | 3,654 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 9,112,932 | 9,112,932 | Full Yr | 365 | 24,967 | 24,967 | 24,967 | 24,967 | 151,310,507 | 151,310,507 | 202,260 | 202,260 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 5,181,358 | 5,181,358 | Full Yr | 365 | 14,196 | 14,196 | 14,196 | 14,196 | 86,030,911 | 86,030,911 | 114,999 | 114,999 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 26,749,312 | 24,074,381 | Full Yr | 365 | 73,286 | 65,957 | 73,286 | 65,957 | 444,143,780 | 399,729,402 | 593,696 | 534,326 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 6,311,836 | 6,311,836 | Full Yr | 365 | 17,293 | 17,293 | 17,293 | 17,293 | 104,801,291 | 104,801,291 | 140,090 | 140,090 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 27,631,720 | 20,723,790 | Full Yr | 365 | 75,703 | 56,778 | 75,703 | 56,778 | 458,795,218 | 344,096,413 | 613,281 | 459,960 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 2,943,228 | 2,943,228 | Full Yr | 365 | 8,064 | 8,064 | 8,064 | 8,064 | 48,869,165 | 48,869,165 | 65,324 | 65,324 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,951,090 | 2,951,090 | Peak | 122 | 8,085 | 8,085 | 24,189 | 24,189 | 48,999,692 | 48,999,692 | 65,499 | 65,499 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 3,579,036 | 3,579,036 | Peak | 122 | 9,806 | 9,806 | 29,336 | 29,336 | 59,426,067 | 59,426,067 | 79,436 | 79,436 |
| | ET controllers | n/a | u | n/a | n/a | 2,951,090 | 2,951,090 | Peak | 122 | 8,085 | 8,085 | 24,189 | 24,189 | 48,999,692 | 48,999,692 | 65,499 | 65,499 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 4,499,774 | 4,049,797 | Peak | 122 | 12,328 | 11,095 | 36,883 | 33,195 | 74,713,944 | 67,242,549 | 99,872 | 89,884 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 35,497,144 | 35,497,144 | Peak | 122 | 97,252 | 97,252 | 290,960 | 290,960 | 589,392,181 | 589,392,181 | 787,852 | 787,852 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 7,615,170 | 5,711,377 | Full Yr | 365 | 20,863 | 15,648 | 20,863 | 15,648 | 152,303,394 | 114,227,546 | 203,587 | 152,690 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 9,138,204 | 6,853,653 | Full Yr | 365 | 25,036 | 18,777 | 25,036 | 18,777 | 182,764,073 | 137,073,055 | 244,304 | 183,228 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 5,725,692 | 5,725,692 | Full Yr | 365 | 15,687 | 15,687 | 15,687 | 15,687 | 100,274,137 | 100,274,137 | 134,038 | 134,038 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 7,515,546 | 7,515,546 | Full Yr | 365 | 20,591 | 20,591 | 20,591 | 20,591 | 131,619,894 | 131,619,894 | 175,939 | 175,939 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 5,789,754 | 5,789,754 | Full Yr | 365 | 15,862 | 15,862 | 15,862 | 15,862 | 101,396,066 | 101,396,066 | 135,538 | 135,538 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 293,136 | 219,852 | Full Yr | 365 | 803 | 602 | 803 | 602 | 5,862,725 | 4,397,044 | 7,837 | 5,878 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 9,771,208 | 9,771,208 | Full Yr | 365 | 26,770 | 26,770 | 26,770 | 26,770 | 171,123,347 | 171,123,347 | 228,744 | 228,744 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 3,223,041 | 3,223,041 | Full Yr | 365 | 8,830 | 8,830 | 8,830 | 8,830 | 56,445,179 | 56,445,179 | 75,451 | 75,451 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 16,186,352 | 14,567,716 | Full Yr | 365 | 44,346 | 39,912 | 44,346 | 39,912 | 283,471,863 | 255,124,677 | 378,922 | 341,030 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 3,926,250 | 3,926,250 | Full Yr | 365 | 10,757 | 10,757 | 10,757 | 10,757 | 68,760,490 | 68,760,490 | 91,914 | 91,914 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 12,768,034 | 9,576,025 | Full Yr | 365 | 34,981 | 26,236 | 34,981 | 26,236 | 223,606,798 | 167,705,098 | 298,900 | 224,175 |
| MF Out. | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 704,729 | 704,729 | Full Yr | 365 | 1,931 | 1,931 | 1,931 | 1,931 | 12,341,934 | 12,341,934 | 16,498 | 16,498 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 13,485,050 | 13,485,050 | Peak | 122 | 36,945 | 36,945 | 110,533 | 110,533 | 236,163,926 | 236,163,926 | 315,685 | 315,685 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,589,717 | 1,589,717 | Peak | 122 | 4,355 | 4,355 | 13,030 | 13,030 | 27,840,744 | 27,840,744 | 37,215 | 37,215 |
| | ET controllers | n/a | u | n/a | n/a | 13,485,050 | 12,136,545 | Peak | 122 | 36,945 | 33,251 | 110,533 | 99,480 | 236,163,926 | 212,547,534 | 315,685 | 284,116 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 2,422,876 | 2,180,588 | Peak | 122 | 6,638 | 5,974 | 19,860 | 17,874 | 42,431,863 | 38,188,677 | 56,720 | 51,048 |
| ICI Indoor | Allow lawn to go dormant | n/a | u | n/a | n/a | 27,084,162 | 27,084,162 | Peak | 122 | 74,203 | 74,203 | 222,001 | 222,001 | 474,325,405 | 474,325,405 | 634,040 | 634,040 |
| | 1.6 gpf toilets | 4.2 | n | 299.2 | 109,199 | 9,669,581 | 7,252,186 | Full Yr | 365 | 26,492 | 19,869 | 26,492 | 19,869 | 193,391,629 | 145,043,722 | 258,510 | 193,883 |
| | Dual flush toilets | 5.5 | o | 393.7 | 143,683 | 7,270,362 | 7,270,362 | Full Yr | 365 | 19,919 | 19,919 | 19,919 | 19,919 | 127,808,771 | 127,808,771 | 170,845 | 170,845 |
| | Toilet leak detection repair | 9.5 | c | 679.9 | 248,180 | 4,473,470 | 4,473,470 | Full Yr | 365 | 12,256 | 12,256 | 12,256 | 12,256 | 78,641,028 | 78,641,028 | 105,121 | 105,121 |
| | 1.0 gpf urinals | 1.8 | p | 125.3 | 45,717 | 3,007,286 | 2,255,465 | Full Yr | 365 | 8,239 | 6,179 | 8,239 | 6,179 | 60,145,722 | 45,109,292 | 80,398 | 60,298 |
| | Waterless urinals | 2.1 | q | 150.3 | 54,861 | 5,859,984 | 5,859,984 | Full Yr | 365 | 16,055 | 16,055 | 16,055 | 16,055 | 103,015,147 | 103,015,147 | 137,702 | 137,702 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 308.2 | 112,476 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 4,912,446 | 3,684,334 | Full Yr | 365 | 13,459 | 10,094 | 13,459 | 10,094 | 86,357,960 | 64,768,470 | 115,436 | 86,577 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 130,466 | 117,420 | Full Yr | 365 | 357 | 322 | 357 | 322 | 2,609,323 | 2,348,391 | 3,488 | 3,139 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 879,375 | 791,438 | Full Yr | 365 | 2,409 | 2,168 | 2,409 | 2,168 | 15,458,914 | 13,913,022 | 20,664 | 18,598 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 15,346,580 | 15,346,580 | Peak | 122 | 42,045 | 42,045 | 125,792 | 125,792 | 269,784,029 | 269,784,029 | 360,626 | 360,626 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,828,016 | 1,828,016 | Peak | 122 | 5,008 | 5,008 | 14,984 | 14,984 | 32,135,463 | 32,135,463 | 42,956 | 42,956 |
| | ET controllers | n/a | u | n/a | n/a | 15,346,580 | 13,811,922 | Peak | 122 | 42,045 | 37,841 | 125,792 | 113,212 | 269,784,029 | 242,805,626 | 360,626 | 324,563 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 2,700,795 | 2,430,716 | Peak | 122 | 7,399 | 6,659 | 22,138 | 19,924 | 47,478,426 | 42,730,583 | 63,465 | 57,119 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 30,871,217 | 30,871,217 | Peak | 122 | 84,579 | 84,579 | 253,043 | 253,043 | 542,698,196 | 542,698,196 | 725,435 | 725,435 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Redmond 20 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^b | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 2.00 | \$112.00 | 25 | 1.0 | \$289,643 | \$1.17 | \$2.33 |
| | Dual flush toilets Q4 | \$100.00 | 2.00 | \$280.00 | 25 | 1.0 | \$144,822 | \$0.93 | \$0.93 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.00 | \$0.28 | 7.5 | 3.0 | \$2,631 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.00 | \$6.90 | 12.5 | 1.0 | \$13,383 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.00 | \$6.90 | 12.5 | 2.0 | \$23,896 | \$0.12 | \$0.12 |
| | Decreased shower use Q14 | \$0.00 | 2.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.00 | \$4.26 | 10 | 2.0 | \$57,583 | \$0.10 | \$0.11 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$2,780 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$890,801 | \$1.45 | \$1.94 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$794,153 | \$12.12 | \$12.12 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$990,654 | \$12.47 | \$12.47 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$596,524 | \$9.11 | \$9.11 |
| | Limited lawn/low water use plant: Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$449,476 | \$4.50 | \$5.00 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$136.00 | 25 | 1.0 | \$440,332 | \$2.16 | \$2.88 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$660,498 | \$2.70 | \$3.60 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$110,083 | \$0.82 | \$0.82 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.17 | 7.5 | 3.0 | \$1,461 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$14,284 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 2.0 | \$26,325 | \$0.12 | \$0.12 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.00 | \$2.65 | 10 | 2.0 | \$33,929 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,841 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$130,074 | \$0.44 | \$0.58 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$92,752 | \$0.29 | \$0.29 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$13,778 | \$0.37 | \$0.37 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$39,321 | \$0.12 | \$0.14 |
| | Limited lawn/low water use plant: | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$2,304 | \$0.04 | \$0.05 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$101,200 | \$0.39 | \$0.52 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$20,240 | \$0.12 | \$0.12 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$54 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$19,734 | \$0.25 | \$0.33 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$16,022 | \$0.12 | \$0.12 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,746 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$66,130 | \$0.57 | \$0.76 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$1,357 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$32,608 | \$1.58 | \$1.75 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$362,139 | \$1.00 | \$1.00 |
| ICI Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$47,596 | \$1.11 | \$1.11 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$153,365 | \$0.43 | \$0.47 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$5,607 | \$0.09 | \$0.10 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Redmond 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 67,158 | 65,747 | 59,749 | 64,218 | 48,034,964 | Non-peak |
| Feb | 61,720 | 64,984 | 66,519 | 64,414 | 48,181,921 | Non-peak |
| Mar | 59,592 | 65,247 | 65,021 | 63,287 | 47,338,427 | Non-peak |
| Apr | 68,444 | 69,871 | 77,022 | 71,779 | 53,690,692 | Non-peak |
| May | 67,818 | 59,666 | 64,955 | 64,146 | 47,981,457 | Non-peak |
| June | 66,507 | 88,428 | 94,508 | 83,148 | 62,194,405 | Non-peak |
| July | 83,039 | 103,273 | 98,867 | 95,060 | 71,104,633 | Peak |
| Aug | 116,180 | 148,474 | 151,526 | 138,727 | 103,767,547 | Peak |
| Sep | 113,410 | 132,364 | 116,405 | 120,726 | 90,303,297 | Peak |
| Oct | 106,955 | 114,453 | 108,054 | 109,821 | 82,145,859 | Peak |
| Nov | 67,912 | 70,662 | 68,805 | 69,126 | 51,706,487 | Non-peak |
| Dec | 68,734 | 67,342 | 73,169 | 69,748 | 52,171,856 | Non-peak |
| Total | 947,479 | 1,050,521 | 1,044,600 | 1,014,200 | 758,621,545 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 68,733 | 51,412,526 | |
| Base use during entire peak season: | | | | 274,933 | 205,650,105 | |
| Peak Season Total: | | | | 464,333 | 347,321,336 | |
| Peak Season Increased Use: | | | | 189,400 | 141,671,231 | |

| Multi Family Sale: | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 49,074 | 60,623 | 50,906 | 53,534 | 40,043,671 | Non-peak |
| Feb | 57,803 | 58,805 | 54,186 | 56,931 | 42,584,707 | Non-peak |
| Mar | 58,750 | 69,739 | 71,932 | 66,807 | 49,971,524 | Non-peak |
| Apr | 72,215 | 57,154 | 61,856 | 63,742 | 47,678,717 | Non-peak |
| May | 62,029 | 60,072 | 63,405 | 61,835 | 46,252,720 | Non-peak |
| June | 62,031 | 76,374 | 84,144 | 74,183 | 55,488,926 | Non-peak |
| July | 83,994 | 69,546 | 71,532 | 75,024 | 56,117,905 | Peak |
| Aug | 74,311 | 77,100 | 100,334 | 83,915 | 62,768,355 | Peak |
| Sep | 96,986 | 98,178 | 78,928 | 91,364 | 68,340,272 | Peak |
| Oct | 74,364 | 72,684 | 89,025 | 78,691 | 58,860,856 | Peak |
| Nov | 66,257 | 77,306 | 63,233 | 68,932 | 51,561,136 | Non-peak |
| Dec | 62,167 | 55,572 | 58,536 | 58,758 | 43,951,233 | Non-peak |
| Total | 819,980 | 833,153 | 848,017 | 833,717 | 623,620,022 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 63,090 | 47,191,579 | |
| Base use during entire peak season: | | | | 252,361 | 188,766,317 | |
| Peak Season Total: | | | | 328,994 | 246,087,387 | |
| Peak Season Increased Use: | | | | 76,632 | 57,321,070 | |

| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: A hybrid approach to the above process was used for Redmond due to the nature of their customer categories. For SF, this exact process was used and SF irrigation water is calculated as 90% of the SF PSIU. For MF, irrigation water is the MF proportion (based on ratio of MF and ICI meters) of irrigation meter sales. For ICI, this process was used to determine the PSIU of the ICI sales data provided by Redmond. The total amount of ICI irrigation water is 90% of the ICI PSIU, plus the ICI proportion (based on ratio of MF and ICI meters) of irrigation meter sales.

Cascade Water Alliance/Redmond 20 Yr - Water Conservation Potential Assessment Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

174% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---|----------------|-----------------|-----------|---|
| | n/a | n/a | n/a | PSIU Total |
| All Sectors | 141,671,231 | 246,507,942 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | 57,321,070 | n/a | n/a | PSIU ICI |
| | | | | |
| Single Family | 127,504,108 | 221,857,148 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 14,167,123 | 24,650,794 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 141,671,231 | 246,507,942 | n/a | Subtotal |
| | | | | |
| | 102,003,286 | 177,485,718 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 25,500,822 | 44,371,430 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 127,504,108 | 221,857,148 | n/a | Subtotal |
| | | | | |
| | 81,602,629 | 141,988,575 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 20,400,657 | 35,497,144 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 102,003,286 | 177,485,718 | n/a | Subtotal |
| | | | | |
| | 5,355,173 | 11,804,358 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 9,180,296 | 14,316,143 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁴ |
| | 5,355,173 | 11,804,358 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁴ |
| | 25,500,822 | 44,371,430 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 81,602,629 | 141,988,575 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 126,994,092 | 224,284,863 | n/a | Subtotal |
| Multi Family | 243,212,659 | 423,190,027 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 243,212,659 | 423,190,027 | n/a | Subtotal |
| | | | | |
| | 194,570,127 | 338,552,021 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 48,642,532 | 84,638,005 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 243,212,659 | 423,190,027 | n/a | Subtotal |
| | | | | |
| | 155,656,102 | 270,841,617 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 38,914,025 | 67,710,404 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 194,570,127 | 338,552,021 | n/a | Subtotal |
| | | | | |
| | 29,185,519 | 53,940,201 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| | 4,864,253 | 6,358,868 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁴ |
| | 29,185,519 | 53,940,201 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁴ |
| | 48,642,532 | 84,638,005 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 155,656,102 | 270,841,617 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁴ |
| | 267,533,925 | 469,718,894 | n/a | Subtotal |
| ICI | 277,219,984 | 482,362,772 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 277,219,984 | 482,362,772 | n/a | Subtotal |
| | | | | |
| | 221,775,987 | 385,890,218 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 55,443,997 | 96,472,554 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 277,219,984 | 482,362,772 | n/a | Subtotal |
| | | | | |
| | 177,420,790 | 308,712,174 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 44,355,197 | 77,178,044 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 221,775,987 | 385,890,218 | n/a | Subtotal |
| | | | | |
| | 33,266,398 | 61,386,321 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 5,544,400 | 7,312,063 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁴ |
| | 33,266,398 | 61,386,321 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁴ |
| | 55,443,997 | 96,472,554 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 177,420,790 | 308,712,174 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁴ |
| | 304,941,983 | 535,269,434 | n/a | Subtotal |
| All Sectors (Double check by making sure totals 100%) | 14,167,123 | 24,650,794 | n/a | SF Non-Landscape |
| | 25,500,822 | 44,371,430 | n/a | SF Landscape Non-Lawn |
| | 81,602,629 | 141,988,575 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 20,400,657 | 35,497,144 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 48,642,532 | 84,638,005 | n/a | MF Landscape Non-Lawn |
| | 155,656,102 | 270,841,617 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 38,914,025 | 67,710,404 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 55,443,997 | 96,472,554 | n/a | ICI Landscape Non-Lawn |
| | 177,420,790 | 308,712,174 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 44,355,197 | 77,178,044 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 662,103,874 | 1,152,060,741 | 0.0% | Total |
| | | | | |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Appendix C-6

Analysis of Savings and Costs

Sammamish Plateau Water & Sewer District

Spreadsheets

Sammamish Plateau Water & Sewer District 6-Year

Cascade Water Alliance/Sammamish 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|----------------------------------|-------------------|------------------|---|---|--------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2009 | a | 6 |
| 2 | Population | 51,922 | b | 63,170 | b | 11,248 |
| 3 | SF Accounts/Households | 13,954 | c | 16,977 | c | 3,023 |
| 4 | MF Accounts | 33 | d | 40 | k | 7 |
| 5 | Units per MF account | 67.8 | e | 67.8 | r | 0 |
| 6 | MF Households | 2,239 | c | 2,724 | e | 485 |
| 7 | Commercial Accounts | 643 | a | 782 | f | 139 |
| 8 | Persons Per SF HH ^{Q54} | 3.40 | g | 3.40 | g | 0 |
| 9 | Persons Per MF HH ^{Q54} | 2.0 | g | 2.0 | g | 0 |
| 10 | Employees Per ICI Account | 19.1 | h | 19.1 | h | 0 |
| 11 | Employment | 12,265 | c | 14,922 | c | 2,657 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connection data. | | | | | | |
| d. Provided by client. | | | | | | |
| e. Calculation. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks ^{Q11} | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher ^{Q21} | 98% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system ^{Q30&33} | 29% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 71% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs ^{Q28} | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping ^{Q29&32} | 85% | 85% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Sammamish 6 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------------|---------------------------------------|---|--|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|--|--|
| | Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | |
| | | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | |
| | | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^c | Not Implemented Naturally ^f | Target ^e | Target ^h | Participation Rate ^d | Participating | |
| | | | | | | | | | | | | | W/ free riders ^g (affects cost) | W/out free riders ^g (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 81% | 7,117 | 100% | 0% | 0 | 7,117 | 80% | 3,558 | 1,779 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 81% | 7,117 | 100% | 0% | 0 | 7,117 | 10% | 712 | 712 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 81% | 11,303 | 100% | 81% | 2,449 | 13,751 | 25% | 3,438 | 3,438 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 85% | 7,675 | 100% | 85% | 1,663 | 9,337 | 25% | 2,334 | 2,334 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 80% | 5,023 | 100% | 0% | 0 | 5,023 | 50% | 2,512 | 1,256 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 80% | 5,023 | 100% | 0% | 0 | 5,023 | 50% | 2,512 | 2,512 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 6,977 | 100% | 50% | 1,512 | 8,489 | 25% | 2,122 | 2,122 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 10,466 | 100% | 100% | 3,023 | 13,489 | 50% | 6,744 | 6,070 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 80% | 6,977 | 100% | 0% | 0 | 6,977 | 50% | 3,489 | 1,744 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 6,977 | 100% | 50% | 1,512 | 8,489 | 25% | 2,122 | 2,122 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 98% | 82% | 7,111 | 100% | 82% | 1,572 | 8,683 | 25% | 2,171 | 1,628 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 98% | 80% | 6,837 | 100% | 80% | 1,512 | 8,349 | 25% | 2,087 | 2,087 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 25% | 80% | 1,720 | 43% | 80% | 642 | 2,362 | 25% | 591 | 591 |
| | Audits for manual irrigator | SF HH w/ manual systems | EN | 0% | 60% | 100% | 8,421 | 43% | 100% | 1,285 | 9,706 | 25% | 2,427 | 2,427 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 25% | 100% | 3,440 | 43% | 100% | 1,285 | 4,724 | 25% | 1,181 | 1,181 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 9% | 100% | 1,186 | 85% | 100% | 2,570 | 3,756 | 25% | 939 | 845 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 85% | 100% | 11,861 | 85% | 100% | 2,570 | 14,430 | 25% | 3,608 | 3,608 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,142 | 100% | 0% | 0 | 1,142 | 50% | 571 | 428 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,142 | 100% | 0% | 0 | 1,142 | 60% | 685 | 514 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 80% | 1,142 | 100% | 0% | 0 | 1,142 | 10% | 114 | 114 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 1,679 | 100% | 75% | 364 | 2,043 | 25% | 511 | 511 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 74% | 1,657 | 100% | 74% | 359 | 2,016 | 25% | 504 | 504 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 85% | 336 | 100% | 0% | 0 | 336 | 50% | 168 | 126 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 85% | 336 | 100% | 0% | 0 | 336 | 50% | 168 | 168 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 1,120 | 100% | 50% | 243 | 1,362 | 25% | 341 | 341 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 1,679 | 100% | 100% | 485 | 2,164 | 50% | 1,082 | 974 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 88% | 627 | 100% | 0% | 0 | 627 | 50% | 313 | 235 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 1,120 | 100% | 50% | 243 | 1,362 | 25% | 341 | 341 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 80% | 883 | 90% | 80% | 236 | 1,118 | 25% | 280 | 210 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 80% | 817 | 90% | 80% | 218 | 1,035 | 25% | 259 | 259 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 5 | 42% | 50% | 2 | 7 | 25% | 2 | 2 |
| | Audits for manual irrigator | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 13 | 28% | 100% | 2 | 15 | 25% | 4 | 4 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 9 | 42% | 90% | 3 | 12 | 25% | 3 | 3 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 1 | 70% | 100% | 5 | 6 | 10% | 1 | 1 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 23 | 70% | 100% | 5 | 28 | 10% | 3 | 3 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 121 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 322 | 100% | 0% | 0 | 322 | 10% | 32 | 32 |
| | Toilet leak detection and repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 96 | 20% | 75% | 21 | 117 | 25% | 29 | 29 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 334 | 80% | 0% | 0 | 334 | 50% | 167 | 125 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 514 | 80% | 100% | 111 | 626 | 10% | 63 | 63 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 482 | 100% | 0% | 0 | 482 | 50% | 241 | 217 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 10 | 2% | 75% | 2 | 12 | 25% | 3 | 2 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 18 | 11% | 0% | 0 | 18 | 75% | 13 | 12 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 35 | 11% | 25% | 4 | 39 | 25% | 10 | 9 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 80 | 30% | 50% | 21 | 101 | 25% | 25 | 25 |
| | Audits for manual irrigator | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 161 | 20% | 100% | 28 | 189 | 25% | 47 | 47 |
| ICI Outdoor | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 145 | 30% | 90% | 38 | 182 | 25% | 46 | 41 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 16 | 25% | 100% | 35 | 51 | 10% | 5 | 5 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 322 | 50% | 100% | 70 | 391 | 10% | 39 | 39 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Sammamish 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|---|--|---------|-------------------------------------|------------|---------|----------------|--|---|--|---|--|---|--|---|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | a | gal. per hh or business per day ^b | b | Annual gpy (at full implementation) | c | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | |
| | | | | | | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 32.9 | 12,025 | 42,789,229 | 21,394,614 | Full Yr | 365 | 117,231 | 58,615 | 117,231 | 58,615 | 256,735,372 | 128,367,686 | 343,183 | 171,592 |
| | Dual flush toilets | 12.8 | b | 43.4 | 15,823 | 11,260,323 | 11,260,323 | Full Yr | 365 | 30,850 | 30,850 | 30,850 | 30,850 | 61,546,750 | 61,546,750 | 82,271 | 82,271 |
| | Toilet leak detection and repair | 9.5 | c | 32.3 | 11,790 | 14,590,960 | 14,590,960 | Full Yr | 365 | 39,975 | 39,975 | 39,975 | 39,975 | 79,751,366 | 79,751,366 | 106,605 | 106,605 |
| | Decrease toilet flushes | 2.6 | d | 8.8 | 3,227 | 7,531,973 | 7,531,973 | Full Yr | 365 | 20,636 | 20,636 | 20,636 | 20,636 | 41,168,310 | 41,168,310 | 55,030 | 55,030 |
| | 2.5 gpm showerheads | 2.7 | e | 9.1 | 3,305 | 1,383,578 | 691,789 | Full Yr | 365 | 3,791 | 1,895 | 3,791 | 1,895 | 8,301,469 | 4,150,734 | 11,097 | 5,548 |
| | 2.0 gpm showerheads | 4.4 | f | 15.1 | 5,508 | 13,835,781 | 13,835,781 | Full Yr | 365 | 37,906 | 37,906 | 37,906 | 37,906 | 75,623,706 | 75,623,706 | 101,088 | 101,088 |
| | Decreased shower use | 2.2 | g | 7.5 | 2,730 | 5,793,826 | 5,793,826 | Full Yr | 365 | 15,873 | 15,873 | 15,873 | 15,873 | 31,667,931 | 31,667,931 | 42,331 | 42,331 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 11.6 | 4,221 | 28,464,388 | 25,617,950 | Full Yr | 365 | 77,985 | 70,186 | 77,985 | 70,186 | 155,580,845 | 140,022,760 | 207,968 | 187,171 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.7 | 1,706 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 9.1 | 3,326 | 7,057,933 | 7,057,933 | Full Yr | 365 | 19,337 | 19,337 | 19,337 | 19,337 | 38,577,298 | 38,577,298 | 51,567 | 51,567 |
| | Efficient clotheswashers | 5.2 | k | 17.6 | 6,428 | 13,954,275 | 10,465,706 | Full Yr | 365 | 38,231 | 28,673 | 38,231 | 28,673 | 76,271,368 | 57,203,526 | 101,953 | 76,465 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 4.3 | 1,561 | 3,258,553 | 3,258,553 | Full Yr | 365 | 8,928 | 8,928 | 8,928 | 8,928 | 17,810,622 | 17,810,622 | 23,808 | 23,808 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 4,328,187 | 4,328,187 | Peak | 122 | 11,858 | 11,858 | 35,477 | 35,477 | 23,657,034 | 23,657,034 | 31,623 | 31,623 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 5,927,966 | 5,927,966 | Peak | 122 | 16,241 | 16,241 | 48,590 | 48,590 | 32,401,117 | 32,401,117 | 43,311 | 43,311 |
| SF Out | ET controllers | n/a | u | n/a | n/a | 4,328,187 | 4,328,187 | Peak | 122 | 11,858 | 11,858 | 35,477 | 35,477 | 23,657,034 | 23,657,034 | 31,623 | 31,623 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 4,587,528 | 4,128,775 | Peak | 122 | 12,569 | 11,312 | 37,603 | 33,842 | 25,074,543 | 22,567,089 | 33,518 | 30,166 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 56,403,916 | 56,403,916 | Peak | 122 | 154,537 | 154,537 | 462,344 | 462,344 | 308,303,831 | 308,303,831 | 412,116 | 412,116 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 4,038,694 | 3,029,020 | Full Yr | 365 | 11,065 | 8,299 | 11,065 | 8,299 | 24,232,162 | 18,174,121 | 32,392 | 24,294 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 4,846,432 | 3,634,824 | Full Yr | 365 | 13,278 | 9,958 | 13,278 | 9,958 | 29,078,594 | 21,808,946 | 38,870 | 29,152 |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 1,062,814 | 1,062,814 | Full Yr | 365 | 2,912 | 2,912 | 2,912 | 2,912 | 5,809,192 | 5,809,192 | 7,765 | 7,765 |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 1,275,138 | 1,275,138 | Full Yr | 365 | 3,494 | 3,494 | 3,494 | 3,494 | 6,969,727 | 6,969,727 | 9,317 | 9,317 |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 956,478 | 956,478 | Full Yr | 365 | 2,620 | 2,620 | 2,620 | 2,620 | 5,227,975 | 5,227,975 | 6,988 | 6,988 |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 54,413 | 40,809 | Full Yr | 365 | 149 | 112 | 149 | 112 | 326,475 | 244,856 | 436 | 327 |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 544,125 | 544,125 | Full Yr | 365 | 1,491 | 1,491 | 1,491 | 1,491 | 2,974,112 | 2,974,112 | 3,976 | 3,976 |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 546,843 | 546,843 | Full Yr | 365 | 1,498 | 1,498 | 1,498 | 1,498 | 2,988,967 | 2,988,967 | 3,995 | 3,995 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 2,686,561 | 2,417,905 | Full Yr | 365 | 7,360 | 6,624 | 7,360 | 6,624 | 14,684,364 | 13,215,927 | 19,629 | 17,666 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 666,154 | 666,154 | Full Yr | 365 | 1,825 | 1,825 | 1,825 | 1,825 | 3,641,105 | 3,641,105 | 4,867 | 4,867 |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 1,057,207 | 792,906 | Full Yr | 365 | 2,896 | 2,172 | 2,896 | 2,172 | 5,778,547 | 4,333,910 | 7,724 | 5,793 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 118,866 | 118,866 | Full Yr | 365 | 326 | 326 | 326 | 326 | 649,704 | 649,704 | 868 | 868 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,326,063 | 1,326,063 | Peak | 122 | 3,633 | 3,633 | 10,869 | 10,869 | 7,248,073 | 7,248,073 | 9,689 | 9,689 |
| MF Out | Audits for manual irrigation | n/a | u | n/a | n/a | 970,434 | 970,434 | Peak | 122 | 2,659 | 2,659 | 7,954 | 7,954 | 5,304,258 | 5,304,258 | 7,090 | 7,090 |
| | ET controllers | n/a | u | n/a | n/a | 1,326,063 | 1,193,457 | Peak | 122 | 3,633 | 3,270 | 10,869 | 9,782 | 7,248,073 | 6,523,266 | 9,689 | 8,720 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 325,119 | 292,607 | Peak | 122 | 891 | 802 | 2,665 | 2,398 | 1,777,054 | 1,599,348 | 2,375 | 2,138 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 4,747,460 | 4,747,460 | Peak | 122 | 13,007 | 13,007 | 38,914 | 38,914 | 25,948,945 | 25,948,945 | 34,686 | 34,686 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 79.7 | 29,102 | 4,678,178 | 3,508,633 | Full Yr | 365 | 12,817 | 9,613 | 12,817 | 9,613 | 28,069,066 | 21,051,799 | 37,520 | 28,140 |
| | Dual flush toilets | 5.5 | o | 104.9 | 38,292 | 1,231,099 | 1,231,099 | Full Yr | 365 | 3,373 | 3,373 | 3,373 | 3,373 | 6,728,970 | 6,728,970 | 8,995 | 8,995 |
| | Toilet leak detection repair | 9.5 | c | 181.2 | 66,141 | 698,517 | 698,517 | Full Yr | 365 | 1,914 | 1,914 | 1,914 | 1,914 | 3,817,972 | 3,817,972 | 5,104 | 5,104 |
| | 1.0 gpf urinals | 1.8 | p | 33.4 | 12,184 | 1,697,425 | 1,273,069 | Full Yr | 365 | 4,650 | 3,488 | 4,650 | 3,488 | 10,184,549 | 7,638,412 | 13,614 | 10,210 |
| | Waterless urinals | 2.1 | q | 40.1 | 14,621 | 915,017 | 915,017 | Full Yr | 365 | 2,507 | 2,507 | 2,507 | 2,507 | 5,001,321 | 5,001,321 | 6,685 | 6,685 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 82.1 | 29,975 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 1,439,110 | 1,079,332 | Full Yr | 365 | 3,943 | 2,957 | 3,943 | 2,957 | 7,865,917 | 5,899,438 | 10,515 | 7,886 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 276,317 | 248,685 | Full Yr | 365 | 757 | 681 | 757 | 681 | 1,657,900 | 1,492,110 | 2,216 | 1,995 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 533,986 | 480,588 | Full Yr | 365 | 1,463 | 1,317 | 1,463 | 1,317 | 2,918,674 | 2,626,807 | 3,901 | 3,511 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,562,797 | 2,562,797 | Peak | 122 | 7,021 | 7,021 | 21,007 | 21,007 | 14,007,793 | 14,007,793 | 18,724 | 18,724 |
| ICI Out | Audits for manual irrigation | n/a | u | n/a | n/a | 1,591,028 | 1,591,028 | Peak | 122 | 4,359 | 4,359 | 13,041 | 13,041 | 8,696,276 | 8,696,276 | 11,624 | 11,624 |
| | ET controllers | n/a | u | n/a | n/a | 2,562,797 | 2,306,517 | Peak | 122 | 7,021 | 6,319 | 21,007 | 18,906 | 14,007,793 | 12,607,014 | 18,724 | 16,852 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 578,495 | 520,646 | Peak | 122 | 1,585 | 1,426 | 4,742 | 4,268 | 3,161,953 | 2,845,757 | 4,227 | 3,804 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 8,446,872 | 8,446,872 | Peak | 122 | 23,142 | 23,142 | 69,237 | 69,237 | 46,169,100 | 46,169,100 | 61,715 | 61,715 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Sammamish 6 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 2.70 | \$108.00 | 25 | 1.0 | \$384,293 | \$1.12 | \$2.24 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$270.00 | 25 | 1.0 | \$192,147 | \$2.34 | \$2.34 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.70 | \$0.27 | 7.5 | 1.0 | \$928 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$6.60 | 12.5 | 1.0 | \$16,577 | \$0.16 | \$0.16 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 1.0 | \$16,577 | \$0.16 | \$0.16 |
| | Decreased shower use Q14 | \$0.00 | 2.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 3.80 | \$4.37 | 10 | 1.0 | \$29,472 | \$0.14 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,837 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 4.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$217,073 | \$2.13 | \$2.84 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$376,583 | \$11.91 | \$11.91 |
| SF Outdoor | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$530,512 | \$12.25 | \$12.25 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$295,277 | \$9.34 | \$9.34 |
| | Limited lawn/low water use plant: Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$281,673 | \$8.40 | \$9.34 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.80 | \$144.00 | 25 | 1.0 | \$82,216 | \$2.54 | \$3.38 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$123,324 | \$3.17 | \$4.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$20,554 | \$2.65 | \$2.65 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.80 | \$0.18 | 7.5 | 1.0 | \$92 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$756 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$756 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 3.00 | \$2.65 | 10 | 1.0 | \$2,862 | \$0.15 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$345 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 3.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$5,592 | \$0.72 | \$0.97 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$3,356 | \$0.35 | \$0.35 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$3,483 | \$0.49 | \$0.49 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$1,507 | \$0.16 | \$0.17 |
| | Limited lawn/low water use plant: | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$185 | \$0.08 | \$0.09 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$64,300 | \$1.71 | \$2.28 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$12,860 | \$1.43 | \$1.43 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$12 | \$0.002 | \$0.002 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$12,539 | \$0.92 | \$1.23 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$9,388 | \$1.40 | \$1.40 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,109 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$10,561 | \$1.00 | \$1.34 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$862 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$7,349 | \$1.88 | \$2.09 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$50,739 | \$2.71 | \$2.71 |
| ICI Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$44,672 | \$3.84 | \$3.84 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$22,786 | \$1.22 | \$1.35 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,527 | \$0.36 | \$0.40 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey

b-f. Calculations.

Cascade Water Alliance/Sammamish 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sale | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 82,077 | 79,959 | 98,167 | 86,734 | 64,877,231 | Non-peak |
| Feb | 82,077 | 79,959 | 98,167 | 86,734 | 64,877,231 | Non-peak |
| Mar | 83,951 | 86,364 | 91,530 | 87,282 | 65,286,599 | Non-peak |
| Apr | 83,951 | 86,364 | 91,530 | 87,282 | 65,286,599 | Non-peak |
| May | 97,757 | 110,600 | 122,484 | 110,280 | 82,489,784 | Non-peak |
| June | 97,757 | 110,600 | 122,484 | 110,280 | 82,489,784 | Non-peak |
| July | 176,377 | 237,789 | 228,717 | 214,294 | 160,292,230 | Peak |
| Aug | 176,377 | 237,789 | 228,717 | 214,294 | 160,292,230 | Peak |
| Sep | 183,722 | 208,163 | 171,455 | 187,780 | 140,459,625 | Peak |
| Oct | 183,722 | 208,163 | 171,455 | 187,780 | 140,459,625 | Peak |
| Nov | 104,341 | 105,787 | 102,589 | 104,239 | 77,970,929 | Non-peak |
| Dec | 104,341 | 105,787 | 102,589 | 104,239 | 77,970,929 | Non-peak |
| Total | 1,456,451 | 1,657,326 | 1,629,884 | 1,581,220 | 1,182,752,797 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 97,134 | 72,656,136 | |
| Base use during entire peak season: | | | | 388,535 | 290,624,544 | |
| Peak Season Total: | | | | 804,149 | 601,503,709 | |
| Peak Season Increased Use: | | | | 415,614 | 310,879,165 | |

| Multi Family Sale | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | n/a | |

| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-----------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | n/a | na/ | |

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: The above process was used only for SF for Sammamish. For MF and ICI, the utility provided separate billing data for irrigation meters, which was used as the amount of landscaping water for those sectors.

Cascade Water Alliance/Sammamish 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

126% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---|----------------|-----------------|-----------|---|
| | n/a | n/a | n/a | PSIU Total |
| | | | | |
| | 310,879,165 | 391,707,748 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | n/a | n/a | n/a | PSIU ICI |
| Single Family | 279,791,248 | 352,536,973 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 31,087,916 | 39,170,775 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 310,879,165 | 391,707,748 | n/a | Subtotal |
| | | | | |
| | 223,832,999 | 282,029,578 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 55,958,250 | 70,507,395 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 279,791,248 | 352,536,973 | n/a | Subtotal |
| | | | | |
| | 179,066,399 | 225,623,663 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 44,766,600 | 56,405,916 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 223,832,999 | 282,029,578 | n/a | Subtotal |
| | | | | |
| | 12,170,919 | 17,312,749 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 19,865,179 | 23,711,865 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁴ |
| | 12,170,919 | 17,312,749 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁵ |
| | 55,958,250 | 70,507,395 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁵ |
| | 179,066,399 | 225,623,663 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 279,231,666 | 354,468,419 | n/a | Subtotal |
| Multi Family | 58,872,268 | 74,179,058 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 58,872,268 | 74,179,058 | n/a | Subtotal |
| | | | | |
| | 47,097,814 | 59,343,246 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 11,774,454 | 14,835,812 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 58,872,268 | 74,179,058 | n/a | Subtotal |
| | | | | |
| | 37,678,252 | 47,474,597 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 9,419,563 | 11,868,649 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 47,097,814 | 59,343,246 | n/a | Subtotal |
| | | | | |
| | 3,973,878 | 5,304,252 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| | 3,237,975 | 3,881,738 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁴ |
| | 3,973,878 | 5,304,252 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁵ |
| | 11,774,454 | 14,835,812 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁵ |
| | 37,678,252 | 47,474,597 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ⁵ |
| | 60,638,436 | 76,800,650 | n/a | Subtotal |
| ICI | 104,747,913 | 131,982,370 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 104,747,913 | 131,982,370 | n/a | Subtotal |
| | | | | |
| | 83,798,330 | 105,585,896 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,949,583 | 26,396,474 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 104,747,913 | 131,982,370 | n/a | Subtotal |
| | | | | |
| | 67,038,664 | 84,468,717 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 16,759,666 | 21,117,179 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 83,798,330 | 105,585,896 | n/a | Subtotal |
| | | | | |
| | 7,856,093 | 10,251,188 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 5,237,396 | 6,364,112 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁴ |
| | 7,856,093 | 10,251,188 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁵ |
| | 20,949,583 | 26,396,474 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁵ |
| | 67,038,664 | 84,468,717 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ⁵ |
| | 108,937,830 | 137,731,679 | n/a | Subtotal |
| All Sectors (Double check by making sure totals 100%) | 31,087,916 | 39,170,775 | n/a | SF Non-Landscape |
| | 55,958,250 | 70,507,395 | n/a | SF Landscape Non-Lawn |
| | 179,066,399 | 225,623,663 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 44,766,600 | 56,405,916 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 11,774,454 | 14,835,812 | n/a | MF Landscape Non-Lawn |
| | 37,678,252 | 47,474,597 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 9,419,563 | 11,868,649 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 20,949,583 | 26,396,474 | n/a | ICI Landscape Non-Lawn |
| | 67,038,664 | 84,468,717 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 16,759,666 | 21,117,179 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 474,499,346 | 597,869,176 | 0.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Sammamish Plateau Water & Sewer District 20-Year

Cascade Water Alliance/Sammamish 20 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | |
|--|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2023 | a 20 | i | |
| 2 | Population | 51,922 | b 83,474 | b 31,553 | j | |
| 3 | SF Accounts/Households | 13,954 | c 22,356 | c 8,402 | j | |
| 4 | MF Accounts | 33 | d 55 | k 22 | j | |
| 5 | Units per MF account | 67.8 | e 67.8 | r 0 | j | |
| 6 | MF Households | 2,239 | e 3,732 | c 1,493 | j | |
| 7 | Commercial Accounts | 643 | a 1,072 | f 429 | j | |
| 8 | Persons Per SF HH Q54 | 3.40 | g 3.40 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 2.0 | g 2.0 | g 0 | j | |
| 10 | Employees Per ICI Account | 19.1 | h 19.1 | h 0 | j | |
| 11 | Employment | 12,265 | c 20,446 | c 8,181 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Based on Puget Sound Regional Council data, with adjustments based on utility connection data. | | | | | | |
| d. Provided by client. | | | | | | |
| e. Calculation. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period) | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Blue bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 15% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 98% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 29% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 71% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 85% | 85% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Sammamish 20 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-----------------------------------|---------------------------------------|---|--|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|-----------------|--|
| | Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | Total SF/MF/ICI | |
| | | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | Total SF/MF/ICI | | | | |
| | | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^e | Target ^g | Participation Rate ^d | Participating | W/ free riders ^h (affects cost) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 81% | 7,117 | 100% | 0% | 0 | 7,117 | 80% | 3,558 | 1,779 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 81% | 7,117 | 100% | 0% | 0 | 7,117 | 10% | 712 | 712 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 81% | 11,303 | 100% | 81% | 6,806 | 18,108 | 25% | 4,527 | 4,527 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 88% | 7,675 | 100% | 88% | 4,621 | 12,296 | 25% | 3,074 | 3,074 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 80% | 5,023 | 100% | 0% | 0 | 5,023 | 50% | 2,512 | 1,256 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 80% | 5,023 | 100% | 0% | 0 | 5,023 | 50% | 2,512 | 2,512 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 6,977 | 100% | 50% | 4,201 | 11,178 | 25% | 2,795 | 2,795 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 10,466 | 100% | 100% | 8,402 | 18,868 | 50% | 9,434 | 8,490 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 50% | 6,977 | 100% | 0% | 0 | 6,977 | 50% | 3,489 | 1,744 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 6,977 | 100% | 50% | 4,201 | 11,178 | 25% | 2,795 | 2,795 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 98% | 82% | 7,111 | 100% | 82% | 4,369 | 11,480 | 50% | 5,740 | 4,305 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 98% | 80% | 6,837 | 100% | 80% | 4,201 | 11,038 | 25% | 2,760 | 2,760 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 25% | 80% | 1,720 | 43% | 80% | 1,785 | 3,505 | 25% | 876 | 876 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 8,421 | 43% | 100% | 3,571 | 11,992 | 25% | 2,998 | 2,998 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 25% | 100% | 3,440 | 43% | 100% | 3,571 | 7,011 | 25% | 1,753 | 1,753 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 9% | 100% | 1,186 | 85% | 100% | 7,142 | 8,328 | 85% | 2,082 | 1,874 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 85% | 100% | 11,861 | 85% | 100% | 7,142 | 19,003 | 85% | 4,751 | 4,751 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,142 | 100% | 0% | 0 | 1,142 | 50% | 571 | 428 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 1,142 | 100% | 0% | 0 | 1,142 | 60% | 685 | 514 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 81% | 1,142 | 100% | 0% | 0 | 1,142 | 10% | 114 | 114 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 1,679 | 100% | 75% | 1,120 | 2,799 | 25% | 700 | 700 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 74% | 1,657 | 100% | 74% | 1,105 | 2,762 | 25% | 690 | 690 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 18% | 336 | 100% | 0% | 0 | 336 | 50% | 168 | 126 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 18% | 336 | 100% | 0% | 0 | 336 | 50% | 168 | 168 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 1,120 | 100% | 50% | 747 | 1,866 | 25% | 467 | 467 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 1,679 | 100% | 100% | 1,493 | 3,172 | 50% | 1,586 | 1,428 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 20% | 627 | 100% | 0% | 0 | 627 | 50% | 313 | 235 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 1,120 | 100% | 50% | 747 | 1,866 | 25% | 467 | 467 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 84% | 883 | 90% | 84% | 726 | 1,608 | 50% | 804 | 603 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 80% | 817 | 90% | 80% | 672 | 1,489 | 25% | 372 | 372 |
| | MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 5 | 42% | 50% | 5 | 10 | 25% | 2 |
| Audits for manual irrigation | | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 13 | 28% | 100% | 6 | 19 | 25% | 5 | 5 |
| ET controllers | | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 9 | 42% | 90% | 8 | 18 | 25% | 4 | 4 |
| Limited lawn/low water use plants | | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 1 | 70% | 100% | 15 | 17 | 10% | 2 | 1 |
| Allow lawn to go dormant | | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 23 | 70% | 100% | 15 | 39 | 10% | 4 | 4 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 121 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 322 | 100% | 0% | 0 | 322 | 10% | 32 | 32 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 96 | 20% | 75% | 64 | 161 | 25% | 40 | 40 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 334 | 80% | 0% | 0 | 334 | 50% | 167 | 125 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 514 | 80% | 100% | 343 | 858 | 10% | 86 | 86 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 482 | 100% | 0% | 0 | 482 | 50% | 241 | 217 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 10 | 2% | 75% | 6 | 16 | 50% | 8 | 6 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 18 | 11% | 0% | 0 | 18 | 75% | 13 | 12 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 35 | 11% | 25% | 12 | 47 | 25% | 12 | 11 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 80 | 30% | 50% | 64 | 145 | 25% | 36 | 36 |
| ICI Outdoor | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 161 | 20% | 100% | 86 | 247 | 25% | 62 | 62 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 145 | 30% | 90% | 116 | 260 | 25% | 65 | 59 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 16 | 25% | 100% | 107 | 123 | 10% | 12 | 11 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 322 | 50% | 100% | 214 | 536 | 10% | 54 | 54 |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Blue bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model.

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge.

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Sammamish 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|-----------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 32.9 | 12,025 | 14,976,230 | 7,488,115 | Full Yr | 365 | 41,031 | 20,515 | 41,031 | 20,515 | 299,524,601 | 149,762,300 | 400,380 | 200,190 |
| | Dual flush toilets | 12.8 | b | 43.4 | 15,823 | 11,260,323 | 11,260,323 | Full Yr | 365 | 30,850 | 30,850 | 30,850 | 30,850 | 182,887,073 | 182,887,073 | 244,469 | 244,469 |
| | Toilet leak detection and repair | 9.5 | c | 32.3 | 11,790 | 19,213,966 | 19,213,966 | Full Yr | 365 | 52,641 | 52,641 | 52,641 | 52,641 | 312,067,947 | 312,067,947 | 417,147 | 417,147 |
| | Decrease toilet flushes | 2.6 | d | 8.8 | 3,227 | 9,918,407 | 9,918,407 | Full Yr | 365 | 27,174 | 27,174 | 27,174 | 27,174 | 161,092,038 | 161,092,038 | 215,335 | 215,335 |
| | 2.5 gpm showerheads | 2.7 | e | 9.1 | 3,305 | 415,073 | 207,537 | Full Yr | 365 | 1,137 | 569 | 1,137 | 569 | 8,301,469 | 4,150,734 | 11,097 | 5,548 |
| | 2.0 gpm showerheads | 4.4 | f | 15.1 | 5,508 | 13,835,781 | 13,835,781 | Full Yr | 365 | 37,906 | 37,906 | 37,906 | 37,906 | 224,716,954 | 224,716,954 | 300,384 | 300,384 |
| | Decreased shower use | 2.2 | g | 7.5 | 2,730 | 7,629,544 | 7,629,544 | Full Yr | 365 | 20,903 | 20,903 | 20,903 | 20,903 | 123,916,953 | 123,916,953 | 165,642 | 165,642 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 11.6 | 4,221 | 39,815,535 | 35,833,982 | Full Yr | 365 | 109,084 | 98,175 | 109,084 | 98,175 | 646,672,970 | 582,005,673 | 864,420 | 777,978 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.7 | 1,706 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 9.1 | 3,326 | 9,294,172 | 9,294,172 | Full Yr | 365 | 25,463 | 25,463 | 25,463 | 25,463 | 150,953,379 | 150,953,379 | 201,782 | 201,782 |
| | Efficient clotheswashers | 5.2 | k | 17.6 | 6,428 | 36,898,896 | 27,674,172 | Full Yr | 365 | 101,093 | 75,820 | 101,093 | 75,820 | 599,301,716 | 449,476,287 | 801,098 | 600,824 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 4.3 | 1,561 | 4,308,250 | 4,308,250 | Full Yr | 365 | 11,803 | 11,803 | 11,803 | 11,803 | 69,973,415 | 69,973,415 | 93,535 | 93,535 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 7,161,002 | 7,161,002 | Peak | 122 | 19,619 | 19,619 | 58,697 | 58,697 | 116,307,017 | 116,307,017 | 155,470 | 155,470 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 8,166,344 | 8,166,344 | Peak | 122 | 22,374 | 22,374 | 66,937 | 66,937 | 132,635,515 | 132,635,515 | 177,297 | 177,297 |
| | ET controllers | n/a | u | n/a | n/a | 7,161,002 | 7,161,002 | Peak | 122 | 19,619 | 19,619 | 58,697 | 58,697 | 116,307,017 | 116,307,017 | 155,470 | 155,470 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 11,342,077 | 10,207,869 | Peak | 122 | 31,074 | 27,967 | 92,968 | 83,671 | 184,214,896 | 165,793,406 | 246,244 | 221,619 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 82,818,209 | 82,818,209 | Peak | 122 | 226,899 | 226,899 | 678,838 | 678,838 | 1,345,110,568 | ##### | 1,798,036 | 1,798,036 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 1,413,543 | 1,060,157 | Full Yr | 365 | 3,873 | 2,905 | 3,873 | 2,905 | 28,270,856 | 21,203,142 | 37,790 | 28,343 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 1,696,251 | 1,272,188 | Full Yr | 365 | 4,647 | 3,485 | 4,647 | 3,485 | 33,925,027 | 25,443,770 | 45,348 | 34,011 |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 1,062,814 | 1,062,814 | Full Yr | 365 | 2,912 | 2,912 | 2,912 | 2,912 | 17,004,456 | 17,004,456 | 22,730 | 22,730 |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 1,746,996 | 1,746,996 | Full Yr | 365 | 4,786 | 4,786 | 4,786 | 4,786 | 27,950,997 | 27,950,997 | 37,363 | 37,363 |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 1,310,417 | 1,310,417 | Full Yr | 365 | 3,590 | 3,590 | 3,590 | 3,590 | 20,965,972 | 20,965,972 | 28,026 | 28,026 |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 16,324 | 12,243 | Full Yr | 365 | 45 | 34 | 45 | 34 | 326,475 | 244,856 | 436 | 327 |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 544,125 | 544,125 | Full Yr | 365 | 1,491 | 1,491 | 1,491 | 1,491 | 8,705,713 | 8,705,713 | 11,637 | 11,637 |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 749,199 | 749,199 | Full Yr | 365 | 2,053 | 2,053 | 2,053 | 2,053 | 11,986,783 | 11,986,783 | 16,023 | 16,023 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 3,937,827 | 3,544,045 | Full Yr | 365 | 10,789 | 9,710 | 10,789 | 9,710 | 63,003,130 | 56,702,817 | 84,218 | 75,796 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 912,661 | 912,661 | Full Yr | 365 | 2,500 | 2,500 | 2,500 | 2,500 | 14,602,081 | 14,602,081 | 19,519 | 19,519 |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 3,040,646 | 2,280,485 | Full Yr | 365 | 8,331 | 6,248 | 8,331 | 6,248 | 48,648,707 | 36,486,530 | 65,030 | 48,772 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 170,936 | 170,936 | Full Yr | 365 | 468 | 468 | 468 | 468 | 2,734,881 | 2,734,881 | 3,656 | 3,656 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,083,007 | 2,083,007 | Peak | 122 | 5,707 | 5,707 | 17,074 | 17,074 | 33,327,000 | 33,327,000 | 44,549 | 44,549 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,334,171 | 1,334,171 | Peak | 122 | 3,655 | 3,655 | 10,936 | 10,936 | 21,346,019 | 21,346,019 | 28,534 | 28,534 |
| | ET controllers | n/a | u | n/a | n/a | 2,083,007 | 1,874,707 | Peak | 122 | 5,707 | 5,136 | 17,074 | 15,366 | 33,327,000 | 29,994,300 | 44,549 | 40,094 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 936,769 | 843,092 | Peak | 122 | 2,566 | 2,310 | 7,678 | 6,911 | 14,987,797 | 13,489,017 | 20,034 | 18,031 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 6,970,477 | 6,970,477 | Peak | 122 | 19,097 | 19,097 | 57,135 | 57,135 | 111,523,889 | 111,523,889 | 149,076 | 149,076 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 79.7 | 29,102 | 1,637,362 | 1,228,022 | Full Yr | 365 | 4,486 | 3,364 | 4,486 | 3,364 | 32,747,243 | 24,560,433 | 43,774 | 32,830 |
| | Dual flush toilets | 5.5 | o | 104.9 | 38,292 | 1,231,099 | 1,231,099 | Full Yr | 365 | 3,373 | 3,373 | 3,373 | 3,373 | 19,696,024 | 19,696,024 | 26,328 | 26,328 |
| | Toilet leak detection repair | 9.5 | c | 181.2 | 66,141 | 957,103 | 957,103 | Full Yr | 365 | 2,622 | 2,622 | 2,622 | 2,622 | 15,312,428 | 15,312,428 | 20,468 | 20,468 |
| | 1.0 gpf urinals | 1.8 | p | 33.4 | 12,184 | 509,227 | 381,921 | Full Yr | 365 | 1,395 | 1,046 | 1,395 | 1,046 | 10,184,549 | 7,638,412 | 13,614 | 10,210 |
| | Waterless urinals | 2.1 | q | 40.1 | 14,621 | 1,253,749 | 1,253,749 | Full Yr | 365 | 3,435 | 3,435 | 3,435 | 3,435 | 20,058,385 | 20,058,385 | 26,812 | 26,812 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 82.1 | 29,975 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 3,943,712 | 2,957,784 | Full Yr | 365 | 10,805 | 8,104 | 10,805 | 8,104 | 63,094,374 | 47,320,781 | 84,339 | 63,255 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 82,895 | 74,606 | Full Yr | 365 | 227 | 204 | 227 | 204 | 1,657,900 | 1,492,110 | 2,216 | 1,995 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 642,484 | 578,236 | Full Yr | 365 | 1,760 | 1,584 | 1,760 | 1,584 | 10,278,934 | 9,251,041 | 13,740 | 12,366 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 3,924,211 | 3,924,211 | Peak | 122 | 10,751 | 10,751 | 32,166 | 32,166 | 62,782,387 | 62,782,387 | 83,922 | 83,922 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 2,228,450 | 2,228,450 | Peak | 122 | 6,105 | 6,105 | 18,266 | 18,266 | 35,652,370 | 35,652,370 | 47,657 | 47,657 |
| | ET controllers | n/a | u | n/a | n/a | 3,924,211 | 3,531,790 | Peak | 122 | 10,751 | 9,676 | 32,166 | 28,949 | 62,782,387 | 56,504,149 | 83,922 | 75,530 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,667,008 | 1,500,307 | Peak | 122 | 4,567 | 4,110 | 13,664 | 12,298 | 26,670,000 | 24,003,000 | 35,560 | 32,085 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 12,402,153 | 12,402,153 | Peak | 122 | 33,979 | 33,979 | 101,657 | 101,657 | 198,418,675 | 198,418,675 | 265,230 | 265,230 |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows

a.-t. Handbook of Water Use and Conservation by Amy Vicker

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Sammamish 20 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|--|---|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period w/ savings free riders ^e | Cost per ccf Saved Over Plan Period w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$400.00 | 2.70 | \$108.00 | 25 | 1.0 | \$384,293 | \$0.96 | \$1.92 |
| | Dual flush toilets Q4 | \$100.00 | 2.70 | \$270.00 | 25 | 1.0 | \$192,147 | \$0.79 | \$0.79 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.70 | \$0.27 | 7.5 | 3.0 | \$3,135 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.70 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 1.0 | \$16,577 | \$1.49 | \$2.99 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 2.0 | \$29,220 | \$0.10 | \$0.10 |
| | Decreased shower use Q14 | \$0.00 | 2.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 3.80 | \$4.37 | 10 | 2.0 | \$74,296 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,837 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 3.80 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$1,000,399 | \$1.25 | \$1.67 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$1,044,834 | \$6.72 | \$6.72 |
| SF Outdoor | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$1,225,563 | \$6.91 | \$6.91 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$789,645 | \$5.08 | \$5.08 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$624,584 | \$2.54 | \$2.82 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.80 | \$144.00 | 25 | 1.0 | \$82,216 | \$2.18 | \$2.90 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$123,324 | \$2.72 | \$3.63 |
| | Dual flush toilets Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$20,554 | \$0.90 | \$0.90 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.80 | \$0.18 | 7.5 | 3.0 | \$320 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.80 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$756 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 2.0 | \$1,320 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.50 | \$2.65 | 10 | 2.0 | \$7,507 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$345 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$27,762 | \$0.43 | \$0.57 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$9,095 | \$0.20 | \$0.20 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$8,261 | \$0.29 | \$0.29 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$3,953 | \$0.09 | \$0.10 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$497 | \$0.02 | \$0.03 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$64,300 | \$1.47 | \$1.96 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$12,860 | \$0.49 | \$0.49 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$41 | \$0.002 | \$0.002 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$12,539 | \$0.92 | \$1.23 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$12,863 | \$0.48 | \$0.48 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,109 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$49,959 | \$0.59 | \$0.79 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$862 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$22,058 | \$1.61 | \$1.78 |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$134,038 | \$1.60 | \$1.60 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$107,947 | \$2.27 | \$2.27 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$58,262 | \$0.69 | \$0.77 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$3,699 | \$0.10 | \$0.12 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Green shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Blue bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

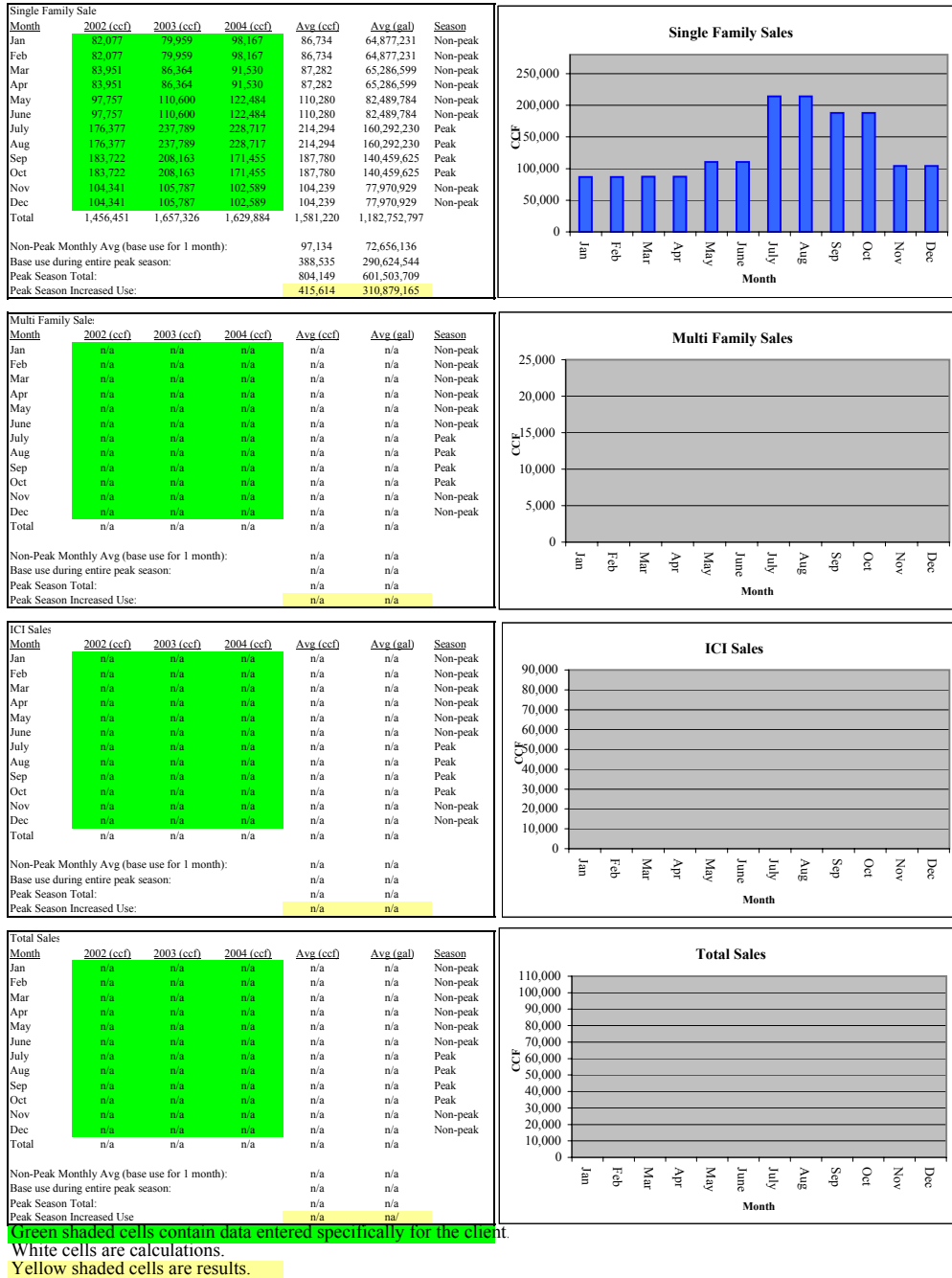
Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Sammamish 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.



Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: The above process was used only for SF for Sammamish. For MF and ICI, the utility provided separate billing data for irrigation meters, which was used as the amount of landscaping water for those sectors.

Cascade Water Alliance/Sammamish 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

185% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | n/a | n/a | n/a | PSIU Total |
| | 310,879,165 | 575,126,455 | n/a | PSIU SF |
| | n/a | n/a | n/a | PSIU MF |
| | n/a | n/a | n/a | PSIU ICI |

| | | | | |
|---------------|-------------|-------------|-----|---|
| Single Family | 279,791,248 | 517,613,809 | n/a | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 31,087,916 | 57,512,645 | n/a | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 310,879,165 | 575,126,455 | n/a | Subtotal |
| | 223,832,999 | 414,091,047 | n/a | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 55,958,250 | 103,522,762 | n/a | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 279,791,248 | 517,613,809 | n/a | Subtotal |
| | 179,066,399 | 331,272,838 | n/a | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ² |
| | 44,766,600 | 82,818,209 | n/a | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ² |
| | 223,832,999 | 414,091,047 | n/a | Subtotal |
| | 12,170,919 | 28,644,006 | n/a | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 19,865,179 | 32,665,377 | n/a | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 12,170,919 | 28,644,006 | n/a | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 55,958,250 | 103,522,762 | n/a | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ³ |
| | 179,066,399 | 331,272,838 | n/a | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ² |
| | 279,231,666 | 524,748,989 | n/a | Subtotal |

| | | | | |
|--------------|------------|-------------|-----|---|
| Multi Family | 58,872,268 | 108,913,696 | n/a | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | n/a | n/a | n/a | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 58,872,268 | 108,913,696 | n/a | Subtotal |
| | 47,097,814 | 87,130,957 | n/a | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 11,774,454 | 21,782,739 | n/a | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 58,872,268 | 108,913,696 | n/a | Subtotal |
| | 37,678,252 | 69,704,765 | n/a | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ² |
| | 9,419,563 | 17,426,191 | n/a | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ² |
| | 47,097,814 | 87,130,957 | n/a | Subtotal |
| | 3,973,878 | 8,332,029 | n/a | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 3,237,975 | 5,336,684 | n/a | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 3,973,878 | 8,332,029 | n/a | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 11,774,454 | 21,782,739 | n/a | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ³ |
| | 37,678,252 | 69,704,765 | n/a | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ² |
| | 60,638,436 | 113,488,246 | n/a | Subtotal |

| | | | | |
|-----|-------------|-------------|-----|---|
| ICI | 104,747,913 | 193,783,639 | n/a | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | n/a | n/a | n/a | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 104,747,913 | 193,783,639 | n/a | Subtotal |
| | 83,798,330 | 155,026,911 | n/a | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,949,583 | 38,756,728 | n/a | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 104,747,913 | 193,783,639 | n/a | Subtotal |
| | 67,038,664 | 124,021,529 | n/a | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ² |
| | 16,759,666 | 31,005,382 | n/a | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ² |
| | 83,798,330 | 155,026,911 | n/a | Subtotal |
| | 7,856,093 | 15,696,844 | n/a | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 5,237,396 | 8,913,801 | n/a | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 7,856,093 | 15,696,844 | n/a | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 20,949,583 | 38,756,728 | n/a | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ³ |
| | 67,038,664 | 124,021,529 | n/a | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ² |
| | 108,937,830 | 203,085,747 | n/a | Subtotal |

| | | | | |
|---|-------------|-------------|------|---|
| All Sectors (Double check by making sure totals 100%) | 31,087,916 | 57,512,645 | n/a | SF Non-Landscape |
| | 55,958,250 | 103,522,762 | n/a | SF Landscape Non-Lawn |
| | 179,066,399 | 331,272,838 | n/a | SF Landscape Lawn Not Needed If Dormant |
| | 44,766,600 | 82,818,209 | n/a | SF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | MF Non-Landscape |
| | 11,774,454 | 21,782,739 | n/a | MF Landscape Non-Lawn |
| | 37,678,252 | 69,704,765 | n/a | MF Landscape Lawn Not Needed If Dormant |
| | 9,419,563 | 17,426,191 | n/a | MF Landscape Lawn Needed Even If Dormant |
| | n/a | n/a | n/a | ICI Non-Landscape |
| | 20,949,583 | 38,756,728 | n/a | ICI Landscape Non-Lawn |
| | 67,038,664 | 124,021,529 | n/a | ICI Landscape Lawn Not Needed If Dormant |
| | 16,759,666 | 31,005,382 | n/a | ICI Landscape Lawn Needed Even If Dormant |
| | 474,499,346 | 877,823,790 | 0.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Green shaded cells contain data entered specifically for the client.

White cells are calculations.

Yellow shaded cells are results.

Appendix C-7

Analysis of Savings and Costs

Skyway Spreadsheets

Skyway 6-Year

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|-----|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2009 | a | 6 |
| 2 | Population | 8,713 | b | 9,268 | b | 555 |
| 3 | SF Accounts/Households | 3,088 | r | 3,285 | e | 197 |
| 4 | MF Accounts | 40 | t | 43 | d | 3 |
| 5 | Units per MF account | 16.3 | u | 16.3 | v | 0 |
| 6 | MF Households | 651 | c | 692 | e | 41 |
| 7 | Commercial Accounts | 77 | r | 89 | f | 12 |
| 8 | Persons Per SF HH Q54 | 2.40 | g | 2.40 | g | 0 |
| 9 | Persons Per MF HH Q54 | 2.0 | g | 2.0 | g | 0 |
| 10 | Employees Per ICI Account | 12.4 | h | 12.4 | h | 0 |
| 11 | Employment | 953 | s | 1,100 | e | 147 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provide by client, via Mike Brent's 7-19-05 email. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via Mike Brent's 8-17-05 email. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Provided by client, via data request. | | | | | | |
| s. Extrapolated from Mike Brent's 7-19-05 and 8-17-05 emails. | | | | | | |
| t. Provided by client, via 9-12-05 email. | | | | | | |
| u. Calculation. | | | | | | |
| v. Kept same as 2004. | | | | | | |

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures ^d |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 94% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 3% | 25% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 97% | 75% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 74% | 74% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|-------------------------------|-------------------------------------|-------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | W/ free riders (affects cost) | W/out free riders (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 100% | 1,451 | 100% | 0% | 0 | 1,451 | 100% | 363 | 181 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 100% | 1,451 | 100% | 0% | 0 | 1,451 | 100% | 145 | 145 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 100% | 2,347 | 100% | 70% | 150 | 2,497 | 25% | 624 | 624 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 100% | 1,482 | 100% | 40% | 95 | 1,577 | 25% | 394 | 394 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 100% | 834 | 100% | 0% | 0 | 834 | 50% | 417 | 208 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 100% | 834 | 100% | 0% | 0 | 834 | 50% | 417 | 417 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 1,544 | 100% | 50% | 99 | 1,643 | 25% | 411 | 411 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 2,316 | 100% | 100% | 197 | 2,513 | 50% | 1,257 | 1,131 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 100% | 1,173 | 100% | 0% | 0 | 1,173 | 50% | 587 | 293 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 1,544 | 100% | 50% | 99 | 1,643 | 25% | 411 | 411 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 94% | 100% | 2,003 | 100% | 60% | 136 | 2,139 | 25% | 535 | 401 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 94% | 100% | 1,451 | 100% | 80% | 99 | 1,550 | 25% | 387 | 387 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 2% | 100% | 34 | 19% | 50% | 18 | 52 | 25% | 13 | 13 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 72% | 100% | 2,217 | 56% | 100% | 109 | 2,326 | 25% | 581 | 581 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 2% | 100% | 69 | 19% | 100% | 36 | 105 | 25% | 26 | 26 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 7% | 100% | 229 | 74% | 100% | 146 | 374 | 25% | 94 | 84 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 74% | 100% | 2,285 | 74% | 100% | 146 | 2,431 | 25% | 608 | 608 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 100% | 332 | 100% | 0% | 0 | 332 | 50% | 166 | 125 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 100% | 332 | 100% | 0% | 0 | 332 | 60% | 199 | 149 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 100% | 332 | 100% | 0% | 0 | 332 | 100% | 33 | 33 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 488 | 100% | 75% | 31 | 519 | 25% | 130 | 130 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 75% | 482 | 100% | 75% | 30 | 512 | 25% | 128 | 128 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 100% | 98 | 100% | 0% | 0 | 98 | 50% | 49 | 37 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 100% | 98 | 100% | 0% | 0 | 98 | 50% | 49 | 49 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 326 | 100% | 50% | 21 | 346 | 25% | 87 | 87 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 488 | 100% | 100% | 41 | 529 | 50% | 265 | 238 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 100% | 182 | 100% | 0% | 0 | 182 | 50% | 91 | 68 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 326 | 100% | 50% | 21 | 346 | 25% | 87 | 87 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 100% | 257 | 90% | 50% | 20 | 277 | 25% | 69 | 52 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 100% | 238 | 90% | 80% | 18 | 256 | 25% | 64 | 64 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 6 | 42% | 50% | 1 | 7 | 25% | 2 | 2 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 15 | 28% | 100% | 1 | 16 | 25% | 4 | 4 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 11 | 42% | 90% | 1 | 12 | 25% | 3 | 3 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 1 | 70% | 100% | 2 | 3 | 10% | 0 | 0 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 28 | 70% | 100% | 2 | 30 | 10% | 3 | 3 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 39 | 100% | 0% | 0 | 39 | 50% | 19 | 14 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 39 | 100% | 0% | 0 | 39 | 100% | 4 | 4 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 12 | 20% | 75% | 2 | 13 | 25% | 3 | 3 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 40 | 80% | 0% | 0 | 40 | 50% | 20 | 15 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 62 | 80% | 100% | 10 | 71 | 10% | 7 | 7 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 58 | 100% | 0% | 0 | 58 | 50% | 29 | 26 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 1 | 2% | 75% | 0 | 1 | 25% | 0 | 0 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 2 | 11% | 0% | 0 | 2 | 75% | 2 | 1 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 4 | 11% | 25% | 0 | 5 | 25% | 1 | 1 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 10 | 30% | 50% | 2 | 11 | 25% | 3 | 3 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 19 | 20% | 100% | 2 | 22 | 25% | 5 | 5 |
| ICI Outdoor | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 17 | 30% | 90% | 3 | 21 | 25% | 5 | 5 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 2 | 25% | 100% | 3 | 5 | 10% | 0 | 0 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 39 | 50% | 100% | 6 | 44 | 10% | 4 | 4 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|---------------------------------------|--|--|---|--|---|-----------|----------------|--|---|--|---|--|---|--|---|--------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 23.3 | 8,488 | 3,079,946 | 1,539,973 | Full Yr | 365 | 8,438 | 4,219 | 8,438 | 4,219 | 18,479,673 | 9,239,837 | 24,702 | 12,351 |
| | Dual flush toilets | 12.8 | b | 30.6 | 11,169 | 1,621,024 | 1,621,024 | Full Yr | 365 | 4,441 | 4,441 | 4,441 | 4,441 | 9,434,508 | 9,434,508 | 12,611 | 12,611 |
| | Toilet leak detection and repair | 9.5 | c | 22.8 | 8,322 | 1,869,903 | 1,869,903 | Full Yr | 365 | 5,123 | 5,123 | 5,123 | 5,123 | 10,883,009 | 10,883,009 | 14,548 | 14,548 |
| | Decrease toilet flushes | 2.6 | d | 6.2 | 2,278 | 897,830 | 897,830 | Full Yr | 365 | 2,460 | 2,460 | 2,460 | 2,460 | 5,225,452 | 5,225,452 | 6,985 | 6,985 |
| | 2.5 gpm showerheads | 2.7 | e | 6.4 | 2,333 | 162,097 | 81,049 | Full Yr | 365 | 444 | 222 | 444 | 222 | 972,584 | 486,292 | 1,300 | 650 |
| | 2.0 gpm showerheads | 4.4 | f | 10.7 | 3,888 | 1,620,973 | 1,620,973 | Full Yr | 365 | 4,441 | 4,441 | 4,441 | 4,441 | 9,434,212 | 9,434,212 | 12,611 | 12,611 |
| | Decreased shower use | 2.2 | g | 5.3 | 1,927 | 791,357 | 791,357 | Full Yr | 365 | 2,168 | 2,168 | 2,168 | 2,168 | 4,605,767 | 4,605,767 | 6,157 | 6,157 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 8.2 | 2,979 | 3,743,372 | 3,369,035 | Full Yr | 365 | 10,256 | 9,230 | 10,256 | 9,230 | 21,786,768 | 19,608,091 | 29,123 | 26,211 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 3.3 | 1,204 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 6.4 | 2,348 | 964,016 | 964,016 | Full Yr | 365 | 2,641 | 2,641 | 2,641 | 2,641 | 5,610,662 | 5,610,662 | 7,500 | 7,500 |
| | Efficient clotheswashers | 5.2 | k | 12.4 | 4,538 | 2,426,305 | 1,819,729 | Full Yr | 365 | 6,647 | 4,986 | 6,647 | 4,986 | 14,121,318 | 10,590,988 | 18,876 | 14,157 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.0 | 1,102 | 426,990 | 426,990 | Full Yr | 365 | 1,170 | 1,170 | 1,170 | 1,170 | 2,485,118 | 2,485,118 | 3,322 | 3,322 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 32,184 | 32,184 | Peak | 122 | 88 | 88 | 264 | 264 | 187,314 | 187,314 | 250 | 250 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 475,287 | 475,287 | Peak | 122 | 1,302 | 1,302 | 3,896 | 3,896 | 2,766,213 | 2,766,213 | 3,698 | 3,698 |
| | ET controllers | n/a | u | n/a | n/a | 32,184 | 32,184 | Peak | 122 | 88 | 88 | 264 | 264 | 187,314 | 187,314 | 250 | 250 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 152,970 | 137,673 | Peak | 122 | 419 | 377 | 1,254 | 1,128 | 890,297 | 801,267 | 1,190 | 1,071 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 3,179,154 | 3,179,154 | Peak | 122 | 8,710 | 8,710 | 26,059 | 26,059 | 18,502,967 | 18,502,967 | 24,733 | 24,733 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 1,174,270 | 880,702 | Full Yr | 365 | 3,217 | 2,413 | 3,217 | 2,413 | 7,045,617 | 5,284,213 | 9,418 | 7,064 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 1,409,123 | 1,056,843 | Full Yr | 365 | 3,861 | 2,895 | 3,861 | 2,895 | 8,454,741 | 6,341,056 | 11,302 | 8,476 |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 309,018 | 309,018 | Full Yr | 365 | 847 | 847 | 847 | 847 | 1,799,183 | 1,799,183 | 2,405 | 2,405 |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 323,934 | 323,934 | Full Yr | 365 | 887 | 887 | 887 | 887 | 1,886,025 | 1,886,025 | 2,521 | 2,521 |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 242,982 | 242,982 | Full Yr | 365 | 666 | 666 | 666 | 666 | 1,414,703 | 1,414,703 | 1,891 | 1,891 |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 15,821 | 11,866 | Full Yr | 365 | 43 | 33 | 43 | 33 | 94,924 | 71,193 | 127 | 95 |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 158,207 | 158,207 | Full Yr | 365 | 433 | 433 | 433 | 433 | 921,122 | 921,122 | 1,231 | 1,231 |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 138,919 | 138,919 | Full Yr | 365 | 381 | 381 | 381 | 381 | 808,822 | 808,822 | 1,081 | 1,081 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 656,977 | 591,279 | Full Yr | 365 | 1,800 | 1,620 | 1,800 | 1,620 | 3,825,087 | 3,442,578 | 5,113 | 4,602 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 169,229 | 169,229 | Full Yr | 365 | 464 | 464 | 464 | 464 | 985,292 | 985,292 | 1,317 | 1,317 |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 261,437 | 196,078 | Full Yr | 365 | 716 | 537 | 716 | 537 | 1,522,151 | 1,141,613 | 2,035 | 1,526 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 29,394 | 29,394 | Full Yr | 365 | 81 | 81 | 81 | 81 | 171,141 | 171,141 | 229 | 229 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 20,944 | 20,944 | Peak | 122 | 57 | 57 | 172 | 172 | 121,942 | 121,942 | 163 | 163 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 16,465 | 16,465 | Peak | 122 | 45 | 45 | 135 | 135 | 95,861 | 95,861 | 128 | 128 |
| | ET controllers | n/a | u | n/a | n/a | 20,944 | 18,850 | Peak | 122 | 57 | 52 | 172 | 155 | 121,942 | 109,747 | 163 | 147 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 2,587 | 2,328 | Peak | 122 | 7 | 6 | 21 | 19 | 15,063 | 13,557 | 20 | 18 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 77,894 | 77,894 | Peak | 122 | 213 | 213 | 638 | 638 | 453,518 | 453,518 | 606 | 606 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 51.7 | 18,883 | 363,498 | 272,624 | Full Yr | 365 | 996 | 747 | 996 | 747 | 2,180,988 | 1,635,741 | 2,915 | 2,187 |
| | Dual flush toilets | 5.5 | o | 68.1 | 24,846 | 95,657 | 95,657 | Full Yr | 365 | 262 | 262 | 262 | 262 | 535,594 | 535,594 | 716 | 716 |
| | Toilet leak detection repair | 9.5 | c | 117.6 | 42,916 | 51,492 | 51,492 | Full Yr | 365 | 141 | 141 | 141 | 141 | 288,310 | 288,310 | 385 | 385 |
| | 1.0 gpf urinals | 1.8 | p | 21.7 | 7,906 | 131,891 | 98,918 | Full Yr | 365 | 361 | 271 | 361 | 271 | 791,347 | 593,511 | 1,058 | 793 |
| | Waterless urinals | 2.1 | q | 26.0 | 9,487 | 67,452 | 67,452 | Full Yr | 365 | 185 | 185 | 185 | 185 | 377,670 | 377,670 | 505 | 505 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 53.3 | 19,450 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 163,499 | 122,624 | Full Yr | 365 | 448 | 336 | 448 | 336 | 915,443 | 686,582 | 1,224 | 918 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 33,089 | 29,780 | Full Yr | 365 | 91 | 82 | 91 | 82 | 198,535 | 178,682 | 265 | 239 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 62,146 | 55,931 | Full Yr | 365 | 170 | 153 | 170 | 153 | 347,960 | 313,164 | 465 | 419 |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 128,167 | 128,167 | Peak | 122 | 351 | 351 | 1,051 | 1,051 | 717,621 | 717,621 | 959 | 959 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 80,996 | 80,996 | Peak | 122 | 222 | 222 | 664 | 664 | 453,506 | 453,506 | 606 | 606 |
| | ET controllers | n/a | u | n/a | n/a | 128,167 | 115,351 | Peak | 122 | 351 | 316 | 1,051 | 945 | 717,621 | 645,859 | 959 | 863 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 23,562 | 21,206 | Peak | 122 | 65 | 58 | 193 | 174 | 131,926 | 118,733 | 176 | 159 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 426,090 | 426,090 | Peak | 122 | 1,167 | 1,167 | 3,493 | 3,493 | 2,385,715 | 2,385,715 | 3,189 | 3,189 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 1.00 | \$76.00 | 25 | 1.0 | \$27,576 | \$1.12 | \$2.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$190.00 | 25 | 1.0 | \$27,576 | \$2.19 | \$2.19 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.19 | 7.5 | 1.0 | \$119 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$2,001 | \$1.54 | \$3.08 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$2,001 | \$0.16 | \$0.16 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.00 | \$3.11 | 10 | 1.0 | \$3,901 | \$0.13 | \$0.15 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$645 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$53,470 | \$2.83 | \$3.78 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$8,912 | \$35.59 | \$35.59 |
| SF Outdoor | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$135,370 | \$36.61 | \$36.61 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$6,562 | \$26.21 | \$26.21 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$28,072 | \$23.59 | \$26.21 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$144.00 | 25 | 1.0 | \$23,905 | \$2.54 | \$3.38 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$35,857 | \$3.17 | \$4.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$5,976 | \$2.48 | \$2.48 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.18 | 7.5 | 1.0 | \$23 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$220 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$220 | \$0.18 | \$0.18 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.00 | \$2.65 | 10 | 1.0 | \$700 | \$0.14 | \$0.15 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$100 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$1,383 | \$0.68 | \$0.91 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$3,645 | \$22.36 | \$22.36 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$4,063 | \$31.71 | \$31.71 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$1,537 | \$9.43 | \$10.47 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$95 | \$4.71 | \$5.24 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$7,700 | \$2.64 | \$3.52 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$1,540 | \$2.15 | \$2.15 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$1 | \$0.003 | \$0.003 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$1,502 | \$1.42 | \$1.89 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$1,067 | \$2.11 | \$2.11 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$133 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$1,200 | \$0.98 | \$1.31 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$103 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$855 | \$1.84 | \$2.04 |
| | | | | | | | | | |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$5,854 | \$6.10 | \$6.10 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$5,247 | \$8.66 | \$8.66 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$2,566 | \$2.68 | \$2.97 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$147 | \$0.83 | \$0.93 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

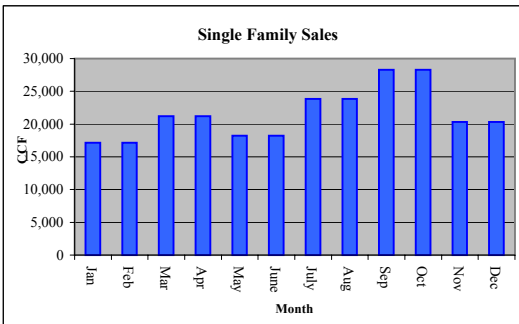
a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

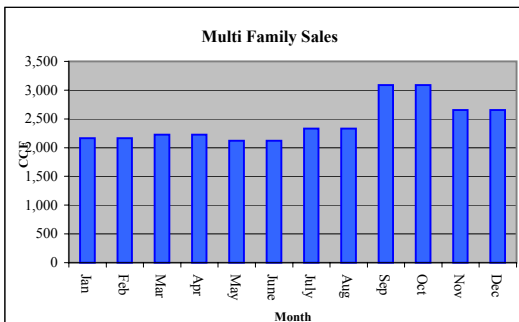
Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

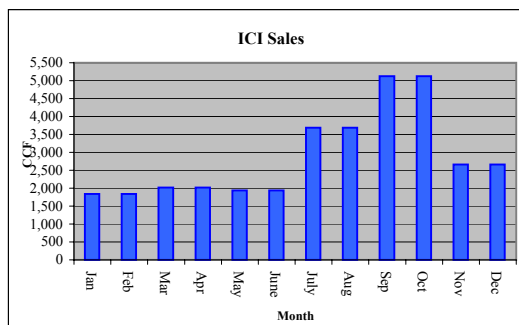
| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 16,351 | 17,905 | 17,190 | 17,149 | 12,827,078 | Non-peak |
| Feb | 16,351 | 17,905 | 17,190 | 17,149 | 12,827,078 | Non-peak |
| Mar | 24,868 | 19,102 | 19,579 | 21,183 | 15,844,510 | Non-peak |
| Apr | 24,868 | 19,102 | 19,579 | 21,183 | 15,844,510 | Non-peak |
| May | 19,870 | 15,993 | 18,817 | 18,227 | 13,633,422 | Non-peak |
| June | 19,870 | 15,993 | 18,817 | 18,227 | 13,633,422 | Non-peak |
| July | 20,034 | 27,739 | 23,728 | 23,834 | 17,827,458 | Peak |
| Aug | 20,034 | 27,739 | 23,728 | 23,834 | 17,827,458 | Peak |
| Sep | 27,533 | 30,008 | 27,307 | 28,283 | 21,155,435 | Peak |
| Oct | 27,533 | 30,008 | 27,307 | 28,283 | 21,155,435 | Peak |
| Nov | 21,427 | 21,645 | 17,966 | 20,346 | 15,218,683 | Non-peak |
| Dec | 21,427 | 21,645 | 17,966 | 20,346 | 15,218,683 | Non-peak |
| Total | 260,163 | 264,782 | 249,172 | 258,039 | 193,013,172 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 19,226 | 14,380,923 | |
| Base use during entire peak season: | | | | 76,903 | 57,523,693 | |
| Peak Season Total: | | | | 104,232 | 77,965,785 | |
| Peak Season Increased Use: | | | | 27,329 | 20,442,092 | |



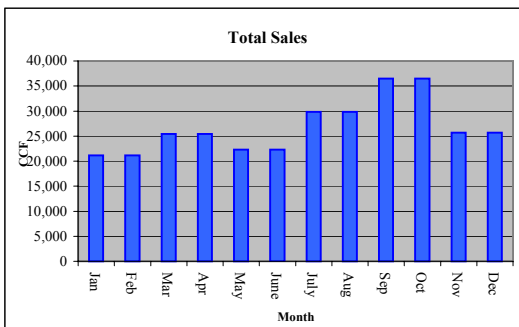
| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 2,129 | 1,987 | 2,384 | 2,167 | 1,620,542 | Non-peak |
| Feb | 2,129 | 1,987 | 2,384 | 2,167 | 1,620,542 | Non-peak |
| Mar | 2,070 | 2,035 | 2,572 | 2,226 | 1,664,799 | Non-peak |
| Apr | 2,070 | 2,035 | 2,572 | 2,226 | 1,664,799 | Non-peak |
| May | 2,042 | 1,739 | 2,574 | 2,118 | 1,584,389 | Non-peak |
| June | 2,042 | 1,739 | 2,574 | 2,118 | 1,584,389 | Non-peak |
| July | 2,105 | 2,374 | 2,509 | 2,329 | 1,742,092 | Peak |
| Aug | 2,105 | 2,374 | 2,509 | 2,329 | 1,742,092 | Peak |
| Sep | 2,589 | 3,420 | 3,262 | 3,090 | 2,311,445 | Peak |
| Oct | 2,589 | 3,420 | 3,262 | 3,090 | 2,311,445 | Peak |
| Nov | 2,382 | 3,003 | 2,577 | 2,654 | 1,985,192 | Non-peak |
| Dec | 2,382 | 3,003 | 2,577 | 2,654 | 1,985,192 | Non-peak |
| Total | 26,631 | 29,115 | 31,755 | 29,167 | 21,816,916 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 2,291 | 1,713,730 | |
| Base use during entire peak season: | | | | 9,164 | 6,854,921 | |
| Peak Season Total: | | | | 10,838 | 8,107,073 | |
| Peak Season Increased Use: | | | | 1,674 | 1,252,152 | |



| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 1,959 | 2,126 | 1,443 | 1,842 | 1,378,065 | Non-peak |
| Feb | 1,959 | 2,126 | 1,443 | 1,842 | 1,378,065 | Non-peak |
| Mar | 2,070 | 2,125 | 1,861 | 2,019 | 1,509,963 | Non-peak |
| Apr | 2,070 | 2,125 | 1,861 | 2,019 | 1,509,963 | Non-peak |
| May | 2,168 | 1,852 | 1,803 | 1,941 | 1,451,619 | Non-peak |
| June | 2,168 | 1,852 | 1,803 | 1,941 | 1,451,619 | Non-peak |
| July | 2,981 | 4,657 | 3,425 | 3,687 | 2,758,001 | Peak |
| Aug | 2,981 | 4,657 | 3,425 | 3,687 | 2,758,001 | Peak |
| Sep | 6,608 | 4,707 | 4,050 | 5,121 | 3,830,633 | Peak |
| Oct | 6,608 | 4,707 | 4,050 | 5,121 | 3,830,633 | Peak |
| Nov | 3,784 | 2,320 | 1,871 | 2,658 | 1,988,184 | Non-peak |
| Dec | 3,784 | 2,320 | 1,871 | 2,658 | 1,988,184 | Non-peak |
| Total | 39,136 | 35,570 | 28,902 | 34,536 | 25,832,928 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 2,115 | 1,581,958 | |
| Base use during entire peak season: | | | | 8,460 | 6,327,831 | |
| Peak Season Total: | | | | 17,617 | 13,177,267 | |
| Peak Season Increased Use: | | | | 9,157 | 6,849,436 | |



| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 20,439 | 22,017 | 21,017 | 21,157 | 15,825,685 | Non-peak |
| Feb | 20,439 | 22,017 | 21,017 | 21,157 | 15,825,685 | Non-peak |
| Mar | 29,008 | 23,262 | 24,012 | 25,427 | 19,019,271 | Non-peak |
| Apr | 29,008 | 23,262 | 24,012 | 25,427 | 19,019,271 | Non-peak |
| May | 24,079 | 19,584 | 23,193 | 22,285 | 16,669,429 | Non-peak |
| June | 24,079 | 19,584 | 23,193 | 22,285 | 16,669,429 | Non-peak |
| July | 25,119 | 34,770 | 29,661 | 29,850 | 22,327,551 | Peak |
| Aug | 25,119 | 34,770 | 29,661 | 29,850 | 22,327,551 | Peak |
| Sep | 36,729 | 38,135 | 34,619 | 36,494 | 27,297,512 | Peak |
| Oct | 36,729 | 38,135 | 34,619 | 36,494 | 27,297,512 | Peak |
| Nov | 27,593 | 26,968 | 22,414 | 25,658 | 19,192,059 | Non-peak |
| Dec | 27,593 | 26,968 | 22,414 | 25,658 | 19,192,059 | Non-peak |
| Total | 325,930 | 329,467 | 309,829 | 321,742 | 240,663,016 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 23,632 | 17,676,611 | |
| Base use during entire peak season: | | | | 94,527 | 70,706,445 | |
| Peak Season Total: | | | | 132,687 | 99,250,125 | |
| Peak Season Increased Use: | | | | 38,160 | 28,543,680 | |



Shaded cells contain data entered specifically for the client
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

108% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 28,543,680 | 30,827,174 | 100.0% | PSIU Total |
| | | | | |
| | 20,442,092 | 22,077,459 | 71.6% | PSIU SF |
| | 1,252,152 | 1,352,324 | 4.4% | PSIU MF |
| | 6,849,436 | 7,397,391 | 24.0% | PSIU ICI |

| | | | | |
|---------------|------------|------------|-------|---|
| Single Family | 18,397,883 | 19,869,713 | 64.5% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 2,044,209 | 2,207,746 | 7.2% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 20,442,092 | 22,077,459 | 71.6% | Subtotal |
| | | | | |
| | 14,718,306 | 15,895,771 | 51.6% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 3,679,577 | 3,973,943 | 12.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 18,397,883 | 19,869,713 | 64.5% | Subtotal |
| | | | | |
| | 11,774,645 | 12,716,617 | 41.3% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 2,943,661 | 3,179,154 | 10.3% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 14,718,306 | 15,895,771 | 51.6% | Subtotal |
| | | | | |
| | 82,790 | 128,736 | 0.29% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ⁴ |
| | 1,784,595 | 1,901,147 | 6.3% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ⁴ |
| | 82,790 | 128,736 | 0.29% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ⁴ |
| | 3,679,577 | 3,973,943 | 12.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 11,774,645 | 12,716,617 | 41.3% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 17,404,397 | 18,849,178 | 61.0% | Subtotal |

| | | | | |
|--------------|-----------|-----------|------|---|
| Multi Family | 1,126,937 | 1,217,092 | 3.9% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 125,215 | 135,232 | 0.4% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 1,252,152 | 1,352,324 | 4.4% | Subtotal |
| | | | | |
| | 901,549 | 973,673 | 3.2% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 225,387 | 243,418 | 0.8% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 1,126,937 | 1,217,092 | 3.9% | Subtotal |
| | | | | |
| | 721,240 | 778,939 | 2.5% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 180,310 | 194,735 | 0.6% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 901,549 | 973,673 | 3.2% | Subtotal |
| | | | | |
| | 76,068 | 83,776 | 0.3% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ⁴ |
| | 61,982 | 65,858 | 0.2% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ⁴ |
| | 76,068 | 83,776 | 0.3% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ⁴ |
| | 225,387 | 243,418 | 0.8% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 721,240 | 778,939 | 2.5% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 1,160,745 | 1,255,768 | 4.1% | Subtotal |

| | | | | |
|-----|-----------|-----------|-------|---|
| ICI | 6,164,492 | 6,657,652 | 21.6% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 684,944 | 739,739 | 2.4% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 6,849,436 | 7,397,391 | 24.0% | Subtotal |
| | | | | |
| | 4,931,594 | 5,326,121 | 17.3% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 1,232,898 | 1,331,530 | 4.3% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 6,164,492 | 6,657,652 | 21.6% | Subtotal |
| | | | | |
| | 3,945,275 | 4,260,897 | 13.8% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 986,319 | 1,065,224 | 3.5% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 4,931,594 | 5,326,121 | 17.3% | Subtotal |
| | | | | |
| | 462,337 | 512,669 | 1.6% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ⁴ |
| | 308,225 | 323,986 | 1.1% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ⁴ |
| | 462,337 | 512,669 | 1.6% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ⁴ |
| | 1,232,898 | 1,331,530 | 4.3% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 3,945,275 | 4,260,897 | 13.8% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 6,411,072 | 6,941,752 | 22.5% | Subtotal |

Cascade Water Alliance/Skyway 6 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|---|-------------------|-------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%) | 2,044,209 | 2,207,746 | 7.2% | SF Non-Landscape |
| | 3,679,577 | 3,973,943 | 12.9% | SF Landscape Non-Lawn |
| | 11,774,645 | 12,716,617 | 41.3% | SF Landscape Lawn Not Needed If Dormant |
| | 2,943,661 | 3,179,154 | 10.3% | SF Landscape Lawn Needed Even If Dormant |
| | 125,215 | 135,232 | 0.4% | MF Non-Landscape |
| | 225,387 | 243,418 | 0.8% | MF Landscape Non-Lawn |
| | 721,240 | 778,939 | 2.5% | MF Landscape Lawn Not Needed If Dormant |
| | 180,310 | 194,735 | 0.6% | MF Landscape Lawn Needed Even If Dormant |
| | 684,944 | 739,739 | 2.4% | ICI Non-Landscape |
| | 1,232,898 | 1,331,530 | 4.3% | ICI Landscape Non-Lawn |
| | 3,945,275 | 4,260,897 | 13.8% | ICI Landscape Lawn Not Needed If Dormant |
| | 986,319 | 1,065,224 | 3.5% | ICI Landscape Lawn Needed Even If Dormant |
| | 28,543,680 | 30,827,174 | 100.0% | Total |
| | | | | |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

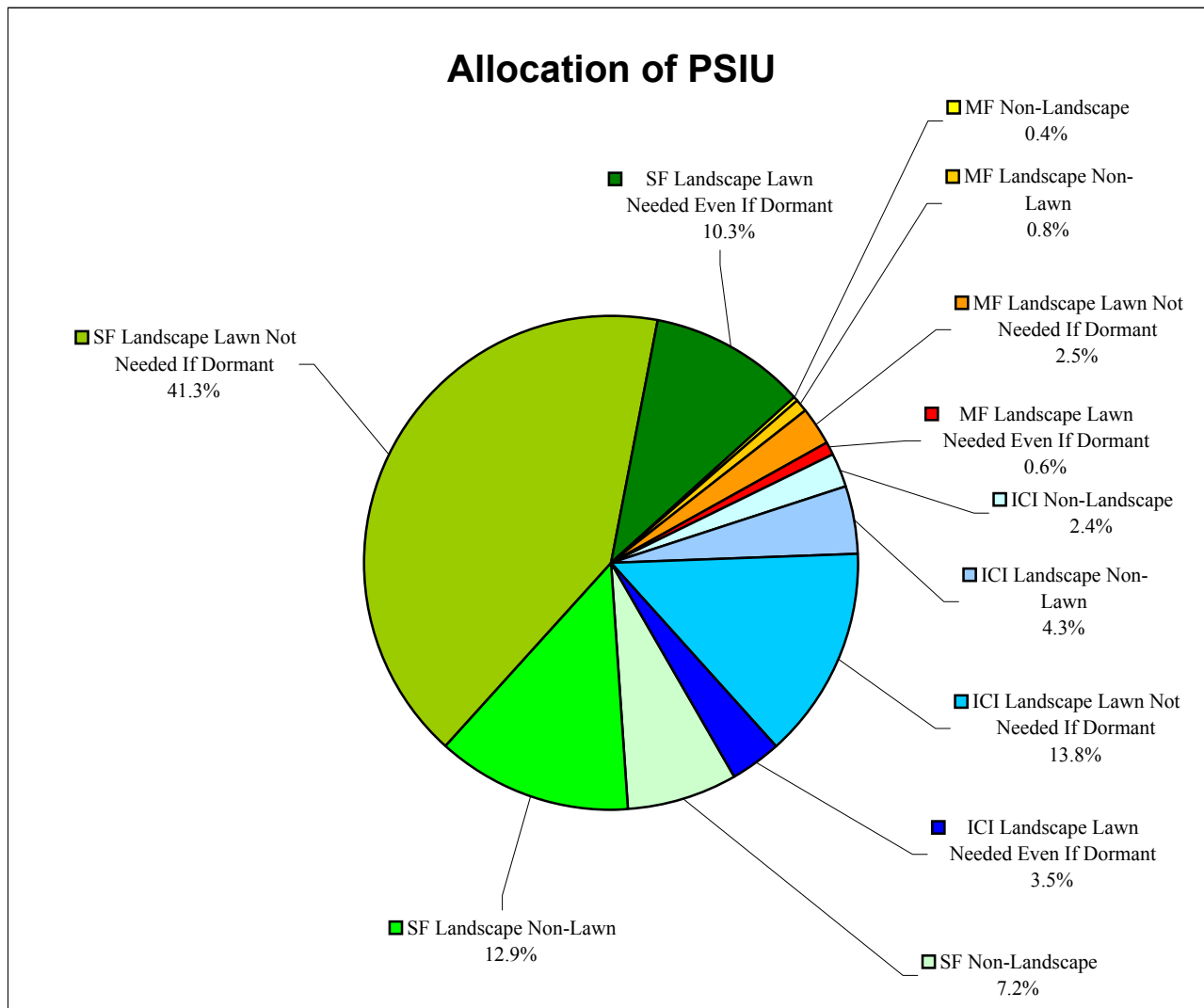
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Skyway 20-Year

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2023 | a | 20 |
| 2 | Population | 8,713 | b | 11,286 | b | 2,573 |
| 3 | SF Accounts/Households | 3,088 | r | 4,000 | e | 912 |
| 4 | MF Accounts | 40 | t | 52 | d | 12 |
| 5 | Units per MF account | 16.3 | u | 16.3 | v | 0 |
| 6 | MF Households | 651 | c | 843 | e | 192 |
| 7 | Commercial Accounts | 77 | r | 98 | f | 21 |
| 8 | Persons Per SF HH Q54 | 2.40 | g | 2.40 | g | 0 |
| 9 | Persons Per MF HH Q54 | 2.0 | g | 2.0 | g | 0 |
| 10 | Employees Per ICI Account | 12.4 | h | 12.4 | h | 0 |
| 11 | Employment | 953 | s | 1,208 | e | 255 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provide by client, via Mike Brent's 7-19-05 email. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via Mike Brent's 8-17-05 email. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Provided by client, via data request. | | | | | | |
| s. Extrapolated from Mike Brent's 7-19-05 and 8-17-05 emails. | | | | | | |
| t. Provided by client, via 9-12-05 email. | | | | | | |
| u. Calculation. | | | | | | |
| v. Kept same as 2004. | | | | | | |

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 94% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 3% | 25% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 97% | 75% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 74% | 74% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
|-----------------------------------|---------------------------------------|---|--------------------------------|-----------------------|---|---------------------|-----------------------|--|---------------------|---------------------|------------------------------------|----------------------------------|--|-------|---|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^g | Target ^h | Target ^b | Participation Rate ^d | Participating | | | |
| | | | | | | | | | | | | W/ free riders (affects cost) | W/out free riders (affects savings) | | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 50% | 1,451 | 100% | 0% | 0 | 1,451 | 25% | 363 | 181 | |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 50% | 1,451 | 100% | 0% | 0 | 1,451 | 10% | 145 | 145 | |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 75% | 2,347 | 100% | 75% | 693 | 3,040 | 25% | 760 | 760 | |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 75% | 1,482 | 100% | 75% | 438 | 1,920 | 25% | 480 | 480 | |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 25% | 834 | 100% | 0% | 0 | 834 | 50% | 417 | 208 | |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 25% | 834 | 100% | 0% | 0 | 834 | 50% | 417 | 417 | |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 1,544 | 100% | 50% | 456 | 2,000 | 25% | 500 | 500 | |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 2,316 | 100% | 100% | 912 | 3,228 | 50% | 1,614 | 1,453 | |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 50% | 1,173 | 100% | 0% | 0 | 1,173 | 50% | 587 | 293 | |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 1,544 | 100% | 50% | 456 | 2,000 | 25% | 500 | 500 | |
| | Efficient clotheswashers | SF HH w/ less efficient model: Q22 | EN | 25% | 94% | 60% | 2,003 | 100% | 60% | 629 | 2,632 | 50% | 1,316 | 987 | |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 94% | 50% | 1,451 | 100% | 50% | 456 | 1,907 | 25% | 477 | 477 | |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 2% | 50% | 34 | 19% | 50% | 84 | 119 | 25% | 30 | 30 | |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 72% | 100% | 2,217 | 56% | 100% | 506 | 2,723 | 25% | 681 | 681 | |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 2% | 100% | 69 | 19% | 100% | 169 | 237 | 25% | 59 | 59 | |
| | Limited lawn/low water use plant: | SF HH new construction and remodel Q31B&34 | EN | 10% | 7% | 100% | 229 | 74% | 100% | 675 | 903 | 25% | 226 | 203 | |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 74% | 100% | 2,285 | 74% | 100% | 675 | 2,960 | 25% | 740 | 740 | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 50% | 332 | 100% | 0% | 0 | 332 | 50% | 166 | 125 | |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 50% | 332 | 100% | 0% | 0 | 332 | 60% | 199 | 149 | |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 50% | 332 | 100% | 0% | 0 | 332 | 10% | 33 | 33 | |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 488 | 100% | 75% | 144 | 632 | 25% | 158 | 158 | |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 75% | 482 | 100% | 75% | 142 | 624 | 25% | 156 | 156 | |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 15% | 98 | 100% | 0% | 0 | 98 | 50% | 49 | 37 | |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 15% | 98 | 100% | 0% | 0 | 98 | 50% | 49 | 49 | |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 326 | 100% | 50% | 96 | 422 | 25% | 105 | 105 | |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 488 | 100% | 100% | 192 | 680 | 50% | 340 | 306 | |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 25% | 182 | 100% | 0% | 0 | 182 | 50% | 91 | 68 | |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 326 | 100% | 50% | 96 | 422 | 25% | 105 | 105 | |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 50% | 257 | 90% | 50% | 93 | 350 | 50% | 175 | 131 | |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 50% | 238 | 90% | 50% | 86 | 324 | 25% | 81 | 81 | |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 6 | 42% | 50% | 2 | 9 | 25% | 2 | 2 | |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 15 | 28% | 100% | 3 | 19 | 25% | 5 | 5 | |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 11 | 42% | 90% | 4 | 16 | 25% | 4 | 4 | |
| | Limited lawn/low water use plant: | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 1 | 70% | 100% | 8 | 10 | 10% | 1 | 1 | |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 28 | 70% | 100% | 8 | 36 | 10% | 4 | 4 | |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 39 | 100% | 0% | 0 | 39 | 50% | 19 | 14 | |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 39 | 100% | 0% | 0 | 39 | 10% | 4 | 4 | |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 12 | 20% | 75% | 3 | 15 | 25% | 4 | 4 | |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 40 | 80% | 0% | 0 | 40 | 50% | 20 | 15 | |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 62 | 80% | 100% | 16 | 78 | 10% | 8 | 8 | |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 58 | 100% | 0% | 0 | 58 | 50% | 29 | 26 | |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 1 | 2% | 75% | 0 | 1 | 50% | 1 | 1 | |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 2 | 11% | 0% | 0 | 2 | 75% | 2 | 1 | |
| | Air cooled ice machine: | ICI accounts | EN | 10% | 11% | 50% | 4 | 11% | 25% | 1 | 5 | 25% | 1 | 1 | |
| | ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 10 | 30% | 50% | 3 | 13 | 25% | 3 | 3 |
| | | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 19 | 20% | 100% | 4 | 23 | 25% | 6 | 6 |
| ET controllers | | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 17 | 30% | 90% | 6 | 23 | 25% | 6 | 5 | |
| Limited lawn/low water use plant: | | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 2 | 25% | 100% | 5 | 7 | 10% | 1 | 1 | |
| Allow lawn to go dormant | | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 39 | 50% | 100% | 10 | 49 | 10% | 5 | 5 | |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation.

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations.

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|---------------------------------------|---------------------------------------|--|--|---|--|---|-----------|----------------|--|---|--|---|--|---|--|---|---------|-------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | |
| | | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 23.3 | 8,488 | 1,077,981 | 538,990 | Full Yr | 365 | 2,953 | 1,477 | 2,953 | 1,477 | 21,559,619 | 10,779,809 | 28,819 | 14,410 | |
| | Dual flush toilets | 12.8 | b | 30.6 | 11,169 | 1,621,024 | 1,621,024 | Full Yr | 365 | 4,441 | 4,441 | 4,441 | 4,441 | 28,724,545 | 28,724,545 | 38,397 | 38,397 | |
| | Toilet leak detection and repair | 9.5 | c | 22.8 | 8,322 | 2,276,899 | 2,276,899 | Full Yr | 365 | 6,238 | 6,238 | 6,238 | 6,238 | 40,346,654 | 40,346,654 | 53,932 | 53,932 | |
| | Decrease toilet flushes | 2.6 | d | 6.2 | 2,278 | 1,093,248 | 1,093,248 | Full Yr | 365 | 2,995 | 2,995 | 2,995 | 2,995 | 19,372,355 | 19,372,355 | 25,895 | 25,895 | |
| | 2.5 gpm showerheads | 2.7 | e | 6.4 | 2,333 | 48,629 | 24,315 | Full Yr | 365 | 133 | 67 | 133 | 67 | 972,584 | 486,292 | 1,300 | 650 | |
| | 2.0 gpm showerheads | 4.4 | f | 10.7 | 3,888 | 1,620,973 | 1,620,973 | Full Yr | 365 | 4,441 | 4,441 | 4,441 | 4,441 | 28,723,646 | 28,723,646 | 38,395 | 38,395 | |
| | Decreased shower use | 2.2 | g | 5.3 | 1,927 | 963,600 | 963,600 | Full Yr | 365 | 2,640 | 2,640 | 2,640 | 2,640 | 17,074,992 | 17,074,992 | 22,824 | 22,824 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 8.2 | 2,979 | 4,808,438 | 4,327,595 | Full Yr | 365 | 13,174 | 11,856 | 13,174 | 11,856 | 85,205,528 | 76,684,975 | 113,896 | 102,506 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 3.3 | 1,204 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Decrease faucet use | 2.7 | j | 6.4 | 2,348 | 1,173,840 | 1,173,840 | Full Yr | 365 | 3,216 | 3,216 | 3,216 | 3,216 | 20,800,445 | 20,800,445 | 27,804 | 27,804 | |
| SF Out. | Efficient clotheswashers | 5.2 | k | 12.4 | 4,538 | 5,971,943 | 4,478,957 | Full Yr | 365 | 16,361 | 12,271 | 16,361 | 12,271 | 105,822,823 | 79,367,118 | 141,455 | 106,092 | |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.0 | 1,102 | 525,481 | 525,481 | Full Yr | 365 | 1,440 | 1,440 | 1,440 | 1,440 | 9,311,532 | 9,311,532 | 12,447 | 12,447 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 65,259 | 65,259 | Peak | 122 | 179 | 179 | 535 | 535 | 1,156,385 | 1,156,385 | 1,546 | 1,546 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 499,232 | 499,232 | Peak | 122 | 1,368 | 1,368 | 4,092 | 4,092 | 8,846,386 | 8,846,386 | 11,825 | 11,825 | |
| | ET controllers | n/a | u | n/a | n/a | 65,259 | 65,259 | Peak | 122 | 179 | 179 | 535 | 535 | 1,156,385 | 1,156,385 | 1,546 | 1,546 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 331,287 | 298,158 | Peak | 122 | 908 | 817 | 2,715 | 2,444 | 5,870,406 | 5,283,365 | 7,847 | 7,062 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 3,473,520 | 3,473,520 | Peak | 122 | 9,516 | 9,516 | 28,471 | 28,471 | 61,550,779 | 61,550,779 | 82,276 | 82,276 | |
| | MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 410,994 | 308,246 | Full Yr | 365 | 1,126 | 845 | 1,126 | 845 | 8,219,887 | 6,164,915 | 10,988 | 8,241 |
| | | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 493,193 | 369,895 | Full Yr | 365 | 1,351 | 1,013 | 1,351 | 1,013 | 9,863,864 | 7,397,898 | 13,185 | 9,889 |
| | | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 309,018 | 309,018 | Full Yr | 365 | 847 | 847 | 847 | 847 | 5,476,552 | 5,476,552 | 7,321 | 7,321 |
| Toilet leak detection and repair | | 9.5 | c | 19.0 | 6,935 | 394,619 | 394,619 | Full Yr | 365 | 1,081 | 1,081 | 1,081 | 1,081 | 6,993,601 | 6,993,601 | 9,348 | 9,348 | |
| Decrease toilet flushes | | 2.6 | d | 5.2 | 1,898 | 296,003 | 296,003 | Full Yr | 365 | 811 | 811 | 811 | 811 | 5,245,882 | 5,245,882 | 7,012 | 7,012 | |
| 2.5 gpm showerheads | | 2.7 | e | 5.3 | 1,944 | 4,746 | 3,560 | Full Yr | 365 | 13 | 10 | 13 | 10 | 94,924 | 71,193 | 127 | 95 | |
| 2.0 gpm showerheads | | 4.4 | f | 8.9 | 3,240 | 158,207 | 158,207 | Full Yr | 365 | 433 | 433 | 433 | 433 | 2,803,812 | 2,803,812 | 3,748 | 3,748 | |
| Decreased shower use | | 2.2 | g | 4.4 | 1,606 | 169,232 | 169,232 | Full Yr | 365 | 464 | 464 | 464 | 464 | 2,999,205 | 2,999,205 | 4,009 | 4,009 | |
| 1.0 gpm faucet aerators - bathroom | | 3.4 | h | 6.8 | 2,483 | 844,419 | 759,977 | Full Yr | 365 | 2,313 | 2,082 | 2,313 | 2,082 | 14,965,142 | 13,468,628 | 20,004 | 18,004 | |
| 2.5 gpm faucet aerators - kitchen | | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Decrease faucet use | | 2.7 | j | 5.4 | 1,956 | 206,156 | 206,156 | Full Yr | 365 | 565 | 565 | 565 | 565 | 3,653,577 | 3,653,577 | 4,884 | 4,884 | |
| Efficient clotheswashers | | 5.2 | k | 10.4 | 3,781 | 661,624 | 496,218 | Full Yr | 365 | 1,813 | 1,360 | 1,813 | 1,360 | 11,725,585 | 8,794,189 | 15,674 | 11,755 | |
| Eliminate partial clotheswasher loads | | 0.6 | m | 1.3 | 459 | 37,194 | 37,194 | Full Yr | 365 | 102 | 102 | 102 | 102 | 659,176 | 659,176 | 881 | 881 | |
| MF Out. | | Audits for automatic irrigation | n/a | u | n/a | n/a | 24,144 | 24,144 | Peak | 122 | 66 | 66 | 198 | 198 | 427,886 | 427,886 | 572 | 572 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 17,149 | 17,149 | Peak | 122 | 47 | 47 | 141 | 141 | 303,918 | 303,918 | 406 | 406 | |
| | ET controllers | n/a | u | n/a | n/a | 24,144 | 21,729 | Peak | 122 | 66 | 60 | 198 | 178 | 427,886 | 385,097 | 572 | 515 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 7,084 | 6,376 | Peak | 122 | 19 | 17 | 58 | 52 | 125,551 | 112,996 | 168 | 151 | |
| ICI Indoor | Allow lawn to go dormant | n/a | u | n/a | n/a | 85,106 | 85,106 | Peak | 122 | 233 | 233 | 698 | 698 | 1,508,289 | 1,508,289 | 2,016 | 2,016 | |
| | 1.6 gpf toilets | 4.2 | n | 51.7 | 18,883 | 127,224 | 95,418 | Full Yr | 365 | 349 | 261 | 349 | 261 | 2,544,486 | 1,908,365 | 3,401 | 2,551 | |
| | Dual flush toilets | 5.5 | o | 68.1 | 24,846 | 95,657 | 95,657 | Full Yr | 365 | 262 | 262 | 262 | 262 | 1,711,222 | 1,711,222 | 2,287 | 2,287 | |
| | Toilet leak detection repair | 9.5 | c | 117.6 | 42,916 | 56,548 | 56,548 | Full Yr | 365 | 155 | 155 | 155 | 155 | 1,011,591 | 1,011,591 | 1,352 | 1,352 | |
| | 1.0 gpf urinals | 1.8 | p | 21.7 | 7,906 | 39,567 | 29,676 | Full Yr | 365 | 108 | 81 | 108 | 81 | 791,347 | 593,511 | 1,058 | 793 | |
| | Waterless urinals | 2.1 | q | 26.0 | 9,487 | 74,075 | 74,075 | Full Yr | 365 | 203 | 203 | 203 | 203 | 1,325,125 | 1,325,125 | 1,771 | 1,771 | |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 53.3 | 19,450 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 359,102 | 269,327 | Full Yr | 365 | 984 | 738 | 984 | 738 | 6,424,007 | 4,818,005 | 8,587 | 6,440 | |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 9,927 | 8,934 | Full Yr | 365 | 27 | 24 | 27 | 24 | 198,535 | 178,682 | 265 | 239 | |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 65,415 | 58,874 | Full Yr | 365 | 179 | 161 | 179 | 161 | 1,170,215 | 1,053,194 | 1,564 | 1,408 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 142,148 | 142,148 | Peak | 122 | 389 | 389 | 1,165 | 1,165 | 2,542,888 | 2,542,888 | 3,399 | 3,399 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 87,087 | 87,087 | Peak | 122 | 239 | 239 | 714 | 714 | 1,557,914 | 1,557,914 | 2,082 | 2,082 | |
| | ET controllers | n/a | u | n/a | n/a | 142,148 | 127,933 | Peak | 122 | 389 | 351 | 1,165 | 1,049 | 2,542,888 | 2,288,599 | 3,399 | 3,059 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 36,449 | 32,804 | Peak | 122 | 100 | 90 | 299 | 269 | 652,035 | 586,831 | 872 | 784 | |
| ICI Out. | Allow lawn to go dormant | n/a | u | n/a | n/a | 465,542 | 465,542 | Peak | 122 | 1,275 | 1,275 | 3,816 | 3,816 | 8,328,123 | 8,328,123 | 11,132 | 11,132 | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 1.00 | \$76.00 | 25 | 1.0 | \$27,576 | \$0.96 | \$1.91 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$190.00 | 25 | 1.0 | \$27,576 | \$0.72 | \$0.72 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.19 | 7.5 | 3.0 | \$395 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$2,001 | \$1.54 | \$3.08 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 2.0 | \$3,714 | \$0.10 | \$0.10 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$3.11 | 10 | 2.0 | \$9,422 | \$0.08 | \$0.09 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$645 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$242,685 | \$1.72 | \$2.29 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$37,786 | \$24.44 | \$24.44 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$297,322 | \$25.14 | \$25.14 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$27,880 | \$18.04 | \$18.04 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$67,754 | \$8.63 | \$9.59 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$144.00 | 25 | 1.0 | \$23,905 | \$2.18 | \$2.90 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$35,857 | \$2.72 | \$3.63 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$5,976 | \$0.82 | \$0.82 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.18 | 7.5 | 3.0 | \$78 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$220 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 2.0 | \$408 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$2.65 | 10 | 2.0 | \$1,691 | \$0.08 | \$0.09 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$100 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$6,453 | \$0.41 | \$0.55 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$8,787 | \$15.36 | \$15.36 |
| MF Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$8,851 | \$21.79 | \$21.79 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$3,713 | \$6.49 | \$7.21 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$290 | \$1.73 | \$1.92 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$7,700 | \$2.26 | \$3.02 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$1,540 | \$0.67 | \$0.67 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$4 | \$0.003 | \$0.003 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$1,502 | \$1.42 | \$1.89 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$1,171 | \$0.66 | \$0.66 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$133 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$4,890 | \$0.57 | \$0.76 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$103 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$2,461 | \$1.57 | \$1.75 |
| | | | | | | | | | |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$12,822 | \$3.77 | \$3.77 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$11,140 | \$5.35 | \$5.35 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$5,404 | \$1.59 | \$1.77 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$212 | \$0.24 | \$0.27 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

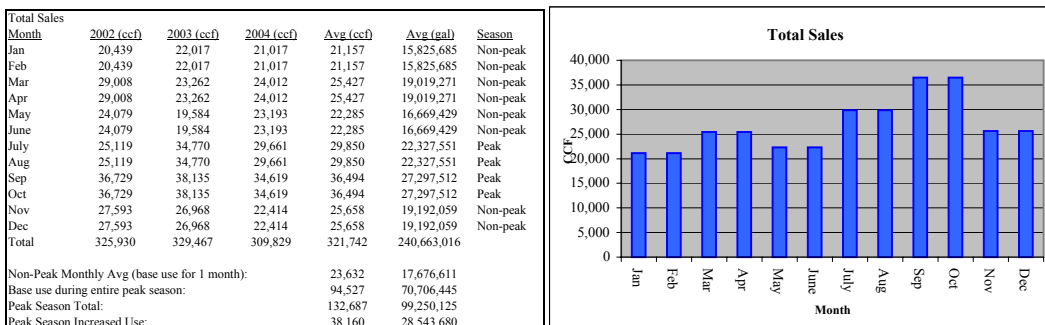
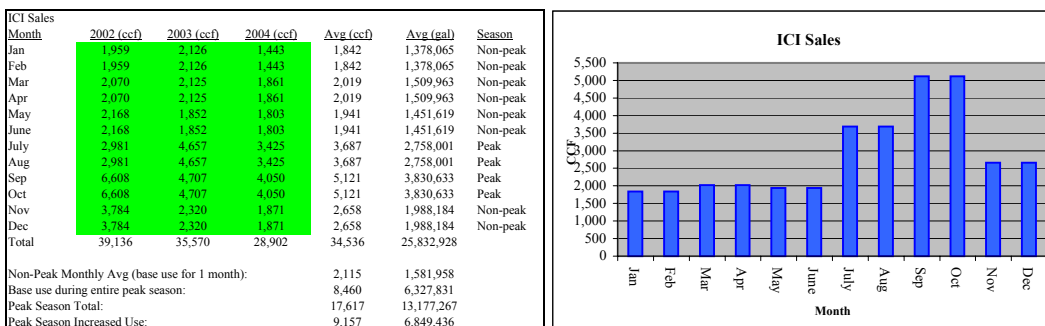
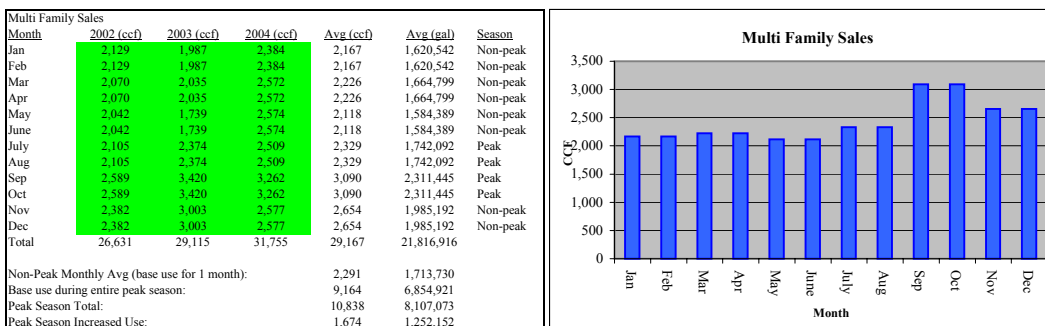
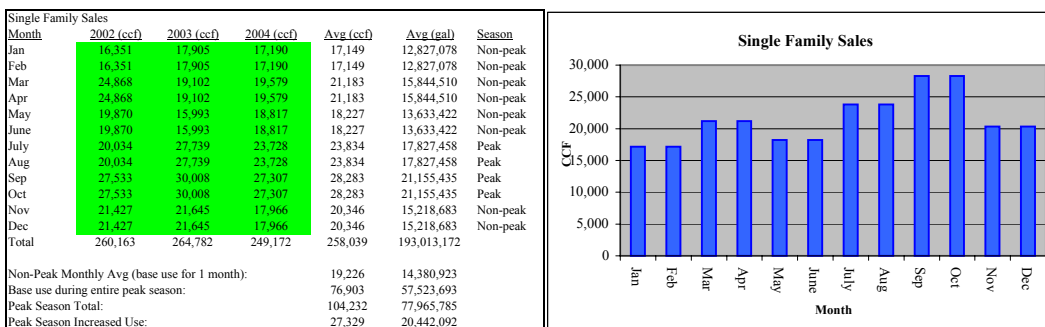
Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.



Shaded cells contain data entered specifically for the client
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtracted from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

118% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---------------|----------------|-----------------|-----------|---|
| | 28,543,680 | 33,681,542 | 100.0% | PSIU Total |
| All Sectors | 20,442,092 | 24,121,669 | 71.6% | PSIU SF |
| | 1,252,152 | 1,477,539 | 4.4% | PSIU MF |
| | 6,849,436 | 8,082,334 | 24.0% | PSIU ICI |
| | | | | |
| Single Family | 18,397,883 | 21,709,502 | 64.5% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 2,044,209 | 2,412,167 | 7.2% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 20,442,092 | 24,121,669 | 71.6% | Subtotal |
| | | | | |
| | 14,718,306 | 17,367,601 | 51.6% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 3,679,577 | 4,341,900 | 12.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 18,397,883 | 21,709,502 | 64.5% | Subtotal |
| | | | | |
| | 11,774,645 | 13,894,081 | 41.3% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ² |
| | 2,943,661 | 3,473,520 | 10.3% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ² |
| | 14,718,306 | 17,367,601 | 51.6% | Subtotal |
| | | | | |
| | 82,790 | 261,035 | 0.29% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 1,784,595 | 1,996,927 | 6.3% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ² |
| | 82,790 | 261,035 | 0.29% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 3,679,577 | 4,341,900 | 12.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 11,774,645 | 13,894,081 | 41.3% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ² |
| | 17,404,397 | 20,754,978 | 61.0% | Subtotal |
| Multi Family | 1,126,937 | 1,329,785 | 3.9% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 125,215 | 147,754 | 0.4% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 1,252,152 | 1,477,539 | 4.4% | Subtotal |
| | | | | |
| | 901,549 | 1,063,828 | 3.2% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 225,387 | 265,957 | 0.8% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 1,126,937 | 1,329,785 | 3.9% | Subtotal |
| | | | | |
| | 721,240 | 851,063 | 2.5% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ² |
| | 180,310 | 212,766 | 0.6% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ² |
| | 901,549 | 1,063,828 | 3.2% | Subtotal |
| | | | | |
| | 76,068 | 96,575 | 0.3% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 61,982 | 68,595 | 0.2% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ² |
| | 76,068 | 96,575 | 0.3% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 225,387 | 265,957 | 0.8% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 721,240 | 851,063 | 2.5% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ² |
| | 1,160,745 | 1,378,765 | 4.1% | Subtotal |
| ICI | 6,164,492 | 7,274,101 | 21.6% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 684,944 | 808,233 | 2.4% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 6,849,436 | 8,082,334 | 24.0% | Subtotal |
| | | | | |
| | 4,931,594 | 5,819,281 | 17.3% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 1,232,898 | 1,454,820 | 4.3% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 6,164,492 | 7,274,101 | 21.6% | Subtotal |
| | | | | |
| | 3,945,275 | 4,655,425 | 13.8% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ² |
| | 986,319 | 1,163,856 | 3.5% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ² |
| | 4,931,594 | 5,819,281 | 17.3% | Subtotal |
| | | | | |
| | 462,337 | 568,590 | 1.6% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 308,225 | 348,350 | 1.1% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ² |
| | 462,337 | 568,590 | 1.6% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 1,232,898 | 1,454,820 | 4.3% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 3,945,275 | 4,655,425 | 13.8% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ² |
| | 6,411,072 | 7,595,775 | 22.5% | Subtotal |

Cascade Water Alliance/Skyway 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

| | | | | |
|--|------------|------------|--------|---|
| All Sectors (Double check by making sure totals 100%.) | 2,044,209 | 2,412,167 | 7.2% | SF Non-Landscape |
| | 3,679,577 | 4,341,900 | 12.9% | SF Landscape Non-Lawn |
| | 11,774,645 | 13,894,081 | 41.3% | SF Landscape Lawn Not Needed If Dormant |
| | 2,943,661 | 3,473,520 | 10.3% | SF Landscape Lawn Needed Even If Dormant |
| | 125,215 | 147,754 | 0.4% | MF Non-Landscape |
| | 225,387 | 265,957 | 0.8% | MF Landscape Non-Lawn |
| | 721,240 | 851,063 | 2.5% | MF Landscape Lawn Not Needed If Dormant |
| | 180,310 | 212,766 | 0.6% | MF Landscape Lawn Needed Even If Dormant |
| | 684,944 | 808,233 | 2.4% | ICI Non-Landscape |
| | 1,232,898 | 1,454,820 | 4.3% | ICI Landscape Non-Lawn |
| | 3,945,275 | 4,655,425 | 13.8% | ICI Landscape Lawn Not Needed If Dormant |
| | 986,319 | 1,163,856 | 3.5% | ICI Landscape Lawn Needed Even If Dormant |
| | 28,543,680 | 33,681,542 | 100.0% | Total |
| | | | | |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

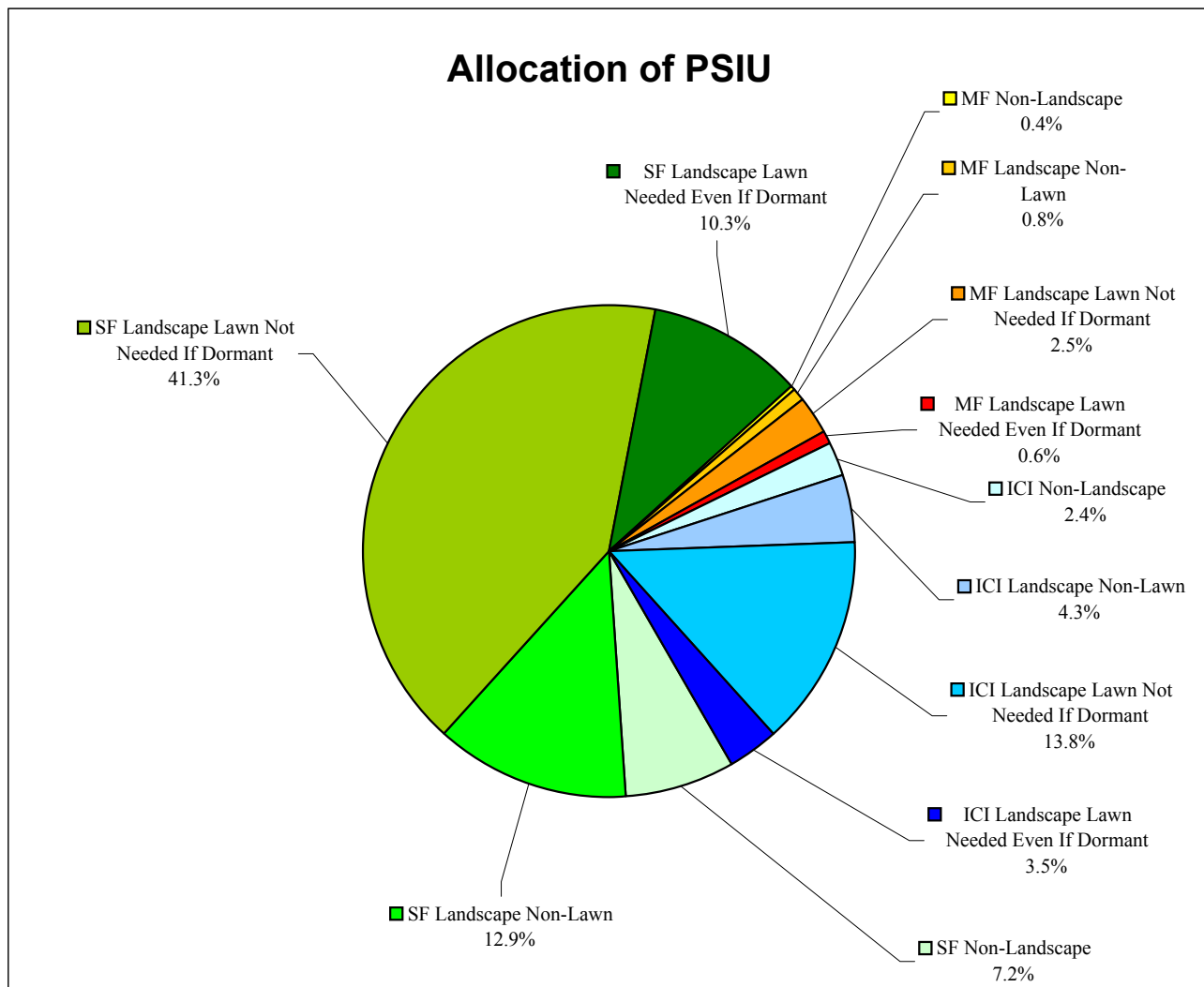
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.



Appendix C-8

Analysis of Savings and Costs

Tukwila Spreadsheets

Tukwila 6-Year

Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a | 2009 | a | 6 |
| 2 | Population | 6,840 | b | 7,538 | b | 698 |
| 3 | SF Accounts/Households | 1,194 | c | 1,225 | c | 31 |
| 4 | MF Accounts | 64 | e | 74 | r | 10 |
| 5 | Units per MF account | 31.0 | d | 31.0 | s | 0 |
| 6 | MF Households | 1,987 | e | 2,299 | e | 312 |
| 7 | Commercial Accounts | 615 | e | 647 | f | 32 |
| 8 | Persons Per SF HH Q54 | 2.40 | g | 2.40 | g | 0 |
| 9 | Persons Per MF HH Q54 | 2.0 | g | 2.0 | g | 0 |
| 10 | Employees Per ICI Account | 66.1 | h | 66.1 | h | 0 |
| 11 | Employment | 40,622 | c | 42,706 | c | 2,084 |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. 2005 Draft City of Tukwila Water System Plan; excludes area possibly assumed from KCWD 125 in order to match 2005 Draft Cascade Water Alliance Transmission and Supply Plan. | | | | | | |
| d. Calculation. | | | | | | |
| e. Interpreted from client data via 9-16-05 email comparing connections vs accounts. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Calculation. | | | | | | |
| s. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures ^f |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 94% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 3% | 25% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 97% | 75% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 74% | 74% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Tukwila 6 Yr- Water Conservation Potential Assessment

Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|--|--|-----|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | Total SF/MF/ICI | | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | W/ free riders ^c (affects cost) | Participating W/out free riders ^c (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 47% | 561 | 100% | 0% | 0 | 561 | 25% | 140 | 70 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 47% | 561 | 100% | 0% | 0 | 561 | 10% | 56 | 56 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 75% | 907 | 100% | 75% | 24 | 931 | 25% | 233 | 233 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 48% | 573 | 100% | 48% | 15 | 588 | 25% | 147 | 147 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 27% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 81 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 27% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 161 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 597 | 100% | 50% | 16 | 613 | 25% | 153 | 153 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 896 | 100% | 100% | 31 | 927 | 50% | 463 | 417 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 35% | 454 | 100% | 0% | 0 | 454 | 50% | 227 | 113 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 597 | 100% | 50% | 16 | 613 | 25% | 153 | 153 |
| | Efficient clotheswashers | SF HH w/ less efficient model Q22 | EN | 25% | 94% | 69% | 774 | 100% | 69% | 21 | 796 | 25% | 199 | 149 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 94% | 50% | 561 | 100% | 50% | 16 | 577 | 25% | 144 | 144 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 2% | 50% | 13 | 19% | 50% | 3 | 16 | 25% | 4 | 4 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 72% | 100% | 857 | 56% | 100% | 17 | 874 | 25% | 219 | 219 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 2% | 100% | 27 | 19% | 100% | 6 | 32 | 25% | 8 | 8 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 7% | 100% | 88 | 74% | 100% | 23 | 111 | 25% | 28 | 25 |
| MF Indoor | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 74% | 100% | 884 | 74% | 100% | 23 | 907 | 25% | 227 | 227 |
| | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 50% | 507 | 380 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 60% | 608 | 456 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 10% | 101 | 101 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 1,490 | 100% | 75% | 234 | 1,724 | 25% | 431 | 431 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 74% | 1,470 | 100% | 74% | 231 | 1,701 | 25% | 425 | 425 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 15% | 298 | 100% | 0% | 0 | 298 | 50% | 149 | 112 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 15% | 298 | 100% | 0% | 0 | 298 | 50% | 149 | 149 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 994 | 100% | 50% | 156 | 1,150 | 25% | 287 | 287 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 1,490 | 100% | 100% | 312 | 1,802 | 50% | 901 | 811 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 35% | 556 | 100% | 0% | 0 | 556 | 50% | 278 | 209 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 994 | 100% | 50% | 156 | 1,150 | 25% | 287 | 287 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 50% | 783 | 90% | 50% | 152 | 935 | 25% | 234 | 175 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 50% | 725 | 90% | 50% | 140 | 866 | 25% | 216 | 216 |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 10 | 42% | 50% | 2 | 12 | 25% | 3 | 3 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 25 | 28% | 100% | 3 | 27 | 25% | 7 | 7 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 18 | 42% | 90% | 4 | 22 | 25% | 5 | 5 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 2 | 70% | 100% | 7 | 9 | 10% | 1 | 1 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 45 | 70% | 100% | 7 | 52 | 10% | 5 | 5 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 308 | 100% | 0% | 0 | 308 | 50% | 154 | 115 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 308 | 100% | 0% | 0 | 308 | 10% | 31 | 31 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 92 | 20% | 75% | 5 | 97 | 25% | 24 | 24 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 320 | 80% | 0% | 0 | 320 | 50% | 160 | 120 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 492 | 80% | 100% | 25 | 517 | 10% | 52 | 52 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 461 | 100% | 0% | 0 | 461 | 50% | 231 | 208 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 9 | 2% | 75% | 0 | 10 | 25% | 2 | 2 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 17 | 11% | 0% | 0 | 17 | 75% | 13 | 11 |
| | Air cooled ice machine | ICI accounts | EN | 10% | 11% | 50% | 34 | 11% | 25% | 1 | 35 | 25% | 9 | 8 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 77 | 30% | 50% | 5 | 82 | 25% | 20 | 20 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 154 | 20% | 100% | 6 | 160 | 25% | 40 | 40 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 138 | 30% | 90% | 9 | 147 | 25% | 37 | 33 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 15 | 25% | 100% | 8 | 23 | 10% | 2 | 2 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 308 | 50% | 100% | 16 | 323 | 10% | 32 | 32 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation.

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations.

Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|-----------------------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|--------|-------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | | |
| | | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 23.3 | 8,488 | 1,190,886 | 595,443 | Full Yr | 365 | 3,263 | 1,631 | 3,263 | 1,631 | 7,145,314 | 3,572,657 | 9,551 | 4,776 | |
| | Dual flush toilets | 12.8 | b | 30.6 | 11,169 | 626,782 | 626,782 | Full Yr | 365 | 1,717 | 1,717 | 1,717 | 1,717 | 3,713,107 | 3,713,107 | 4,963 | 4,963 | |
| | Toilet leak detection and repair | 9.5 | c | 22.8 | 8,322 | 697,300 | 697,300 | Full Yr | 365 | 1,910 | 1,910 | 1,910 | 1,910 | 4,130,864 | 4,130,864 | 5,522 | 5,522 | |
| | Decrease toilet flushes | 2.6 | d | 6.2 | 2,278 | 334,807 | 334,807 | Full Yr | 365 | 917 | 917 | 917 | 917 | 1,983,425 | 1,983,425 | 2,651 | 2,651 | |
| | 2.5 gpm showerheads | 2.7 | e | 6.4 | 2,333 | 62,676 | 31,338 | Full Yr | 365 | 172 | 86 | 172 | 86 | 376,057 | 188,029 | 503 | 251 | |
| | 2.0 gpm showerheads | 4.4 | f | 10.7 | 3,888 | 626,762 | 626,762 | Full Yr | 365 | 1,717 | 1,717 | 1,717 | 1,717 | 3,712,991 | 3,712,991 | 4,963 | 4,963 | |
| | Decreased shower use | 2.2 | g | 5.3 | 1,927 | 295,103 | 295,103 | Full Yr | 365 | 809 | 809 | 809 | 809 | 1,748,211 | 1,748,211 | 2,337 | 2,337 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 8.2 | 2,979 | 1,380,117 | 1,242,105 | Full Yr | 365 | 3,781 | 3,403 | 3,781 | 3,403 | 8,175,927 | 7,358,334 | 10,929 | 9,836 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 3.3 | 1,204 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Decrease faucet use | 2.7 | j | 6.4 | 2,348 | 359,489 | 359,489 | Full Yr | 365 | 985 | 985 | 985 | 985 | 2,129,639 | 2,129,639 | 2,847 | 2,847 | |
| | Efficient clotheswashers | 5.2 | k | 12.4 | 4,538 | 902,792 | 677,094 | Full Yr | 365 | 2,473 | 1,855 | 2,473 | 1,855 | 5,348,215 | 4,011,162 | 7,149 | 5,362 | |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.0 | 1,102 | 158,876 | 158,876 | Full Yr | 365 | 435 | 435 | 435 | 435 | 941,197 | 941,197 | 1,258 | 1,258 | |
| | SF Out | Audits for automatic irrigation | n/a | u | n/a | n/a | 11,642 | 11,642 | Peak | 122 | 32 | 32 | 95 | 95 | 68,965 | 68,965 | 92 | 92 |
| | | Audits for manual irrigation | n/a | u | n/a | n/a | 210,445 | 210,445 | Peak | 122 | 577 | 577 | 1,725 | 1,725 | 1,246,695 | 1,246,695 | 1,666 | 1,666 |
| ET controllers | | n/a | u | n/a | n/a | 11,642 | 11,642 | Peak | 122 | 32 | 32 | 95 | 95 | 68,965 | 68,965 | 92 | 92 | |
| Limited lawn/low water use plants | | n/a | v | n/a | n/a | 53,581 | 48,223 | Peak | 122 | 147 | 132 | 439 | 395 | 317,417 | 285,675 | 424 | 382 | |
| Allow lawn to go dormant | | n/a | u | n/a | n/a | 1,396,521 | 1,396,521 | Peak | 122 | 3,826 | 3,826 | 11,447 | 11,447 | 8,273,102 | 8,273,102 | 11,059 | 11,059 | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 3,584,138 | 2,688,103 | Full Yr | 365 | 9,820 | 7,365 | 9,820 | 7,365 | 21,504,826 | 16,128,620 | 28,746 | 21,559 | |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 4,300,965 | 3,225,724 | Full Yr | 365 | 11,783 | 8,838 | 11,783 | 8,838 | 25,805,791 | 19,354,343 | 34,495 | 25,871 | |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 943,194 | 943,194 | Full Yr | 365 | 2,584 | 2,584 | 2,584 | 2,584 | 5,275,159 | 5,275,159 | 7,051 | 7,051 | |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 1,076,191 | 1,076,191 | Full Yr | 365 | 2,948 | 2,948 | 2,948 | 2,948 | 6,018,991 | 6,018,991 | 8,046 | 8,046 | |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 807,248 | 807,248 | Full Yr | 365 | 2,212 | 2,212 | 2,212 | 2,212 | 4,514,830 | 4,514,830 | 6,035 | 6,035 | |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 48,288 | 36,216 | Full Yr | 365 | 132 | 99 | 132 | 99 | 289,730 | 217,298 | 387 | 290 | |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 482,884 | 482,884 | Full Yr | 365 | 1,323 | 1,323 | 1,323 | 1,323 | 2,700,705 | 2,700,705 | 3,610 | 3,610 | |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 461,524 | 461,524 | Full Yr | 365 | 1,264 | 1,264 | 1,264 | 1,264 | 2,581,244 | 2,581,244 | 3,450 | 3,450 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 2,237,197 | 2,013,478 | Full Yr | 365 | 6,129 | 5,516 | 6,129 | 5,516 | 12,512,347 | 11,261,112 | 16,726 | 15,053 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 562,220 | 562,220 | Full Yr | 365 | 1,540 | 1,540 | 1,540 | 1,540 | 3,144,424 | 3,144,424 | 4,203 | 4,203 | |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 883,815 | 662,861 | Full Yr | 365 | 2,421 | 1,816 | 2,421 | 1,816 | 4,943,058 | 3,707,293 | 6,607 | 4,956 | |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 99,371 | 99,371 | Full Yr | 365 | 272 | 272 | 272 | 272 | 555,767 | 555,767 | 743 | 743 | |
| | MF Out | Audits for automatic irrigation | n/a | u | n/a | n/a | 74,405 | 74,405 | Peak | 122 | 204 | 204 | 610 | 610 | 416,137 | 416,137 | 556 | 556 |
| Audits for manual irrigation | | n/a | u | n/a | n/a | 55,856 | 55,856 | Peak | 122 | 153 | 153 | 458 | 458 | 312,393 | 312,393 | 418 | 418 | |
| ET controllers | | n/a | u | n/a | n/a | 74,405 | 66,964 | Peak | 122 | 204 | 183 | 610 | 549 | 416,137 | 374,523 | 556 | 501 | |
| Limited lawn/low water use plants | | n/a | v | n/a | n/a | 15,095 | 13,586 | Peak | 122 | 41 | 37 | 124 | 111 | 84,427 | 75,984 | 113 | 102 | |
| Allow lawn to go dormant | | n/a | u | n/a | n/a | 269,975 | 269,975 | Peak | 122 | 740 | 740 | 2,213 | 2,213 | 1,509,933 | 1,509,933 | 2,018 | 2,018 | |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 276.1 | 100,776 | 15,494,246 | 11,620,685 | Full Yr | 365 | 42,450 | 31,837 | 42,450 | 31,837 | 92,965,478 | 69,724,109 | 124,269 | 93,202 | |
| | Dual flush toilets | 5.5 | o | 363.3 | 132,599 | 4,077,433 | 4,077,433 | Full Yr | 365 | 11,171 | 11,171 | 11,171 | 11,171 | 23,867,678 | 23,867,678 | 31,904 | 31,904 | |
| | Toilet leak detection repair | 9.5 | c | 627.5 | 229,035 | 1,999,121 | 1,999,121 | Full Yr | 365 | 5,477 | 5,477 | 5,477 | 5,477 | 11,702,064 | 11,702,064 | 15,642 | 15,642 | |
| | 1.0 gpf urinals | 1.8 | p | 115.6 | 42,191 | 5,621,916 | 4,216,437 | Full Yr | 365 | 15,403 | 11,552 | 15,403 | 11,552 | 33,731,493 | 25,298,620 | 45,090 | 33,817 | |
| | Waterless urinals | 2.1 | q | 138.7 | 50,629 | 2,618,732 | 2,618,732 | Full Yr | 365 | 7,175 | 7,175 | 7,175 | 7,175 | 15,329,019 | 15,329,019 | 20,491 | 20,491 | |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 284.4 | 103,799 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 1,189,395 | 892,046 | Full Yr | 365 | 3,259 | 2,444 | 3,259 | 2,444 | 6,962,247 | 5,221,685 | 9,307 | 6,980 | |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 264,284 | 237,856 | Full Yr | 365 | 724 | 652 | 724 | 652 | 1,585,705 | 1,427,135 | 2,120 | 1,908 | |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 472,640 | 425,376 | Full Yr | 365 | 1,295 | 1,165 | 1,295 | 1,165 | 2,766,645 | 2,489,981 | 3,698 | 3,328 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,080,181 | 2,080,181 | Peak | 122 | 5,699 | 5,699 | 17,051 | 17,051 | 12,176,555 | 12,176,555 | 16,277 | 16,277 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 1,359,980 | 1,359,980 | Peak | 122 | 3,726 | 3,726 | 11,147 | 11,147 | 7,960,781 | 7,960,781 | 10,641 | 10,641 | |
| | ET controllers | n/a | u | n/a | n/a | 2,080,181 | 1,872,163 | Peak | 122 | 5,699 | 5,129 | 17,051 | 15,346 | 12,176,555 | 10,958,900 | 16,277 | 14,649 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 211,740 | 190,566 | Peak | 122 | 580 | 522 | 1,736 | 1,562 | 1,239,443 | 1,115,499 | 1,657 | 1,491 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 7,031,723 | 7,031,723 | Peak | 122 | 19,265 | 19,265 | 57,637 | 57,637 | 41,160,921 | 41,160,921 | 55,021 | 55,021 | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 1.00 | \$76.00 | 25 | 1.0 | \$10,662 | \$1.12 | \$2.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$190.00 | 25 | 1.0 | \$10,662 | \$2.15 | \$2.15 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.19 | 7.5 | 1.0 | \$44 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$774 | \$1.54 | \$3.08 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$774 | \$0.16 | \$0.16 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$3.11 | 10 | 1.0 | \$1,438 | \$0.13 | \$0.15 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$250 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$19,895 | \$2.78 | \$3.71 |
| SF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$2,785 | \$30.22 | \$30.22 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$51,792 | \$31.08 | \$31.08 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$2,015 | \$21.86 | \$21.86 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$8,347 | \$19.67 | \$21.86 |
| MF Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$144.00 | 25 | 1.0 | \$72,963 | \$2.54 | \$3.38 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$109,444 | \$3.17 | \$4.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$18,241 | \$2.59 | \$2.59 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.18 | 7.5 | 1.0 | \$78 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$671 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$671 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$2.65 | 10 | 1.0 | \$2,383 | \$0.14 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$306 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$4,675 | \$0.71 | \$0.94 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$6,250 | \$11.24 | \$11.24 |
| MF Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$6,654 | \$15.93 | \$15.93 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$2,743 | \$4.93 | \$5.48 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$278 | \$2.47 | \$2.74 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$61,500 | \$0.49 | \$0.66 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$12,300 | \$0.39 | \$0.39 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$10 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$11,993 | \$0.27 | \$0.35 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$7,759 | \$0.38 | \$0.38 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,061 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$8,728 | \$0.94 | \$1.25 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$824 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$6,505 | \$1.76 | \$1.95 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$45,979 | \$2.82 | \$2.82 |
| ICI Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$40,600 | \$3.82 | \$3.82 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$18,362 | \$1.13 | \$1.25 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$698 | \$0.42 | \$0.47 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

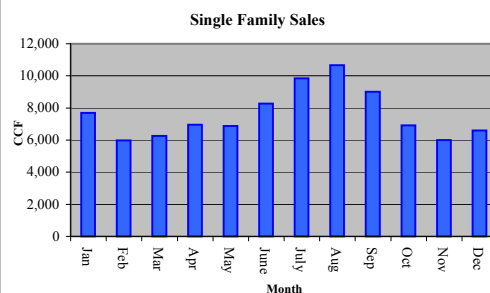
a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

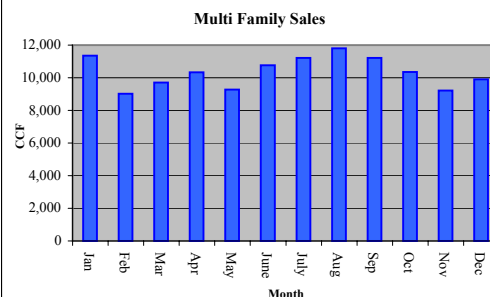
Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

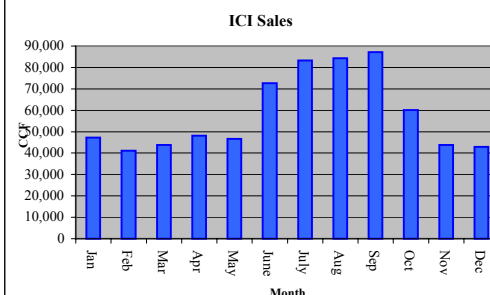
| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 8,070 | 8,082 | 6,913 | 7,688 | 5,750,873 | Non-peak |
| Feb | 5,752 | 5,929 | 6,256 | 5,979 | 4,472,292 | Non-peak |
| Mar | 6,218 | 5,977 | 6,554 | 6,250 | 4,674,751 | Non-peak |
| Apr | 6,733 | 7,231 | 6,906 | 6,957 | 5,203,587 | Non-peak |
| May | 6,555 | 7,311 | 6,745 | 6,870 | 5,139,009 | Non-peak |
| June | 7,872 | 6,528 | 10,443 | 8,281 | 6,194,188 | Peak |
| July | 8,581 | 10,528 | 10,447 | 9,852 | 7,369,296 | Peak |
| Aug | 8,782 | 11,371 | 11,817 | 10,657 | 7,971,187 | Peak |
| Sep | 8,092 | 9,334 | 9,617 | 9,014 | 6,742,721 | Peak |
| Oct | 6,407 | 7,353 | 6,963 | 6,908 | 5,166,935 | Non-peak |
| Nov | 5,604 | 6,274 | 6,106 | 5,995 | 4,484,011 | Non-peak |
| Dec | 6,776 | 6,287 | 6,760 | 6,608 | 4,942,535 | Non-peak |
| Total | 85,442 | 92,205 | 95,527 | 91,058 | 68,111,384 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 6,657 | 4,979,249 | |
| Base use during entire peak season: | | | | 26,627 | 19,916,996 | |
| Peak Season Total: | | | | 37,804 | 28,277,392 | |
| Peak Season Increased Use: | | | | 11,177 | 8,360,396 | |



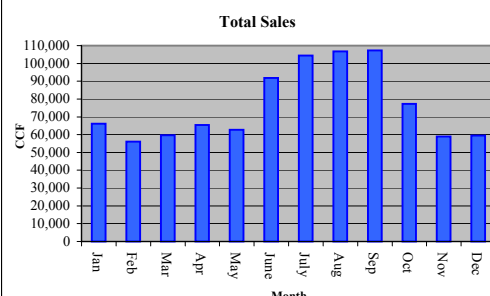
| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 12,101 | 11,847 | 10,131 | 11,360 | 8,497,031 | Non-peak |
| Feb | 9,222 | 9,231 | 8,616 | 9,023 | 6,749,204 | Non-peak |
| Mar | 10,313 | 9,417 | 9,409 | 9,713 | 7,265,324 | Non-peak |
| Apr | 10,334 | 10,604 | 10,088 | 10,342 | 7,735,816 | Non-peak |
| May | 10,326 | 8,876 | 8,650 | 9,284 | 6,944,432 | Non-peak |
| June | 10,524 | 9,808 | 11,991 | 10,774 | 8,059,201 | Peak |
| July | 11,150 | 11,557 | 10,914 | 11,207 | 8,382,836 | Peak |
| Aug | 10,533 | 11,496 | 13,367 | 11,799 | 8,825,403 | Peak |
| Sep | 10,751 | 11,338 | 11,559 | 11,216 | 8,389,568 | Peak |
| Oct | 9,881 | 10,816 | 10,363 | 10,353 | 7,744,293 | Non-peak |
| Nov | 8,366 | 9,253 | 10,015 | 9,211 | 6,890,077 | Non-peak |
| Dec | 9,995 | 9,712 | 9,999 | 9,902 | 7,406,696 | Non-peak |
| Total | 123,496 | 123,955 | 125,102 | 124,184 | 92,889,881 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 9,899 | 7,404,109 | |
| Base use during entire peak season: | | | | 39,594 | 29,616,437 | |
| Peak Season Total: | | | | 44,996 | 33,657,008 | |
| Peak Season Increased Use: | | | | 5,402 | 4,040,571 | |



| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 57,382 | 46,372 | 37,777 | 47,177 | 35,288,396 | Non-peak |
| Feb | 46,620 | 37,635 | 39,039 | 41,098 | 30,741,304 | Non-peak |
| Mar | 49,062 | 41,023 | 41,114 | 43,733 | 32,712,284 | Non-peak |
| Apr | 52,075 | 49,497 | 43,011 | 48,194 | 36,049,361 | Non-peak |
| May | 53,459 | 46,129 | 40,337 | 46,642 | 34,887,967 | Non-peak |
| June | 72,542 | 64,502 | 81,137 | 72,727 | 54,399,796 | Peak |
| July | 77,138 | 79,877 | 92,865 | 83,293 | 62,303,413 | Peak |
| Aug | 83,299 | 90,678 | 79,150 | 84,376 | 63,112,999 | Peak |
| Sep | 76,428 | 85,630 | 99,342 | 87,133 | 65,175,733 | Peak |
| Oct | 56,095 | 61,498 | 62,541 | 60,045 | 44,913,411 | Non-peak |
| Nov | 41,183 | 42,758 | 47,483 | 43,808 | 32,768,384 | Non-peak |
| Dec | 42,687 | 41,508 | 44,719 | 42,971 | 32,142,557 | Non-peak |
| Total | 707,970 | 687,107 | 708,515 | 701,197 | 524,495,605 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 46,709 | 34,937,958 | |
| Base use during entire peak season: | | | | 186,834 | 139,751,832 | |
| Peak Season Total: | | | | 327,529 | 244,991,941 | |
| Peak Season Increased Use: | | | | 140,695 | 105,240,109 | |



| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 77,553 | 66,301 | 54,821 | 66,225 | 49,536,300 | Non-peak |
| Feb | 61,594 | 52,795 | 53,911 | 56,100 | 41,962,800 | Non-peak |
| Mar | 65,593 | 56,417 | 57,077 | 59,696 | 44,652,359 | Non-peak |
| Apr | 69,142 | 67,332 | 60,005 | 65,493 | 48,988,764 | Non-peak |
| May | 70,340 | 62,316 | 55,732 | 62,796 | 46,971,408 | Non-peak |
| June | 90,938 | 80,838 | 103,571 | 91,782 | 68,653,185 | Peak |
| July | 96,869 | 101,962 | 114,226 | 104,352 | 78,055,545 | Peak |
| Aug | 102,614 | 113,545 | 104,334 | 106,831 | 79,909,588 | Peak |
| Sep | 95,271 | 106,302 | 120,518 | 107,364 | 80,308,023 | Peak |
| Oct | 72,383 | 79,667 | 79,867 | 77,306 | 57,824,639 | Non-peak |
| Nov | 55,153 | 58,285 | 63,604 | 59,014 | 44,142,472 | Non-peak |
| Dec | 59,458 | 57,507 | 61,478 | 59,481 | 44,491,788 | Non-peak |
| Total | 916,908 | 903,267 | 929,144 | 916,440 | 685,496,871 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 63,264 | 47,321,316 | |
| Base use during entire peak season: | | | | 253,055 | 189,285,265 | |
| Peak Season Total: | | | | 410,329 | 306,926,341 | |
| Peak Season Increased Use: | | | | 157,274 | 117,641,077 | |



Shaded cells contain data entered specifically for the client
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtracted from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

116% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 117,641,077 | 136,463,649 | 100.0% | PSIU Total |
| | | | | |
| | 8,360,396 | 9,698,059 | 7.1% | PSIU SF |
| | 4,040,571 | 4,687,063 | 3.4% | PSIU MF |
| | 105,240,109 | 122,078,527 | 89.5% | PSIU ICI |

| | | | | |
|---------------|-----------|-----------|-------|---|
| Single Family | 7,524,356 | 8,728,253 | 6.4% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 836,040 | 969,806 | 0.7% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 8,360,396 | 9,698,059 | 7.1% | Subtotal |
| | | | | |
| | 6,019,485 | 6,982,603 | 5.1% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 1,504,871 | 1,745,651 | 1.3% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 7,524,356 | 8,728,253 | 6.4% | Subtotal |
| | | | | |
| | 4,815,588 | 5,586,082 | 4.1% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 1,203,897 | 1,396,521 | 1.0% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 6,019,485 | 6,982,603 | 5.1% | Subtotal |
| | | | | |
| | 33,860 | 46,566 | 0.03% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 729,863 | 841,781 | 0.6% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 33,860 | 46,566 | 0.03% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 1,504,871 | 1,745,651 | 1.3% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 4,815,588 | 5,586,082 | 4.1% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 7,118,041 | 8,266,646 | 6.1% | Subtotal |

| | | | | |
|--------------|-----------|-----------|------|---|
| Multi Family | 3,636,514 | 4,218,356 | 3.1% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 404,057 | 468,706 | 0.3% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 4,040,571 | 4,687,063 | 3.4% | Subtotal |
| | | | | |
| | 2,909,211 | 3,374,685 | 2.5% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 727,303 | 843,671 | 0.6% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 3,636,514 | 4,218,356 | 3.1% | Subtotal |
| | | | | |
| | 2,327,369 | 2,699,748 | 2.0% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 581,842 | 674,937 | 0.5% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 2,909,211 | 3,374,685 | 2.5% | Subtotal |
| | | | | |
| | 245,465 | 297,620 | 0.2% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 200,008 | 223,422 | 0.2% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 245,465 | 297,620 | 0.2% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 727,303 | 843,671 | 0.6% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 2,327,369 | 2,699,748 | 2.0% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 3,745,610 | 4,362,082 | 3.2% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 94,716,098 | 109,870,674 | 80.5% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 10,524,011 | 12,207,853 | 8.9% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 105,240,109 | 122,078,527 | 89.5% | Subtotal |
| | | | | |
| | 75,772,879 | 87,896,539 | 64.4% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 18,943,220 | 21,974,135 | 16.1% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 94,716,098 | 109,870,674 | 80.5% | Subtotal |
| | | | | |
| | 60,618,303 | 70,317,231 | 51.5% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 15,154,576 | 17,579,308 | 12.9% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 75,772,879 | 87,896,539 | 64.4% | Subtotal |
| | | | | |
| | 7,103,707 | 8,320,724 | 6.0% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 4,735,805 | 5,439,918 | 4.0% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 7,103,707 | 8,320,724 | 6.0% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 18,943,220 | 21,974,135 | 16.1% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 60,618,303 | 70,317,231 | 51.5% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 98,504,742 | 114,372,732 | 83.7% | Subtotal |

Cascade Water Alliance/Tukwila 6 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|---|--------------------|--------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%.) | 836,040 | 969,806 | 0.7% | SF Non-Landscape |
| | 1,504,871 | 1,745,651 | 1.3% | SF Landscape Non-Lawn |
| | 4,815,588 | 5,586,082 | 4.1% | SF Landscape Lawn Not Needed If Dormant |
| | 1,203,897 | 1,396,521 | 1.0% | SF Landscape Lawn Needed Even If Dormant |
| | 404,057 | 468,706 | 0.3% | MF Non-Landscape |
| | 727,303 | 843,671 | 0.6% | MF Landscape Non-Lawn |
| | 2,327,369 | 2,699,748 | 2.0% | MF Landscape Lawn Not Needed If Dormant |
| | 581,842 | 674,937 | 0.5% | MF Landscape Lawn Needed Even If Dormant |
| | 10,524,011 | 12,207,853 | 8.9% | ICI Non-Landscape |
| | 18,943,220 | 21,974,135 | 16.1% | ICI Landscape Non-Lawn |
| | 60,618,303 | 70,317,231 | 51.5% | ICI Landscape Lawn Not Needed If Dormant |
| | 15,154,576 | 17,579,308 | 12.9% | ICI Landscape Lawn Needed Even If Dormant |
| | 117,641,077 | 136,463,649 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

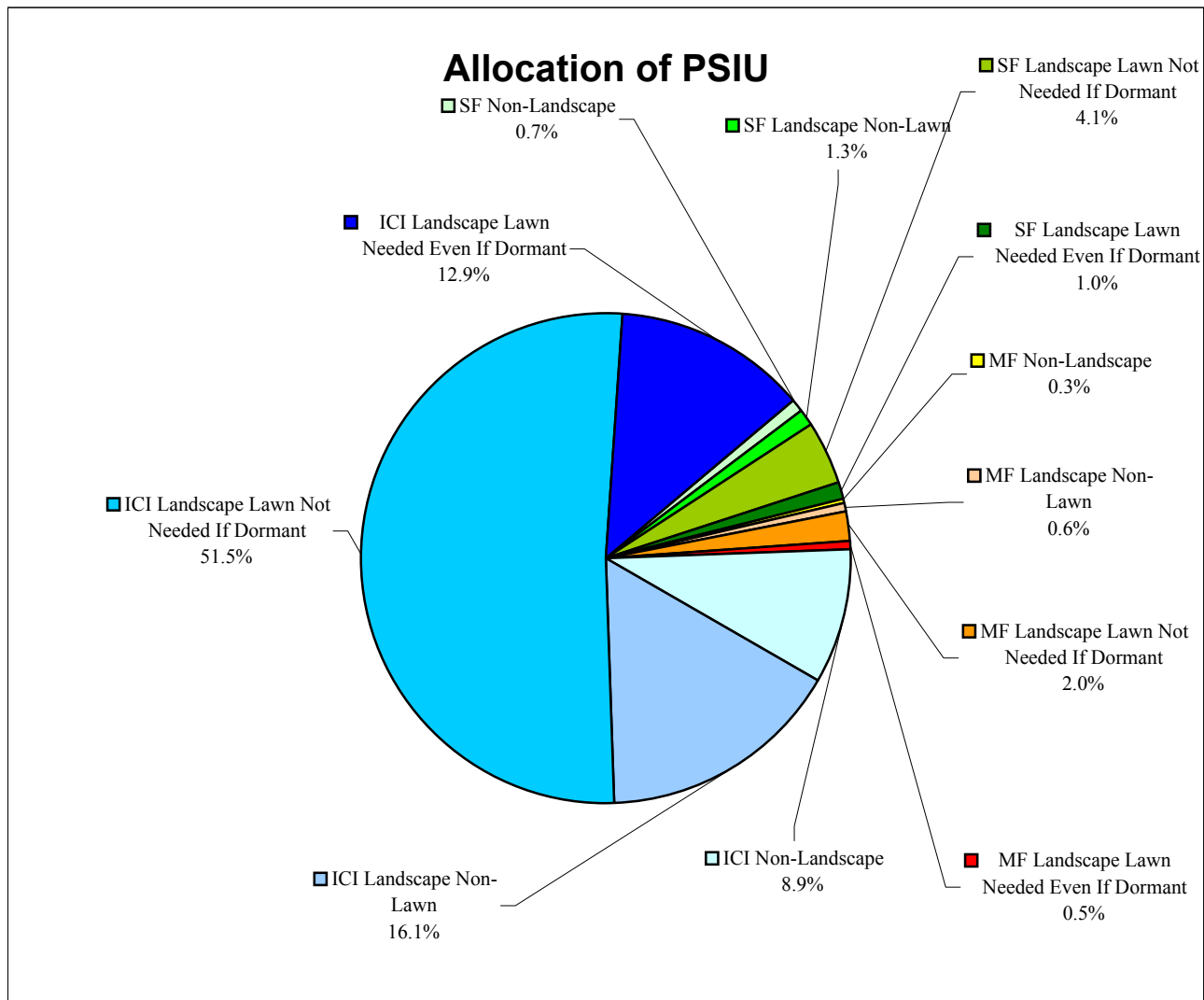
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Tukwila 20-Year

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--------|---|
| 1 | 2 | 3 | 4 | 5 | | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | | |
| 1 | Year | 2004 | a | 2023 | a | 20 | i |
| 2 | Population | 6,840 | b | 10,755 | b | 3,916 | j |
| 3 | SF Accounts/Households | 1,194 | c | 1,368 | c | 174 | j |
| 4 | MF Accounts | 64 | e | 120 | r | 56 | j |
| 5 | Units per MF account | 31.0 | d | 31.0 | s | 0 | j |
| 6 | MF Households | 1,987 | c | 3,736 | c | 1,749 | j |
| 7 | Commercial Accounts | 615 | e | 1,171 | f | 556 | j |
| 8 | Persons Per SF HH Q54 | 2.40 | g | 2.40 | g | 0 | j |
| 9 | Persons Per MF HH Q54 | 2.0 | g | 2.0 | g | 0 | j |
| 10 | Employees Per ICI Account | 66.1 | h | 50.1 | h | -16 | j |
| 11 | Employment | 40,622 | c | 58,630 | c | 18,008 | j |
| Footnotes: | | | | | | | |
| a. Provided by client. | | | | | | | |
| b. Calculation. | | | | | | | |
| c. 2005 Draft City of Tukwila Water System Plan; excludes area possibly assumed from KCWD 125 in order to match 2005 Draft Cascade Water Alliance Transmission and Supply Plan. | | | | | | | |
| d. Calculation. | | | | | | | |
| e. Interpreted from client data via 9-16-05 email comparing connections vs accounts. | | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| h. Calculation. | | | | | | | |
| i. Calculation. | | | | | | | |
| j. Calculation. | | | | | | | |
| r. Calculation. | | | | | | | |
| s. Kept same as 2004. | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures ^f |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 94% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 3% | 25% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 97% | 75% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 74% | 74% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|---------------|-------------------------------|-------------------------------------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^e | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | | W/ free riders (affects cost) | W/out free riders (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 75% | 561 | 100% | 0% | 0 | 561 | 25% | 140 | 70 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 75% | 561 | 100% | 0% | 0 | 561 | 10% | 56 | 56 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 75% | 907 | 100% | 75% | 132 | 1,040 | 25% | 260 | 260 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 80% | 573 | 100% | 80% | 84 | 657 | 25% | 164 | 164 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 75% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 81 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 75% | 322 | 100% | 0% | 0 | 322 | 50% | 161 | 161 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 597 | 100% | 50% | 87 | 684 | 25% | 171 | 171 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 896 | 100% | 100% | 174 | 1,070 | 50% | 535 | 481 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 75% | 454 | 100% | 0% | 0 | 454 | 50% | 227 | 113 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 597 | 100% | 50% | 87 | 684 | 25% | 171 | 171 |
| SF Outdoor | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 94% | 60% | 774 | 100% | 60% | 120 | 894 | 50% | 447 | 335 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 94% | 50% | 561 | 100% | 50% | 87 | 648 | 25% | 162 | 162 |
| | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 2% | 50% | 13 | 19% | 50% | 16 | 29 | 25% | 7 | 7 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 72% | 100% | 857 | 56% | 100% | 97 | 954 | 25% | 238 | 238 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 2% | 100% | 27 | 19% | 100% | 32 | 59 | 25% | 15 | 15 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 7% | 100% | 88 | 74% | 100% | 129 | 217 | 25% | 54 | 49 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 74% | 100% | 884 | 74% | 100% | 129 | 1,012 | 25% | 253 | 253 |
| | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 50% | 507 | 380 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 60% | 608 | 456 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 51% | 1,013 | 100% | 0% | 0 | 1,013 | 10% | 101 | 101 |
| MF Indoor | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 1,490 | 100% | 75% | 1,312 | 2,802 | 25% | 701 | 701 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 75% | 1,470 | 100% | 75% | 1,294 | 2,765 | 25% | 691 | 691 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 75% | 298 | 100% | 0% | 0 | 298 | 50% | 149 | 112 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 75% | 298 | 100% | 0% | 0 | 298 | 50% | 149 | 149 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 994 | 100% | 50% | 875 | 1,868 | 25% | 467 | 467 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 1,490 | 100% | 100% | 1,749 | 3,239 | 50% | 1,620 | 1,458 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 75% | 556 | 100% | 0% | 0 | 556 | 50% | 278 | 209 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 994 | 100% | 50% | 875 | 1,868 | 25% | 467 | 467 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 51% | 783 | 90% | 51% | 850 | 1,633 | 50% | 817 | 612 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 50% | 725 | 90% | 50% | 787 | 1,512 | 25% | 378 | 378 |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 10 | 42% | 50% | 12 | 22 | 25% | 5 | 5 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 25 | 28% | 100% | 16 | 40 | 25% | 10 | 10 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 18 | 42% | 90% | 21 | 39 | 25% | 10 | 9 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 2 | 70% | 100% | 39 | 42 | 10% | 4 | 4 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 45 | 70% | 100% | 39 | 84 | 10% | 8 | 8 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 308 | 100% | 0% | 0 | 308 | 50% | 154 | 115 |
| ICI Indoor | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 308 | 100% | 0% | 0 | 308 | 10% | 31 | 31 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 92 | 20% | 75% | 83 | 176 | 25% | 44 | 44 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 320 | 80% | 0% | 0 | 320 | 50% | 160 | 120 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 492 | 80% | 100% | 445 | 937 | 10% | 94 | 94 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 461 | 100% | 0% | 0 | 461 | 50% | 231 | 208 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 9 | 2% | 75% | 8 | 18 | 50% | 9 | 7 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 17 | 11% | 0% | 0 | 17 | 75% | 13 | 11 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 34 | 11% | 25% | 15 | 49 | 25% | 12 | 11 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 77 | 30% | 50% | 83 | 160 | 25% | 40 | 40 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 154 | 20% | 100% | 111 | 265 | 25% | 66 | 66 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 138 | 30% | 90% | 150 | 288 | 25% | 72 | 65 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 15 | 25% | 100% | 139 | 154 | 10% | 15 | 14 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 308 | 50% | 100% | 278 | 586 | 10% | 59 | 59 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-----------------------------------|---------------------------------------|--|--|---|--|---|-----------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 23.3 | 8,488 | 416,810 | 208,405 | Full Yr | 365 | 1,142 | 571 | 1,142 | 571 | 8,336,200 | 4,168,100 | 11,143 | 5,572 |
| | Dual flush toilets | 12.8 | b | 30.6 | 11,169 | 626,782 | 626,782 | Full Yr | 365 | 1,717 | 1,717 | 1,717 | 1,717 | 11,738,416 | 11,738,416 | 15,691 | 15,691 |
| | Toilet leak detection and repair | 9.5 | c | 22.8 | 8,322 | 778,700 | 778,700 | Full Yr | 365 | 2,133 | 2,133 | 2,133 | 2,133 | 14,583,539 | 14,583,539 | 19,494 | 19,494 |
| | Decrease toilet flushes | 2.6 | d | 6.2 | 2,278 | 373,891 | 373,891 | Full Yr | 365 | 1,024 | 1,024 | 1,024 | 1,024 | 7,002,253 | 7,002,253 | 9,360 | 9,360 |
| | 2.5 gpm showerheads | 2.7 | e | 6.4 | 2,333 | 18,803 | 9,401 | Full Yr | 365 | 52 | 26 | 52 | 26 | 376,057 | 188,029 | 503 | 251 |
| | 2.0 gpm showerheads | 4.4 | f | 10.7 | 3,888 | 626,762 | 626,762 | Full Yr | 365 | 1,717 | 1,717 | 1,717 | 1,717 | 11,738,049 | 11,738,049 | 15,690 | 15,690 |
| | Decreased shower use | 2.2 | g | 5.3 | 1,927 | 329,551 | 329,551 | Full Yr | 365 | 903 | 903 | 903 | 903 | 6,171,858 | 6,171,858 | 8,250 | 8,250 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 8.2 | 2,979 | 1,593,130 | 1,433,817 | Full Yr | 365 | 4,365 | 3,928 | 4,365 | 3,928 | 29,836,257 | 26,852,632 | 39,883 | 35,894 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 3.3 | 1,204 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 6.4 | 2,348 | 401,453 | 401,453 | Full Yr | 365 | 1,100 | 1,100 | 1,100 | 1,100 | 7,518,445 | 7,518,445 | 10,050 | 10,050 |
| | Efficient clotheswashers | 5.2 | k | 12.4 | 4,538 | 2,029,451 | 1,522,088 | Full Yr | 365 | 5,560 | 4,170 | 5,560 | 4,170 | 38,007,702 | 28,505,776 | 50,806 | 38,104 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.0 | 1,102 | 178,575 | 178,575 | Full Yr | 365 | 489 | 489 | 489 | 489 | 3,344,363 | 3,344,363 | 4,470 | 4,470 |
| SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 24,050 | 24,050 | Peak | 122 | 66 | 66 | 197 | 197 | 450,410 | 450,410 | 602 | 602 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 260,487 | 260,487 | Peak | 122 | 714 | 714 | 2,135 | 2,135 | 4,878,415 | 4,878,415 | 6,521 | 6,521 |
| | ET controllers | n/a | u | n/a | n/a | 24,050 | 24,050 | Peak | 122 | 66 | 66 | 197 | 197 | 450,410 | 450,410 | 602 | 602 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 118,613 | 106,751 | Peak | 122 | 325 | 292 | 972 | 875 | 2,221,385 | 1,999,246 | 2,969 | 2,672 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 1,769,729 | 1,769,729 | Peak | 122 | 4,849 | 4,849 | 14,506 | 14,506 | 33,143,602 | 33,143,602 | 44,304 | 44,304 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 1,254,448 | 940,836 | Full Yr | 365 | 3,437 | 2,578 | 3,437 | 2,578 | 25,088,964 | 18,816,723 | 33,537 | 25,153 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 1,505,338 | 1,129,003 | Full Yr | 365 | 4,124 | 3,093 | 4,124 | 3,093 | 30,106,757 | 22,580,067 | 40,244 | 30,183 |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 943,194 | 943,194 | Full Yr | 365 | 2,584 | 2,584 | 2,584 | 2,584 | 14,448,340 | 14,448,340 | 19,313 | 19,313 |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 1,748,868 | 1,748,868 | Full Yr | 365 | 4,791 | 4,791 | 4,791 | 4,791 | 26,790,078 | 26,790,078 | 35,811 | 35,811 |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 1,311,822 | 1,311,822 | Full Yr | 365 | 3,594 | 3,594 | 3,594 | 3,594 | 20,095,170 | 20,095,170 | 26,862 | 26,862 |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 14,487 | 10,865 | Full Yr | 365 | 40 | 30 | 40 | 30 | 289,730 | 217,298 | 387 | 290 |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 482,884 | 482,884 | Full Yr | 365 | 1,323 | 1,323 | 1,323 | 1,323 | 7,397,067 | 7,397,067 | 9,888 | 9,888 |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 750,002 | 750,002 | Full Yr | 365 | 2,055 | 2,055 | 2,055 | 2,055 | 11,488,923 | 11,488,923 | 15,357 | 15,357 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 4,020,997 | 3,618,897 | Full Yr | 365 | 11,016 | 9,915 | 11,016 | 9,915 | 61,595,733 | 55,436,160 | 82,336 | 74,103 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 913,639 | 913,639 | Full Yr | 365 | 2,503 | 2,503 | 2,503 | 2,503 | 13,995,597 | 13,995,597 | 18,708 | 18,708 |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 3,088,060 | 2,316,045 | Full Yr | 365 | 8,460 | 6,345 | 8,460 | 6,345 | 47,304,521 | 35,478,390 | 63,233 | 47,425 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 173,601 | 173,601 | Full Yr | 365 | 476 | 476 | 476 | 476 | 2,659,315 | 2,659,315 | 3,555 | 3,555 |
| | MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 104,285 | 104,285 | Peak | 122 | 286 | 286 | 855 | 855 | 1,597,495 | 1,597,495 | 2,135 |
| Audits for manual irrigation | | n/a | u | n/a | n/a | 64,118 | 64,118 | Peak | 122 | 176 | 176 | 526 | 526 | 982,199 | 982,199 | 1,313 | 1,313 |
| ET controllers | | n/a | u | n/a | n/a | 104,285 | 93,857 | Peak | 122 | 286 | 257 | 855 | 769 | 1,597,495 | 1,437,746 | 2,135 | 1,922 |
| Limited lawn/low water use plants | | n/a | v | n/a | n/a | 52,894 | 47,605 | Peak | 122 | 145 | 130 | 434 | 390 | 810,265 | 729,238 | 1,083 | 975 |
| Allow lawn to go dormant | | n/a | u | n/a | n/a | 342,123 | 342,123 | Peak | 122 | 937 | 937 | 2,804 | 2,804 | 5,240,823 | 5,240,823 | 7,006 | 7,006 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 276.1 | 100,776 | 5,422,986 | 4,067,240 | Full Yr | 365 | 14,857 | 11,143 | 14,857 | 11,143 | 108,459,724 | 81,344,793 | 144,980 | 108,735 |
| | Dual flush toilets | 5.5 | o | 363.3 | 132,599 | 4,077,433 | 4,077,433 | Full Yr | 365 | 11,171 | 11,171 | 11,171 | 11,171 | 69,024,971 | 69,024,971 | 92,267 | 92,267 |
| | Toilet leak detection repair | 9.5 | c | 627.5 | 229,035 | 3,620,706 | 3,620,706 | Full Yr | 365 | 9,920 | 9,920 | 9,920 | 9,920 | 61,293,256 | 61,293,256 | 81,932 | 81,932 |
| | 1.0 gpf urinals | 1.8 | p | 115.6 | 42,191 | 1,686,575 | 1,264,931 | Full Yr | 365 | 4,621 | 3,466 | 4,621 | 3,466 | 33,731,493 | 25,298,620 | 45,090 | 33,817 |
| | Waterless urinals | 2.1 | q | 138.7 | 50,629 | 4,742,914 | 4,742,914 | Full Yr | 365 | 12,994 | 12,994 | 12,994 | 12,994 | 80,290,581 | 80,290,581 | 107,326 | 107,326 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 284.4 | 103,799 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 4,308,343 | 3,231,257 | Full Yr | 365 | 11,804 | 8,853 | 11,804 | 8,853 | 72,933,938 | 54,700,454 | 97,492 | 73,119 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 79,285 | 71,357 | Full Yr | 365 | 217 | 195 | 217 | 195 | 1,585,705 | 1,427,135 | 2,120 | 1,908 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 669,124 | 602,212 | Full Yr | 365 | 1,833 | 1,650 | 1,833 | 1,650 | 11,327,295 | 10,194,565 | 15,141 | 13,627 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,858,520 | 2,858,520 | Peak | 122 | 7,832 | 7,832 | 23,430 | 23,430 | 48,390,561 | 48,390,561 | 64,685 | 64,685 |
| ICI Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 1,575,136 | 1,575,136 | Peak | 122 | 4,315 | 4,315 | 12,911 | 12,911 | 26,664,751 | 26,664,751 | 35,643 | 35,643 |
| | ET controllers | n/a | u | n/a | n/a | 2,858,520 | 2,572,668 | Peak | 122 | 7,832 | 7,048 | 23,430 | 21,087 | 48,390,561 | 43,551,505 | 64,685 | 58,216 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,395,299 | 1,255,769 | Peak | 122 | 3,823 | 3,440 | 11,437 | 10,293 | 23,620,371 | 21,258,333 | 31,574 | 28,416 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 8,910,891 | 8,910,891 | Peak | 122 | 24,413 | 24,413 | 73,040 | 73,040 | 150,848,321 | 150,848,321 | 201,642 | 201,642 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$400.00 | 1.00 | \$76.00 | 25 | 1.0 | \$10,662 | \$0.96 | \$1.91 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$190.00 | 25 | 1.0 | \$10,662 | \$0.68 | \$0.68 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.19 | 7.5 | 3.0 | \$141 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 1.0 | \$774 | \$1.54 | \$3.08 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.80 | 12.5 | 2.0 | \$1,485 | \$0.09 | \$0.09 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$3.11 | 10 | 2.0 | \$3,210 | \$0.08 | \$0.09 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$250 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$85,557 | \$1.68 | \$2.25 |
| SF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$9,756 | \$16.20 | \$16.20 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$108,689 | \$16.67 | \$16.67 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$7,092 | \$11.78 | \$11.78 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$16,284 | \$5.48 | \$6.09 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$144.00 | 25 | 1.0 | \$72,963 | \$2.18 | \$2.90 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$109,444 | \$2.72 | \$3.63 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$180.00 | 25 | 1.0 | \$18,241 | \$0.94 | \$0.94 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.18 | 7.5 | 3.0 | \$310 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$671 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 2.0 | \$1,143 | \$0.12 | \$0.12 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$2.65 | 10 | 2.0 | \$7,512 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$306 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$27,434 | \$0.43 | \$0.58 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$19,647 | \$9.20 | \$9.20 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$17,132 | \$13.05 | \$13.05 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$8,645 | \$4.05 | \$4.50 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,250 | \$1.15 | \$1.28 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$61,500 | \$0.42 | \$0.57 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$12,300 | \$0.13 | \$0.13 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$46 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$11,993 | \$0.27 | \$0.35 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$14,052 | \$0.13 | \$0.13 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$1,061 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$56,590 | \$0.58 | \$0.77 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$824 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$24,054 | \$1.59 | \$1.77 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$154,927 | \$2.40 | \$2.40 |
| ICI Outdoor | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$121,070 | \$3.40 | \$3.40 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$66,294 | \$1.02 | \$1.14 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$4,631 | \$0.15 | \$0.16 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | | | | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

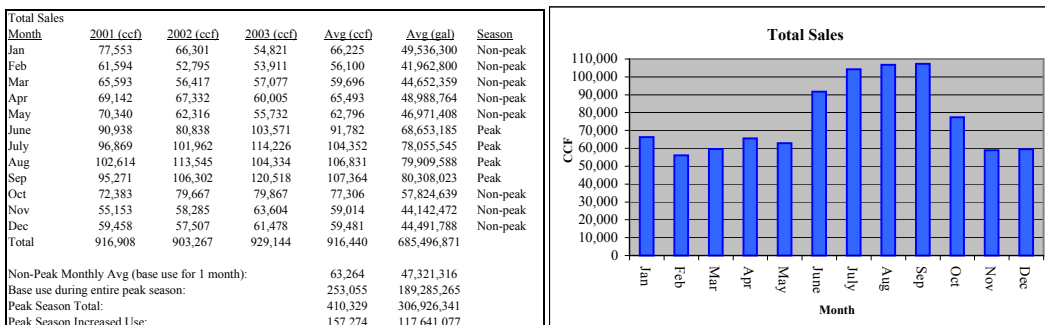
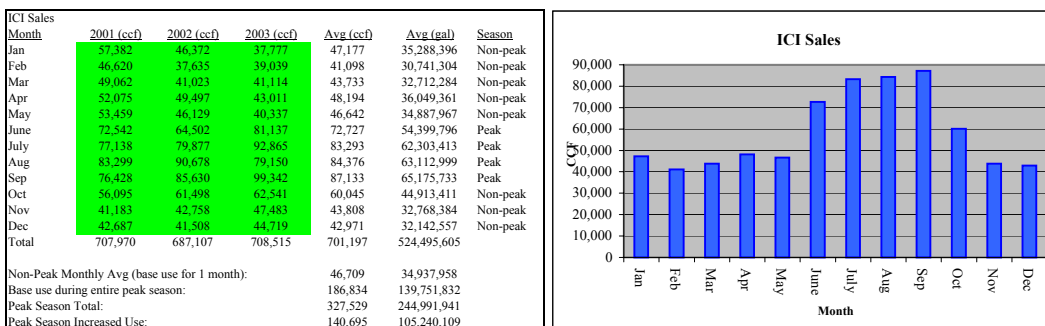
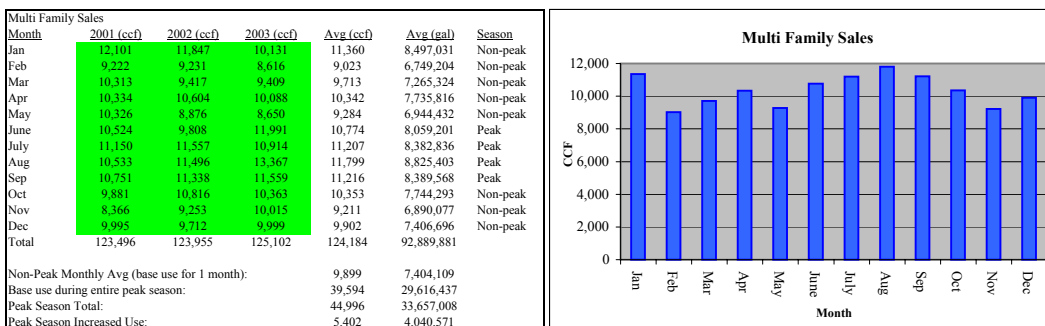
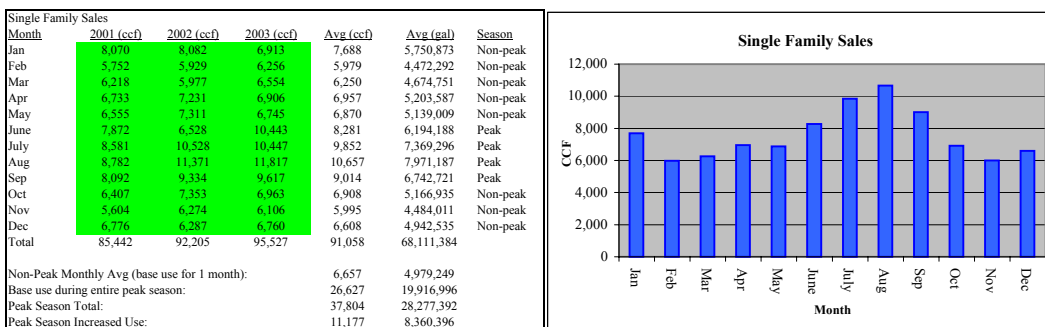
Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.



Shaded cells contain data entered specifically for the client
White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

147% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 117,641,077 | 172,932,383 | 100.0% | PSIU Total |
| | | | | |
| | 8,360,396 | 12,289,782 | 7.1% | PSIU SF |
| | 4,040,571 | 5,939,640 | 3.4% | PSIU MF |
| | 105,240,109 | 154,702,961 | 89.5% | PSIU ICI |

| | | | | |
|---------------|-----------|------------|-------|---|
| Single Family | 7,524,356 | 11,060,804 | 6.4% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 836,040 | 1,228,978 | 0.7% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 8,360,396 | 12,289,782 | 7.1% | Subtotal |
| | | | | |
| | 6,019,485 | 8,848,643 | 5.1% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 1,504,871 | 2,212,161 | 1.3% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 7,524,356 | 11,060,804 | 6.4% | Subtotal |
| | | | | |
| | 4,815,588 | 7,078,915 | 4.1% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 1,203,897 | 1,769,729 | 1.0% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 6,019,485 | 8,848,643 | 5.1% | Subtotal |
| | | | | |
| | 33,860 | 96,200 | 0.03% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 729,863 | 1,041,947 | 0.6% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 33,860 | 96,200 | 0.03% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 1,504,871 | 2,212,161 | 1.3% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 4,815,588 | 7,078,915 | 4.1% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 7,118,041 | 10,525,422 | 6.1% | Subtotal |

| | | | | |
|--------------|-----------|-----------|------|---|
| Multi Family | 3,636,514 | 5,345,676 | 3.1% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 404,057 | 593,964 | 0.3% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 4,040,571 | 5,939,640 | 3.4% | Subtotal |
| | | | | |
| | 2,909,211 | 4,276,541 | 2.5% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 727,303 | 1,069,135 | 0.6% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 3,636,514 | 5,345,676 | 3.1% | Subtotal |
| | | | | |
| | 2,327,369 | 3,421,233 | 2.0% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 581,842 | 855,308 | 0.5% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 2,909,211 | 4,276,541 | 2.5% | Subtotal |
| | | | | |
| | 245,465 | 417,141 | 0.2% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 200,008 | 256,474 | 0.2% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 245,465 | 417,141 | 0.2% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 727,303 | 1,069,135 | 0.6% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 2,327,369 | 3,421,233 | 2.0% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 3,745,610 | 5,581,123 | 3.2% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 94,716,098 | 139,232,665 | 80.5% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 10,524,011 | 15,470,296 | 8.9% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 105,240,109 | 154,702,961 | 89.5% | Subtotal |
| | | | | |
| | 75,772,879 | 111,386,132 | 64.4% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 18,943,220 | 27,846,533 | 16.1% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 94,716,098 | 139,232,665 | 80.5% | Subtotal |
| | | | | |
| | 60,618,303 | 89,108,905 | 51.5% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 15,154,576 | 22,277,226 | 12.9% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 75,772,879 | 111,386,132 | 64.4% | Subtotal |
| | | | | |
| | 7,103,707 | 11,434,081 | 6.0% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 4,735,805 | 6,300,546 | 4.0% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 7,103,707 | 11,434,081 | 6.0% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 18,943,220 | 27,846,533 | 16.1% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 60,618,303 | 89,108,905 | 51.5% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 98,504,742 | 146,124,146 | 83.7% | Subtotal |

Cascade Water Alliance/Tukwila 20 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|--|--------------------|--------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%.) | 836,040 | 1,228,978 | 0.7% | SF Non-Landscape |
| | 1,504,871 | 2,212,161 | 1.3% | SF Landscape Non-Lawn |
| | 4,815,588 | 7,078,915 | 4.1% | SF Landscape Lawn Not Needed If Dormant |
| | 1,203,897 | 1,769,729 | 1.0% | SF Landscape Lawn Needed Even If Dormant |
| | 404,057 | 593,964 | 0.3% | MF Non-Landscape |
| | 727,303 | 1,069,135 | 0.6% | MF Landscape Non-Lawn |
| | 2,327,369 | 3,421,233 | 2.0% | MF Landscape Lawn Not Needed If Dormant |
| | 581,842 | 855,308 | 0.5% | MF Landscape Lawn Needed Even If Dormant |
| | 10,524,011 | 15,470,296 | 8.9% | ICI Non-Landscape |
| | 18,943,220 | 27,846,533 | 16.1% | ICI Landscape Non-Lawn |
| | 60,618,303 | 89,108,905 | 51.5% | ICI Landscape Lawn Not Needed If Dormant |
| | 15,154,576 | 22,277,226 | 12.9% | ICI Landscape Lawn Needed Even If Dormant |
| | 117,641,077 | 172,932,383 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

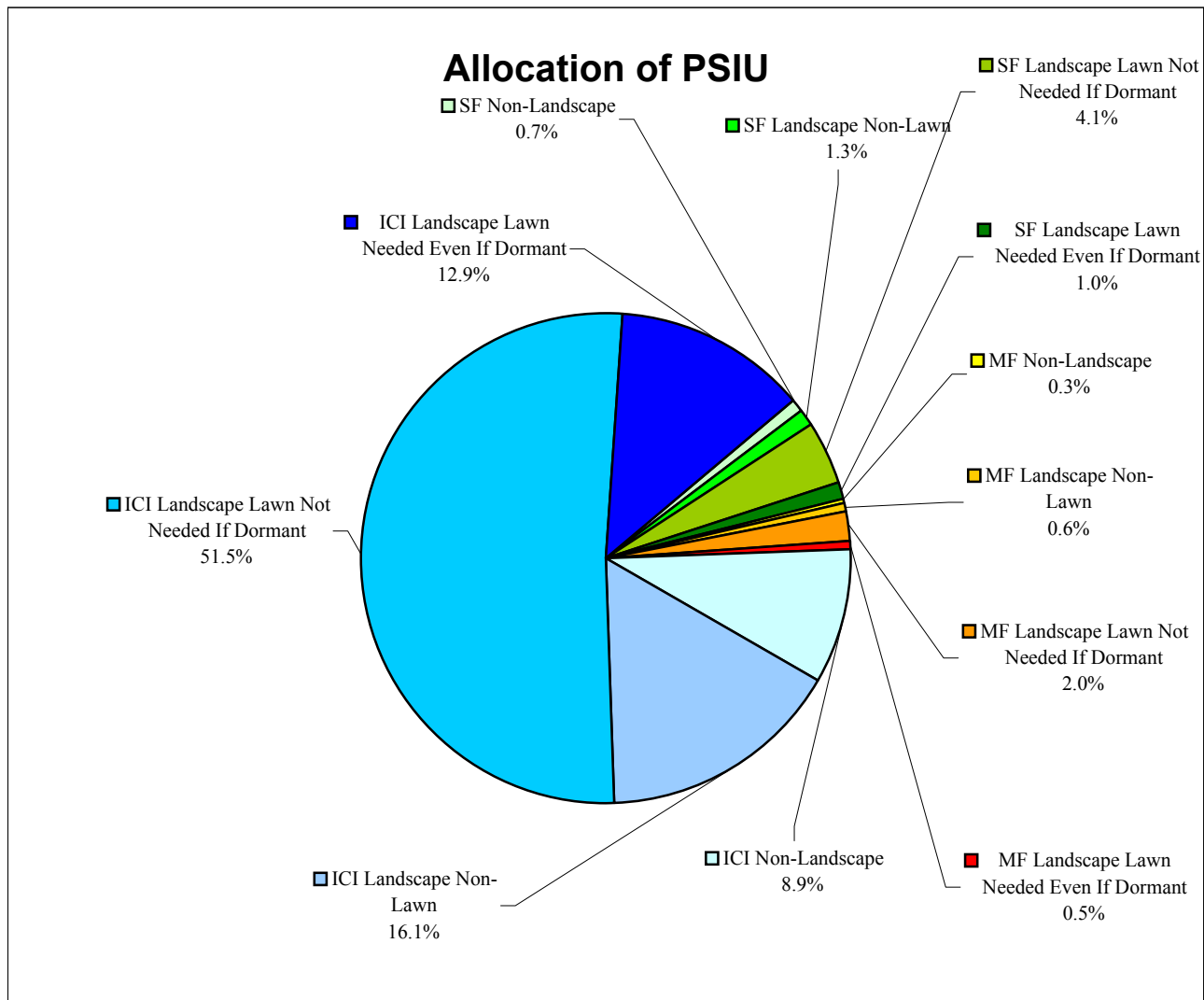
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Appendix B

Literature Review Summary

Appendix B - Literature Review Summary

SOURCES USED:

2003 SWP Annual Report. Obtained from SPU website.

2003 Neighborhood Workshops Evaluation, Draft Report (dated Mar 30, 2004). Prepared for 8 jurisdictions in the Natural Yard Care Neighborhoods program by Dethman & Tangora. Purpose was to evaluate natural yard care workshops. Methods were surveys and evaluations of workshop attendees and a control group. Workshop attendees were self-selected, but not much statistical difference between them and control group. Obtained from Mike Brent.

2003 Survey of High Water Users, Final Report. Prepared for Saving Water Partnership by Dethman & Tangora. Purpose was to identify characteristics and trends of high (outdoor) water users. Method was telephone survey. Obtained from Patricia Burgess.

2003 Healthy Soils Survey. Prepared for King Co, Seattle, and Bellevue by Cascadia/PRR. Method phone survey. Obtained from Patricia Burgess.

2001 SWP Residential Programs Evaluation Report. Comprised of three volumes. Volume 1 is a summary of a regional survey, participant surveys, and utility info. Volume 2 is detailed info on the three main rebate program: toilets, clotheswashers, soaker hoses. Volume 3 is the details of the regional survey. Prepared for Saving Water Partnership by Dethman & Tangora. Purpose was to evaluate if 2001 programs met their goals and track water use and conservation trends. Methods were telephone survey of general population, various types of surveys for program participants, and utility records. Note 2001 drought caused voluntary stage of SPU's Water Shortage Plan. Obtained from SPU website.

1999 SPU & Wholesalers Water Conservation Survey. Prepared for SPU by Dethman & Tangora. Purpose was to track water use and conservation trends. Method was mail survey. Obtained from Mike Brent.

1996 Residential High Use Survey, Final Report. Prepared for SPU & Wholesalers by Dethman & Tangora. Purpose was to identify characteristics and trends of high (outdoor) water users. Method was telephone survey. Obtained from Mike Brent.

1993 WCCPS Outdoor Water Use Survey. Prepared by PRR for Water Conservation Coalition of Puget Sound. Purpose was to understand outdoor water use to design communications plan. Method was telephone survey. Obtained from Patricia Burgess.

SOURCES REVIEWED, BUT NOT RELEVANT:

2003 High Water User Focus Groups, Barriers and Benefits Analysis Research, Final Report. Prepared for Saving Water Partnership by Dethman & Tangora. Purpose was to identify barriers and benefits of high (outdoor) water users. Method was focus groups. Obtained from Patricia Burgess. 50% don't perform annual checkups, 60% don't have rain shut-off, 30% don't adjust controller, most don't include water needs in selecting plants, most mulch. But focus group with very small sample size so can't extrapolate to entire population.

2002 SWP Efficient Irrigation Study Participant Survey Results. Prepared for Saving Water Partnership by Dethman & Tangora. Purpose was to determine water savings from programs. Method was mailed questionnaire for program participants. Obtained from Patricia Burgess. Not applicable to our data needs.

2001 SWP Commercial Programs Evaluation Report. Prepared for Saving Water Partnership by SBW Consulting. Obtained from SPU website. Info is based on measurements from a few customers. ICI is very heterogeneous. Can't extrapolate from specific customers to population.

GENERAL

| End Use | Aspect | Value | Source | Pg | Notes |
|----------------------|--------|-------|--------------------------------------|----|------------|
| People per Household | | 2.61 | 2001 SWP Res. Programs Vol 3 | 19 | Purveyors. |
| People per Household | | 2.70 | 1999 SPU/Wholesalers Water Cons. Sur | 4 | Purveyors. |
| Homeowners | | 77% | 2001 SWP Res. Programs Vol 3 | 18 | Purveyors. |
| Homeowners | | 80% | 1999 SPU/Wholesalers Water Cons. Sur | 4 | Purveyors. |

| INDOOR | | | | | |
|------------------------|-----------------------------------|--|---|----|--|
| End Use | Aspect | Value | Source | Pg | Notes |
| Clotheswashers-SF | Have/do it (%) | 98.1% | Amer. Housing Survey (1996), Doc. H1 | 57 | Data for King Co., excluding Seattle |
| Clotheswashers | % of clotheswashers < 5 yrs old | 35.4% | Amer. Housing Survey (1996), Doc. H1 | 57 | Data for King Co., excluding Seattle |
| Clotheswashers | Qty in home (#) | Not Applicable. | | | |
| Clotheswashers | Efficient proportion equip. (%) | 30% | 2001 SWP Res. Programs Vol 1 | 10 | |
| Clotheswashers | Efficient proportion beh. (%) | 52% | 2001 SWP Res. Programs Vol 1 | 9 | Full loads always. |
| Clotheswashers | Rebated/given out (#) | 7,451 | 2003 SWP Annual Report | 40 | Since 2000, for 5 ex-purveyors. |
| Clotheswashers-SF | Rebated/given out (#) | 8,275 | 2001 SWP Res. Programs Vol 1 | 8 | For 2001, for all SWP. |
| Clotheswashers-Coin Op | Rebated/given out (#) | 96 | 2001 SWP Res. Programs Vol 1 | 8 | |
| Clotheswashers | Install after purchased/given (%) | Not Applicable. | | | |
| Clotheswashers | Value of rebate (\$) | \$75 | 2003 SWP Annual Report | 17 | |
| Clotheswashers | Value of rebate (\$) | \$100 | 2001 SWP Res. Programs Vol 1 | 31 | Rebate shared w/ energy utility. |
| Clotheswashers | Free riders (%) | 57% | 2001 SWP Res. Programs Vol 1 | 12 | |
| Clotheswashers | Lifespan of equip. (yrs) | 14 | 2001 SWP Res. Programs Vol 1 | 41 | |
| Clotheswashers | Annual replacement rate (%) | 7% | 2001 SWP Res. Programs Vol 1 | 41 | |
| Dishwashers-SF | Have/do it (%) | 89.5% | Amer. Housing Survey (1996), Doc. H1 | 57 | Data for King Co., excluding Seattle |
| Dishwashers | % of dishwashers < 5 yrs. Old | 36.6% | Amer. Housing Survey (1996), Doc. H1 | 57 | Data for King Co., excluding Seattle |
| Dishwashers | Qty in home (#) | Not Applicable. | | | |
| Dishwashers | Efficient proportion equip. (%) | | | | |
| Dishwashers | Efficient proportion beh. (%) | 66% | 2001 SWP Res. Programs Vol 3 | 10 | Full loads always. |
| Dishwashers | Rebated/given out (#) | Not Applicable. | | | |
| Dishwashers | Install after purchased/given (%) | Not Applicable. | | | |
| Dishwashers | Value of rebate (\$) | Not Applicable. | | | |
| Dishwashers | Free riders (%) | Not Applicable. | | | |
| Dishwashers | Lifespan of equip. (yrs) | 9 | From the Supporting Data Files of the Regional Technical Forum (www.nwppc.org/energy/rtf/supportingdata/default.htm | | |
| Dishwashers | Annual replacement rate (%) | 5.4% | From the Supporting Data Files of the Regional Technical Forum (www.nwppc.org/energy/rtf/supportingdata/default.htm | | % applies to Washington State |
| Faucet Aerators | Have/do it (%) | 100% | | | |
| Faucet Aerators | Qty in home (#) | | | | |
| Faucet Aerators | Efficient proportion equip. (%) | | | | |
| Faucet Aerators | Efficient proportion beh. (%) | | | | |
| Faucet Aerators | Rebated/given out (#) | 100,000 | 2001 SWP Res. Programs Vol 1 | 8 | For 2001, received via kit, mostly in Seattle. |
| Faucet Aerators | Rebated/given out (%) | 41% | 2001 SWP Res. Programs Vol 3 | 9 | For 2001, received via kit, mostly in Seattle. |
| Faucet Aerators | Install after purchased/given (%) | 52% | 2001 SWP Res. Programs Vol 3 | 43 | |
| Faucet Aerators | Value of rebate (\$) | Given free. | | | |
| Faucet Aerators | Free riders (%) | | | | |
| Faucet Aerators | Lifespan of equip. (yrs) | | | | |
| Faucet Aerators | Annual replacement rate (%) | | | | |
| Faucet Leaks | Found leaks | 36% | 2001 SWP Res. Programs Vol 3 | 9 | |
| Faucet Leaks | Fixed found leaks | 91% | 2001 SWP Res. Programs Vol 3 | 9 | |
| Showers | Have/do it (%) | 100% | | | |
| Showers | Qty in home (#) | | | | |
| Showers | Efficient proportion equip. (%) | 83% | 2001 SWP Res. Programs Vol 1 | 10 | Opposite of the 17% that were inefficient. |
| Showers | Efficient proportion equip. (%) | 67% | 1999 SPU/Wholesalers Water Cons. Sur | 18 | |
| Showers | Efficient proportion beh. (%) | 33% less than 5 min, 48% 5-10 min, 8% more than 10 min, 11% don't know/varies. | 2001 SWP Res. Programs Vol 3 | 9 | |
| Showers | Efficient proportion beh. (%) | 51% 5 min or less, 46% more than 5 min. | 1999 SPU/Wholesalers Water Cons. Sur | 20 | Purveyor. |
| Showers | Rebated/given out (#) | | | | |
| Showers | Install after purchased/given (%) | | | | |
| Showers | Value of rebate (\$) | | | | |
| Showers | Free riders (%) | | | | |
| Showers | Lifespan of equip. (yrs) | | | | |
| Showers | Annual replacement rate (%) | | | | |
| Toilets | Have/do it (%) | 100% | | | |
| Toilets | Qty in home (#) | 2.20 | 2001 SWP Res. Programs Vol 3 | 49 | Weighted avg of purveyor. |
| Toilets | Qty in home (#) | 2.15 | 1999 SPU/Wholesalers Water Cons. Sur | 22 | Weighted avg of purveyor. |
| Toilets | Efficient proportion equip. (%) | | | | |
| Toilets | Efficient proportion beh. (%) | 50% | 2001 SWP Res. Programs Vol 3 | 9 | % that don't flush with every use. |
| Toilets | Efficient proportion beh. (%) | 32% | 1999 SPU/Wholesalers Water Cons. Sur | 21 | % that don't flush with every use. |
| Toilets-SF | Rebated/given out (#) | 4,892 | 2001 SWP Res. Programs Vol 1 | 8 | For 2001, for all SWP. |
| Toilets-MF | Rebated/given out (#) | 1,542 | 2003 SWP Annual Report | 41 | 2003 only, for 5 ex-purveyors. |
| Toilets-MF | Rebated/given out (#) | 910 | 2001 SWP Res. Programs Vol 1 | 8 | For 2001, for all SWP, includes low income. |

| OUTDOOR | | | | | |
|---|---------------------------------------|---|--------------------------------------|----|--|
| End Use | Aspect | Value | Source | Pg | Notes |
| Toilets | Install after purchased/given (%) | Not Applicable. | | | |
| Toilets | Used plumber to install. | 16% | 2001 SWP Res. Programs Vol 2 | 53 | |
| Toilet-SF | Value of rebate (\$) | \$40 | 2001 SWP Res. Programs Vol 1 | 31 | |
| Toilet-MF | Value of rebate (\$) | \$60 | 2003 SWP Annual Report | 18 | |
| Toilets-SF | Free riders (%) | 27% | 2001 SWP Res. Programs Vol 1 | 12 | |
| Toilets | Lifespan of equip. (yrs) | | | | |
| Toilets | Annual replacement rate (%) | 9% | 2001 SWP Res. Programs Vol 1 | 36 | |
| Toilets Leaks | Check for leaks | 63% | 2001 SWP Res. Programs Vol 3 | 9 | |
| Toilets Leaks | Check for leaks | 71% | 1999 SPU/Wholesalers Water Cons. Sur | 23 | Purveyors. |
| Toilets Leaks | Found leaks | 36% | 2001 SWP Res. Programs Vol 3 | 9 | |
| Toilets Leaks | Fixed found leaks (or replace toilet) | 96% | 2001 SWP Res. Programs Vol 3 | 9 | |
| Soil: Compost | Have/do it (%) | 35% | 2003 Neighborhood Workshops Eval. | 20 | Avg of workshop & control group. "Usually do." |
| Soil: Compost - King Co w/ out SPU | Have/do it (%) | 56% | 2003 Healthy Soils Survey | 7 | |
| Soil: Compost - High water users | Have/do it (%) | 54% | 2003 High Water Users Survey | 34 | Purveyors. |
| Soil: Compost | Have/do it (%) | 51% | 2001 SWP Res. Programs Vol 1 | 9 | |
| Soil: Compost | Have/do it (%) | 65% | 1999 SPU/Wholesalers Water Cons. Sur | 43 | Purveyors. |
| Soil: Mulch | Have/do it (%) | 35% | 2003 Neighborhood Workshops Eval. | 20 | Avg of workshop & control group. "Usually do." |
| Soil: Mulch - King Co w/out SPU | Have/do it (%) | 68% | 2003 Healthy Soils Survey | 7 | |
| Soil: Mulch - High water users | Have/do it (%) | 65% | 2003 High Water Users Survey | 33 | Purveyors. |
| Soil: Mulch | Have/do it (%) | 58% | 2001 SWP Res. Programs Vol 1 | 9 | |
| Soil: Mulch | Have/do it (%) | 53% | 1999 SPU/Wholesalers Water Cons. Sur | 43 | Purveyors. |
| Soil: Mulch - High water users | Have/do it (%) | 68% | 1996 High Water Users Survey | 22 | Purveyors. |
| Soil: Texture Check | Have/do it (%) | 35% | 2003 Neighborhood Workshops Eval. | 20 | Avg of workshop & control group. "Usually do." |
| Plants: For NW/site | Have/do it (%) | 43% | 2003 Neighborhood Workshops Eval. | 21 | Avg of workshop & control group. "Usually do." |
| Plants: For NW/site - high users | Have/do it (%) | 86% | 2003 High Water Users Survey | 48 | Purveyors. |
| Plants: Low water | Have/do it (%) | 16% | 2003 Neighborhood Workshops Eval. | 23 | Avg of workshop & control group. "Usually do." |
| Plants: Waterwise water - High Users | Interested in (%) | 15% | 1996 High Water User Survey | 31 | Purveyors. |
| Plants: Have Lawn - King Co w/out SPU | Have/do it (%) | All 12%, Most 44%, Half 21%, Less than half 19%, no lawn 19%. | 2003 Healthy Soils Survey | 5 | |
| Plants: Have Lawn - Bellevue | Have/do it (%) | All 5%, Most 43%, Half 23%, Less than half 24%, no lawn 24%. | 2003 Healthy Soils Survey | 5 | |
| Plants: Have Lawn | Portion of yard in lawn (%) | 9% none, 18% up to 1/4, 18% 1/4- | 2001 SWP Res. Programs Vol 3 | 71 | Purveyors. |
| Plants: Have Lawn | Portion of yard in lawn (%) | 10% none, 19% up to 1/4, 23% | 1999 SPU/Wholesalers Water Cons. Sur | 32 | Purveyors. |
| Plants: Removed Lawn | Removed some of it in last 2 yrs. | 25% | 2001 SWP Res. Programs Vol 1 | 51 | |
| Plants: Removed Lawn | Removed some of it in last 6 yrs. | 27% | 1999 SPU/Wholesalers Water Cons. Sur | 40 | Purveyors. |
| Plants: Interested In Removing Lawn | Interested (%) | 42% | 1993 WCCPS Outdoor Water Use Surve | 30 | |
| Plants: Interested In Removing Lawn | Interested (%) | 5% | 1996 High Water User Survey | 31 | Purveyors. |
| Plants: Have Vegetable Garden | Have/do it (%) | 36% | 2003 Healthy Soils Survey | 5 | |
| Plants: Have Flower Garden | Have/do it (%) | 80% | 2003 Healthy Soils Survey | 5 | |
| Plants: Have Trees & Shrubs | Have/do it (%) | 91% | 2003 Healthy Soils Survey | 5 | |
| Water: Unwatered Areas - high users | Have/do it (%) | 52% | 1996 High Water User Survey | 13 | Purveyors. |
| Water: Ever Let Lawn Go Brown - high users | Have/do it (%) | 34% | 1996 High Water User Survey | 18 | Purveyors. |
| Water: Let Lawn Go Brown - high users | Interested in (%) | 6% | 1996 High Water User Survey | 31 | Purveyors. |
| Water: Lawn | Have/do it (%) | 75% | 1993 WCCPS Outdoor Water Use Surve | 2 | % of those with lawn that irrigate. |
| Water: Lawn | Frequency | 49% 1/mo or less, 17% 2/mo, | 2001 SWP Res. Programs Vol 3 | 75 | Purveyors. |
| Water: Lawn | Frequency | 27% 1/mo or less, 24% 2/mo, | 1999 SPU/Wholesalers Water Cons. Sur | 35 | Purveyors. |
| Water: Lawn | Use efficient method | 26% | 2001 SWP Res. Programs Vol 3 | 10 | |
| Water: Lawn -high users | Have/do it (%) | 85% | 2003 High Water Users Survey | 35 | Purveyors. |
| Water: Lawn -high users | Frequency - more than every 3 days | 30% | 2003 High Water Users Survey | 35 | Purveyors. |
| Water: Lawn -high users | Frequency - more than every 3 days | 28% | 1996 High Water Users Survey | 15 | Purveyors. |
| Water: Lawn -high users | Duration (minutes) | 26% less than 15, 47% 15-29, | 1996 High Water Users Survey | 16 | Purveyors. |
| Water: Beds - high users | Have/do it (%) | 96% | 2003 High Water Users Survey | 36 | Purveyors. |
| Water: Beds - high users | Have/do it (%) | 95% | 1996 High Water Users Survey | 20 | Purveyors. |
| Water: Beds - high users | Frequency - more than every 3 days | 34% | 2003 High Water Users Survey | 36 | Purveyors. |
| Water: Auto Sprinkler - Lawn | Have/do it (%) | 12% | 2001 SWP Res. Programs Vol 3 | 11 | |
| Water: Auto Sprinkler - Lawn | Have/do it (%) | 23% | 1999 SPU/Wholesalers Water Cons. Sur | 37 | Purveyors. |
| Water: Auto Sprinkler - Lawn - High Users | Have/do it (%) | 78% | 2003 High Water Users Survey | 37 | Purveyors. |
| Water: Auto Sprinkler - Lawn - High Users | Have/do it (%) | 52% | 1996 High Water Users Survey | 14 | Purveyors. |
| Water: Auto Sprinkler - Lawn | Have/do it (%) | 14% | 1993 WCCPS Outdoor Water Use Surve | 26 | |
| Water: Auto Sprinkler - Shrub/Etc | Have/do it (%) | 13% | 1993 WCCPS Outdoor Water Use Surve | 29 | Can water w/ multiple methods. |
| Water: Auto Sprinkler - Shrub/Etc - High User | Have/do it (%) | 41% | 1996 High Water Users Survey | 21 | Purveyors. |
| Water: Hose/Sprinkler - Lawn | Have/do it (%) | 58% | 1993 WCCPS Outdoor Water Use Surve | 26 | |

| OUTDOOR | | | | | |
|---|-----------------------------------|--|--------------------------------------|----|--|
| End Use | Aspect | Value | Source | Pg | Notes |
| Water: Hose/Sprinkler - Lawn - high users | Have/do it (%) | 42% | 1996 High Water Users Survey | 14 | Purveyors. |
| Water: Hose/Sprinkler - Shrub/Etc | Have/do it (%) | 42% | 1993 WCCPS Outdoor Water Use Surve | 29 | Can water w/ multiple methods. |
| Water: Hose/Sprinkler - Shrub/Etc - high users | Have/do it (%) | 23% | 1996 High Water Users Survey | 21 | Purveyors. |
| Water: Hand/Hose - Lawn | Have/do it (%) | 16% | 1993 WCCPS Outdoor Water Use Surve | 26 | |
| Water: Hand/Hose - Lawn - High Users | Have/do it (%) | 4% | 1996 High Water Users Survey | 14 | Purveyors. |
| Water: Hand/Hose - Shrub/Etc | Have/do it (%) | 76% | 1993 WCCPS Outdoor Water Use Surve | 29 | Can water w/ multiple methods. |
| Water: Hand/Hose - Shrub/Etc - High Users | Have/do it (%) | 17% | 1996 High Water Users Survey | 21 | Purveyors. |
| Water: Hand/Container - Lawn | Have/do it (%) | 1% | 1993 WCCPS Outdoor Water Use Surve | 26 | |
| Water: Hand/Container - Shrub/Etc | Have/do it (%) | 13% | 1993 WCCPS Outdoor Water Use Surve | 29 | Can water w/ multiple methods. |
| Water: Soaker/Drip - Lawn | Have/do it (%) | 10% | 1993 WCCPS Outdoor Water Use Surve | 26 | |
| Water: Soaker/Drip - Shrub/Etc | Have/do it (%) | 41% | 1993 WCCPS Outdoor Water Use Surve | 29 | Can water w/ multiple methods. |
| Water: Soaker/Drip - Shrub/Etc - High User | Have/do it (%) | 15% | 1996 High Water Users Survey | 21 | Purveyors. |
| Water: Auto Sprinkler | Inspect regularly | 75% | 2001 SWP Res. Programs Vol 1 | 9 | |
| Water: Auto Sprinkler | Inspect regularly | 80% | 1999 SPU/Wholesalers Water Cons. Sur | 37 | Purveyors. |
| Water: Auto Sprinkler - high users | Inspect regularly | 66% | 2003 High Water Users Survey | 41 | Purveyors. |
| Water: Auto Sprinkler | Adjust seasonally | 56% | 2001 SWP Res. Programs Vol 1 | 9 | |
| Water: Auto Sprinkler | Adjust seasonally | 66% | 1999 SPU/Wholesalers Water Cons. Sur | 37 | Purveyors. |
| Water: Auto Sprinkler - high users | Adjust seasonally | 71% | 2003 High Water Users Survey | 39 | Purveyors. |
| Water: Auto Sprinkler - high users | Adjust themselves | 90% | 2003 High Water Users Survey | 39 | Purveyors. |
| Water: Auto Sprinkler - high users | Adjust themselves | 95% | 1996 High Water Users Survey | 25 | Purveyors. |
| Water: Auto Sprinkler - high users | Interested in Info/Help to Adjust | 65% | 1996 High Water Users Survey | 26 | Purveyors. |
| Water: Sprinkler | Measured sprinkler output (%) | 21% | 1993 WCCPS Outdoor Water Use Surve | 26 | |
| Water: Group Plants | Have/do it (%) | 15% | 2003 Neighborhood Workshops Eval. | 23 | Avg of workshop & control group. "Usually do." |
| Water: Plants Sep. From Lawn | Have/do it (%) | 48% | 2003 Neighborhood Workshops Eval. | 24 | Avg of workshop & control group. "Usually do." |
| Water: Plants Sep. From Lawn - High Users | Have/do it (%) | 63% | 1996 High Water Users Survey | 21 | Purveyors. |
| Water: Deep & Infrequent | Have/do it (%) | 41% | 2003 Neighborhood Workshops Eval. | 23 | Avg of workshop & control group. "Usually do." |
| Water: Check Soil Moisture | Have/do it (%) | 17% | 2003 Neighborhood Workshops Eval. | 23 | Avg of workshop & control group. "Usually do." |
| Water: Check Soil Moisture - high users | Have/do it (%) | 16% | 2003 High Water Users Survey | 32 | Purveyors. |
| Water: Check Soil Moisture - high users | Have/do it (%) | 22% | 1996 High Water Users Survey | 18 | Purveyors. |
| Water: Timer | Have/do it (%) | 29% | 2003 Neighborhood Workshops Eval. | 24 | Avg of workshop & control group. "Usually do." |
| Water: Avoid Midday | Have/do it (%) | 77% | 2003 Neighborhood Workshops Eval. | 24 | Avg of workshop & control group. "Usually do." |
| Water: Harvest Rain | Have/do it (%) | 10% | 2003 Neighborhood Workshops Eval. | 24 | Avg of workshop & control group. "Usually do." |
| Water: Soaker Hoses | Rebated/given out (#) | 4,065 | 2001 SWP Res. Programs Vol 1 | 9 | For 2001, for all SWP. |
| Water: Soaker Hoses | Install after purchased/given (%) | 84% | 2001 SWP Res. Programs Vol 1 | 53 | |
| Water: Soaker Hoses | Value of rebate (\$) | \$5 | 2001 SWP Res. Programs Vol 1 | 54 | |
| Water: Soaker Hoses | Free riders (%) | 28% | 2001 SWP Res. Programs Vol 2 | 20 | |
| Yards - King Co w/out SPU | Maintain themselves | 91% | 2003 Healthy Soils Survey | 4 | |
| Yards - Bellevue | Maintain themselves | 86% | 2003 Healthy Soils Survey | 4 | |
| Yards | Maintain themselves | 75% | 2001 SWP Res. Programs Vol 3 | 10 | |
| Yards | Maintain themselves | 77% | 1999 SPU/Wholesalers Water Cons. Sur | 42 | |
| Yards - high users | Maintain themselves | 65% | 1996 High Water Users Survey | 18 | Purveyors. |
| Water: Improving Watering System Efficiency - high users | Interested in (%) | 43% | 1996 High Water User Survey | 31 | Purveyors. |
| Car Wash | How | 32% don't wash, 23% home, 38% car wash, 7% don't know. | 2001 SWP Res. Programs Vol 3 | 66 | |
| Current techniques are often inefficient. For many watering techniques, more than 80% of people self report they are not in the "usually" efficient category. Education results in increased knowledge. Education results in behavior change. Most attendees reported changing behavior 6 months later. | | | 2003 Neighborhood Workshops Eval. | 65 | |
| Self-reported they are efficient, but records show otherwise. | | | 2003 High Water Users. | | |

Appendix C-1

Analysis of Savings and Costs

Bellevue Spreadsheets

Bellevue 6-Year

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2009 | a 6 | i | |
| 2 | Population | 135,249 | b 139,805 | b 4,555 | j | |
| 3 | SF Accounts/Households | 31,004 | c 31,248 | c 244 | j | |
| 4 | MF Accounts | 658 | e 714 | k 56 | j | |
| 5 | Units per MF account | 36.3 | d 36.3 | r 0 | j | |
| 6 | MF Households | 23,862 | e 25,887 | e 2,025 | j | |
| 7 | Commercial Accounts | 1,903 | e 2,029 | f 126 | j | |
| 8 | Persons Per SF HH Q54 | 2.90 | g 2.90 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 1.9 | g 1.9 | g 0 | j | |
| 10 | Employees Per ICI Account | 55.5 | h 55.5 | h 0 | j | |
| 11 | Employment | 105,577 | c 112,566 | c 6,989 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provided by Randy Thompson and Patricia Burgess via 7-25-05 email. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via data request. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|----------------------------------|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | k 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | l 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | k 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | m 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | n 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | k 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | o 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | p 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | q 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | q 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--------------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|---------------|-------------------------------|-------------------------------------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | | W/ free riders (affects cost) | W/out free riders (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 84% | 13,642 | 100% | 0% | 0 | 13,642 | 80% | 6,821 | 3,410 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 84% | 13,642 | 100% | 0% | 0 | 13,642 | 10% | 1,364 | 1,364 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 81% | 25,113 | 100% | 81% | 198 | 25,311 | 25% | 6,328 | 6,328 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 86% | 14,262 | 100% | 86% | 112 | 14,374 | 25% | 3,594 | 3,594 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 89% | 10,231 | 100% | 0% | 0 | 10,231 | 50% | 5,116 | 2,558 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 83% | 10,231 | 100% | 0% | 0 | 10,231 | 50% | 5,116 | 5,116 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 15,502 | 100% | 50% | 122 | 15,624 | 25% | 3,906 | 3,906 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 23,253 | 100% | 244 | 23,497 | 50% | 11,749 | 10,574 | |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 83% | 13,332 | 100% | 0% | 0 | 13,332 | 50% | 6,666 | 3,333 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 15,502 | 100% | 50% | 122 | 15,624 | 25% | 3,906 | 3,906 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 87% | 17,496 | 100% | 87% | 139 | 17,635 | 25% | 4,409 | 3,306 |
| SF Outdoor | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 80% | 15,347 | 100% | 80% | 122 | 15,469 | 25% | 3,867 | 3,867 |
| | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 50% | 3,603 | 42% | 50% | 51 | 3,653 | 25% | 913 | 913 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 18,528 | 42% | 100% | 101 | 18,629 | 25% | 4,657 | 4,657 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 7,205 | 42% | 100% | 101 | 7,307 | 25% | 1,827 | 1,827 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 2,573 | 83% | 100% | 203 | 2,776 | 25% | 694 | 625 |
| Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 25,733 | 83% | 100% | 203 | 25,936 | 25% | 6,484 | 6,484 | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 12,170 | 100% | 0% | 0 | 12,170 | 50% | 6,085 | 4,564 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 81% | 12,170 | 100% | 0% | 0 | 12,170 | 60% | 7,302 | 5,476 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 81% | 12,170 | 100% | 0% | 0 | 12,170 | 10% | 1,217 | 1,217 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 17,897 | 100% | 75% | 1,519 | 19,415 | 25% | 4,854 | 4,854 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 76% | 18,135 | 100% | 76% | 1,539 | 19,674 | 25% | 4,919 | 4,919 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 80% | 11,931 | 100% | 0% | 0 | 11,931 | 50% | 5,966 | 4,474 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 80% | 11,931 | 100% | 0% | 0 | 11,931 | 50% | 5,966 | 5,966 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 11,931 | 100% | 50% | 1,013 | 12,944 | 25% | 3,236 | 3,236 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 17,897 | 100% | 100% | 2,025 | 19,922 | 50% | 9,961 | 8,965 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 88% | 13,124 | 100% | 0% | 0 | 13,124 | 50% | 6,562 | 4,922 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 11,931 | 100% | 50% | 1,013 | 12,944 | 25% | 3,236 | 3,236 |
| MF Outdoor | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 88% | 9,449 | 90% | 88% | 1,002 | 10,452 | 25% | 2,613 | 1,960 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 50% | 8,590 | 90% | 50% | 911 | 9,502 | 25% | 2,375 | 2,375 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 104 | 42% | 50% | 12 | 115 | 25% | 29 | 29 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 253 | 28% | 100% | 16 | 269 | 25% | 67 | 67 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 187 | 42% | 90% | 21 | 208 | 25% | 52 | 47 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 23 | 70% | 100% | 39 | 62 | 10% | 6 | 6 |
| | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 461 | 70% | 100% | 39 | 500 | 10% | 50 | 50 |
| ICI Indoor | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 952 | 100% | 0% | 0 | 952 | 50% | 476 | 357 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 952 | 100% | 0% | 0 | 952 | 10% | 95 | 95 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 285 | 20% | 75% | 19 | 304 | 25% | 76 | 76 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 990 | 80% | 0% | 0 | 990 | 50% | 495 | 371 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 1,522 | 80% | 100% | 101 | 1,623 | 10% | 162 | 162 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 1,427 | 100% | 0% | 0 | 1,427 | 50% | 714 | 642 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 29 | 2% | 75% | 2 | 30 | 25% | 8 | 6 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 52 | 11% | 0% | 0 | 52 | 75% | 39 | 35 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 105 | 11% | 25% | 3 | 108 | 25% | 27 | 24 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 238 | 30% | 50% | 19 | 257 | 25% | 64 | 64 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 476 | 20% | 100% | 25 | 501 | 25% | 125 | 125 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 428 | 30% | 90% | 34 | 462 | 25% | 116 | 104 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 48 | 50% | 100% | 63 | 111 | 10% | 11 | 10 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 952 | 25% | 100% | 31 | 983 | 10% | 98 | 98 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model.

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge.

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|--|---|
| Conservation Measure | Savings | | | | | | | | | | | | | | | | |
| | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | w/ free riders ^g (true savings) | w/o free riders ^h (true savings) |
| | | | | w/ free riders ^f (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^f (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^f (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^f (inflated savings) | w/o free riders ^e (true savings) | | |
| | | | | | | | | | | | | | | | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 69,960,845 | 34,980,423 | Full Yr | 365 | 191,674 | 95,837 | 191,674 | 95,837 | 419,765,072 | 209,882,536 | 561,108 | 280,554 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 18,410,749 | 18,410,749 | Full Yr | 365 | 50,440 | 50,440 | 50,440 | 50,440 | 110,033,212 | 110,033,212 | 147,084 | 147,084 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 22,906,789 | 22,906,789 | Full Yr | 365 | 62,758 | 62,758 | 62,758 | 62,758 | 136,904,133 | 136,904,133 | 183,002 | 183,002 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 9,889,726 | 9,889,726 | Full Yr | 365 | 27,095 | 27,095 | 27,095 | 27,095 | 59,106,687 | 59,106,687 | 79,009 | 79,009 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 2,403,550 | 1,201,775 | Full Yr | 365 | 6,585 | 3,293 | 6,585 | 3,293 | 14,421,302 | 7,210,651 | 19,277 | 9,639 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 24,035,503 | 24,035,503 | Full Yr | 365 | 65,851 | 65,851 | 65,851 | 65,851 | 143,649,976 | 143,649,976 | 192,020 | 192,020 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 9,095,902 | 9,095,902 | Full Yr | 365 | 24,920 | 24,920 | 24,920 | 24,920 | 54,362,337 | 54,362,337 | 72,667 | 72,667 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 42,293,118 | 38,063,806 | Full Yr | 365 | 115,872 | 104,284 | 115,872 | 104,284 | 252,767,968 | 227,491,171 | 337,880 | 304,092 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 11,080,463 | 11,080,463 | Full Yr | 365 | 30,357 | 30,357 | 30,357 | 30,357 | 66,223,211 | 66,223,211 | 88,522 | 88,522 |
| | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 24,172,811 | 18,129,608 | Full Yr | 365 | 66,227 | 49,670 | 66,227 | 49,670 | 144,470,607 | 108,352,955 | 193,117 | 144,838 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 5,149,596 | 5,149,596 | Full Yr | 365 | 14,108 | 14,108 | 14,108 | 14,108 | 30,776,946 | 30,776,946 | 41,140 | 41,140 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 6,499,604 | 6,499,604 | Peak | 122 | 17,807 | 17,807 | 53,275 | 53,275 | 38,845,366 | 38,845,366 | 51,925 | 51,925 |
| SF Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 11,047,812 | 11,047,812 | Peak | 122 | 30,268 | 30,268 | 90,556 | 90,556 | 66,028,073 | 66,028,073 | 88,261 | 88,261 |
| | ET controllers | n/a | u | n/a | n/a | 6,499,604 | 6,499,604 | Peak | 122 | 17,807 | 17,807 | 53,275 | 53,275 | 38,845,366 | 38,845,366 | 51,925 | 51,925 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 3,292,359 | 2,963,123 | Peak | 122 | 9,020 | 8,118 | 26,987 | 24,288 | 19,677,030 | 17,709,327 | 26,303 | 23,672 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 98,437,641 | 98,437,641 | Peak | 122 | 269,692 | 269,692 | 806,866 | 806,866 | 588,319,893 | 588,319,893 | 786,419 | 786,419 |
| | | | | | | | | | | | | | | | | | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 40,890,014 | 30,667,511 | Full Yr | 365 | 112,027 | 84,021 | 112,027 | 84,021 | 245,340,087 | 184,005,065 | 327,951 | 245,963 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 49,068,017 | 36,801,013 | Full Yr | 365 | 134,433 | 100,825 | 134,433 | 100,825 | 294,408,104 | 220,806,078 | 393,541 | 295,156 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 10,760,530 | 10,760,530 | Full Yr | 365 | 29,481 | 29,481 | 29,481 | 29,481 | 62,037,967 | 62,037,967 | 82,927 | 82,927 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 11,512,127 | 11,512,127 | Full Yr | 365 | 31,540 | 31,540 | 31,540 | 31,540 | 66,371,167 | 66,371,167 | 88,720 | 88,720 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 8,868,601 | 8,868,601 | Full Yr | 365 | 24,298 | 24,298 | 24,298 | 24,298 | 51,130,380 | 51,130,380 | 68,347 | 68,347 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 1,836,344 | 1,377,258 | Full Yr | 365 | 5,031 | 3,773 | 5,031 | 3,773 | 11,018,063 | 8,263,547 | 14,728 | 11,046 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 18,363,438 | 18,363,438 | Full Yr | 365 | 50,311 | 50,311 | 50,311 | 50,311 | 105,871,213 | 105,871,213 | 141,520 | 141,520 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 4,936,974 | 4,936,974 | Full Yr | 365 | 13,526 | 13,526 | 13,526 | 13,526 | 28,463,268 | 28,463,268 | 38,047 | 38,047 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 23,492,808 | 21,143,527 | Full Yr | 365 | 64,364 | 57,927 | 64,364 | 57,927 | 135,443,700 | 121,899,330 | 181,050 | 162,945 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 6,014,133 | 6,014,133 | Full Yr | 365 | 16,477 | 16,477 | 16,477 | 16,477 | 34,673,436 | 34,673,436 | 46,349 | 46,349 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 9,386,513 | 7,039,885 | Full Yr | 365 | 25,716 | 19,287 | 25,716 | 19,287 | 54,116,310 | 40,587,233 | 72,338 | 54,254 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 1,036,174 | 1,036,174 | Full Yr | 365 | 2,839 | 2,839 | 2,839 | 2,839 | 5,973,878 | 5,973,878 | 7,985 | 7,985 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,181,819 | 1,181,819 | Peak | 122 | 3,238 | 3,238 | 9,687 | 9,687 | 6,813,574 | 6,813,574 | 9,108 | 9,108 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 918,471 | 918,471 | Peak | 122 | 2,516 | 2,516 | 7,528 | 7,528 | 5,295,285 | 5,295,285 | 7,078 | 7,078 |
| | ET controllers | n/a | u | n/a | n/a | 1,181,819 | 1,063,637 | Peak | 122 | 3,238 | 2,914 | 9,687 | 8,718 | 6,813,574 | 6,132,217 | 9,108 | 8,197 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 169,698 | 152,728 | Peak | 122 | 465 | 418 | 1,391 | 1,252 | 978,363 | 880,527 | 1,308 | 1,177 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 4,368,258 | 4,368,258 | Peak | 122 | 11,968 | 11,968 | 35,805 | 35,805 | 25,184,430 | 25,184,430 | 33,665 | 33,665 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 231.9 | 84,645 | 40,269,707 | 30,202,280 | Full Yr | 365 | 110,328 | 82,746 | 110,328 | 82,746 | 241,618,243 | 181,213,683 | 322,976 | 242,232 |
| | Dual flush toilets | 5.5 | o | 305.1 | 111,375 | 10,597,291 | 10,597,291 | Full Yr | 365 | 29,034 | 29,034 | 29,034 | 29,034 | 61,609,854 | 61,609,854 | 82,355 | 82,355 |
| | Toilet leak detection repair | 9.5 | c | 527.1 | 192,374 | 5,269,355 | 5,269,355 | Full Yr | 365 | 14,437 | 14,437 | 14,437 | 14,437 | 30,634,640 | 30,634,640 | 40,950 | 40,950 |
| | 1.0 gpf urinals | 1.8 | p | 97.1 | 35,437 | 14,611,417 | 10,958,563 | Full Yr | 365 | 40,031 | 30,023 | 40,031 | 30,023 | 87,668,501 | 65,751,376 | 117,188 | 87,891 |
| | Waterless urinals | 2.1 | q | 116.5 | 42,525 | 6,902,547 | 6,902,547 | Full Yr | 365 | 18,911 | 18,911 | 18,911 | 18,911 | 40,129,586 | 40,129,586 | 53,642 | 53,642 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 238.9 | 87,184 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 3,732,502 | 2,799,377 | Full Yr | 365 | 10,226 | 7,670 | 10,226 | 7,670 | 21,699,784 | 16,274,838 | 29,007 | 21,755 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 817,777 | 735,999 | Full Yr | 365 | 2,016 | 2,240 | 2,016 | 2,240 | 4,906,662 | 4,415,996 | 6,559 | 5,903 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 1,473,113 | 1,325,802 | Full Yr | 365 | 4,036 | 3,632 | 4,036 | 3,632 | 8,564,291 | 7,707,862 | 11,448 | 10,303 |
| | | | | | | | | | | | | | | | | | |
| ICI Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 4,724,411 | 4,724,411 | Peak | 122 | 12,944 | 12,944 | 38,725 | 38,725 | 27,466,481 | 27,466,481 | 36,715 | 36,715 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 3,072,346 | 3,072,346 | Peak | 122 | 8,417 | 8,417 | 25,183 | 25,183 | 17,861,808 | 17,861,808 | 23,876 | 23,876 |
| | ET controllers | n/a | u | n/a | n/a | 4,724,411 | 4,251,970 | Peak | 122 | 12,944 | 11,649 | 38,725 | 34,852 | 27,466,481 | 24,719,833 | 36,715 | 33,043 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 542,473 | 488,226 | Peak | 122 | 1,486 | 1,338 | 4,402 | 4,002 | 3,153,794 | 2,838,414 | 4,216 | 3,794 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 15,928,201 | 15,928,201 | Peak | 122 | 43,639 | 43,639 | 130,559 | 130,559 | 92,602,355 | 92,602,355 | 123,783 | 123,783 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$80.00 | 1.00 | \$112.00 | 25 | 1.0 | \$763,939 | \$1.36 | \$2.72 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$280.00 | 25 | 1.0 | \$381,969 | \$2.60 | \$2.60 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.28 | 7.5 | 1.0 | \$1,772 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$6.90 | 12.5 | 1.0 | \$35,298 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$6.90 | 12.5 | 1.0 | \$35,298 | \$0.18 | \$0.18 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$4.26 | 10 | 1.0 | \$49,990 | \$0.15 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$7,332 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$440,866 | \$2.28 | \$3.04 |
| SF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$636,830 | \$12.26 | \$12.26 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$1,113,391 | \$12.61 | \$12.61 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$456,662 | \$8.79 | \$8.79 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$208,189 | \$7.92 | \$8.79 |
| MF Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$136.00 | 25 | 1.0 | \$827,534 | \$2.52 | \$3.36 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$1,241,301 | \$3.15 | \$4.21 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$206,884 | \$2.49 | \$2.49 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.17 | 7.5 | 1.0 | \$825 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$26,845 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$26,845 | \$0.19 | \$0.19 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$2.65 | 10 | 1.0 | \$26,346 | \$0.15 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$7,218 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$52,259 | \$0.72 | \$0.96 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$60,967 | \$6.69 | \$6.69 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$69,931 | \$9.88 | \$9.88 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$25,956 | \$2.85 | \$3.17 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$1,864 | \$1.42 | \$1.58 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$190,300 | \$0.59 | \$0.79 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$38,060 | \$0.46 | \$0.46 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$30 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$37,109 | \$0.32 | \$0.42 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$24,348 | \$0.45 | \$0.45 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$3,283 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$27,391 | \$0.94 | \$1.26 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$2,551 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$20,274 | \$1.77 | \$1.97 |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$136,840 | \$3.73 | \$3.73 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$126,202 | \$5.29 | \$5.29 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$57,774 | \$1.57 | \$1.75 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$3,317 | \$0.79 | \$0.87 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

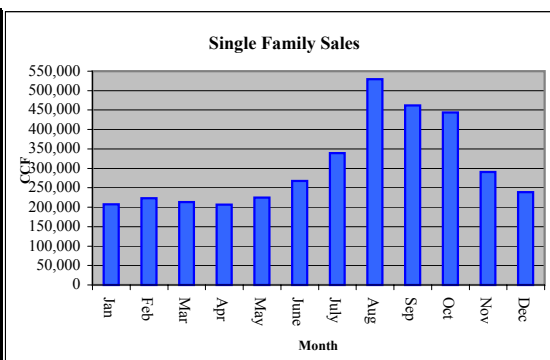
a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

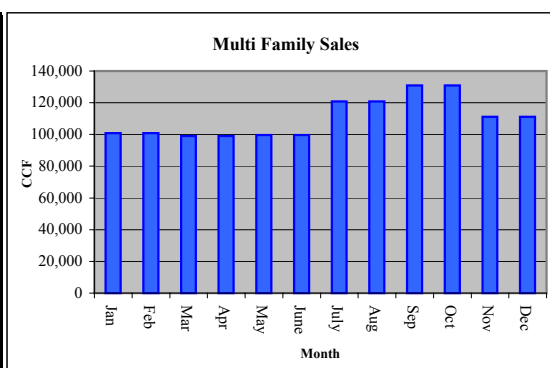
Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

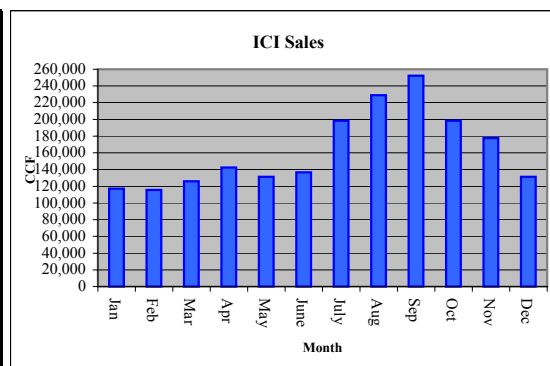
| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 223,265 | 192,706 | 206,198 | 207,390 | 155,127,471 | Non-peak |
| Feb | 218,425 | 213,390 | 238,045 | 223,287 | 167,018,427 | Non-peak |
| Mar | 188,239 | 206,463 | 243,846 | 212,849 | 159,211,301 | Non-peak |
| Apr | 189,297 | 199,733 | 231,965 | 206,998 | 154,834,753 | Non-peak |
| May | 193,792 | 219,082 | 260,999 | 224,624 | 168,019,001 | Non-peak |
| June | 248,595 | 259,599 | 294,155 | 267,450 | 200,052,351 | Non-peak |
| July | 315,700 | 332,742 | 368,415 | 338,952 | 253,536,345 | Peak |
| Aug | 473,493 | 558,837 | 556,426 | 529,585 | 396,129,829 | Peak |
| Sep | 401,538 | 461,909 | 521,634 | 461,694 | 345,346,863 | Peak |
| Oct | 419,020 | 481,343 | 431,823 | 444,062 | 332,158,376 | Peak |
| Nov | 293,337 | 315,652 | 261,793 | 290,261 | 217,114,979 | Non-peak |
| Dec | 257,651 | 224,685 | 234,224 | 238,853 | 178,662,293 | Non-peak |
| Total | 3,422,352 | 3,666,141 | 3,849,523 | 3,646,005 | 2,727,211,989 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 233,964 | 175,005,072 | |
| Base use during entire peak season: | | | | 935,856 | 700,020,288 | |
| Peak Season Total: | | | | 1,774,293 | 1,327,171,413 | |
| Peak Season Increased Use: | | | | 838,437 | 627,151,125 | |



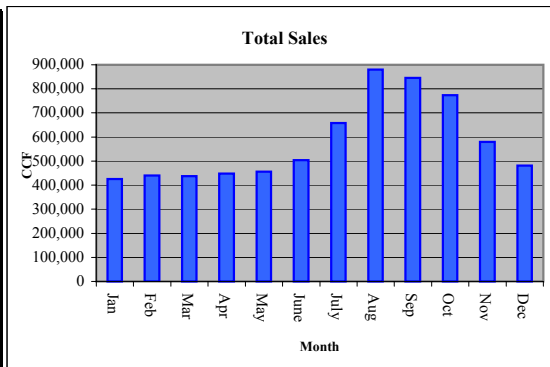
| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 110,702 | 93,310 | 98,446 | 100,819 | 75,412,487 | Non-peak |
| Feb | 110,702 | 93,310 | 98,446 | 100,819 | 75,412,487 | Non-peak |
| Mar | 91,440 | 98,520 | 107,324 | 99,095 | 74,122,686 | Non-peak |
| Apr | 91,440 | 98,520 | 107,324 | 99,095 | 74,122,686 | Non-peak |
| May | 93,552 | 99,994 | 105,202 | 99,582 | 74,487,585 | Non-peak |
| June | 93,552 | 99,994 | 105,202 | 99,582 | 74,487,585 | Non-peak |
| July | 121,671 | 118,757 | 122,174 | 120,867 | 90,408,641 | Peak |
| Aug | 121,671 | 118,757 | 122,174 | 120,867 | 90,408,641 | Peak |
| Sep | 124,276 | 130,288 | 138,257 | 130,940 | 97,943,369 | Peak |
| Oct | 124,276 | 130,288 | 138,257 | 130,940 | 97,943,369 | Peak |
| Nov | 107,191 | 117,927 | 108,193 | 111,103 | 83,105,293 | Non-peak |
| Dec | 107,191 | 117,927 | 108,193 | 111,103 | 83,105,293 | Non-peak |
| Total | 1,297,660 | 1,317,589 | 1,359,190 | 1,324,813 | 990,960,124 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 102,650 | 76,782,013 | |
| Base use during entire peak season: | | | | 410,599 | 307,128,052 | |
| Peak Season Total: | | | | 503,615 | 376,704,020 | |
| Peak Season Increased Use: | | | | 93,016 | 69,575,968 | |



| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 118,631 | 122,027 | 110,817 | 117,158 | 87,634,433 | Non-peak |
| Feb | 118,590 | 118,305 | 109,462 | 115,452 | 86,358,345 | Non-peak |
| Mar | 110,913 | 120,189 | 146,789 | 125,964 | 94,220,823 | Non-peak |
| Apr | 104,221 | 119,261 | 204,118 | 142,533 | 106,614,933 | Non-peak |
| May | 110,038 | 140,964 | 142,770 | 131,257 | 98,180,485 | Non-peak |
| June | 129,445 | 136,366 | 144,353 | 136,721 | 102,267,557 | Non-peak |
| July | 191,058 | 182,609 | 220,986 | 198,218 | 148,266,815 | Peak |
| Aug | 212,676 | 241,878 | 232,811 | 229,122 | 171,383,007 | Peak |
| Sep | 217,030 | 247,382 | 292,939 | 252,450 | 188,832,849 | Peak |
| Oct | 211,430 | 215,685 | 168,394 | 198,503 | 148,480,244 | Peak |
| Nov | 173,368 | 190,688 | 169,087 | 177,714 | 132,930,321 | Non-peak |
| Dec | 154,220 | 142,744 | 97,376 | 131,447 | 98,322,107 | Non-peak |
| Total | 1,851,620 | 1,978,098 | 2,039,902 | 1,956,540 | 1,463,491,920 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 134,781 | 100,816,126 | |
| Base use during entire peak season: | | | | 539,124 | 403,264,503 | |
| Peak Season Total: | | | | 878,293 | 656,962,915 | |
| Peak Season Increased Use: | | | | 339,169 | 253,698,412 | |



| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 452,598 | 408,043 | 415,461 | 425,367 | 318,174,391 | Non-peak |
| Feb | 447,717 | 425,005 | 445,953 | 439,558 | 328,789,259 | Non-peak |
| Mar | 390,592 | 425,172 | 497,959 | 437,908 | 327,554,810 | Non-peak |
| Apr | 384,958 | 417,514 | 543,407 | 448,626 | 335,572,373 | Non-peak |
| May | 397,382 | 460,040 | 508,971 | 455,464 | 340,687,072 | Non-peak |
| June | 471,592 | 495,959 | 543,710 | 503,753 | 376,807,493 | Non-peak |
| July | 628,429 | 634,108 | 711,575 | 658,037 | 492,211,801 | Peak |
| Aug | 807,840 | 919,472 | 911,411 | 879,574 | 657,921,477 | Peak |
| Sep | 742,844 | 839,579 | 952,830 | 845,084 | 632,123,081 | Peak |
| Oct | 754,726 | 827,316 | 738,474 | 773,505 | 578,581,989 | Peak |
| Nov | 573,896 | 624,267 | 539,073 | 579,078 | 433,150,593 | Non-peak |
| Dec | 519,062 | 485,356 | 439,793 | 481,403 | 360,089,693 | Non-peak |
| Total | 6,571,632 | 6,961,828 | 7,248,615 | 6,927,358 | 5,181,664,033 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 471,395 | 352,603,211 | |
| Base use during entire peak season: | | | | 1,885,579 | 1,410,412,843 | |
| Peak Season Total: | | | | 3,156,201 | 2,360,838,348 | |
| Peak Season Increased Use: | | | | 1,270,622 | 950,425,505 | |



Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

109% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 950,425,505 | 1,035,963,801 | 100.0% | PSIU Total |
| | | | | |
| | 627,151,125 | 683,594,727 | 66.0% | PSIU SF |
| | 69,575,968 | 75,837,805 | 7.3% | PSIU MF |
| | 253,698,412 | 276,531,269 | 26.7% | PSIU ICI |

| | | | | |
|---------------|-------------|-------------|-------|---|
| Single Family | 564,436,013 | 615,235,254 | 59.4% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 62,715,113 | 68,359,473 | 6.6% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 627,151,125 | 683,594,727 | 66.0% | Subtotal |
| | | | | |
| | 451,548,810 | 492,188,203 | 47.5% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 112,887,203 | 123,047,051 | 11.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 564,436,013 | 615,235,254 | 59.4% | Subtotal |
| | | | | |
| | 361,239,048 | 393,750,563 | 38.0% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ² |
| | 90,309,762 | 98,437,641 | 9.5% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ² |
| | 451,548,810 | 492,188,203 | 47.5% | Subtotal |
| | | | | |
| | 23,706,313 | 25,998,415 | 2.49% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 40,639,393 | 44,191,249 | 4.3% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ² |
| | 23,706,313 | 25,998,415 | 2.49% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 112,887,203 | 123,047,051 | 11.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 361,239,048 | 393,750,563 | 38.0% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ² |
| | 562,178,269 | 612,985,692 | 59.2% | Subtotal |

| | | | | |
|--------------|------------|------------|------|---|
| Multi Family | 62,618,371 | 68,254,025 | 6.6% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 6,957,597 | 7,583,781 | 0.7% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 69,575,968 | 75,837,805 | 7.3% | Subtotal |
| | | | | |
| | 50,094,697 | 54,603,220 | 5.3% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 12,523,674 | 13,650,805 | 1.3% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 62,618,371 | 68,254,025 | 6.6% | Subtotal |
| | | | | |
| | 40,075,758 | 43,682,576 | 4.2% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ² |
| | 10,018,939 | 10,920,644 | 1.1% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ² |
| | 50,094,697 | 54,603,220 | 5.3% | Subtotal |
| | | | | |
| | 4,226,740 | 4,727,277 | 0.4% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 3,444,010 | 3,673,884 | 0.4% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ² |
| | 4,226,740 | 4,727,277 | 0.4% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 12,523,674 | 13,650,805 | 1.3% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 40,075,758 | 43,682,576 | 4.2% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ² |
| | 64,496,922 | 70,461,820 | 6.8% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 228,328,571 | 248,878,142 | 24.0% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 25,369,841 | 27,653,127 | 2.7% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 253,698,412 | 276,531,269 | 26.7% | Subtotal |
| | | | | |
| | 182,662,857 | 199,102,514 | 19.2% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 45,665,714 | 49,775,628 | 4.8% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 228,328,571 | 248,878,142 | 24.0% | Subtotal |
| | | | | |
| | 146,130,285 | 159,282,011 | 15.4% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ² |
| | 36,532,571 | 39,820,503 | 3.8% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ² |
| | 182,662,857 | 199,102,514 | 19.2% | Subtotal |
| | | | | |
| | 17,124,643 | 18,897,646 | 1.8% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 11,416,429 | 12,289,384 | 1.2% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ² |
| | 17,124,643 | 18,897,646 | 1.8% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 45,665,714 | 49,775,628 | 4.8% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 146,130,285 | 159,282,011 | 15.4% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ² |
| | 237,461,714 | 259,142,315 | 25.0% | Subtotal |

Cascade Water Alliance/Bellevue 6 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

| | | | | |
|--|-------------|---------------|--------|---|
| All Sectors (Double check by making sure totals 100%.) | 62,715,113 | 68,359,473 | 6.6% | SF Non-Landscape |
| | 112,887,203 | 123,047,051 | 11.9% | SF Landscape Non-Lawn |
| | 361,239,048 | 393,750,563 | 38.0% | SF Landscape Lawn Not Needed If Dormant |
| | 90,309,762 | 98,437,641 | 9.5% | SF Landscape Lawn Needed Even If Dormant |
| | 6,957,597 | 7,583,781 | 0.7% | MF Non-Landscape |
| | 12,523,674 | 13,650,805 | 1.3% | MF Landscape Non-Lawn |
| | 40,075,758 | 43,682,576 | 4.2% | MF Landscape Lawn Not Needed If Dormant |
| | 10,018,939 | 10,920,644 | 1.1% | MF Landscape Lawn Needed Even If Dormant |
| | 25,369,841 | 27,653,127 | 2.7% | ICI Non-Landscape |
| | 45,665,714 | 49,775,628 | 4.8% | ICI Landscape Non-Lawn |
| | 146,130,285 | 159,282,011 | 15.4% | ICI Landscape Lawn Not Needed If Dormant |
| | 36,532,571 | 39,820,503 | 3.8% | ICI Landscape Lawn Needed Even If Dormant |
| | 950,425,505 | 1,035,963,801 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

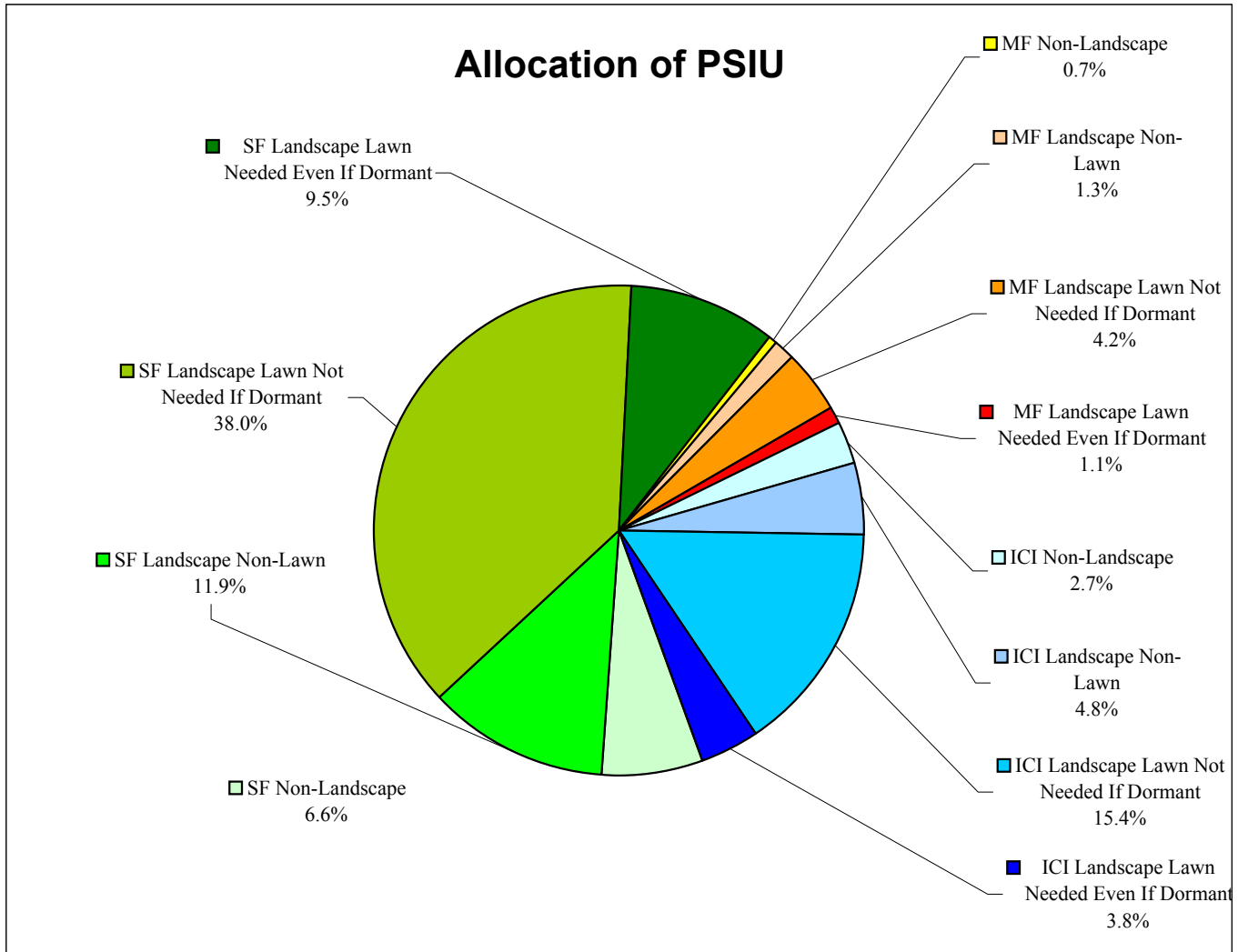
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client.

White cells are calculations.



Bellevue 20-Year

Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2023 | a 20 | i | |
| 2 | Population | 135,249 | b 152,025 | b 16,776 | j | |
| 3 | SF Accounts/Households | 31,004 | c 31,909 | c 905 | j | |
| 4 | MF Accounts | 658 | e 863 | k 205 | j | |
| 5 | Units per MF account | 36.3 | d 36.3 | r 0 | j | |
| 6 | MF Households | 23,862 | e 31,310 | c 7,448 | j | |
| 7 | Commercial Accounts | 1,903 | e 2,398 | f 495 | j | |
| 8 | Persons Per SF HH Q54 | 2.90 | g 2.90 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 1.9 | g 1.9 | g 0 | j | |
| 10 | Employees Per ICI Account | 55.5 | h 55.5 | h 0 | j | |
| 11 | Employment | 105,577 | c 133,048 | c 27,471 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. Provided by Randy Thompson and Patricia Burgess via 7-25-05 email. | | | | | | |
| d. Calculation. | | | | | | |
| e. Provided by client via data request. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| k. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^f |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | k 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | l 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | k 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | m 99% | 100% | 72% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | n 28% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | k 72% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | o 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | p 83% | 83% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | q 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | q 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Bellevue 20 Yr- Water Conservation Potential Assessment

Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|--|--|--------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^e | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | W/ free riders ^g (affects cost) | W/out free riders ^g (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 50% | 13,642 | 100% | 0% | 0 | 13,642 | 50% | 6,821 | 3,410 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 50% | 13,642 | 100% | 0% | 0 | 13,642 | 10% | 1,364 | 1,364 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 50% | 25,113 | 100% | 50% | 733 | 25,846 | 25% | 6,462 | 6,462 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 50% | 14,262 | 100% | 50% | 416 | 14,678 | 25% | 3,670 | 3,670 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 50% | 10,231 | 100% | 0% | 0 | 10,231 | 50% | 5,116 | 2,558 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 50% | 10,231 | 100% | 0% | 0 | 10,231 | 50% | 5,116 | 5,116 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 15,502 | 100% | 50% | 453 | 15,955 | 25% | 3,989 | 3,989 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 23,253 | 100% | 100% | 905 | 24,158 | 50% | 12,079 | 10,871 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 50% | 13,332 | 100% | 0% | 0 | 13,332 | 50% | 6,666 | 3,333 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 15,502 | 100% | 50% | 453 | 15,955 | 25% | 3,989 | 3,989 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 99% | 50% | 17,496 | 100% | 50% | 516 | 18,011 | 50% | 9,006 | 6,754 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 99% | 50% | 15,347 | 100% | 50% | 453 | 15,799 | 25% | 3,950 | 3,950 |
| | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 23% | 50% | 3,603 | 42% | 50% | 188 | 3,790 | 25% | 948 | 948 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 18,528 | 42% | 100% | 376 | 18,904 | 25% | 4,726 | 4,726 |
| SF Outdoor | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 23% | 100% | 7,205 | 42% | 100% | 376 | 7,581 | 25% | 1,895 | 1,895 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 8% | 100% | 2,573 | 83% | 100% | 751 | 3,324 | 25% | 831 | 748 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 83% | 100% | 25,733 | 83% | 100% | 751 | 26,484 | 25% | 6,621 | 6,621 |
| | | | | | | | | | | | | | | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 50% | 12,170 | 100% | 0% | 0 | 12,170 | 50% | 6,085 | 4,564 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 50% | 12,170 | 100% | 0% | 0 | 12,170 | 60% | 7,302 | 5,476 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 50% | 12,170 | 100% | 0% | 0 | 12,170 | 10% | 1,217 | 1,217 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 17,897 | 100% | 75% | 5,586 | 23,483 | 25% | 5,871 | 5,871 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 50% | 18,135 | 100% | 50% | 5,660 | 23,796 | 25% | 5,949 | 5,949 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 50% | 11,931 | 100% | 0% | 0 | 11,931 | 50% | 5,966 | 4,474 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 50% | 11,931 | 100% | 0% | 0 | 11,931 | 50% | 5,966 | 5,966 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 11,931 | 100% | 50% | 3,724 | 15,655 | 25% | 3,914 | 3,914 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 17,897 | 100% | 100% | 7,448 | 25,345 | 50% | 12,672 | 11,405 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 50% | 13,124 | 100% | 0% | 0 | 13,124 | 50% | 6,562 | 4,922 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 11,931 | 100% | 50% | 3,724 | 15,655 | 25% | 3,914 | 3,914 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 72% | 50% | 9,449 | 90% | 50% | 3,687 | 13,136 | 50% | 6,568 | 4,926 |
| | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 72% | 50% | 8,590 | 90% | 50% | 3,352 | 11,942 | 25% | 2,985 | 2,985 |
| | | | | | | | | | | | | | | |
| MF Outdoor | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 104 | 42% | 50% | 43 | 147 | 25% | 37 | 37 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 253 | 28% | 100% | 58 | 311 | 25% | 78 | 78 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 187 | 42% | 90% | 78 | 264 | 25% | 66 | 59 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 23 | 70% | 100% | 144 | 167 | 10% | 17 | 15 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 461 | 70% | 100% | 144 | 604 | 10% | 60 | 60 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 952 | 100% | 0% | 0 | 952 | 50% | 476 | 357 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 952 | 100% | 0% | 0 | 952 | 10% | 95 | 95 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 285 | 20% | 75% | 74 | 360 | 25% | 90 | 90 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 990 | 80% | 0% | 0 | 990 | 50% | 495 | 371 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 1,522 | 80% | 100% | 396 | 1,919 | 10% | 192 | 192 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 1,427 | 100% | 0% | 0 | 1,427 | 50% | 714 | 642 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 29 | 2% | 75% | 7 | 36 | 50% | 18 | 13 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 52 | 11% | 0% | 0 | 52 | 75% | 39 | 35 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 105 | 11% | 25% | 14 | 118 | 25% | 30 | 27 |
| | | | | | | | | | | | | | | |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 238 | 30% | 50% | 74 | 312 | 25% | 78 | 78 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 476 | 20% | 100% | 99 | 575 | 25% | 144 | 144 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 428 | 30% | 90% | 134 | 562 | 25% | 140 | 126 |
| ICI Outdoor | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 48 | 25% | 100% | 124 | 171 | 10% | 17 | 15 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 952 | 50% | 100% | 248 | 1,199 | 10% | 120 | 120 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model.

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge.

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g.-j. Calculations.

Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|--------------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|---------------------|-----------|-----------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 28.1 | 10,257 | 24,486,296 | 12,243,148 | Full Yr | 365 | 67,086 | 33,543 | 67,086 | 33,543 | 489,725,917 | 244,862,959 | 654,626 | 327,313 |
| | Dual flush toilets | 12.8 | b | 37.0 | 13,496 | 18,410,749 | 18,410,749 | Full Yr | 365 | 50,440 | 50,440 | 50,440 | 50,440 | 362,993,337 | 362,993,337 | 485,220 | 485,220 |
| | Toilet leak detection and repair | 9.5 | c | 27.6 | 10,056 | 23,391,345 | 23,391,345 | Full Yr | 365 | 64,086 | 64,086 | 64,086 | 64,086 | 461,192,664 | 461,192,664 | 616,485 | 616,485 |
| | Decrease toilet flushes | 2.6 | d | 7.5 | 2,752 | 10,098,927 | 10,098,927 | Full Yr | 365 | 27,668 | 27,668 | 27,668 | 27,668 | 199,114,297 | 199,114,297 | 266,160 | 266,160 |
| | 2.5 gpm showerheads | 2.7 | e | 7.7 | 2,819 | 721,065 | 360,533 | Full Yr | 365 | 1,976 | 988 | 1,976 | 988 | 14,421,302 | 7,210,651 | 19,277 | 9,639 |
| | 2.0 gpm showerheads | 4.4 | f | 12.9 | 4,698 | 24,035,503 | 24,035,503 | Full Yr | 365 | 65,851 | 65,851 | 65,851 | 65,851 | 473,893,139 | 473,893,139 | 633,462 | 633,462 |
| | Decreased shower use | 2.2 | g | 6.4 | 2,329 | 9,288,311 | 9,288,311 | Full Yr | 365 | 25,447 | 25,447 | 25,447 | 25,447 | 183,131,879 | 183,131,879 | 244,796 | 244,796 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 9.9 | 3,600 | 43,482,876 | 39,134,588 | Full Yr | 365 | 119,131 | 107,218 | 119,131 | 107,218 | 857,324,946 | 771,592,451 | 1,146,003 | 1,031,403 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.0 | 1,455 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 7.8 | 2,837 | 11,314,852 | 11,314,852 | Full Yr | 365 | 31,000 | 31,000 | 31,000 | 31,000 | 223,087,925 | 223,087,925 | 298,206 | 298,206 |
| SF Out. | Efficient clotheswashers | 5.2 | k | 15.0 | 5,483 | 49,378,543 | 37,033,907 | Full Yr | 365 | 135,284 | 101,463 | 135,284 | 101,463 | 973,566,165 | 730,174,624 | 1,301,385 | 976,039 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 3.6 | 1,332 | 5,259,619 | 5,259,619 | Full Yr | 365 | 14,410 | 14,410 | 14,410 | 14,410 | 103,700,657 | 103,700,657 | 138,619 | 138,619 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 7,330,964 | 7,330,964 | Peak | 122 | 20,085 | 20,085 | 60,090 | 60,090 | 144,540,083 | 144,540,083 | 193,210 | 193,210 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 12,186,880 | 12,186,880 | Peak | 122 | 33,389 | 33,389 | 99,892 | 99,892 | 240,281,167 | 240,281,167 | 321,189 | 321,189 |
| | ET controllers | n/a | u | n/a | n/a | 7,330,964 | 7,330,964 | Peak | 122 | 20,085 | 20,085 | 60,090 | 60,090 | 144,540,083 | 144,540,083 | 193,210 | 193,210 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 4,286,500 | 3,857,850 | Peak | 122 | 11,744 | 10,569 | 35,135 | 31,622 | 84,514,259 | 76,062,834 | 112,972 | 101,675 |
| Allow lawn to go dormant | n/a | u | n/a | n/a | 109,274,812 | 109,274,812 | Peak | 122 | 299,383 | 299,383 | 895,695 | 895,695 | 2,154,503,824 | 2,154,503,824 | 2,879,968 | 2,879,968 | |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 18.4 | 6,720 | 14,311,505 | 10,733,629 | Full Yr | 365 | 39,210 | 29,407 | 39,210 | 29,407 | 286,230,101 | 214,672,576 | 382,609 | 286,957 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 18.4 | 6,720 | 17,173,806 | 12,880,355 | Full Yr | 365 | 47,052 | 35,289 | 47,052 | 35,289 | 343,476,122 | 257,607,091 | 459,131 | 344,348 |
| | Dual flush toilets | 12.8 | b | 24.2 | 8,842 | 10,760,530 | 10,760,530 | Full Yr | 365 | 29,481 | 29,481 | 29,481 | 29,481 | 189,613,532 | 189,613,532 | 253,460 | 253,460 |
| | Toilet leak detection and repair | 9.5 | c | 18.1 | 6,588 | 13,923,772 | 13,923,772 | Full Yr | 365 | 38,147 | 38,147 | 38,147 | 38,147 | 245,353,677 | 245,353,677 | 327,969 | 327,969 |
| | Decrease toilet flushes | 2.6 | d | 4.9 | 1,803 | 10,726,462 | 10,726,462 | Full Yr | 365 | 29,388 | 29,388 | 29,388 | 29,388 | 189,013,203 | 189,013,203 | 252,658 | 252,658 |
| | 2.5 gpm showerheads | 2.7 | e | 5.1 | 1,847 | 550,903 | 413,177 | Full Yr | 365 | 1,509 | 1,132 | 1,509 | 1,132 | 11,018,063 | 8,263,547 | 14,728 | 11,046 |
| | 2.0 gpm showerheads | 4.4 | f | 8.4 | 3,078 | 18,363,438 | 18,363,438 | Full Yr | 365 | 50,311 | 50,311 | 50,311 | 50,311 | 323,585,953 | 323,585,953 | 432,544 | 432,544 |
| | Decreased shower use | 2.2 | g | 4.2 | 1,526 | 5,971,208 | 5,971,208 | Full Yr | 365 | 16,359 | 16,359 | 16,359 | 16,359 | 105,219,901 | 105,219,901 | 140,650 | 140,650 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.5 | 2,359 | 29,887,983 | 26,899,185 | Full Yr | 365 | 81,885 | 73,696 | 81,885 | 73,696 | 526,662,351 | 473,996,116 | 704,000 | 633,600 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.6 | 953 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MF Out. | Decrease faucet use | 2.7 | j | 5.1 | 1,859 | 7,274,017 | 7,274,017 | Full Yr | 365 | 19,929 | 19,929 | 19,929 | 19,929 | 128,176,970 | 128,176,970 | 171,337 | 171,337 |
| | Efficient clotheswashers | 5.2 | k | 9.8 | 3,592 | 23,594,625 | 17,695,968 | Full Yr | 365 | 64,643 | 48,482 | 64,643 | 48,482 | 415,765,771 | 311,824,328 | 555,762 | 416,822 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.2 | 436 | 1,302,301 | 1,302,301 | Full Yr | 365 | 3,568 | 3,568 | 3,568 | 3,568 | 22,948,111 | 22,948,111 | 30,675 | 30,675 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 1,379,972 | 1,379,972 | Peak | 122 | 3,781 | 3,781 | 11,311 | 11,311 | 24,316,775 | 24,316,775 | 32,505 | 32,505 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 974,224 | 974,224 | Peak | 122 | 2,669 | 2,669 | 7,985 | 7,985 | 17,167,008 | 17,167,008 | 22,947 | 22,947 |
| | ET controllers | n/a | u | n/a | n/a | 1,379,972 | 1,241,975 | Peak | 122 | 3,781 | 3,403 | 11,311 | 10,180 | 24,316,775 | 21,885,097 | 32,505 | 29,254 |
| ICI Indoor | Limited lawn/low water use plants | n/a | v | n/a | n/a | 418,218 | 376,397 | Peak | 122 | 1,146 | 1,031 | 3,428 | 3,085 | 7,369,512 | 6,632,561 | 9,851 | 8,866 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 4,849,167 | 4,849,167 | Peak | 122 | 13,285 | 13,285 | 39,747 | 39,747 | 85,448,171 | 85,448,171 | 114,220 | 114,220 |
| | 1.6 gpf toilets | 4.2 | n | 231.9 | 84,645 | 14,094,398 | 10,570,798 | Full Yr | 365 | 38,615 | 28,961 | 38,615 | 28,961 | 281,887,951 | 211,415,963 | 376,805 | 282,604 |
| | Dual flush toilets | 5.5 | o | 305.1 | 111,375 | 10,597,291 | 10,597,291 | Full Yr | 365 | 29,034 | 29,034 | 29,034 | 29,034 | 190,065,138 | 190,065,138 | 254,064 | 254,064 |
| | Toilet leak detection repair | 9.5 | c | 527.1 | 192,374 | 6,228,143 | 6,228,143 | Full Yr | 365 | 17,063 | 17,063 | 17,063 | 17,063 | 111,703,345 | 111,703,345 | 149,316 | 149,316 |
| | 1.0 gpf urinals | 1.8 | p | 97.1 | 35,437 | 4,383,425 | 3,287,569 | Full Yr | 365 | 12,009 | 9,007 | 12,009 | 9,007 | 87,668,501 | 65,751,376 | 117,188 | 87,891 |
| | Waterless urinals | 2.1 | q | 116.5 | 42,525 | 8,158,503 | 8,158,503 | Full Yr | 365 | 22,352 | 22,352 | 22,352 | 22,352 | 146,324,850 | 146,324,850 | 195,595 | 195,595 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 238.9 | 87,184 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 8,823,304 | 6,617,478 | Full Yr | 365 | 24,173 | 18,130 | 24,173 | 18,130 | 158,248,211 | 118,686,158 | 211,533 | 158,650 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 245,333 | 220,800 | Full Yr | 365 | 672 | 605 | 672 | 605 | 4,906,662 | 4,415,996 | 6,559 | 5,903 |
| ICI Out. | Air cooled ice machines | n/a | t | 149 | 54,495 | 1,611,428 | 1,450,285 | Full Yr | 365 | 4,415 | 3,973 | 4,415 | 3,973 | 28,901,367 | 26,011,230 | 38,633 | 34,770 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 5,394,120 | 5,394,120 | Peak | 122 | 14,778 | 14,778 | 44,214 | 44,214 | 96,744,931 | 96,744,931 | 129,321 | 129,321 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 3,310,859 | 3,310,859 | Peak | 122 | 9,071 | 9,071 | 27,138 | 27,138 | 59,381,106 | 59,381,106 | 79,376 | 79,376 |
| | ET controllers | n/a | u | n/a | n/a | 5,394,120 | 4,854,708 | Peak | 122 | 14,778 | 13,301 | 44,214 | 39,793 | 96,744,931 | 87,070,438 | 129,321 | 116,389 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,360,118 | 1,224,106 | Peak | 122 | 3,726 | 3,354 | 11,149 | 10,034 | 24,394,065 | 21,954,659 | 32,608 | 29,347 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 17,681,765 | 17,681,765 | Peak | 122 | 48,443 | 48,443 | 144,932 | 144,932 | 317,126,981 | 317,126,981 | 423,910 | 423,910 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows

a.-t. Handbook of Water Use and Conservation by Amy Vickers

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$400.00 | 1.00 | \$112.00 | 25 | 1.0 | \$763,939 | \$1.17 | \$2.33 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$280.00 | 25 | 1.0 | \$381,969 | \$0.79 | \$0.79 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.28 | 7.5 | 3.0 | \$5,368 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$6.90 | 12.5 | 1.0 | \$35,298 | \$1.83 | \$3.66 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$6.90 | 12.5 | 2.0 | \$69,964 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$4.26 | 10 | 2.0 | \$102,025 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$7,332 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$1,783,665 | \$1.37 | \$1.83 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$1,311,806 | \$6.79 | \$6.79 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$2,243,032 | \$6.98 | \$6.98 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$940,540 | \$4.87 | \$4.87 |
| | Limited lawn/low water use plant: Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$249,336 | \$2.21 | \$2.45 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.00 | \$136.00 | 25 | 1.0 | \$827,534 | \$2.16 | \$2.88 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$1,241,301 | \$2.70 | \$3.60 |
| | Dual flush toilets Q4 | \$100.00 | 1.00 | \$170.00 | 25 | 1.0 | \$206,884 | \$0.82 | \$0.82 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.00 | \$0.17 | 7.5 | 3.0 | \$2,719 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 1.0 | \$26,845 | \$1.82 | \$2.43 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.00 | \$4.50 | 12.5 | 2.0 | \$49,656 | \$0.11 | \$0.11 |
| | Decreased shower use Q14 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 1.00 | \$2.65 | 10 | 2.0 | \$62,840 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$7,218 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$241,342 | \$0.43 | \$0.58 |
| | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$146,282 | \$4.50 | \$4.50 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$146,457 | \$6.38 | \$6.38 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$61,910 | \$1.90 | \$2.12 |
| | Limited lawn/low water use plant: | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$5,004 | \$0.51 | \$0.56 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| ICI Indoor | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$190,300 | \$0.51 | \$0.67 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$38,060 | \$0.15 | \$0.15 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$99 | \$0.001 | \$0.001 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$37,109 | \$0.32 | \$0.42 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$28,778 | \$0.15 | \$0.15 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$3,283 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$120,353 | \$0.57 | \$0.76 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$2,551 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$60,749 | \$1.57 | \$1.75 |
| ICI Outdoor | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$315,378 | \$2.44 | \$2.44 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$274,526 | \$3.46 | \$3.46 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$132,835 | \$1.03 | \$1.14 |
| | Limited lawn/low water use plant: | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$5,141 | \$0.16 | \$0.18 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

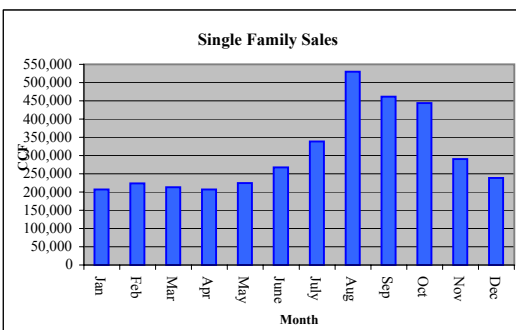
a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

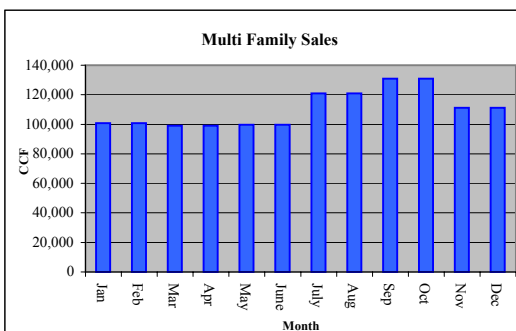
Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

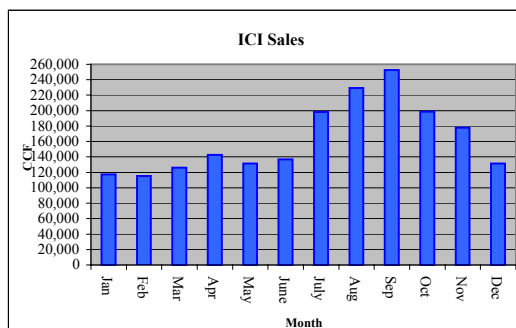
| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 223,265 | 192,706 | 208,198 | 207,390 | 155,127,471 | Non-peak |
| Feb | 218,425 | 213,390 | 238,045 | 223,287 | 167,018,427 | Non-peak |
| Mar | 188,239 | 206,463 | 243,846 | 212,849 | 159,211,301 | Non-peak |
| Apr | 189,297 | 199,733 | 231,965 | 206,998 | 154,834,753 | Non-peak |
| May | 193,792 | 219,082 | 260,999 | 224,624 | 168,019,001 | Non-peak |
| June | 248,595 | 259,599 | 294,155 | 267,450 | 200,052,351 | Non-peak |
| July | 315,700 | 332,742 | 368,415 | 338,952 | 253,536,345 | Peak |
| Aug | 473,493 | 558,837 | 556,426 | 529,585 | 396,129,829 | Peak |
| Sep | 401,538 | 461,909 | 521,634 | 461,694 | 345,346,863 | Peak |
| Oct | 419,020 | 481,343 | 431,823 | 444,062 | 332,158,376 | Peak |
| Nov | 293,337 | 315,652 | 261,793 | 290,261 | 217,114,979 | Non-peak |
| Dec | 257,651 | 224,685 | 234,224 | 238,853 | 178,662,293 | Non-peak |
| Total | 3,422,352 | 3,666,141 | 3,849,523 | 3,646,005 | 2,727,211,989 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 233,964 | 175,005,072 | |
| Base use during entire peak season: | | | | 935,856 | 700,020,288 | |
| Peak Season Total: | | | | 1,774,293 | 1,327,171,413 | |
| Peak Season Increased Use: | | | | 838,437 | 627,151,125 | |



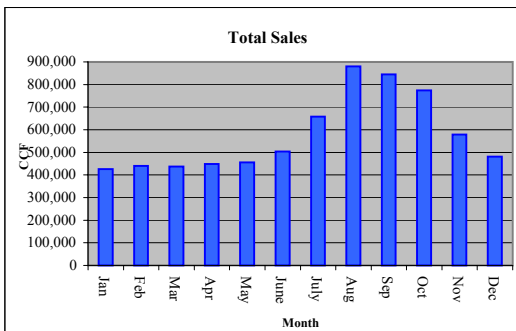
| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 110,702 | 93,310 | 98,446 | 100,819 | 75,412,487 | Non-peak |
| Feb | 110,702 | 93,310 | 98,446 | 100,819 | 75,412,487 | Non-peak |
| Mar | 91,440 | 98,520 | 107,324 | 99,095 | 74,122,686 | Non-peak |
| Apr | 91,440 | 98,520 | 107,324 | 99,095 | 74,122,686 | Non-peak |
| May | 93,552 | 99,994 | 105,202 | 99,582 | 74,487,585 | Non-peak |
| June | 93,552 | 99,994 | 105,202 | 99,582 | 74,487,585 | Non-peak |
| July | 121,671 | 118,757 | 122,174 | 120,867 | 90,408,641 | Peak |
| Aug | 121,671 | 118,757 | 122,174 | 120,867 | 90,408,641 | Peak |
| Sep | 124,276 | 130,288 | 138,257 | 130,940 | 97,943,369 | Peak |
| Oct | 124,276 | 130,288 | 138,257 | 130,940 | 97,943,369 | Peak |
| Nov | 107,191 | 117,927 | 108,193 | 111,103 | 83,105,293 | Non-peak |
| Dec | 107,191 | 117,927 | 108,193 | 111,103 | 83,105,293 | Non-peak |
| Total | 1,297,660 | 1,317,589 | 1,359,190 | 1,324,813 | 990,960,124 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 102,650 | 76,782,013 | |
| Base use during entire peak season: | | | | 410,599 | 307,128,052 | |
| Peak Season Total: | | | | 503,615 | 376,704,020 | |
| Peak Season Increased Use: | | | | 93,016 | 69,575,968 | |



| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 118,631 | 122,027 | 110,817 | 117,158 | 87,634,433 | Non-peak |
| Feb | 118,590 | 118,305 | 109,462 | 115,452 | 86,358,345 | Non-peak |
| Mar | 110,913 | 120,189 | 146,789 | 125,964 | 94,220,823 | Non-peak |
| Apr | 104,221 | 119,261 | 204,118 | 142,533 | 106,614,933 | Non-peak |
| May | 110,038 | 140,964 | 142,770 | 131,257 | 98,180,485 | Non-peak |
| June | 129,445 | 136,366 | 144,353 | 136,721 | 102,267,557 | Non-peak |
| July | 191,058 | 182,609 | 220,986 | 198,218 | 148,266,815 | Peak |
| Aug | 212,676 | 241,878 | 232,811 | 229,122 | 171,383,007 | Peak |
| Sep | 217,030 | 247,382 | 292,939 | 252,450 | 188,832,849 | Peak |
| Oct | 211,430 | 215,685 | 168,394 | 198,503 | 148,480,244 | Peak |
| Nov | 173,368 | 190,688 | 169,087 | 177,714 | 132,930,321 | Non-peak |
| Dec | 154,220 | 142,744 | 97,376 | 131,447 | 98,322,107 | Non-peak |
| Total | 1,851,620 | 1,978,098 | 2,039,902 | 1,956,540 | 1,463,491,920 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 134,781 | 100,816,126 | |
| Base use during entire peak season: | | | | 539,124 | 403,264,503 | |
| Peak Season Total: | | | | 878,293 | 656,962,915 | |
| Peak Season Increased Use: | | | | 339,169 | 253,698,412 | |



| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|---------------|----------|
| Month | 2002 (ccf) | 2003 (ccf) | 2004 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 452,598 | 408,043 | 415,461 | 425,367 | 318,174,391 | Non-peak |
| Feb | 447,717 | 425,005 | 445,953 | 439,558 | 328,789,259 | Non-peak |
| Mar | 390,592 | 425,172 | 497,959 | 437,908 | 327,554,810 | Non-peak |
| Apr | 384,958 | 417,514 | 543,407 | 448,626 | 335,572,373 | Non-peak |
| May | 397,382 | 460,040 | 508,971 | 455,464 | 340,687,072 | Non-peak |
| June | 471,592 | 495,959 | 543,710 | 503,753 | 376,807,493 | Non-peak |
| July | 628,429 | 634,108 | 711,575 | 658,037 | 492,211,801 | Peak |
| Aug | 807,840 | 919,472 | 911,411 | 879,574 | 657,921,477 | Peak |
| Sep | 742,844 | 839,579 | 952,830 | 845,084 | 632,123,081 | Peak |
| Oct | 754,726 | 827,316 | 738,474 | 773,505 | 578,581,989 | Peak |
| Nov | 573,896 | 624,267 | 539,073 | 579,078 | 433,150,593 | Non-peak |
| Dec | 519,062 | 485,356 | 439,793 | 481,403 | 360,089,693 | Non-peak |
| Total | 6,571,632 | 6,961,828 | 7,248,615 | 6,927,358 | 5,181,664,033 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 471,395 | 352,603,211 | |
| Base use during entire peak season: | | | | 1,885,579 | 1,410,412,843 | |
| Peak Season Total: | | | | 3,156,201 | 2,360,838,348 | |
| Peak Season Increased Use: | | | | 1,270,622 | 950,425,505 | |



Green shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

121% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 950,425,505 | 1,150,014,861 | 100.0% | PSIU Total |
| | | | | |
| | 627,151,125 | 758,852,862 | 66.0% | PSIU SF |
| | 69,575,968 | 84,186,921 | 7.3% | PSIU MF |
| | 253,698,412 | 306,975,079 | 26.7% | PSIU ICI |

| | | | | |
|---------------|-------------|-------------|-------|---|
| Single Family | 564,436,013 | 682,967,575 | 59.4% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 62,715,113 | 75,885,286 | 6.6% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 627,151,125 | 758,852,862 | 66.0% | Subtotal |
| | | | | |
| | 451,548,810 | 546,374,060 | 47.5% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 112,887,203 | 136,593,515 | 11.9% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 564,436,013 | 682,967,575 | 59.4% | Subtotal |
| | | | | |
| | 361,239,048 | 437,099,248 | 38.0% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 90,309,762 | 109,274,812 | 9.5% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 451,548,810 | 546,374,060 | 47.5% | Subtotal |
| | | | | |
| | 23,706,313 | 29,323,857 | 2.49% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 40,639,393 | 48,747,520 | 4.3% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 23,706,313 | 29,323,857 | 2.49% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 112,887,203 | 136,593,515 | 11.9% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ⁴ |
| | 361,239,048 | 437,099,248 | 38.0% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 562,178,269 | 681,087,997 | 59.2% | Subtotal |

| | | | | |
|--------------|------------|------------|------|---|
| Multi Family | 62,618,371 | 75,768,229 | 6.6% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 6,957,597 | 8,418,692 | 0.7% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 69,575,968 | 84,186,921 | 7.3% | Subtotal |
| | | | | |
| | 50,094,697 | 60,614,583 | 5.3% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 12,523,674 | 15,153,646 | 1.3% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 62,618,371 | 75,768,229 | 6.6% | Subtotal |
| | | | | |
| | 40,075,758 | 48,491,667 | 4.2% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 10,018,939 | 12,122,917 | 1.1% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 50,094,697 | 60,614,583 | 5.3% | Subtotal |
| | | | | |
| | 4,226,740 | 5,519,889 | 0.4% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 3,444,010 | 3,896,897 | 0.4% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 4,226,740 | 5,519,889 | 0.4% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 12,523,674 | 15,153,646 | 1.3% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ⁴ |
| | 40,075,758 | 48,491,667 | 4.2% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 64,496,922 | 78,581,987 | 6.8% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 228,328,571 | 276,277,571 | 24.0% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 25,369,841 | 30,697,508 | 2.7% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 253,698,412 | 306,975,079 | 26.7% | Subtotal |
| | | | | |
| | 182,662,857 | 221,022,057 | 19.2% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 45,665,714 | 55,255,514 | 4.8% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 228,328,571 | 276,277,571 | 24.0% | Subtotal |
| | | | | |
| | 146,130,285 | 176,817,645 | 15.4% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 36,532,571 | 44,204,411 | 3.8% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 182,662,857 | 221,022,057 | 19.2% | Subtotal |
| | | | | |
| | 17,124,643 | 21,576,481 | 1.8% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 11,416,429 | 13,243,436 | 1.2% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 17,124,643 | 21,576,481 | 1.8% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 45,665,714 | 55,255,514 | 4.8% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ⁴ |
| | 146,130,285 | 176,817,645 | 15.4% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 237,461,714 | 288,469,558 | 25.0% | Subtotal |

Cascade Water Alliance/Bellevue 20 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|--|--------------------|----------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%.) | 62,715,113 | 75,885,286 | 6.6% | SF Non-Landscape |
| | 112,887,203 | 136,593,515 | 11.9% | SF Landscape Non-Lawn |
| | 361,239,048 | 437,099,248 | 38.0% | SF Landscape Lawn Not Needed If Dormant |
| | 90,309,762 | 109,274,812 | 9.5% | SF Landscape Lawn Needed Even If Dormant |
| | 6,957,597 | 8,418,692 | 0.7% | MF Non-Landscape |
| | 12,523,674 | 15,153,646 | 1.3% | MF Landscape Non-Lawn |
| | 40,075,758 | 48,491,667 | 4.2% | MF Landscape Lawn Not Needed If Dormant |
| | 10,018,939 | 12,122,917 | 1.1% | MF Landscape Lawn Needed Even If Dormant |
| | 25,369,841 | 30,697,508 | 2.7% | ICI Non-Landscape |
| | 45,665,714 | 55,255,514 | 4.8% | ICI Landscape Non-Lawn |
| | 146,130,285 | 176,817,645 | 15.4% | ICI Landscape Lawn Not Needed If Dormant |
| | 36,532,571 | 44,204,411 | 3.8% | ICI Landscape Lawn Needed Even If Dormant |
| | 950,425,505 | 1,150,014,861 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

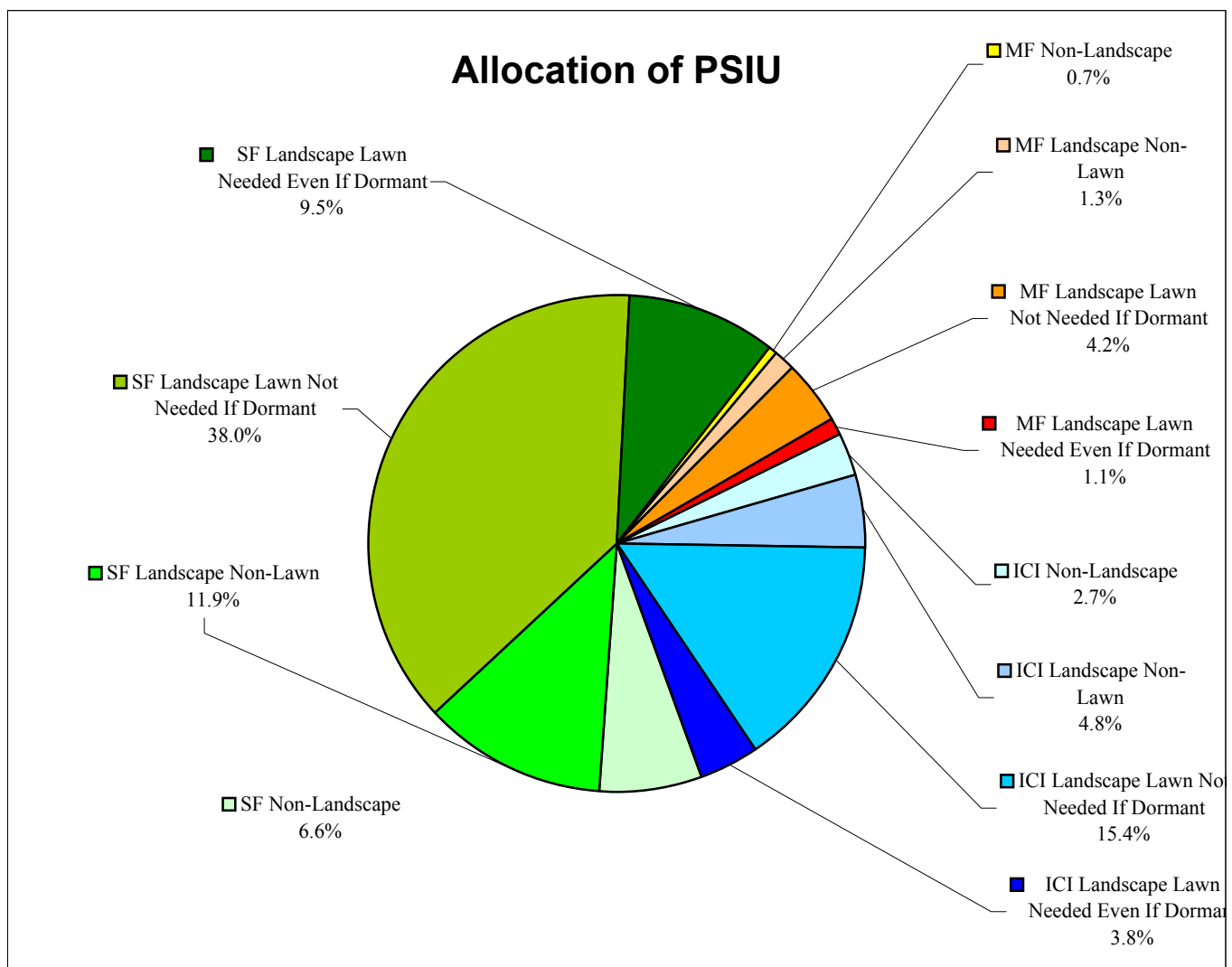
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Appendix C-2

Analysis of Savings and Costs

Covington Water District Spreadsheets

Covington Water District 6-Year

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment

Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2009 | a 6 | i | |
| 2 | Population | 48,532 | b 57,411 | b 8,879 | j | |
| 3 | SF Accounts/Households | 14,153 | c 16,728 | c 2,575 | j | |
| 4 | MF Accounts | 12 | d 15 | d 4 | j | |
| 5 | Units per MF account | 17.4 | e 17.4 | r 0 | j | |
| 6 | MF Households | 206 | e 268 | e 62 | j | |
| 7 | Commercial Accounts | 306 | c 394 | f 88 | j | |
| 8 | Persons Per SF HH Q54 | 3.40 | g 3.40 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 2.0 | g 2.0 | g 0 | j | |
| 10 | Employees Per ICI Account | 13.4 | h 13.4 | h 0 | j | |
| 11 | Employment | 4,101 | c 5,285 | c 1,184 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. 2005 Draft Covington Water District Water System Plan. | | | | | | |
| d. Calculation. | | | | | | |
| e. Based on 2003 U.S. Census data for King County. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|--------------------|-------------------------|--------------------|-----------------------------|------------------------|----------------------------------|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | Eligible SF HH New | Eligible MF HH Existing | Eligible MF HH New | Eligible ICI Acct. Existing | Eligible ICI Acct. New | Life remaining for code fixtures |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | 36% | 18% | 36% | 18% | 36% | 18% | n/a |
| Urinal | 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | 98% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | 29% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | 71% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | 85% | 85% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Covington 6 Yr- Water Conservation Potential Assessment

Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------------|---------------------------------------|---|--|--------------------------|-----------------------|--------------------------------------|---------------------|-----------------------|--|---------------------|---------------------|---------------------------------|-------------------------------|--|
| | Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | |
| | | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | |
| | | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | W/ free riders (affects cost) | W/out free riders ⁱ (affects savings) |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 51% | 7,218 | 100% | 0% | 0 | 7,218 | 50% | 3,609 | 1,805 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 51% | 7,218 | 100% | 0% | 0 | 7,218 | 10% | 722 | 722 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 51% | 11,464 | 100% | 81% | 2,086 | 13,550 | 25% | 3,387 | 3,387 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 58% | 7,784 | 100% | 55% | 1,416 | 9,200 | 25% | 2,300 | 2,300 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 50% | 5,095 | 100% | 0% | 0 | 5,095 | 50% | 2,548 | 1,274 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 50% | 5,095 | 100% | 0% | 0 | 5,095 | 50% | 2,548 | 2,548 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 7,077 | 100% | 50% | 1,288 | 8,364 | 25% | 2,091 | 2,091 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 10,615 | 100% | 100% | 2,575 | 13,190 | 50% | 6,595 | 5,935 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 50% | 7,077 | 100% | 0% | 0 | 7,077 | 50% | 3,538 | 1,769 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 7,077 | 100% | 50% | 1,288 | 8,364 | 25% | 2,091 | 2,091 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 98% | 52% | 7,212 | 100% | 52% | 1,339 | 8,551 | 25% | 2,138 | 1,603 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 98% | 50% | 6,935 | 100% | 50% | 1,288 | 8,222 | 25% | 2,056 | 2,056 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 25% | 50% | 1,744 | 43% | 50% | 547 | 2,292 | 25% | 573 | 573 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 8,541 | 43% | 100% | 1,094 | 9,636 | 25% | 2,409 | 2,409 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 25% | 100% | 3,489 | 43% | 100% | 1,094 | 4,583 | 25% | 1,146 | 1,146 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 9% | 100% | 1,203 | 85% | 100% | 2,189 | 3,392 | 25% | 848 | 763 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 85% | 100% | 12,030 | 85% | 100% | 2,189 | 14,219 | 25% | 3,555 | 3,555 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 50% | 53 | 39 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 60% | 63 | 47 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 10% | 11 | 11 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 155 | 100% | 75% | 47 | 201 | 25% | 50 | 50 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 74% | 152 | 100% | 73% | 46 | 198 | 25% | 50 | 50 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 58% | 31 | 100% | 0% | 0 | 31 | 50% | 15 | 12 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 59% | 31 | 100% | 0% | 0 | 31 | 50% | 15 | 15 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 103 | 100% | 50% | 31 | 134 | 25% | 34 | 34 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 155 | 100% | 100% | 62 | 217 | 50% | 108 | 97 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 58% | 58 | 100% | 0% | 0 | 58 | 50% | 29 | 22 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 103 | 100% | 50% | 31 | 134 | 25% | 34 | 34 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 54% | 81 | 90% | 52% | 30 | 111 | 25% | 28 | 21 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 50% | 75 | 90% | 50% | 28 | 103 | 25% | 26 | 26 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 2 | 42% | 50% | 1 | 3 | 25% | 1 | 1 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 5 | 28% | 100% | 1 | 6 | 25% | 1 | 1 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 3 | 42% | 90% | 1 | 5 | 25% | 1 | 1 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 0 | 70% | 100% | 2 | 3 | 10% | 0 | 0 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 8 | 70% | 100% | 2 | 11 | 10% | 1 | 1 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 153 | 100% | 0% | 0 | 153 | 50% | 77 | 57 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 153 | 100% | 0% | 0 | 153 | 10% | 15 | 15 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 46 | 20% | 75% | 13 | 59 | 25% | 15 | 15 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 159 | 80% | 0% | 0 | 159 | 50% | 80 | 60 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 245 | 80% | 100% | 71 | 315 | 10% | 32 | 32 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 230 | 100% | 0% | 0 | 230 | 50% | 115 | 103 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 5 | 2% | 75% | 1 | 6 | 25% | 1 | 1 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 8 | 11% | 0% | 0 | 8 | 75% | 6 | 6 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 17 | 11% | 25% | 2 | 19 | 25% | 5 | 4 |
| ICI Outdoor | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 38 | 30% | 50% | 13 | 52 | 25% | 13 | 13 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 77 | 20% | 100% | 18 | 94 | 25% | 24 | 24 |
| | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 69 | 30% | 90% | 24 | 93 | 25% | 23 | 21 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 8 | 25% | 100% | 22 | 30 | 10% | 3 | 3 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 153 | 50% | 100% | 44 | 197 | 10% | 20 | 20 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher.

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model.

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient model.

Footnotes:

a. Whether the measure affects existing or future customers.

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowledge.

c. Linked to Demographic & Fixtures worksheet.

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey.

e. Calculation.

f. Linked to Demographic & Fixtures worksheet.

g-j. Calculations.

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-----------------------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|---------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 32.9 | 12,025 | 43,399,452 | 21,699,726 | Full Yr | 365 | 118,903 | 59,451 | 118,903 | 59,451 | 260,396,712 | 130,198,356 | 348,077 | 174,039 |
| | Dual flush toilets | 12.8 | b | 43.4 | 15,823 | 11,420,908 | 11,420,908 | Full Yr | 365 | 31,290 | 31,290 | 31,290 | 31,290 | 63,251,268 | 63,251,268 | 84,549 | 84,549 |
| | Toilet leak detection and repair | 9.5 | c | 32.3 | 11,790 | 14,376,956 | 14,376,956 | Full Yr | 365 | 39,389 | 39,389 | 39,389 | 39,389 | 79,622,448 | 79,622,448 | 106,433 | 106,433 |
| | Decrease toilet flushes | 2.6 | d | 8.8 | 3,227 | 7,421,503 | 7,421,503 | Full Yr | 365 | 20,333 | 20,333 | 20,333 | 20,333 | 41,101,762 | 41,101,762 | 54,942 | 54,942 |
| | 2.5 gpm showerheads | 2.7 | e | 9.1 | 3,305 | 1,403,310 | 701,655 | Full Yr | 365 | 3,845 | 1,922 | 3,845 | 1,922 | 8,419,857 | 4,209,929 | 11,255 | 5,627 |
| | 2.0 gpm showerheads | 4.4 | f | 15.1 | 5,508 | 14,033,095 | 14,033,095 | Full Yr | 365 | 38,447 | 38,447 | 38,447 | 38,447 | 77,718,081 | 77,718,081 | 103,887 | 103,887 |
| | Decreased shower use | 2.2 | g | 7.5 | 2,730 | 5,708,848 | 5,708,848 | Full Yr | 365 | 15,641 | 15,641 | 15,641 | 15,641 | 31,616,740 | 31,616,740 | 42,263 | 42,263 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 11.6 | 4,221 | 27,833,945 | 25,050,551 | Full Yr | 365 | 76,257 | 68,632 | 76,257 | 68,632 | 154,149,939 | 138,734,945 | 206,055 | 185,450 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.7 | 1,706 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 9.1 | 3,326 | 6,954,415 | 6,954,415 | Full Yr | 365 | 19,053 | 19,053 | 19,053 | 19,053 | 41,726,490 | 38,514,938 | 55,777 | 51,484 |
| | Efficient clotheswashers | 5.2 | k | 17.6 | 6,428 | 13,742,862 | 10,307,147 | Full Yr | 365 | 37,652 | 28,239 | 37,652 | 28,239 | 76,110,711 | 57,083,033 | 101,739 | 76,304 |
| | Eliminate partial clotheswasher loads | 1.3 | l | 4.3 | 1,561 | 3,209,185 | 3,209,185 | Full Yr | 365 | 8,792 | 8,792 | 8,792 | 8,792 | 17,773,106 | 17,773,106 | 23,758 | 23,758 |
| | SF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,601,651 | 2,601,651 | Peak | 122 | 7,128 | 7,128 | 21,325 | 21,325 | 14,408,461 | 14,408,461 | 19,260 |
| Audits for manual irrigation | | n/a | u | n/a | n/a | 3,646,558 | 3,646,558 | Peak | 122 | 9,991 | 9,991 | 29,890 | 29,890 | 20,195,366 | 20,195,366 | 26,996 | 26,996 |
| ET controllers | | n/a | u | n/a | n/a | 2,601,651 | 2,601,651 | Peak | 122 | 7,128 | 7,128 | 21,325 | 21,325 | 14,408,461 | 14,408,461 | 19,260 | 19,260 |
| Limited lawn/low water use plants | | n/a | v | n/a | n/a | 2,567,165 | 2,310,449 | Peak | 122 | 7,033 | 6,330 | 21,042 | 18,938 | 14,217,474 | 12,795,727 | 19,005 | 17,104 |
| Allow lawn to go dormant | | n/a | u | n/a | n/a | 34,438,348 | 34,438,348 | Peak | 122 | 94,352 | 94,352 | 282,282 | 282,282 | 190,726,442 | 190,726,442 | 254,948 | 254,948 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 371,581 | 278,686 | Full Yr | 365 | 1,018 | 764 | 1,018 | 764 | 2,229,489 | 1,672,117 | 2,980 | 2,235 |
| | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 445,898 | 334,423 | Full Yr | 365 | 1,222 | 916 | 1,222 | 916 | 2,675,387 | 2,006,540 | 3,576 | 2,682 |
| | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 97,785 | 97,785 | Full Yr | 365 | 268 | 268 | 268 | 268 | 518,842 | 518,842 | 694 | 694 |
| | Toilet leak detection and repair | 9.5 | c | 19.0 | 6,935 | 125,454 | 125,454 | Full Yr | 365 | 344 | 344 | 344 | 344 | 665,656 | 665,656 | 890 | 890 |
| | Decrease toilet flushes | 2.6 | d | 5.2 | 1,898 | 94,103 | 94,103 | Full Yr | 365 | 258 | 258 | 258 | 258 | 499,307 | 499,307 | 667 | 667 |
| | 2.5 gpm showerheads | 2.7 | e | 5.3 | 1,944 | 5,006 | 3,755 | Full Yr | 365 | 14 | 10 | 14 | 10 | 30,037 | 22,528 | 40 | 30 |
| | 2.0 gpm showerheads | 4.4 | f | 8.9 | 3,240 | 50,062 | 50,062 | Full Yr | 365 | 137 | 137 | 137 | 137 | 265,630 | 265,630 | 355 | 355 |
| | Decreased shower use | 2.2 | g | 4.4 | 1,606 | 53,801 | 53,801 | Full Yr | 365 | 147 | 147 | 147 | 147 | 285,467 | 285,467 | 382 | 382 |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 6.8 | 2,483 | 268,749 | 241,874 | Full Yr | 365 | 736 | 663 | 736 | 663 | 1,425,975 | 1,283,378 | 1,906 | 1,716 |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 65,539 | 65,539 | Full Yr | 365 | 180 | 180 | 180 | 180 | 347,750 | 347,750 | 465 | 465 |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 105,253 | 78,939 | Full Yr | 365 | 288 | 216 | 288 | 216 | 558,467 | 418,850 | 747 | 560 |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 11,834 | 11,834 | Full Yr | 365 | 32 | 32 | 32 | 32 | 62,791 | 62,791 | 84 | 84 |
| MF Out. | Audits for automatic irrigation | n/a | u | n/a | n/a | 16,026 | 16,026 | Peak | 122 | 44 | 44 | 131 | 131 | 85,035 | 85,035 | 114 | 114 |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 11,359 | 11,359 | Peak | 122 | 31 | 31 | 93 | 93 | 60,268 | 60,268 | 81 | 81 |
| | ET controllers | n/a | u | n/a | n/a | 16,026 | 14,424 | Peak | 122 | 44 | 40 | 131 | 118 | 85,035 | 76,531 | 114 | 102 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 4,757 | 4,282 | Peak | 122 | 13 | 12 | 39 | 35 | 25,242 | 22,718 | 34 | 30 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 56,429 | 56,429 | Peak | 122 | 155 | 155 | 463 | 463 | 299,413 | 299,413 | 400 | 400 |
| ICI Indoor | 1.6 gpf toilets | 4.2 | n | 56.0 | 20,447 | 1,564,224 | 1,173,168 | Full Yr | 365 | 4,286 | 3,214 | 4,286 | 3,214 | 9,385,344 | 7,039,008 | 12,546 | 9,409 |
| | Dual flush toilets | 5.5 | o | 73.7 | 26,904 | 411,638 | 411,638 | Full Yr | 365 | 1,128 | 1,128 | 1,128 | 1,128 | 2,193,169 | 2,193,169 | 2,932 | 2,932 |
| | Toilet leak detection repair | 9.5 | c | 127.3 | 46,471 | 247,397 | 247,397 | Full Yr | 365 | 678 | 678 | 678 | 678 | 1,318,111 | 1,318,111 | 1,762 | 1,762 |
| | 1.0 gpf urinals | 1.8 | p | 23.5 | 8,561 | 567,561 | 425,671 | Full Yr | 365 | 1,555 | 1,166 | 1,555 | 1,166 | 3,405,368 | 2,554,026 | 4,552 | 3,414 |
| | Waterless urinals | 2.1 | q | 28.1 | 10,273 | 324,076 | 324,076 | Full Yr | 365 | 888 | 888 | 888 | 888 | 1,726,649 | 1,726,649 | 2,308 | 2,308 |
| | 0.5 gpm faucet aerators - bathroom | 4.3 | h | 57.7 | 21,061 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Efficient clotheswashers | n/a | r | 1344 | 490,560 | 725,438 | 544,078 | Full Yr | 365 | 1,988 | 1,491 | 1,988 | 1,491 | 3,865,066 | 2,898,799 | 5,167 | 3,875 |
| | Pre-rinse sprayheads | n/a | s | 137 | 50,005 | 131,498 | 118,348 | Full Yr | 365 | 360 | 324 | 360 | 324 | 788,985 | 710,087 | 1,055 | 949 |
| | Air cooled ice machines | n/a | t | 149 | 54,495 | 262,384 | 236,146 | Full Yr | 365 | 719 | 647 | 719 | 647 | 1,397,959 | 1,258,163 | 1,869 | 1,682 |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 2,367,136 | 2,367,136 | Peak | 122 | 6,485 | 6,485 | 19,403 | 19,403 | 12,611,887 | 12,611,887 | 16,859 | 16,859 |
| ICI Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 1,442,739 | 1,442,739 | Peak | 122 | 3,953 | 3,953 | 11,826 | 11,826 | 7,686,784 | 7,686,784 | 10,275 | 10,275 |
| | ET controllers | n/a | u | n/a | n/a | 2,367,136 | 2,130,423 | Peak | 122 | 6,485 | 5,837 | 19,403 | 17,462 | 12,611,887 | 11,350,698 | 16,859 | 15,173 |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 635,169 | 571,652 | Peak | 122 | 1,740 | 1,566 | 5,206 | 4,686 | 3,384,122 | 3,045,710 | 4,524 | 4,071 |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 7,733,325 | 7,733,325 | Peak | 122 | 21,187 | 21,187 | 63,388 | 63,388 | 41,202,454 | 41,202,454 | 55,076 | 55,076 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes

a. Sources for Column 3 are as follows

a.-t. Handbook of Water Use and Conservation by Amy Vicker

u.-v. Calculations based on excess peak season use compared to annual base use

b.-o. Calculations.

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment

Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$40.00 | 2.70 | \$108.00 | 25 | 1.0 | \$389,774 | \$1.12 | \$2.24 |
| | Dual flush toilets Q4 | \$100.00 | 2.70 | \$270.00 | 25 | 1.0 | \$194,887 | \$2.31 | \$2.31 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.70 | \$0.27 | 7.5 | 1.0 | \$915 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.70 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 1.0 | \$16,814 | \$1.49 | \$2.99 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 1.0 | \$16,814 | \$0.16 | \$0.16 |
| | Decreased shower use Q14 | \$0.00 | 2.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 3.80 | \$4.37 | 10 | 1.0 | \$28,820 | \$0.14 | \$0.16 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,892 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 4.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 1.0 | \$213,784 | \$2.10 | \$2.80 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 2.0 | \$370,155 | \$19.22 | \$19.22 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 2.0 | \$533,645 | \$19.77 | \$19.77 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 1.0 | \$286,443 | \$14.87 | \$14.87 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$254,382 | \$13.39 | \$14.87 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.80 | \$144.00 | 25 | 1.0 | \$7,564 | \$2.54 | \$3.38 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$11,346 | \$3.17 | \$4.23 |
| | Dual flush toilets Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$1,891 | \$2.73 | \$2.73 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.80 | \$0.18 | 7.5 | 1.0 | \$9 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.80 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$70 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$70 | \$0.20 | \$0.20 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 1.0 | \$286 | \$0.15 | \$0.17 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$32 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 3.30 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 1.0 | \$557 | \$0.75 | \$0.99 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$1,271 | \$11.18 | \$11.18 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$1,277 | \$15.86 | \$15.86 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$588 | \$5.17 | \$5.75 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$87 | \$2.59 | \$2.87 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$30,600 | \$2.44 | \$3.25 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$6,120 | \$2.09 | \$2.09 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 1.0 | \$6 | \$0.003 | \$0.003 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$5,967 | \$1.31 | \$1.75 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$4,732 | \$2.05 | \$2.05 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$528 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 1.0 | \$5,324 | \$1.03 | \$1.37 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$410 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 1.0 | \$3,611 | \$1.93 | \$2.15 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 2.0 | \$25,153 | \$1.49 | \$1.49 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 2.0 | \$21,741 | \$2.12 | \$2.12 |
| ICI Outdoor | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 1.0 | \$11,588 | \$0.69 | \$0.76 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$892 | \$0.20 | \$0.22 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 6.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

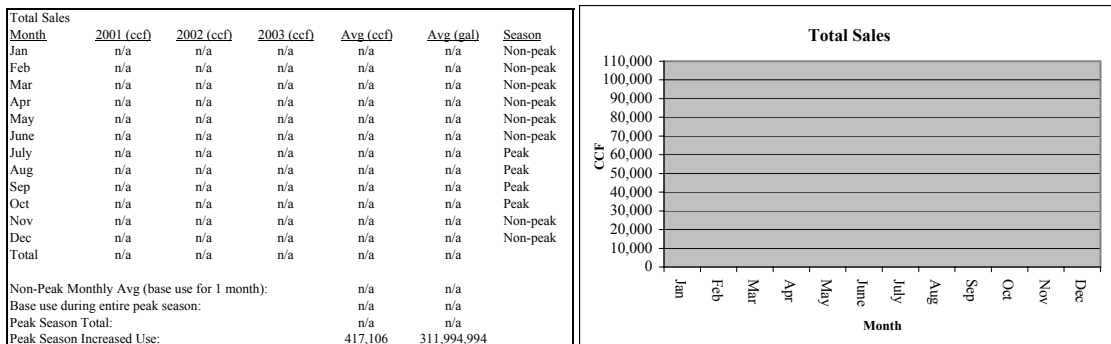
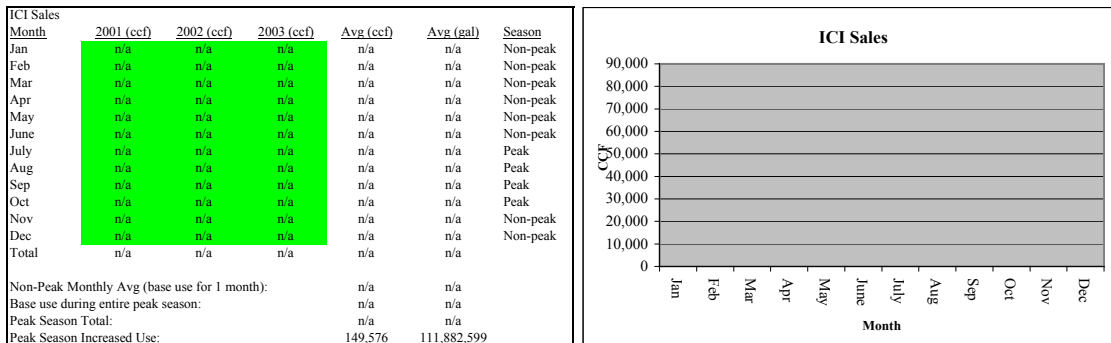
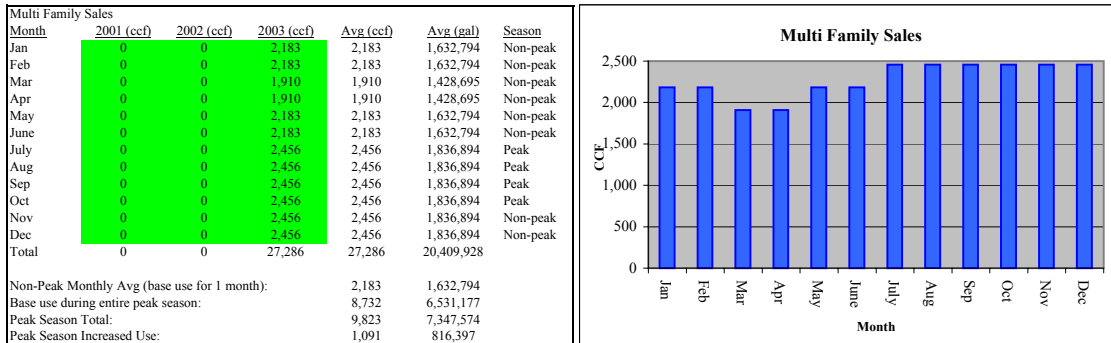
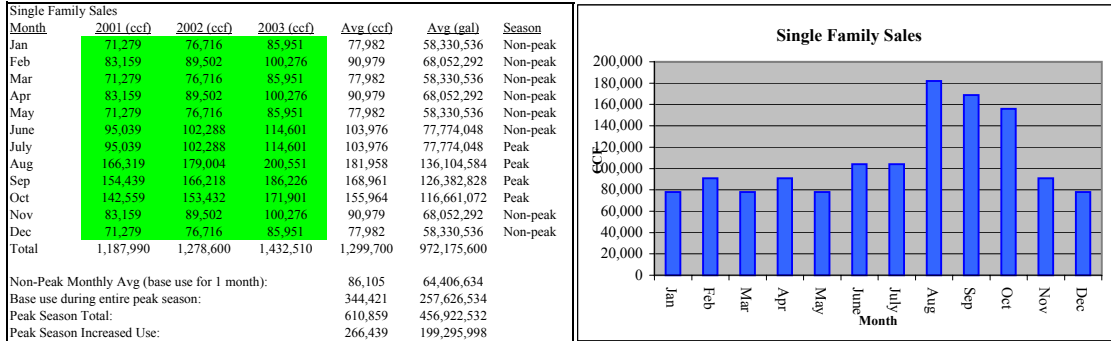
Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.



Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtracted from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: The above process was used for SF and MF for Covington. For ICI, the utility provided separate billing data for outdoor meters, which was used to

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

120% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|---------------|----------------|-----------------|-----------|---|
| | 311,994,994 | 374,393,993 | 100.0% | PSIU Total |
| All Sectors | 199,295,998 | 239,155,198 | 63.9% | PSIU SF |
| | 816,397 | 979,677 | 0.3% | PSIU MF |
| | 111,882,599 | 134,259,118 | 35.9% | PSIU ICI |
| | | | | |
| Single Family | 179,366,398 | 215,239,678 | 57.5% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 19,929,600 | 23,915,520 | 6.4% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 199,295,998 | 239,155,198 | 63.9% | Subtotal |
| | | | | |
| | 143,493,119 | 172,191,742 | 46.0% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 35,873,280 | 43,047,936 | 11.5% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 179,366,398 | 215,239,678 | 57.5% | Subtotal |
| | | | | |
| | 114,794,495 | 137,753,394 | 36.8% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 28,698,624 | 34,438,348 | 9.2% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 143,493,119 | 172,191,742 | 46.0% | Subtotal |
| | | | | |
| | 7,802,438 | 10,406,603 | 2.50% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 12,735,014 | 14,586,232 | 4.1% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 7,802,438 | 10,406,603 | 2.50% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 35,873,280 | 43,047,936 | 11.5% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ³ |
| | 114,794,495 | 137,753,394 | 36.8% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 179,007,665 | 216,200,768 | 57.4% | Subtotal |
| Multi Family | 734,757 | 881,709 | 0.2% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 81,640 | 97,968 | 0.0% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 816,397 | 979,677 | 0.3% | Subtotal |
| | | | | |
| | 587,806 | 705,367 | 0.2% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 146,951 | 176,342 | 0.0% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 734,757 | 881,709 | 0.2% | Subtotal |
| | | | | |
| | 470,245 | 564,294 | 0.2% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 117,561 | 141,073 | 0.0% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 587,806 | 705,367 | 0.2% | Subtotal |
| | | | | |
| | 49,596 | 64,105 | 0.0% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 40,412 | 45,434 | 0.0% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 49,596 | 64,105 | 0.0% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 146,951 | 176,342 | 0.0% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ³ |
| | 470,245 | 564,294 | 0.2% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 756,800 | 914,279 | 0.2% | Subtotal |
| ICI | 100,694,339 | 120,833,207 | 32.3% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 11,188,260 | 13,425,912 | 3.6% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 111,882,599 | 134,259,118 | 35.9% | Subtotal |
| | | | | |
| | 80,555,471 | 96,666,565 | 25.8% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,138,868 | 24,166,641 | 6.5% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 100,694,339 | 120,833,207 | 32.3% | Subtotal |
| | | | | |
| | 64,444,377 | 77,333,252 | 20.7% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 16,111,094 | 19,333,313 | 5.2% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 80,555,471 | 96,666,565 | 25.8% | Subtotal |
| | | | | |
| | 7,552,075 | 9,468,545 | 2.4% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 5,034,717 | 5,770,957 | 1.6% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 7,552,075 | 9,468,545 | 2.4% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 20,138,868 | 24,166,641 | 6.5% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ³ |
| | 64,444,377 | 77,333,252 | 20.7% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 104,722,112 | 126,207,941 | 33.6% | Subtotal |

Cascade Water Alliance/Covington 6 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|--|--------------------|--------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%.) | 19,929,600 | 23,915,520 | 6.4% | SF Non-Landscape |
| | 35,873,280 | 43,047,936 | 11.5% | SF Landscape Non-Lawn |
| | 114,794,495 | 137,753,394 | 36.8% | SF Landscape Lawn Not Needed If Dormant |
| | 28,698,624 | 34,438,348 | 9.2% | SF Landscape Lawn Needed Even If Dormant |
| | 81,640 | 97,968 | 0.0% | MF Non-Landscape |
| | 146,951 | 176,342 | 0.0% | MF Landscape Non-Lawn |
| | 470,245 | 564,294 | 0.2% | MF Landscape Lawn Not Needed If Dormant |
| | 117,561 | 141,073 | 0.0% | MF Landscape Lawn Needed Even If Dormant |
| | 11,188,260 | 13,425,912 | 3.6% | ICI Non-Landscape |
| | 20,138,868 | 24,166,641 | 6.5% | ICI Landscape Non-Lawn |
| | 64,444,377 | 77,333,252 | 20.7% | ICI Landscape Lawn Not Needed If Dormant |
| | 16,111,094 | 19,333,313 | 5.2% | ICI Landscape Lawn Needed Even If Dormant |
| | 311,994,994 | 374,393,993 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

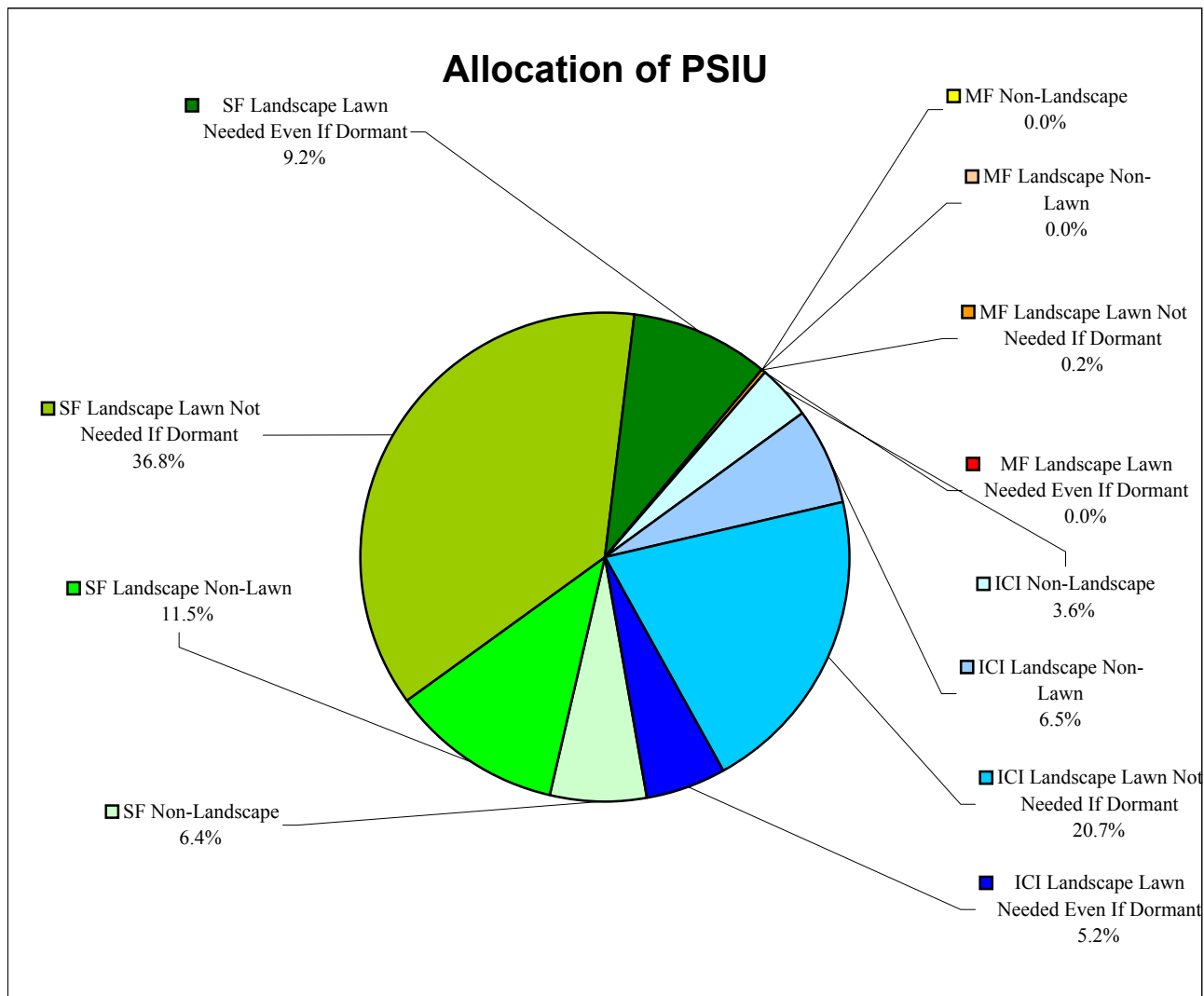
³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.



Covington Water District 20-Year

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment Demographics & Fixture Assumptions

| Demographics | | | | | | |
|---|------------------------------|-------------------|------------------|---|---|--|
| 1 | 2 | 3 | 4 | 5 | | |
| # | Parameter | First Planning Yr | Last Planning Yr | Change Between First & Last Planning Yr | | |
| 1 | Year | 2004 | a 2023 | a 20 | i | |
| 2 | Population | 48,532 | b 79,275 | b 30,743 | j | |
| 3 | SF Accounts/Households | 14,153 | c 23,012 | c 8,859 | j | |
| 4 | MF Accounts | 12 | d 30 | d 18 | j | |
| 5 | Units per MF account | 17.4 | e 17.4 | r 0 | j | |
| 6 | MF Households | 206 | e 517 | e 311 | j | |
| 7 | Commercial Accounts | 306 | c 571 | f 265 | j | |
| 8 | Persons Per SF HH Q54 | 3.40 | g 3.40 | g 0 | j | |
| 9 | Persons Per MF HH Q54 | 2.0 | g 2.0 | g 0 | j | |
| 10 | Employees Per ICI Account | 13.4 | h 13.4 | h 0 | j | |
| 11 | Employment | 4,101 | c 7,651 | c 3,550 | j | |
| Footnotes: | | | | | | |
| a. Provided by client. | | | | | | |
| b. Calculation. | | | | | | |
| c. 2005 Draft Covington Water District Water System Plan. | | | | | | |
| d. Calculation. | | | | | | |
| e. Based on 2003 U.S. Census data for King County. | | | | | | |
| f. Extrapolated from client data (current commercial accounts times growth rate of employees during planning period). | | | | | | |
| g. 2005 Cascade Water Alliance CPA survey. | | | | | | |
| h. Calculation. | | | | | | |
| i. Calculation. | | | | | | |
| j. Calculation. | | | | | | |
| r. Kept same as 2004. | | | | | | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

| Fixture Assumptions | | | | | | | |
|--|-------------------------|------|-------------------------|------|-----------------------------|------|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Percent of HH/businesses with the Following Features: | Eligible SF HH Existing | New | Eligible MF HH Existing | New | Eligible ICI Acct. Existing | New | Life remaining for code fixtures ^g |
| Toilet - Tank Style | 100% | 100% | 100% | 100% | 20% | 20% | 7 |
| Toilet - Flushometer | k 0% | 0% | 0% | 0% | 80% | 80% | 7 |
| Toilet - Tank Style w/ leaks Q11 | l 36% | 15% | 36% | 18% | 36% | 18% | n/a |
| Urinal | k 0% | 0% | 0% | 0% | 80% | 80% | 5 |
| Showerhead | 100% | 100% | 100% | 100% | 2% | 2% | 1 |
| Faucet | 100% | 100% | 100% | 100% | 100% | 100% | 0 |
| Clotheswasher Q21 | m 98% | 100% | 73% | 90% | 0.5% | 0.5% | n/a |
| Irrigators using auto system Q30&33 | n 29% | 50% | 45% | 60% | 50% | 60% | n/a |
| Irrigators using manual system | k 71% | 50% | 55% | 40% | 50% | 40% | n/a |
| New landscapes in next 2 yrs Q28 | o 10% | 100% | 5% | 100% | 5% | 50% | n/a |
| Irrigated landscaping Q29&32 | p 85% | 85% | 70% | 70% | 50% | 50% | n/a |
| Pre-rinse sprayhead | q 0% | 0% | 0% | 0% | 11% | 11% | 2.5 |
| Ice machine | q 0% | 0% | 0% | 0% | 11% | 11% | n/a |
| Sources for data in this table include professional knowledge, client input, and sources as indicated below: | | | | | | | |
| k. Calculation. | | | | | | | |
| l. Based on 2005 Cascade Water Alliance CPA survey. 36% of SF HHs checking for leaks found them. Assume 1/2 as much for future SF HHs. Assume same numbers for MF and ICI (# of survey respondents for MF was not statistically valid). | | | | | | | |
| m. Existing SF and MF HHs based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| n. Existing SF HH based on 2005 Cascade Water Alliance CPA survey. | | | | | | | |
| o. 2005 Cascade Water Alliance CPA survey asked this question for SF, but results seems unrealistically high.. | | | | | | | |
| p. Existing SF HH based on 2005 Cascade Water Alliance CPA survey Assume future SF HH stays at same rate. | | | | | | | |
| q. Based on 2002 U.S. Census Bureau County Business Patterns for King County. 11% of businesses are either: 1) accomodation & food services, 2) educational services, or 3) arts, entertainment & recreation, which are likely to have these fixtures. | | | | | | | |
| r. Based on lifespan and time elapsed since code went into effect. | | | | | | | |

Cascade Water Alliance/Covington 20 Yr- Water Conservation Potential Assessment Participation

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|---------------------------------------|---|-----------------------------|-----------------------|---|---------------------|-----------------------|--|---------------------|---------------------|------------------------------------|---|---|-------|
| Conservation Measure | Target Group | Existing (E) or New (N) Customers ^a | Free Riders ^b | Participation | | | | | | | | | | |
| | | | | Existing SF/MF/ICI | | | New SF/MF/ICI | | | Total SF/MF/ICI | | | | |
| | | | | Eligible ^c | Not Already Implemented ^d | Target ^e | Eligible ^f | Not Implemented Naturally ^d | Target ^g | Target ^h | Participation Rate ^d | Participating | | |
| | | | | | | | | | | | | W/ free riders ⁱ (affects cost) | W/out free riders ^j (affects savings) | |
| SF Indoor | 1.6 gpf toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 50% | 100% | 51% | 7,218 | 100% | 0% | 0 | 7,218 | 50% | 3,609 | 1,805 |
| | Dual flush toilets | SF HH w/ pre-code models Q4-5, Q6-9 | E | 0% | 100% | 51% | 7,218 | 100% | 0% | 0 | 7,218 | 10% | 722 | 722 |
| | Toilet leak detection and repair | SF HH not checking for leaks Q10 | EN | 0% | 100% | 51% | 11,464 | 100% | 81% | 7,176 | 18,640 | 25% | 4,660 | 4,660 |
| | Decrease toilet flushes | SF HH Q13 | EN | 0% | 100% | 58% | 7,784 | 100% | 58% | 4,872 | 12,657 | 25% | 3,164 | 3,164 |
| | 2.5 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 50% | 100% | 50% | 5,095 | 100% | 0% | 0 | 5,095 | 50% | 2,548 | 1,274 |
| | 2.0 gpm showerheads | SF HH w/ pre-code models Q14&15 | E | 0% | 100% | 50% | 5,095 | 100% | 0% | 0 | 5,095 | 50% | 2,548 | 2,548 |
| | Decreased shower use | SF HH | EN | 0% | 100% | 50% | 7,077 | 100% | 50% | 4,430 | 11,506 | 25% | 2,877 | 2,877 |
| | 1.0 gpm faucet aerators - bathroom | SF HH | EN | 10% | 100% | 75% | 10,615 | 100% | 100% | 8,859 | 19,474 | 50% | 9,737 | 8,763 |
| | 2.5 gpm faucet aerators - kitchen | SF HH w/ pre-code models Q17-18 | E | 50% | 100% | 50% | 7,077 | 100% | 0% | 0 | 7,077 | 50% | 3,538 | 1,769 |
| | Decrease faucet use | SF HH | EN | 0% | 100% | 50% | 7,077 | 100% | 50% | 4,430 | 11,506 | 25% | 2,877 | 2,877 |
| | Efficient clotheswashers | SF HH w/ less efficient models Q22 | EN | 25% | 98% | 52% | 7,212 | 100% | 52% | 4,607 | 11,819 | 50% | 5,910 | 4,432 |
| | Eliminate partial clotheswasher loads | SF HH Q24&26 | EN | 0% | 98% | 50% | 6,935 | 100% | 50% | 4,430 | 11,364 | 25% | 2,841 | 2,841 |
| SF Outdoor | Audits for automatic irrigation | SF HH w/ auto systems Q40 | EN | 0% | 25% | 50% | 1,744 | 43% | 50% | 1,883 | 3,627 | 25% | 907 | 907 |
| | Audits for manual irrigation | SF HH w/ manual systems | EN | 0% | 60% | 100% | 8,541 | 43% | 100% | 3,765 | 12,306 | 25% | 3,077 | 3,077 |
| | ET controllers | SF HH w/ auto systems Q40, Q41 | EN | 0% | 25% | 100% | 3,489 | 43% | 100% | 3,765 | 7,254 | 25% | 1,813 | 1,813 |
| | Limited lawn/low water use plants | SF HH new construction and remodel Q31B&34 | EN | 10% | 9% | 100% | 1,203 | 85% | 100% | 7,530 | 8,733 | 25% | 2,183 | 1,965 |
| | Allow lawn to go dormant | SF HH irrigating lawn Q31A | EN | 0% | 85% | 100% | 12,030 | 85% | 100% | 7,530 | 19,560 | 25% | 4,890 | 4,890 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 50% | 53 | 39 |
| | 1.6 gpf toilets - \$100 rebate | MF HH w/ pre-code models Q4-5 | E | 25% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 60% | 63 | 47 |
| | Dual flush toilets | MF HH w/ pre-code models Q4-5 | E | 0% | 100% | 51% | 105 | 100% | 0% | 0 | 105 | 10% | 11 | 11 |
| | Toilet leak detection and repair | MF HH not checking for leaks | EN | 0% | 100% | 75% | 155 | 100% | 75% | 233 | 388 | 25% | 97 | 97 |
| | Decrease toilet flushes | MF HH Q13 | EN | 0% | 100% | 74% | 152 | 100% | 74% | 230 | 383 | 25% | 96 | 96 |
| | 2.5 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 25% | 100% | 58% | 31 | 100% | 0% | 0 | 31 | 50% | 15 | 12 |
| | 2.0 gpm showerheads | MF HH w/ pre-code models Q14-15 | E | 0% | 100% | 59% | 31 | 100% | 0% | 0 | 31 | 50% | 15 | 15 |
| | Decreased shower use | MF HH | EN | 0% | 100% | 50% | 103 | 100% | 50% | 156 | 259 | 25% | 65 | 65 |
| | 1.0 gpm faucet aerators - bathroom | MF HH | EN | 10% | 100% | 75% | 155 | 100% | 100% | 311 | 466 | 50% | 233 | 209 |
| | 2.5 gpm faucet aerators - kitchen | MF HH w/ pre-code models Q17-18 | E | 25% | 100% | 58% | 58 | 100% | 0% | 0 | 58 | 50% | 29 | 22 |
| | Decrease faucet use | MF HH | EN | 0% | 100% | 50% | 103 | 100% | 50% | 156 | 259 | 25% | 65 | 65 |
| | Efficient clotheswashers | MF HH w/ less efficient models Q22 | EN | 25% | 73% | 54% | 81 | 90% | 52% | 151 | 232 | 50% | 116 | 87 |
| MF Outdoor | Eliminate partial clotheswasher loads | MF HH Q24&26 | EN | 0% | 73% | 50% | 75 | 90% | 50% | 140 | 215 | 25% | 54 | 54 |
| | Audits for automatic irrigation | MF accounts w/ auto systems | EN | 0% | 32% | 50% | 2 | 42% | 50% | 4 | 6 | 25% | 1 | 1 |
| | Audits for manual irrigation | MF accounts w/ manual systems | EN | 0% | 39% | 100% | 5 | 28% | 100% | 5 | 10 | 25% | 2 | 2 |
| | ET controllers | MF accounts w/ auto systems | EN | 10% | 32% | 90% | 3 | 42% | 90% | 7 | 10 | 25% | 3 | 2 |
| | Limited lawn/low water use plants | MF accounts new construction and remodel | EN | 10% | 4% | 100% | 0 | 70% | 100% | 13 | 13 | 10% | 1 | 1 |
| ICI Indoor | Allow lawn to go dormant | MF accounts irrigating lawn 31A | EN | 0% | 70% | 100% | 8 | 70% | 100% | 13 | 21 | 10% | 2 | 2 |
| | 1.6 gpf toilets | ICI accounts w/ pre-code models | E | 25% | 100% | 50% | 153 | 100% | 0% | 0 | 153 | 50% | 77 | 57 |
| | Dual flush toilets | ICI accounts w/ pre-code models | E | 0% | 100% | 50% | 153 | 100% | 0% | 0 | 153 | 10% | 15 | 15 |
| | Toilet leak detection repair | ICI accounts w/ tank models not checking for leaks | EN | 0% | 20% | 75% | 46 | 20% | 75% | 40 | 86 | 25% | 21 | 21 |
| | 1.0 gpf urinals | ICI accounts w/ pre-code models | E | 25% | 80% | 65% | 159 | 80% | 0% | 0 | 159 | 50% | 80 | 60 |
| | Waterless urinals | ICI accounts | EN | 0% | 80% | 100% | 245 | 80% | 100% | 212 | 457 | 10% | 46 | 46 |
| | 0.5 gpm faucet aerators - bathroom | ICI accounts w/ pre-code models | E | 10% | 100% | 75% | 230 | 100% | 0% | 0 | 230 | 50% | 115 | 103 |
| | Efficient clotheswashers | ICI accounts w/ less efficient models | EN | 25% | 2% | 75% | 5 | 2% | 75% | 4 | 9 | 50% | 4 | 3 |
| | Pre-rinse sprayheads | ICI accounts w/ > 1.6 gpm models | E | 10% | 11% | 25% | 8 | 11% | 0% | 0 | 8 | 75% | 6 | 6 |
| | Air cooled ice machines | ICI accounts | EN | 10% | 11% | 50% | 17 | 11% | 25% | 7 | 24 | 25% | 6 | 5 |
| | Audits for automatic irrigation | ICI accounts w/ auto systems | EN | 0% | 25% | 50% | 38 | 30% | 50% | 40 | 78 | 25% | 19 | 19 |
| | Audits for manual irrigation | ICI accounts w/ manual systems | EN | 0% | 25% | 100% | 77 | 20% | 100% | 53 | 129 | 25% | 32 | 32 |
| ICI Outdoor | ET controllers | ICI accounts w/ auto systems | EN | 10% | 25% | 90% | 69 | 30% | 90% | 72 | 140 | 25% | 35 | 32 |
| | Limited lawn/low water use plants | ICI accounts new construction and remodel | EN | 10% | 3% | 100% | 8 | 25% | 100% | 66 | 74 | 10% | 7 | 7 |
| | Allow lawn to go dormant | ICI accounts irrigating lawn 31A | EN | 0% | 50% | 100% | 153 | 50% | 100% | 132 | 285 | 10% | 29 | 29 |

Shaded cells contain data entered specifically for the client

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number

Key definitions:

Eligible: HH/businesses that have the appropriate fixture/behavior for the measure. For example, those with a clotheswasher

Target: Eligible hh/businesses that have not already implemented the measure. For example, those with a clotheswasher that do not already have an efficient model

Participating: Target hh/businesses willing to implement the measure. For example, those with a clotheswasher, that do not already have an efficient model, willing to purchase an efficient m

Footnotes:

a. Whether the measure affects existing or future customers:

b. Customers who will implement the measure even without the conservation program. Therefore, the utility spends money that does not gain them additional water savings. Source is professional knowl

c. Linked to Demographic & Fixtures worksheet

d. Professional knowledge and 2005 Cascade Water Alliance CPA survey

e. Calculation.

f. Linked to Demographic & Fixtures worksheet

g-j. Calculations.

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment

Savings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|------------------------------------|---------------------------------------|--|--|---|--|---|------------|----------------|--|---|--|---|--|---|--|---|-----------|--------|
| Conservation Measure | | Savings | | | | | | | | | | | | | | | | |
| | | gal. per capita or employee per day ^a | gal. per hh or business per day ^b | gal. per hh or business per year ^c | Annual gpy (at full implementation) | | Season | Days in Effect | Annual gpd (at full implementation) | | Peak Season gpd (at full implementation) | | Gallons Per Plan Period | | ccf Per Plan Period | | | |
| | | | | | w/ free riders ^d (inflated savings) | w/o free riders ^e (true savings) | | | w/ free riders ^f (inflated savings) | w/o free riders ^g (true savings) | w/ free riders ^h (inflated savings) | w/o free riders ⁱ (true savings) | w/ free riders ^j (inflated savings) | w/o free riders ^k (true savings) | w/ free riders ^l (inflated savings) | w/o free riders ^m (true savings) | | |
| SF Indoor | 1.6 gpf toilets | 9.7 | a | 32.9 | 12,025 | 15,189,808 | 7,594,904 | Full Yr | 365 | 41,616 | 20,808 | 41,616 | 20,808 | 303,796,164 | 151,898,082 | 406,090 | 203,045 | |
| | Dual flush toilets | 12.8 | b | 43.4 | 15,823 | 11,420,908 | 11,420,908 | Full Yr | 365 | 31,290 | 31,290 | 31,290 | 31,290 | 184,450,748 | 184,450,748 | 246,559 | 246,559 | |
| | Toilet leak detection and repair | 9.5 | c | 32.3 | 11,790 | 19,777,768 | 19,777,768 | Full Yr | 365 | 54,186 | 54,186 | 54,186 | 54,186 | 319,416,284 | 319,416,284 | 426,970 | 426,970 | |
| | Decrease toilet flushes | 2.6 | d | 8.8 | 3,227 | 10,209,446 | 10,209,446 | Full Yr | 365 | 27,971 | 27,971 | 27,971 | 27,971 | 164,885,310 | 164,885,310 | 220,405 | 220,405 | |
| | 2.5 gpm showerheads | 2.7 | e | 9.1 | 3,305 | 420,993 | 210,496 | Full Yr | 365 | 1,153 | 577 | 1,153 | 577 | 8,419,857 | 4,209,929 | 11,255 | 5,627 | |
| | 2.0 gpm showerheads | 4.4 | f | 15.1 | 5,508 | 14,033,095 | 14,033,095 | Full Yr | 365 | 38,447 | 38,447 | 38,447 | 38,447 | 226,638,272 | 226,638,272 | 302,952 | 302,952 | |
| | Decreased shower use | 2.2 | g | 7.5 | 2,730 | 7,853,420 | 7,853,420 | Full Yr | 365 | 21,516 | 21,516 | 21,516 | 21,516 | 126,834,854 | 126,834,854 | 169,543 | 169,543 | |
| | 1.0 gpm faucet aerators - bathroom | 3.4 | h | 11.6 | 4,221 | 41,094,887 | 36,985,398 | Full Yr | 365 | 112,589 | 101,330 | 112,589 | 101,330 | 663,693,500 | 597,324,150 | 887,172 | 798,455 | |
| | 2.5 gpm faucet aerators - kitchen | 1.4 | i | 4.7 | 1,706 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Decrease faucet use | 2.7 | j | 9.1 | 3,326 | 9,566,894 | 9,566,894 | Full Yr | 365 | 26,211 | 26,211 | 26,211 | 26,211 | 154,507,913 | 154,507,913 | 206,534 | 206,534 | |
| SF Out. | Efficient clotheswashers | 5.2 | k | 17.6 | 6,428 | 37,988,668 | 28,491,501 | Full Yr | 365 | 104,079 | 78,059 | 104,079 | 78,059 | 613,527,231 | 460,145,423 | 820,114 | 615,085 | |
| | Eliminate partial clotheswasher loads | 1.3 | l | 4.3 | 1,561 | 4,435,490 | 4,435,490 | Full Yr | 365 | 12,152 | 12,152 | 12,152 | 12,152 | 71,634,361 | 71,634,361 | 95,755 | 95,755 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 4,140,684 | 4,140,684 | Peak | 122 | 11,344 | 11,344 | 33,940 | 33,940 | 66,873,164 | 66,873,164 | 89,391 | 89,391 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 4,683,249 | 4,683,249 | Peak | 122 | 12,831 | 12,831 | 38,387 | 38,387 | 75,635,740 | 75,635,740 | 101,104 | 101,104 | |
| | ET controllers | n/a | u | n/a | n/a | 4,140,684 | 4,140,684 | Peak | 122 | 11,344 | 11,344 | 33,940 | 33,940 | 66,873,164 | 66,873,164 | 89,391 | 89,391 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 6,646,868 | 5,982,181 | Peak | 122 | 18,211 | 16,390 | 54,483 | 49,034 | 107,348,710 | 96,613,839 | 143,495 | 129,146 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 47,639,715 | 47,639,715 | Peak | 122 | 130,520 | 130,520 | 390,489 | 390,489 | 769,394,238 | 769,394,238 | 1,028,464 | 1,028,464 | |
| | MF Indoor | 1.6 gpf toilets - \$80 rebate | 9.7 | a | 19.4 | 7,074 | 130,054 | 97,540 | Full Yr | 365 | 356 | 267 | 356 | 267 | 2,601,070 | 1,950,803 | 3,477 | 2,608 |
| | | 1.6 gpf toilets - \$100 rebate | 9.7 | a | 19.4 | 7,074 | 156,064 | 117,048 | Full Yr | 365 | 428 | 321 | 428 | 321 | 3,121,284 | 2,340,963 | 4,172 | 3,129 |
| | | Dual flush toilets | 12.8 | b | 25.5 | 9,308 | 97,785 | 97,785 | Full Yr | 365 | 268 | 268 | 268 | 268 | 1,367,471 | 1,367,471 | 1,828 | 1,828 |
| Toilet leak detection and repair | | 9.5 | c | 19.0 | 6,935 | 242,014 | 242,014 | Full Yr | 365 | 663 | 663 | 663 | 663 | 3,384,453 | 3,384,453 | 4,524 | 4,524 | |
| Decrease toilet flushes | | 2.6 | d | 5.2 | 1,898 | 181,534 | 181,534 | Full Yr | 365 | 497 | 497 | 497 | 497 | 2,538,670 | 2,538,670 | 3,393 | 3,393 | |
| 2.5 gpm showerheads | | 2.7 | e | 5.3 | 1,944 | 1,502 | 1,126 | Full Yr | 365 | 4 | 3 | 4 | 3 | 30,037 | 22,528 | 40 | 30 | |
| 2.0 gpm showerheads | | 4.4 | f | 8.9 | 3,240 | 50,062 | 50,062 | Full Yr | 365 | 137 | 137 | 137 | 137 | 700,100 | 700,100 | 936 | 936 | |
| Decreased shower use | | 2.2 | g | 4.4 | 1,606 | 103,788 | 103,788 | Full Yr | 365 | 284 | 284 | 284 | 284 | 1,451,423 | 1,451,423 | 1,940 | 1,940 | |
| 1.0 gpm faucet aerators - bathroom | | 3.4 | h | 6.8 | 2,483 | 577,842 | 520,058 | Full Yr | 365 | 1,583 | 1,425 | 1,583 | 1,425 | 8,080,844 | 7,272,760 | 10,802 | 9,722 | |
| 2.5 gpm faucet aerators - kitchen | | 1.4 | i | 2.7 | 1,004 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| MF Out. | Decrease faucet use | 2.7 | j | 5.4 | 1,956 | 126,432 | 126,432 | Full Yr | 365 | 346 | 346 | 346 | 346 | 1,768,097 | 1,768,097 | 2,363 | 2,363 | |
| | Efficient clotheswashers | 5.2 | k | 10.4 | 3,781 | 439,306 | 329,480 | Full Yr | 365 | 1,204 | 903 | 1,204 | 903 | 6,143,492 | 4,607,619 | 8,212 | 6,159 | |
| | Eliminate partial clotheswasher loads | 0.6 | m | 1.3 | 459 | 24,696 | 24,696 | Full Yr | 365 | 68 | 68 | 68 | 68 | 345,368 | 345,368 | 462 | 462 | |
| | Audits for automatic irrigation | n/a | u | n/a | n/a | 24,709 | 24,709 | Peak | 122 | 68 | 68 | 203 | 203 | 345,550 | 345,550 | 462 | 462 | |
| | Audits for manual irrigation | n/a | u | n/a | n/a | 14,019 | 14,019 | Peak | 122 | 38 | 38 | 115 | 115 | 196,055 | 196,055 | 262 | 262 | |
| | ET controllers | n/a | u | n/a | n/a | 24,709 | 22,239 | Peak | 122 | 68 | 61 | 203 | 182 | 345,550 | 310,995 | 462 | 416 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 15,160 | 13,644 | Peak | 122 | 42 | 37 | 124 | 112 | 212,007 | 190,806 | 283 | 255 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 78,061 | 78,061 | Peak | 122 | 214 | 214 | 640 | 640 | 1,091,641 | 1,091,641 | 1,459 | 1,459 | |
| | ICI Indoor | 1.6 gpf toilets | 4.2 | n | 56.0 | 20,447 | 547,478 | 410,609 | Full Yr | 365 | 1,500 | 1,125 | 1,500 | 1,125 | 10,949,567 | 8,212,176 | 14,637 | 10,977 |
| | | Dual flush toilets | 5.5 | o | 73.7 | 26,904 | 411,638 | 411,638 | Full Yr | 365 | 1,128 | 1,128 | 1,128 | 1,128 | 6,322,792 | 6,322,792 | 8,452 | 8,452 |
| Toilet leak detection repair | | 9.5 | c | 127.3 | 46,471 | 358,153 | 358,153 | Full Yr | 365 | 981 | 981 | 981 | 981 | 5,501,258 | 5,501,258 | 7,354 | 7,354 | |
| 1.0 gpf urinals | | 1.8 | p | 23.5 | 8,561 | 170,268 | 127,701 | Full Yr | 365 | 466 | 350 | 466 | 350 | 3,405,368 | 2,554,026 | 4,552 | 3,414 | |
| Waterless urinals | | 2.1 | q | 28.1 | 10,273 | 469,159 | 469,159 | Full Yr | 365 | 1,285 | 1,285 | 1,285 | 1,285 | 7,206,326 | 7,206,326 | 9,633 | 9,633 | |
| 0.5 gpm faucet aerators - bathroom | | 4.3 | h | 57.7 | 21,061 | 0 | 0 | Full Yr | 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Efficient clotheswashers | | n/a | r | 1344 | 490,560 | 2,100,406 | 1,575,305 | Full Yr | 365 | 5,755 | 4,316 | 5,755 | 4,316 | 32,262,412 | 24,196,809 | 43,126 | 32,344 | |
| Pre-rinse sprayheads | | n/a | s | 137 | 50,005 | 39,449 | 35,504 | Full Yr | 365 | 108 | 97 | 108 | 97 | 788,985 | 710,087 | 1,055 | 949 | |
| Air cooled ice machines | | n/a | t | 149 | 54,495 | 328,525 | 295,673 | Full Yr | 365 | 900 | 810 | 900 | 810 | 5,046,176 | 4,541,558 | 6,745 | 6,071 | |
| Audits for automatic irrigation | | n/a | u | n/a | n/a | 3,424,952 | 3,424,952 | Peak | 122 | 9,383 | 9,383 | 28,073 | 28,073 | 52,607,543 | 52,607,543 | 70,322 | 70,322 | |
| ICI Out. | Audits for manual irrigation | n/a | u | n/a | n/a | 1,895,514 | 1,895,514 | Peak | 122 | 5,193 | 5,193 | 15,537 | 15,537 | 29,115,254 | 29,115,254 | 38,919 | 38,919 | |
| | ET controllers | n/a | u | n/a | n/a | 3,424,952 | 3,082,456 | Peak | 122 | 9,383 | 8,445 | 28,073 | 25,266 | 52,607,543 | 47,346,788 | 70,322 | 63,289 | |
| | Limited lawn/low water use plants | n/a | v | n/a | n/a | 1,640,743 | 1,476,669 | Peak | 122 | 4,495 | 4,046 | 13,449 | 12,104 | 25,201,956 | 22,681,760 | 33,688 | 30,319 | |
| | Allow lawn to go dormant | n/a | u | n/a | n/a | 10,697,767 | 10,697,767 | Peak | 122 | 29,309 | 29,309 | 87,687 | 87,687 | 164,318,589 | 164,318,589 | 219,648 | 219,648 | |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Column Footnotes:

a. Sources for Column 3 are as follows:

a.-t. Handbook of Water Use and Conservation by Amy Vickers.

u.-v. Calculations based on excess peak season use compared to annual base use.

b.-o. Calculations.

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment Costs

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------|---|-------------------------------|---|--------------------------------------|-----------------------|---|--|-------------------------------------|--------------------------------------|
| | Conservation Measure | Cost Per Fixture ^a | Measure Per Participating HH or Business ^a | Cost Per HH or Business ^b | Lifespan ^a | Times Implemented in Planning Period ^c | Total Cost Over Plan Period ^d | Cost per ccf Saved Over Plan Period | |
| | | | | | | | | w/ savings free riders ^e | w/o savings free riders ^f |
| SF Indoor | 1.6 gpf toilets Q6-9, Q4 | \$480.00 | 2.70 | \$108.00 | 25 | 1.0 | \$389,774 | \$0.96 | \$1.92 |
| | Dual flush toilets Q4 | \$100.00 | 2.70 | \$270.00 | 25 | 1.0 | \$194,887 | \$0.79 | \$0.79 |
| | Toilet leak detection and repair Q4 | \$0.10 | 2.70 | \$0.27 | 7.5 | 3.0 | \$3,214 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 2.70 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 1.0 | \$16,814 | \$1.49 | \$2.99 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 2.20 | \$6.60 | 12.5 | 2.0 | \$29,539 | \$0.10 | \$0.10 |
| | Decreased shower use Q14 | \$0.00 | 2.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.80 | \$4.37 | 10 | 2.0 | \$76,479 | \$0.09 | \$0.10 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$3,892 | n/a | n/a |
| | Decrease all faucet use Q17 | \$0.00 | 2.80 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 1.00 | \$100.00 | 13 | 2.0 | \$1,026,246 | \$1.25 | \$1.67 |
| | Eliminate partial clotheswasher loads | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| SF Outdoor | Audits for automatic irrigation | \$350.00 | 1.00 | \$350.00 | 5 | 4.0 | \$1,076,509 | \$12.04 | \$12.04 |
| | Audits for manual irrigation | \$120.00 | 1.00 | \$120.00 | 5 | 4.0 | \$1,252,355 | \$12.39 | \$12.39 |
| | ET controller | \$250.00 | 1.00 | \$250.00 | 10 | 2.0 | \$814,865 | \$9.12 | \$9.12 |
| | Limited lawn/low water use plants Q35A | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$654,987 | \$4.56 | \$5.07 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| MF Indoor | 1.6 gpf toilets - \$80 rebate Q4 | \$80.00 | 1.80 | \$144.00 | 25 | 1.0 | \$7,564 | \$2.18 | \$2.90 |
| | 1.6 gpf toilets - \$100 rebate Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$11,346 | \$2.72 | \$3.63 |
| | Dual flush toilets Q4 | \$100.00 | 1.80 | \$180.00 | 25 | 1.0 | \$1,891 | \$1.03 | \$1.03 |
| | Toilet leak detection and repair Q4 | \$0.10 | 1.80 | \$0.18 | 7.5 | 3.0 | \$40 | \$0.01 | \$0.01 |
| | Decrease toilet flushes Q4 | \$0.00 | 1.80 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 2.5 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 1.0 | \$70 | \$1.73 | \$2.31 |
| | 2.0 gpm showerheads Q14 | \$3.00 | 1.50 | \$4.50 | 12.5 | 2.0 | \$113 | \$0.12 | \$0.12 |
| | Decreased shower use Q14 | \$0.00 | 1.50 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.0 gpm faucet aerators - bathroom Q17 | \$1.15 | 2.30 | \$2.65 | 10 | 2.0 | \$1,036 | \$0.10 | \$0.11 |
| | 2.5 gpm faucet aerators - kitchen | \$1.10 | 1.00 | \$1.10 | 10 | 1.0 | \$32 | n/a | n/a |
| | Decrease faucet use Q17 | \$0.00 | 2.30 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Efficient clotheswashers Q25 | \$100.00 | 0.20 | \$20.00 | 13 | 2.0 | \$3,691 | \$0.45 | \$0.60 |
| MF Outdoor | Eliminate partial clotheswasher loads | \$0.00 | 0.20 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$4,712 | \$10.20 | \$10.20 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$3,792 | \$14.47 | \$14.47 |
| | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$2,128 | \$4.61 | \$5.12 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$388 | \$1.37 | \$1.52 |
| ICI Indoor | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |
| | 1.6 gpf toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$30,600 | \$2.09 | \$2.79 |
| | Dual flush toilets | \$100.00 | 4.00 | \$400.00 | 25 | 1.0 | \$6,120 | \$0.72 | \$0.72 |
| | Toilet leak detection repair | \$0.10 | 4.00 | \$0.40 | 7.5 | 3.0 | \$21 | \$0.003 | \$0.003 |
| | 1.0 gpf urinals | \$50.00 | 1.50 | \$75.00 | 20 | 1.0 | \$5,967 | \$1.31 | \$1.75 |
| | Waterless urinals | \$100.00 | 1.50 | \$150.00 | 20 | 1.0 | \$6,851 | \$0.71 | \$0.71 |
| | 0.5 gpm faucet aerators - bathroom | \$1.15 | 4.00 | \$4.60 | 10 | 1.0 | \$528 | n/a | n/a |
| | Efficient clotheswashers | \$300.00 | 12.00 | \$3,600.00 | 13 | 2.0 | \$25,934 | \$0.60 | \$0.80 |
| | Pre-rinse sprayheads | \$65.00 | 1.00 | \$65.00 | 5 | 1.0 | \$410 | \$0.39 | \$0.43 |
| | Air cooled ice machines | \$750.00 | 1.00 | \$750.00 | 8 | 3.0 | \$10,914 | \$1.62 | \$1.80 |
| | Audits for automatic irrigation | \$1,100.00 | 1.00 | \$1,100.00 | 5 | 4.0 | \$70,070 | \$1.00 | \$1.00 |
| | Audits for manual irrigation | \$520.00 | 1.00 | \$520.00 | 5 | 4.0 | \$54,997 | \$1.41 | \$1.41 |
| ICI Outdoor | ET controller | \$500.00 | 1.00 | \$500.00 | 10 | 2.0 | \$30,807 | \$0.44 | \$0.49 |
| | Limited lawn/low water use plants | \$300.00 | 1.00 | \$300.00 | 20 | 1.0 | \$2,216 | \$0.07 | \$0.07 |
| | Allow lawn to go dormant | \$0.00 | 1.00 | \$0.00 | 1 | 20.0 | \$0 | \$0.00 | \$0.00 |

Shaded cells contain data entered specifically for the client.

White cells are calculations or fixed data.

Bolded numbers based on 2005 Cascade Water Alliance CPA survey, with "Q" indicating question number.

Footnotes:

a. Professional knowledge (Handbook of Water Use and Conservation by Amy Vickers) & 2005 Cascade CPA survey.

b-f. Calculations.

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment Peak Season Increased Use Calculation

Note to HDR staff: This worksheet calculates the Peak Season Increased Use (PSIU), which is the amount of water used in the peak season above the base use amount used year round. The PSIU is used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for staff use, and is not necessarily intended to be distributed to the client.

| Single Family Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 71,279 | 76,716 | 85,951 | 77,982 | 58,330,536 | Non-peak |
| Feb | 83,159 | 89,502 | 100,276 | 90,979 | 68,052,292 | Non-peak |
| Mar | 71,279 | 76,716 | 85,951 | 77,982 | 58,330,536 | Non-peak |
| Apr | 83,159 | 89,502 | 100,276 | 90,979 | 68,052,292 | Non-peak |
| May | 71,279 | 76,716 | 85,951 | 77,982 | 58,330,536 | Non-peak |
| June | 95,039 | 102,288 | 114,601 | 103,976 | 77,774,048 | Non-peak |
| July | 95,039 | 102,288 | 114,601 | 103,976 | 77,774,048 | Peak |
| Aug | 166,319 | 179,004 | 200,551 | 181,958 | 136,104,584 | Peak |
| Sep | 154,439 | 166,218 | 186,226 | 168,961 | 126,382,828 | Peak |
| Oct | 142,559 | 153,432 | 171,901 | 155,964 | 116,661,072 | Peak |
| Nov | 83,159 | 89,502 | 100,276 | 90,979 | 68,052,292 | Non-peak |
| Dec | 71,279 | 76,716 | 85,951 | 77,982 | 58,330,536 | Non-peak |
| Total | 1,187,990 | 1,278,600 | 1,432,510 | 1,299,700 | 972,175,600 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 86,105 | 64,406,634 | |
| Base use during entire peak season: | | | | 344,421 | 257,626,534 | |
| Peak Season Total: | | | | 610,859 | 456,922,532 | |
| Peak Season Increased Use: | | | | 266,439 | 199,295,998 | |

| Multi Family Sales | | | | | | |
|--|------------|------------|------------|-----------|------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | 0 | 0 | 2,183 | 2,183 | 1,632,794 | Non-peak |
| Feb | 0 | 0 | 2,183 | 2,183 | 1,632,794 | Non-peak |
| Mar | 0 | 0 | 1,910 | 1,910 | 1,428,695 | Non-peak |
| Apr | 0 | 0 | 1,910 | 1,910 | 1,428,695 | Non-peak |
| May | 0 | 0 | 2,183 | 2,183 | 1,632,794 | Non-peak |
| June | 0 | 0 | 2,183 | 2,183 | 1,632,794 | Non-peak |
| July | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Peak |
| Aug | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Peak |
| Sep | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Peak |
| Oct | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Peak |
| Nov | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Non-peak |
| Dec | 0 | 0 | 2,456 | 2,456 | 1,836,894 | Non-peak |
| Total | 0 | 0 | 27,286 | 27,286 | 20,409,928 | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | 2,183 | 1,632,794 | |
| Base use during entire peak season: | | | | 8,732 | 6,531,177 | |
| Peak Season Total: | | | | 9,823 | 7,347,574 | |
| Peak Season Increased Use: | | | | 1,091 | 816,397 | |

| ICI Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | 149,576 | 111,882,599 | |

| Total Sales | | | | | | |
|--|------------|------------|------------|-----------|-------------|----------|
| Month | 2001 (ccf) | 2002 (ccf) | 2003 (ccf) | Avg (ccf) | Avg (gal) | Season |
| Jan | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Feb | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Mar | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Apr | n/a | n/a | n/a | n/a | n/a | Non-peak |
| May | n/a | n/a | n/a | n/a | n/a | Non-peak |
| June | n/a | n/a | n/a | n/a | n/a | Non-peak |
| July | n/a | n/a | n/a | n/a | n/a | Peak |
| Aug | n/a | n/a | n/a | n/a | n/a | Peak |
| Sep | n/a | n/a | n/a | n/a | n/a | Peak |
| Oct | n/a | n/a | n/a | n/a | n/a | Peak |
| Nov | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Dec | n/a | n/a | n/a | n/a | n/a | Non-peak |
| Total | n/a | n/a | n/a | n/a | n/a | |
| Non-Peak Monthly Avg (base use for 1 month): | | | | n/a | n/a | |
| Base use during entire peak season: | | | | n/a | n/a | |
| Peak Season Total: | | | | n/a | n/a | |
| Peak Season Increased Use: | | | | 417,106 | 311,994,994 | |

Shaded cells contain data entered specifically for the client.

White cells are calculations.

Process to calculate the PSIU:

1. Monthly sales for 3 years are entered and an average is calculated in order to smooth out any anomalies that might have occurred in any one year. Note that depending on how the utility reports data, there may be a moderate or even significant time delay between when sales occurred and when they were billed. This time delay is not a concern since we are interested in the volume of the PSIU, and its timing is not relevant.
2. Each month is designated as either non-peak season or peak season.
3. The non-peak months are averaged to generate a non-peak monthly average. This is the base use for 1 month.
4. The non-peak monthly average, or base use for 1 month, is multiplied by the number of peak months (4). This generates the amount of base use during the entire peak season.
5. The total amount of water used during the peak season is calculated.
6. The base use during the entire peak season is subtract from the total use during the peak season to arrive at the Peak Season Increased Use.

Note: The above process was used for SF and MF for Covington. For ICI, the utility provided separate billing data for outdoor meters, which was used to calculate the PSIU.

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment

Percent of PSIU Saved

Note to HDR staff: This worksheet calculates the percentage of the Peak Season Increased Use (PSIU) saved by each outdoor conservation measure. These percentages are used in the savings formulas (on the Savings worksheet) for each outdoor measure. Yellow highlighted cells are key results; green cells are data entered specifically for the client; white cells are calculations or fixed data. This worksheet is for HDR staff use, and is not necessarily intended to be distributed to the client.

166% Demand growth from first to last planning year. Used to increase the PSIU from the first year to the last year.⁵

| All Sectors | Gallons 1st Yr | Gallons Last Yr | % of PSIU | Category |
|-------------|----------------|-----------------|-----------|------------|
| | 311,994,994 | 517,911,690 | 100.0% | PSIU Total |
| | | | | |
| | 199,295,998 | 330,831,357 | 63.9% | PSIU SF |
| | 816,397 | 1,355,219 | 0.3% | PSIU MF |
| | 111,882,599 | 185,725,114 | 35.9% | PSIU ICI |

| | | | | |
|---------------|-------------|-------------|-------|---|
| Single Family | 179,366,398 | 297,748,221 | 57.5% | PSIU SF Landscape (90% of PSIU SF) ¹ |
| | 19,929,600 | 33,083,136 | 6.4% | PSIU SF Non-Landscape (10% of PSIU SF) ¹ |
| | 199,295,998 | 330,831,357 | 63.9% | Subtotal |
| | | | | |
| | 143,493,119 | 238,198,577 | 46.0% | PSIU SF Landscape Lawn (80% of PSIU SF Landscape) ² |
| | 35,873,280 | 59,549,644 | 11.5% | PSIU SF Landscape Non-Lawn (20% of PSIU SF Landscape) ² |
| | 179,366,398 | 297,748,221 | 57.5% | Subtotal |
| | | | | |
| | 114,794,495 | 190,558,861 | 36.8% | PSIU SF Landscape Lawn Not Needed If Dormant (80% of PSIU SF Landscape Lawn) ³ |
| | 28,698,624 | 47,639,715 | 9.2% | PSIU SF Landscape Lawn Needed Even If Dormant (20% of PSIU SF Landscape Lawn) ³ |
| | 143,493,119 | 238,198,577 | 46.0% | Subtotal |
| | | | | |
| | 7,802,438 | 16,562,736 | 2.50% | SF Audits - Automatic (Will save 15% of PSIU SF Landscape Used by Auto Systems) ³ |
| | 12,735,014 | 18,732,998 | 4.1% | SF Audits - Manual (Will save 10% of PSIU SF Landscape Used by Manual Systems) ³ |
| | 7,802,438 | 16,562,736 | 2.50% | SF ET Controllers (Will save 15% of PSIU SF Landscape Used by Auto System) ³ |
| | 35,873,280 | 59,549,644 | 11.5% | SF Limited Lawn/Low Use Plants (Will save 20% of PSIU SF Landscape) ³ |
| | 114,794,495 | 190,558,861 | 36.8% | SF Dormant Lawn (Will save 100% of PSIU SF Landscape Lawn Not Needed If Dormant) ³ |
| | 179,007,665 | 301,966,976 | 57.4% | Subtotal |

| | | | | |
|--------------|---------|-----------|------|---|
| Multi Family | 734,757 | 1,219,697 | 0.2% | PSIU MF Landscape (90% of PSIU MF) ¹ |
| | 81,640 | 135,522 | 0.0% | PSIU MF Non-Landscape (10% of PSIU MF) ¹ |
| | 816,397 | 1,355,219 | 0.3% | Subtotal |
| | | | | |
| | 587,806 | 975,758 | 0.2% | PSIU MF Landscape Lawn (80% of PSIU MF Landscape) ² |
| | 146,951 | 243,939 | 0.0% | PSIU MF Landscape Non-Lawn (20% of PSIU MF Landscape) ² |
| | 734,757 | 1,219,697 | 0.2% | Subtotal |
| | | | | |
| | 470,245 | 780,606 | 0.2% | PSIU MF Landscape Lawn Not Needed If Dormant (80% of PSIU MF Landscape Lawn) ³ |
| | 117,561 | 195,152 | 0.0% | PSIU MF Landscape Lawn Needed Even If Dormant (20% of PSIU MF Landscape Lawn) ³ |
| | 587,806 | 975,758 | 0.2% | Subtotal |
| | | | | |
| | 49,596 | 98,838 | 0.0% | MF Audits - Automatic (Will save 15% of PSIU MF Landscape Used by Auto Systems) ³ |
| | 40,412 | 56,078 | 0.0% | MF Audits - Manual (Will save 10% of PSIU MF Landscape Used by Manual Systems) ³ |
| | 49,596 | 98,838 | 0.0% | MF ET Controllers (Will save 15% of PSIU MF Landscape Used by Auto System) ³ |
| | 146,951 | 243,939 | 0.0% | MF Limited Lawn/Low Use Plants (Will save 20% of PSIU MF Landscape) ³ |
| | 470,245 | 780,606 | 0.2% | MF Dormant Lawn (Will save 100% of PSIU MF Landscape Lawn Not Needed If Dormant) ³ |
| | 756,800 | 1,278,299 | 0.2% | Subtotal |

| | | | | |
|-----|-------------|-------------|-------|---|
| ICI | 100,694,339 | 167,152,602 | 32.3% | PSIU ICI Landscape (90% of PSIU ICI) ¹ |
| | 11,188,260 | 18,572,511 | 3.6% | PSIU ICI Non-Landscape (10% of PSIU ICI) ¹ |
| | 111,882,599 | 185,725,114 | 35.9% | Subtotal |
| | | | | |
| | 80,555,471 | 133,722,082 | 25.8% | PSIU ICI Landscape Lawn (80% of PSIU ICI Landscape) ² |
| | 20,138,868 | 33,430,520 | 6.5% | PSIU ICI Landscape Non-Lawn (20% of PSIU ICI Landscape) ² |
| | 100,694,339 | 167,152,602 | 32.3% | Subtotal |
| | | | | |
| | 64,444,377 | 106,977,666 | 20.7% | PSIU ICI Landscape Lawn Not Needed If Dormant (80% of PSIU ICI Landscape Lawn) ³ |
| | 16,111,094 | 26,744,416 | 5.2% | PSIU ICI Landscape Lawn Needed Even If Dormant (20% of PSIU ICI Landscape Lawn) ³ |
| | 80,555,471 | 133,722,082 | 25.8% | Subtotal |
| | | | | |
| | 7,552,075 | 13,699,806 | 2.4% | ICI Audits - Automatic (Will save 15% of PSIU ICI Landscape Used by Auto Systems) ³ |
| | 5,034,717 | 7,582,056 | 1.6% | ICI Audits - Manual (Will save 10% of PSIU ICI Landscape Used by Manual Systems) ³ |
| | 7,552,075 | 13,699,806 | 2.4% | ICI ET Controllers (Will save 15% of PSIU ICI Landscape Used by Auto System) ³ |
| | 20,138,868 | 33,430,520 | 6.5% | ICI Limited Lawn/Low Use Plants (Will save 20% of PSIU ICI Landscape) ³ |
| | 64,444,377 | 106,977,666 | 20.7% | ICI Dormant Lawn (Will save 100% of PSIU ICI Landscape Lawn Not Needed If Dormant) ³ |
| | 104,722,112 | 175,389,855 | 33.6% | Subtotal |

Cascade Water Alliance/Covington 20 Yr - Water Conservation Potential Assessment
Percent of PSIU Saved

| | | | | |
|--|--------------------|--------------------|---------------|---|
| All Sectors (Double check by making sure totals 100%.) | 19,929,600 | 33,083,136 | 6.4% | SF Non-Landscape |
| | 35,873,280 | 59,549,644 | 11.5% | SF Landscape Non-Lawn |
| | 114,794,495 | 190,558,861 | 36.8% | SF Landscape Lawn Not Needed If Dormant |
| | 28,698,624 | 47,639,715 | 9.2% | SF Landscape Lawn Needed Even If Dormant |
| | 81,640 | 135,522 | 0.0% | MF Non-Landscape |
| | 146,951 | 243,939 | 0.0% | MF Landscape Non-Lawn |
| | 470,245 | 780,606 | 0.2% | MF Landscape Lawn Not Needed If Dormant |
| | 117,561 | 195,152 | 0.0% | MF Landscape Lawn Needed Even If Dormant |
| | 11,188,260 | 18,572,511 | 3.6% | ICI Non-Landscape |
| | 20,138,868 | 33,430,520 | 6.5% | ICI Landscape Non-Lawn |
| | 64,444,377 | 106,977,666 | 20.7% | ICI Landscape Lawn Not Needed If Dormant |
| | 16,111,094 | 26,744,416 | 5.2% | ICI Landscape Lawn Needed Even If Dormant |
| | 311,994,994 | 517,911,690 | 100.0% | Total |

¹ Source is Vickers pg 141.

² Source is professional knowledge.

³ Source is Vickers pg 152.

⁴ Source is Vickers pg 176.

⁵ Source is 2005 Draft Cascade Transmission and Supply Plan.

Shaded cells contain data entered specifically for the client

White cells are calculations.

