

**Summer Outdoor Water Use in the CRD:
Focus Group Analysis**

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1. Introduction

In the summer months, outdoor water activities account for a significant amount of the water used by households in the Capital Regional District (CRD). Although the Victoria region experiences an abundance of rainfall most winters, the summer season is generally quite dry. Despite perceptions that CRD reservoirs have limitless amounts of water, levels can get low throughout the summer. If a long dry period were to follow, there may be insufficient rainfall to meet the needs of the region. As such, it is very important for the growing population of the CRD to conserve water, particularly during the summer period when water use increases by 50%, due primarily to lawn and garden care.¹

The CRD is continually looking for ways to assess and improve the communication of conservation-oriented messages to its residents. An essential method of achieving this goal is through direct consultation with residents themselves. In the fall of 2010, the CRD commissioned R.A. Malatest & Associates, a professional research and evaluation firm, to design and conduct four focus groups under the direction of the Environmental Partnerships Division of the CRD.

The purpose of these group discussions was to gain a better understanding of the factors and motivations concerning summer outdoor water use amongst CRD residents, as well as to assess the current understanding and perceptions surrounding lawn/garden health and the CRD approach to water conservation. A primary target group of the CRD are those residents who use significantly more than the average amount of water, particularly in the summer months. As such, the focus groups were designed to recruit summer high water users. As these residents use significantly more water during this time period than average CRD water users, it was reasoned that this cohort could provide additional insight as to why water conservation efforts were (or were not) being made on an individual household basis in terms of outdoor water use.

This report explores the results of the focus groups. Section Two outlines the methodology used in this study, including the recruitment process. Section Three contains a profile of the data gathered from the questionnaire, as well as the water account data provided to the CRD by the individual municipalities. Sections Four through Seven detail the findings from the focus group discussions, including motivating factors and perceptions surrounding outdoor water use, knowledge of watering needs and factors influencing reduction in water use. Finally, Section Eight provides an overview of the key findings from this study.

¹ A Homeowner's Guide to Outdoor Water Use. *CRD Water Services*.
<http://www.crd.bc.ca/water/conservation/outdoorwateruse/documents/OutdoorGuideFINAL.pdf>

2. Methodology

This section outlines the methodological approach used to recruit and conduct the four focus groups of summer high water users in the CRD.

2.1. Sample development

Using water account data provided by the municipalities it serves, the CRD compiled a master database of all water users in the region from 2006-2008. This included summer, winter and annual water use data for the following municipalities/regions:

- Central Saanich;
- Oak Bay;
- Saanich;
- Sidney;
- Victoria/Esquimalt and;
- West Shore (including Colwood, Langford, View Royal, Metschosin and Sooke).

The information was compiled into a list containing the three-year average usage. As the average annual water use for single-family homes is 240m³ in the CRD, it was decided that focus group recruitment would focus on account holders using 500m³ to 800m³ of CRD water during the summer months to filter the sample to primarily high-use single-family residential homes. It should be noted that sample base was extended to 450-800m³ for the Peninsula and West Shore groups in order to fulfill recruitment requirements. After sorting using these parameters, the sample was cleaned so as to exclude any accounts that were clearly non-residential (i.e., those registered under a business name). As the accounts did not contain telephone numbers, the preliminary database was populated with the telephone numbers available in a separate database. In addition, any accounts with more than three telephone numbers associated with an address were excluded, as this indicated that the account was likely not a single-family household. In the end, the sample of users contacted consisted of 1103 CRD water users, broken into the following groups:

- Core Communities (Victoria, Esquimalt, Oak Bay and Saanich): 809 accounts
- Peninsula (Sidney and Central Saanich): 101 accounts
- West Shore (Colwood, Langford, View Royal, Metschosin and Sooke): 193 accounts

2.2. Recruitment

The final sample was contacted in early November. A screening process was used wherein a brief overview of the study was given, as well as confirming:

- Account details;
- That the home was a detached, single-family house;
- Potential participants had lived in the home for at least one year; and
- Participants were the homeowner most in charge of decisions concerning outdoor water use.

For each of the four focus groups, the goal was to have ten primary participants recruited, with another two identified for each session to be used as back-ups. The participants received a reminder call two to three days prior to the session and were sent an email (if they provided their email address) with details and directions to the facility. A total of ten participants and two back-ups were successfully recruited for each group, and participants were informed that they would receive a \$75 gratuity at the conclusion of the session.

2.3. Questionnaire

While the nature of the study was primarily qualitative, it was decided that gathering quantitative data on general water use patterns would supplement the findings. A questionnaire was developed for the participants to complete prior to the focus group session, and was designed to collect basic demographic information, property characteristics and summer outdoor water use tendencies. The complete questionnaire can be reviewed in Appendix A.

2.4. Focus groups

In order to capture regional and gender-based differences, it was decided to recruit participants for specifically pre-defined groups, as follows:

- Core Communities, all male;
- Core Communities, all female;
- Peninsula, mixed gender; and
- West Shore, mixed gender.

The focus groups took place in late November. Each group was held in the evening, and lasted approximately two hours. Prior to the sessions, a moderator's guide was developed in order to standardize and facilitate discussion. The topics, all revolving specifically around summer outdoor water use, included:

- Motivating factors;
- Perceptions and internal motivators;
- Knowledge of watering needs;
- Water costs and reducing use; and
- Information and resources.

The full moderator guide is included in Appendix B. In order to ensure that the water users' unbiased experiences and opinions were captured prior to group discussion, the moderator had participants record brief responses to the majority of the questions on a pre-printed booklet. The questions were also displayed on an overhead projector so the participants had adequate time to read and consider them.

The final number of participants in each group is displayed in Table 2-1. The participants are also distributed by individual municipality in the table, with the exception of the West Shore groups as region-specific account data was not available for this cohort. Those with fewer than ten participants were the result of last minute no-shows on the day of the focus groups, which left no opportunity to contact the back-ups. A total of 35 people participated in the four sessions.

Table 2-1: Focus group cohorts

Group	Municipality	Participants
Core Communities – male		9
	Oak Bay	1
	Saanich	4
	Victoria/Esquimalt	4
Core Communities – female		7
	Saanich	7
Peninsula - mixed		10
	Central Saanich	7
	Sidney	3
Westshore - mixed		9
TOTAL		35

2.5. Methodological considerations

Given that this focus group exercise represented only a small sample of the total CRD residential water users, caution should be taken when interpreting the results. It must be kept in mind that the focus groups consisted of high-water users, and as such the information gathered and perspective represented should not be generalized to all CRD residents.

As with any focus group research method, self-selection bias cannot be completely removed. While a specific cohort group can be identified, the actual participants are limited to the types of people who would choose to participate in a group discussion; as such, the final respondent group does not include the perspective of those who would decline to participate in this mode of research.

The decision was also made to divide out two of the groups according to gender, and all groups according to municipality. This allowed for focused discussion, as well as the ability to observe any differences in perspective relating to gender.

For the West Shore recruitment, it was not specifically asked if the home was situated in a rural or urban area, or if it occupied farmland. As a result, three participants in the West Shore focus group lived on rural properties with livestock and/or hobby farms. The water use profile of this sub-group is understandably different, and for future groups of this nature rural properties should be explicitly excluded.

Finally, it should be noted that the participants were not informed that they were all high-water users; this allowed for the relatively unbiased/non-judgemental atmosphere of the focus groups and was seen to be necessary to the success of the group.

3. Participant Profile

This section provides an overview of the data gathered from the questionnaire, as well as from the account information provided by the individual municipalities to the CRD.

3.1. Demographics

Across all groups, 57.1% of participants were male while 42.9% were female. Of the two mixed-gender focus groups, the Peninsula cohort was evenly divided between women and men, while the West Shore group was two-thirds male (6) and one-third female (3). Nearly three-quarters (74.3%) of the participants were between 50 and 70 years of age; correspondingly, nearing half (45.7%) were retired. This is substantially older than the median age of 43.6 years in the CRD.² While this older-than-average response group may be at least partially a function of the types of people who are more likely to consent to participate in a focus group, the strong trend towards an older/retired participant group is likely to be reflected in the complete population of single-home high outdoor water users. In other words, it is a reasonable conclusion that high-water users are more likely to reflect an older demographic.³

Similarly, focus group participants fell into a higher income range than the CRD average; the approximate median income of the respondents was \$80,000⁴ while the 2007 average income in the CRD was \$44,425.⁵ However, the income self-classification of the participants was fairly evenly distributed across the categories as displayed in Chart 3-1, indicating that a wide range of income classifications was characteristic of this small sample of high water users. It should be noted that since the groups consisted of single-family homeowners, it is to be expected that the median income would be higher than the regional average. In addition, the vast majority (82.9%) of respondents indicated that they were married or in a common-law relationship, and thus their combined household income is more likely to be greater than single-person households.

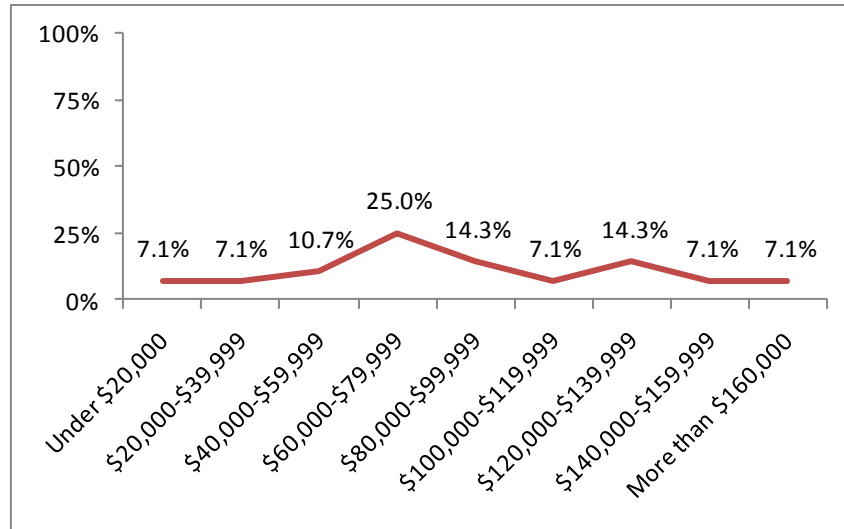
² “2006 census demographics: Population by age.” (2006). CRD.
http://www.crd.bc.ca/regionalplanning/factsheets/documents/Census06_5YearAgeGroups.pdf

³ Care must be taken with this conclusion, however, as the sample size and methodological approach cannot support measures of statistical significance.

⁴ Based on the median falling between the categories \$60,000-\$79,000 and \$80,000-\$99,999.

⁵ British Columbia Taxation Statistics 2007 Income Groups, Source of Income, & Taxes Paid (2007). BC Stats. <http://www.bcstats.gov.bc.ca/data/dd/handout/07txhand.pdf>

Chart 3-1: Participant income distribution



Source: Participant Questionnaire; n=28, does not include those who indicated "prefer not to answer"

Nearly half (48.6%) of the participants resided in a household with three or more adults⁶, while 42.9% lived in a two-person household. Less than 10% of the participants lived alone. The majority (62.9%) had no children under the age of 18 living in their home, which corresponds with the finding that the participant groups were composed of an older/retired population. All participants lived at their primary residence year-round, and approximately one-third (34.3%) of the respondents indicated that their home contained a rental suite.

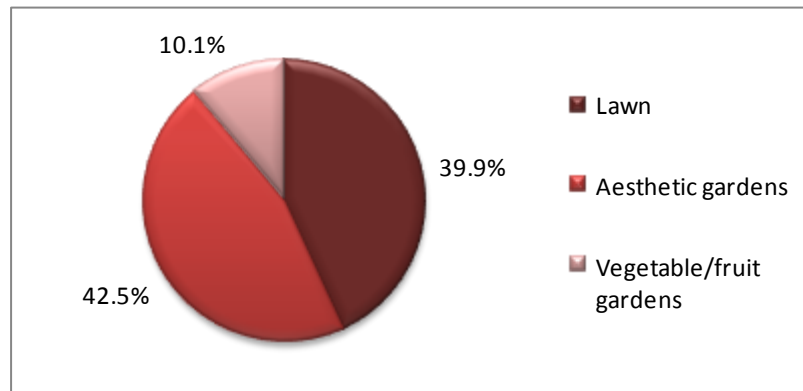
3.2. Property characteristics

The majority (74.3%) of the respondents indicated that their properties were less than one acre in size, with only 17.2% stating that their properties were less than 6,000 square feet in size. For the West Shore group, 33% indicated that their properties were more than two acres; this finding is likely reflective of the fact that rural homeowners were included in the sample. The respondents were also asked to indicate what proportions of their properties comprise lawn, aesthetic gardens and vegetable/fruit gardens.⁷ As depicted in Chart 3-2, the average proportions assigned to aesthetic gardens and lawns were similar at 42.5% and 39.9% respectively, with vegetable/fruit gardens representing 10.1% of the participants' properties on average.

⁶ Respondents were instructed to include tenants if their home contained a rental suite.

⁷ Note that this response was open-ended, and may have been interpreted differently by respondents.

Chart 3-2



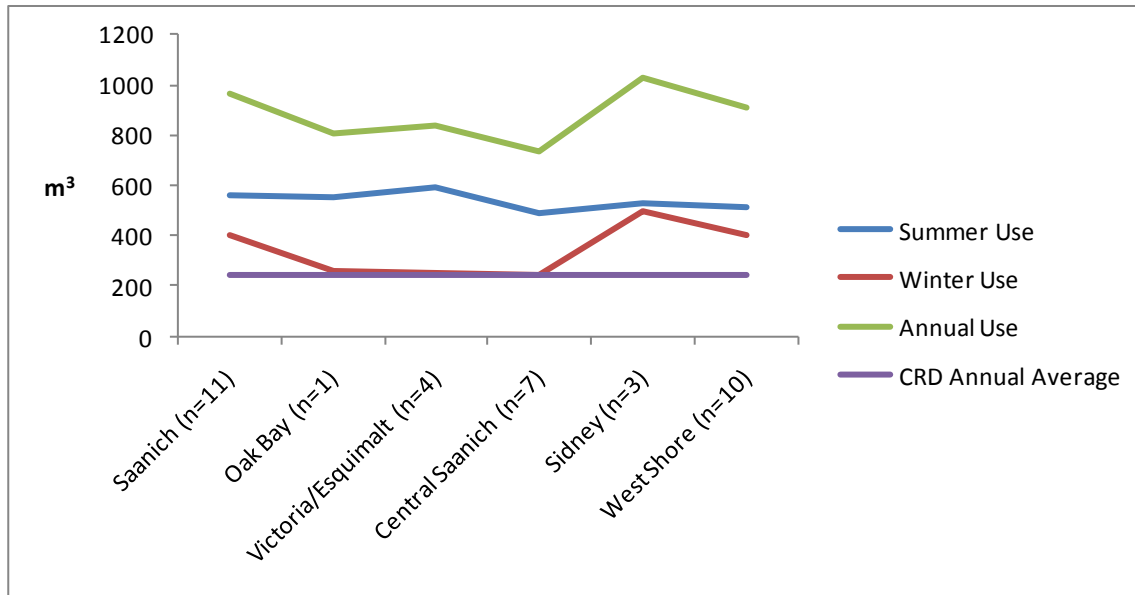
Source: Participant Questionnaire. n=34

While none of the participants indicated that they had a pool (above or in-ground), 14.3% stated that they had a hot tub and nearly one-quarter (22.9%) indicated that their property contains an aesthetic water feature (e.g., a pond or waterfall). The majority (68.6%) of respondents stated that they do not use a professional landscaper, while 17.1% indicated that they regularly employ a landscaper (2-3 times per month). The remainder (14.4%) use a landscaper less frequently. Outsourced landscaping tasks generally included activities such as cutting the grass and trimming or pruning hedges/bushes/trees.

3.3. Water use profile

In the CRD, the average single-family household uses 240 m³ of water annually. As outlined above, the target population for this study was single-family households using 450m³ or more of water during the summer months alone. The average summer water use across all groups was 545.4 m³, with an average of 331.8 m³ used in the winter months, for a total of 877.2 m³ annually. As such, the participants used 366% more water annually than the average CRD water user. Chart 3-3 displays the average summer, winter and total annual use for each of the participants' municipalities. Across all municipalities, the respondents' winter water use alone exceeds the annual average for CRD water users by 38%. Participants' summer water use exceeds the annual CRD use average by 127.3%. This suggests that while high summer water users also use significantly more water during the winter than the average CRD user, it is during the summer months that the most excess water is typically used.

Chart 3-3: Participant water use by municipality



Source: 2007 CRD water use records

Note: Caution must be taken when interpreting these results as the respondent group is small.

Nearly half (48.6%) of the participants indicated that their property has a permanent, automatic irrigation or sprinkler system. Of this group, half (50.0%) stated that they adjust the irrigation schedule on their system less than once a month. Only 18.8% of those participants with irrigation systems indicated that they adjust the watering schedule more than once a month, while the remaining 31.3% stated that they adjust it once each month.

Respondents were then asked to indicate the frequency and duration that they use irrigation systems⁸, water their lawns, and hand-water their gardens/trees/shrubs during summer months. Charts 3-4 and 3-5 depict the responses for each activity; note that percentages are based on those who gave a specific timeframe (i.e., did not respond “don’t know/not applicable”). Those who have irrigation systems use them far more frequently and for longer periods than the other two modes of watering; those who manually water their lawns (versus an automatic system) do so for a significantly shorter duration less often. This suggests that those with automatic sprinkler/irrigation systems potentially use a greater volume of water than those who water their lawns using non-automatic methods.

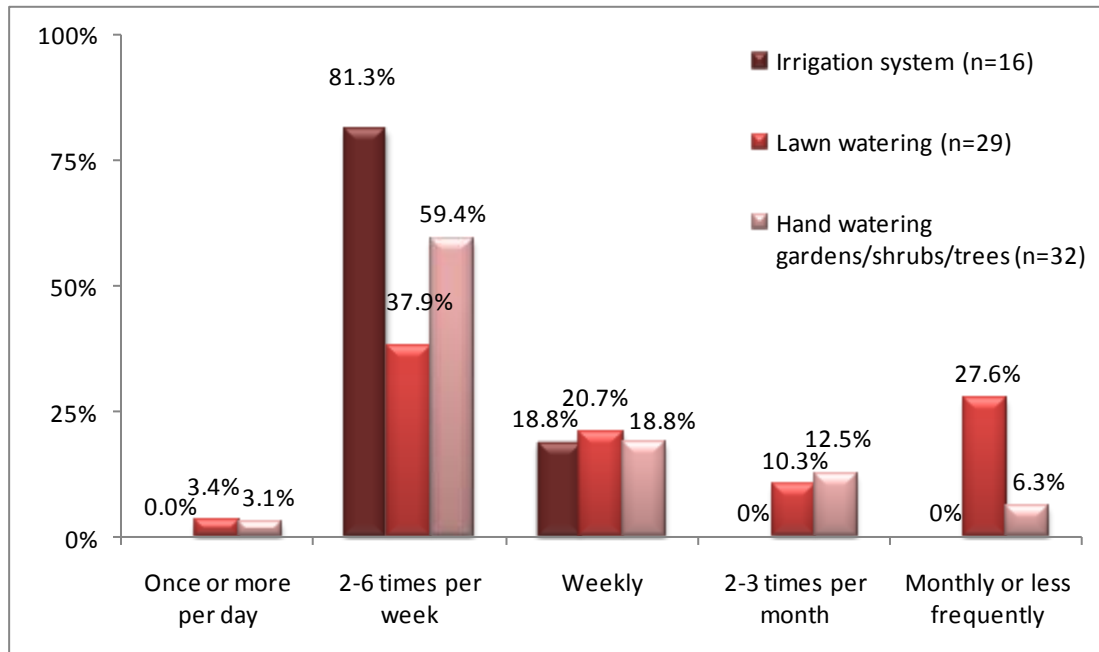
Interestingly, the indicated frequency of lawn watering⁹ was fairly stratified; while 41.3% of respondents water their lawns multiple times each week, almost the same proportion (37.9%) water their lawns less than once a week. Nearly two-thirds (65.4%) of the respondents who water their lawns indicated that they do so for under 30 minutes. The majority (62.5%) of

⁸ Any automatic, permanently installed water system designed for irrigation.

⁹ This referred to lawn watering in general in the questionnaire, and could include both automatic and manual systems/methods.

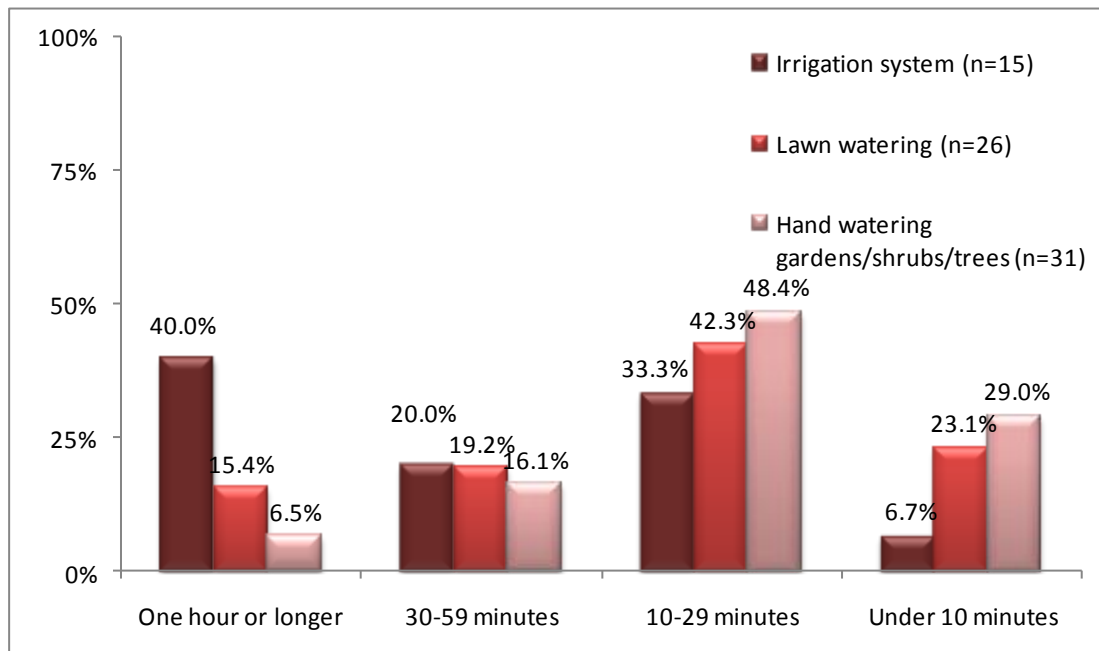
respondents stated that they hand water their gardens/shrubs/trees multiple times each week in the summer, albeit for a shorter duration; over three-quarters (77.4%) indicated that they hand water for under 30 minutes, and 29.0% hand water for less than 10 minutes.

Chart 3-4: Watering frequency



Source: Participant Questionnaire. Not included: missing/"don't know/not applicable" responses.

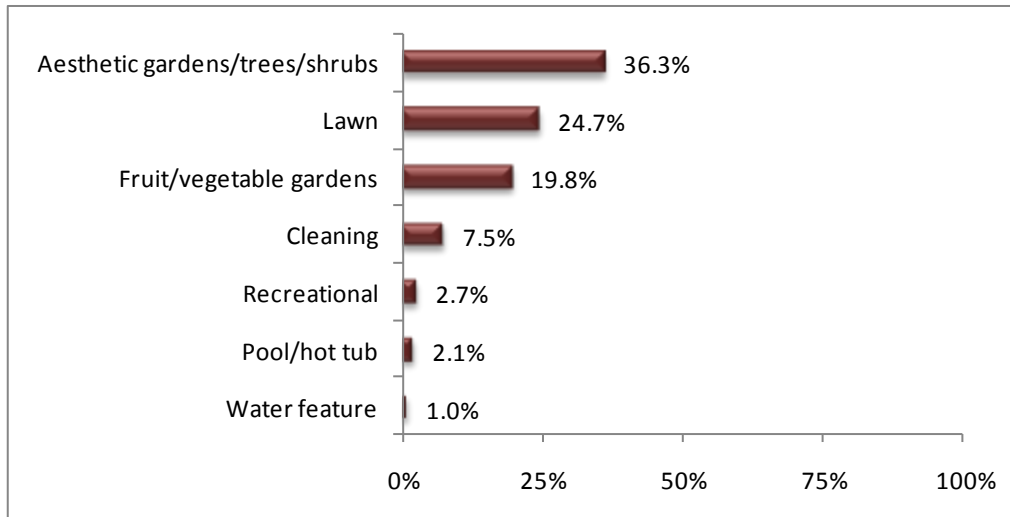
Chart 3-5: Watering duration



Source: Participant Questionnaire. Not included: missing/"don't know/not applicable" responses.

Finally, participants were asked to indicate the proportion of total summer outdoor water used in their household for the following activities: watering lawns, watering aesthetic gardens/trees/shrubs, watering fruit/vegetable gardens, filling hot tub/pools, operating aesthetic water features (e.g., ponds), recreational/play use (e.g., slip and slide, sprinklers), and outdoor cleaning (e.g., washing cars, windows, pavement). While the responses varied significantly (for example, eight respondents indicated 0% for lawn watering while seven noted 50% or greater), the average proportion can be used to demonstrate key trends. As depicted in Chart 3-6, watering aesthetic gardens/trees/shrubs accounted for the greatest proportion (36.3%) of respondents' summer outdoor water use, followed by lawn watering (24.7%) and watering fruit/vegetable gardens (19.8%). The activities that accounted for the smallest proportion of outdoor water use in the summer were operating aesthetic water features (1.0%) and filling pools/hot tubs (2.1%).

Chart 3-6: Water use proportions



Source: Participant Questionnaire, n=35. Note: does not sum to 100% as participants' responses did not always total 100%. It should be noted that the interpretation of 'water use proportion' was somewhat subjective, and thus the above data are estimates only.

4. Motivating Factors and Perceptions

This section examines the factors that motivate CRD residents to use more or less water in the summer, including perceptions surrounding the 'ideal' lawn and garden.

4.1. Motivating factors

At the beginning of the focus group session, participants were asked to reflect on where they typically use the greatest proportion of water outdoors during the summer in order to provide a framework for the discussion. The most common response given across all groups was watering shrubs, trees and gardens. However, the groups seem to vary in their tendency to list lawn watering as a primary activity. For example, in the female Core Community group, most did not mention lawn watering, and those that did were explicit in stating that it was last on their water use priority list. Conversely, 7 of 9 people in the West Shore group listed lawn watering/maintenance as one of their top, if not predominant, mode of outdoor water use. The male Core Community and Peninsula groups were similar to one another in this respect, with about one-third of the participants mentioning lawn watering. It is also interesting to note that the West Shore group was unique in that there was a greater proportion of participants who listed outdoor or equipment cleaning as one of their main summer outdoor water use activities.

Each group then discussed what factors motivate the different kinds of water use outdoors. The three factors that arose consistently in all of the sessions were: necessity/keeping plantings alive; cost; and maintaining aesthetics/curb appeal. It was also mentioned that weather and rainfall patterns are a factor in when and how often people water their lawns and gardens. Water restrictions and policies were noted as a factor by a small number of people. Conservation efforts and social/environmental responsibility was a factor mentioned only by a few participants at the outset of the conversation, particularly those in the female Core Communities group, although the subject was further explored later in the conversation. In general, it was felt that CRD residents often spend a lot of time and money on their gardens in particular, and thus use water to maintain not only their investment but their sense of pride in their home and property. Overall, participants agreed that outdoor water use is motivated by a balance of functional and aesthetic-oriented factors.

It was noted across the groups that there has been growing awareness surrounding water conservation in recent years, particularly as a result of rising costs. The male Core Communities group emphasized that their increasingly high bills are making them more aware of their water use. In general, most participants stated that they monitor and compare their water use the same way that they consider their hydro and gas consumption. This has led to a purposeful effort to reduce water consumption primarily in the interest of curbing increasing costs. However, many commented on the perceived futility of these efforts, as it was expressed that no matter how hard they try to reduce their water consumption, the resultant reduction in volume is

never enough to offset the increase in costs. This theme was echoed across all of the focus groups, as participants expressed their discouragement over the lack of transparency surrounding water bill charges and how fees are set between the CRD and the municipalities.

4.2. Perceptions and internal motivators

From the initial discussion, it was clear that while the participants were partially motivated by practically-oriented concerns such as keeping plantings healthy, aesthetic factors were often equally as important. The next phase of the discussion revolved around the relative importance of these factors and the impact they have on the amount of outdoor water used. In order to better gauge participants' preferences concerning lawns and gardens, they were shown four images of different properties and asked to record their initial impressions one at a time. The images can be viewed in Appendix C. The properties consisted of:

- A large, colonial-type home with conventionally landscaped lawns and gardens (manicured lawn, rose gardens);
- A native West Coast garden with indigenous plants;
- A property with a dormant (golden) lawn; and
- A xeriscaped¹⁰ yard divided by poured concrete into sections, with mulch surrounding small plantings (no lawn).

Across all groups, the common adjectives associated with the first property were well-maintained and manicured. Almost all respondents' perceptions were entirely positive, with some stating that it was beautiful, stately or the ideal property. The Peninsula and West Shore groups gave the most positive feedback. Others, however, mentioned that perhaps it was too high-maintenance, or used an overabundance of water. This was framed negatively by some participants (e.g., 'wasting water' or 'over-using water') while others interpreted it more positively (e.g., 'well-watered'). The female Core Community users, for example, were more likely to see the water use as negative, using terms such as indulgent or wasteful while the male Core Community group perceived the property as being well-watered.

The response to the native West Coast garden was very mixed. Some comments were on the negative side with descriptions such as 'overgrown,' 'unkempt' and 'neglected.' It was expressed that it was too shady, and not very well maintained. The Peninsula and Westshore groups were more likely to state this opinion. However, perceptions across all groups were generally neutral or even slightly positive. Several noted that it looked like it was planted with indigenous/native plantings, and that it was 'nice' and 'natural.' The female Core Community group expressed the most positive opinions about this property.

Perceptions regarding the dormant lawn property were largely unfavourable across all groups, with most respondents typically stating that it was boring and dull. The West Shore and male

¹⁰ Xeriscaping refers to the process of landscaping or gardening in a way that reduces the need for irrigation or watering outside of natural rainfall.

Core Community group participants most frequently commented on the presumed watering tendencies of the inhabitants, stating that it was 'dry' and 'needed water.' The female Core Community and Peninsula groups were more likely to offer suggestions on how to improve the property (e.g, break it up into different sections, wait for new plantings to mature).

It should be noted that terms such as 'dead' or 'unhealthy' were not used during the discussion, as nearly all of the participants seemed to have a basic understanding that golden lawns are not necessarily dead. In fact, during this portion of the discussion a conversation would often arise concerning dormant lawns and how it affects the growth and health of the grass. In all of the groups, at least one person would typically relay an experience of letting his/her lawn go golden during the summer, only to have it come back healthier in the rainy season. Other participants generally seemed interested by this and were keen on learning more about lawn health.

The image of the xeriscaped lawn was met with mostly favourable impressions; many participants thought the property was attractive and well-designed, particularly the male Core Community group. The female Core Community group expressed more apprehension, with some stating that it seemed too cold and concrete-oriented. Conversely, the Peninsula and West Shore participants felt that it was 'urban' and attractive. Across all groups, many participants noted that it looked like it used little water and/or contained drought-resistant plants; several even applied the term xeriscaped to the property.

After this exercise, the moderator had the participants record a brief description of what would constitute their personal ideal property with respect to the lawns and gardens. Almost all participants stated that they would like a mix of attributes in their property, with a variety of shrubs, trees, vegetable gardens and aesthetic plantings. The function of a lawn varied between the groups, however. In the female Core Communities group, for example, lawn was seldom mentioned, with greater emphasis placed on xeriscaping and native/drought-resistant plants. In the male Core Community group, only a few mentioned that they would like a lush, green lawn while the remainder generally expressed that they would want to have less lawn area and more gardens. The Peninsula participants were divided in regards to lawn; half stated that they would like lush green lawns while the other half stated that they would deemphasize it. Only a few participants mentioned lawn at all in the West Shore group, with most stating that they would like a low maintenance property with nice trees and gardens.

Participants were then asked if neighbourhood pressures were a factor in how they kept their lawns and gardens. When asked to rank their own property within their neighbourhood, most respondents stated that their property was average to slightly above average, particularly in the male-oriented groups. The participants in the female Core Communities group were more likely to state that their properties were average or below average, and generally agreed that they just try to make sure that theirs is not the brownest or weediest. This group expressed the most negative opinion of those who spend a lot of effort and water maintaining their lawns (the 'golf green' neighbours), stating that they were wasteful, indulgent and even selfish.

All groups agreed that there is somewhat of a sense of competition within the CRD, particularly as the Victoria area is known for its gardens. However, it was also noted that there is a good deal of peer and media-based pressure to conserve water, to the point that ‘people are no longer embarrassed to have a brown lawn.’ In general, it was felt that although there is not necessarily a sense of neighbourhood pressure, many homeowners wish to retain their pride of ownership in their home by maintaining its curb appeal, particularly in order to retain its value.

Throughout the course of the conversation, the groups were asked if they consider themselves to be high water users. Overall, participants felt that they were average to low water users as compared to other CRD residents.¹¹ The West Shore (male-dominated) and male Core Communities group participants were more likely to state that they were higher than average summer outdoor water users, although most did assess themselves as moderate users. The female-oriented groups were more like to state that they were average to below-average water users.

¹¹ It should be noted that the participants were not informed that they belonged to a high-water user cohort.

5. Knowledge of Watering Needs

In the next phase of the focus groups, the discussion revolved around the participants' knowledge of watering needs of lawns and gardens, and how drought conditions affect their watering habits. They were first asked if they could think of how much water lawns, as well as gardens/trees/shrubbery require in order to be healthy. In each group, one to three participants would typically provide an actual measurement, such as 1" twice per week or, in one case, 1000L every day. The majority of the respondents reported a duration, such as half an hour once per week for the lawns and 15 minutes a day for gardens. Both the measurements and durations given varied significantly between respondents, with common words and phrases not regularly appearing. This indicates that specific watering need messages conveyed by municipalities and the CRD (e.g., one inch per week) were not familiar to group members. Responses tended to be relatively vague, such as 'enough to keep it healthy.' A small proportion stated that they do not water their lawns at all in the summer, and that natural rainfall is enough to keep them alive.

When participants shared their responses, the conversation would generally result in one person saying hesitantly something along the lines of "oh, isn't it two inches or so once a week? Or half an hour twice per week?" and the group would generally agree, although they could often not pinpoint the precise value. In the Peninsula group, one respondent commented that one should water no more than it takes to fill a tuna can in a week, which the other participants found to be a valuable guideline. Across the groups, a few people mentioned that they had used a water volume measurement device on their lawns.

Participants were then asked to brainstorm ways in which a lawn can remain healthy, but use less water. Across all groups, the common responses were typically: aerating, letting the grass grow longer, and leaving the clippings on/adding fertilizer. A couple of respondents stated that lawns do not require additional water in the summer months. When asked to characterize what over-watered lawns would look like, responses typically contained adjective such as muddy, springy and moss-filled. Some mentioned that it might contain yellowing patches and become generally unhealthy from excessive watering.

The discussion then turned to drought-specific conditions and how they affect outdoor water use in the summer. The participants felt overall that people should not strive to keep their lawns lush and green during a time of drought, and that CRD residents have a responsibility to conserve water during those periods. It was generally agreed that there is a culture of awareness (via the media and within the communities) of the need to reduce water use during the summertime. However, during the Peninsula and male Core Communities groups in particular, the argument was made by numerous participants that 'the reservoir is overflowing' and that they do not necessarily see the need for concerns about running out of water, as it is a 'renewable resource' and 'plentiful.' Many of the other participants agreed with this, stating that the CRD and the



municipalities need to better explain why it is so important to conserve water during the summer.

Participants were also asked if they would consider replacing their lawns with either non-organic materials or drought-resistant plantings. Many stated that they had already converted or thought about converting a portion of their property to lower maintenance/lower water use plantings, and a few stated that they would seriously consider replacing their entire lawns. However, the majority expressed that they value their lawn for its recreational, play and relaxing qualities, and many pointed out that uprooting a large lawn would take a great deal of time, money and effort, with the resultant gardens likely being expensive to maintain. Overall, it was expressed that some lawn contributes to the overall balance of a yard, although many stated that lawn alternatives can look very attractive.

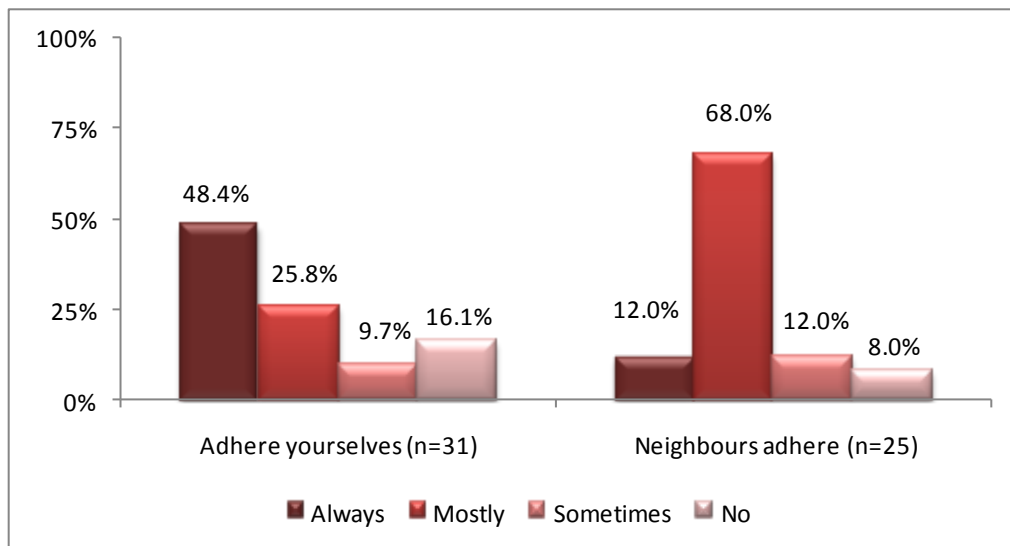
6. Factors Influencing Reduction in Use

This section considers participants’ reasons for reducing, or not reducing, outdoor water use during the summer months, including the perceived role of CRD watering bylaws. Suggestions provided by the groups for encouraging water conservation within the CRD are also detailed.

6.1. CRD watering bylaws

The focus group participants were asked for their feedback on the appropriateness of the CRD water use summer bylaws¹² as well as their general adherence to the regulations. As depicted in Chart 6-1, nearly half (48.4%) of the participants expressed that they follow CRD outdoor water use regulations at all times. One-quarter (25.8%) stated that they mostly do, while 16.1% responded that they do not follow the bylaws. As compared to their perceptions of their neighbours’ adherence to the bylaws, it is interesting to note that the participants were more critical of their neighbours’ adherence than of their own. Only 12% stated that their neighbours always follow the bylaws, while the majority (68.0%) indicated that they mostly do. This pattern did not vary significantly across the groups.

Chart 6-1: Adherence to CRD outdoor water use bylaws



Source: focus group response sheets. Note: not all participants recorded a response.

Although they tended to look at their neighbours’ adherence slightly less favourably than their own, the participants were relatively indifferent about CRD residents not following the bylaws. A few mentioned that they would let their neighbour know about the appropriate times, but most said that they would not really bother with it. Overall, participants stated that while they do not

¹² Can be found at: <http://www.crd.bc.ca/water/conservation/outdoorwateruse/bylaw.htm>

particularly monitor their neighbours' water use, it would still be off-putting to them if they viewed someone as being particularly excessive or wasteful with water.

In all groups, however, it was noted that the CRD and municipalities need to lead by example; many noted that they have observed municipal properties (e.g., parks, boulevards) being overly watered, or watered far more often than the residential regulations allow. It was generally felt that in order for the CRD and individual municipalities to successfully encourage adherence to watering regulations and to consider conservation in general, they must take the lead and provide a model of behaviour.

Across the groups, the participants almost without exception stated that stricter policies or stronger enforcement would not be a welcome or necessary move at this time. They were then asked what factors cause or would cause them to reduce outdoor water use. The most common response was cost – rising bills would and currently do encourage the participants to reflect on how they can reduce their water use. This theme was most predominant in the male Core Communities and West Shore groups, where nearly every respondent said that cost would be the prime factor that would push them to use less water. Other participants' comments reflected themes surrounding social responsibility (e.g., that we must conserve in the interest of environmental/local sustainability or because it's 'the right thing to do'). The Peninsula group was divided, with half reporting cost-related factors and the other half mentioning social responsibility-oriented concerns. In the female Core Community group, every respondent listed both cost and social/environmental responsibility as factors which would influence them to use less water outdoors. It is interesting to note that themes of social responsibility arose predominantly in the latter part of the discussion, evolving from the initial conversation as well as some prompting by the moderator.

It should be noted that there was a persistent perception, particularly among the male-oriented groups, that the water board is actually suffering as a result of residents' water consumption; since people are conserving so much water, it is their understanding that the CRD is not making enough money. As a result, many of the participants felt that increases in water prices were a direct result of this situation, with residents essentially being penalized for conserving. While this may not reflect the reality of the situation, this perception – as well as the fact that many of the participants did not think that there were compelling reasons being provided to encourage them to conserve – signifies that there is limited transparency and understanding about the structure of water pricing or the reasons behind conservation practices. This was highlighted as one critical aspect that the CRD needs to address, and a great deal of mistrust and suspicion was conveyed.

6.2. Participant suggestions for the CRD

At the conclusion of the group sessions, participants were asked to get into partners and brainstorm ways in which the CRD could encourage the region's residents to use less water

outdoors in the summer. The most popular suggestions revolved around facilitating education and awareness within the region's residents on the part of the CRD. It was discussed in most of the groups that negative or punishing tactics such as fining, regulating or monitoring are not as successful, and pit the CRD against its residents instead of working together to meet a common goal. As previously discussed, it was emphasized that the CRD needs to better inform its residents as to why they must conserve water and how it affects the community, province and country.

Specific suggestions arising from the group brainstorm and discussion included:

- Incentive or grant programs, such as providing rewards (e.g., billing reduction/rebates, certificates at nurseries for drought resistant plantings, or other water reduction-specific rewards such as microheads or low-flow outdoor spigots);
- Detailed and transparent billing, such as that offered by BC Hydro and Terasen Gas which shows chart-based breakdowns of comparative water usage across the region;
- More frequent billing, as the three or four-month cycles are not conducive to encouraging resident to reflect on their water use during the actual period of use;
- Education and awareness campaigns on the part of the CRD to better inform residents why it is important to conserve water (transparency and honesty were central themes). Suggestions included workshops at local nurseries, 'did you know' style newsletters and newspaper articles, information inserts in magazines and newspapers, radio spots, readily visible sources for residents to see how much water is in the dam, and a water-reduction mascot;
- Tiered billing structures to reward and encourage lower water consumption, or warning notices if you go over a minimum amount set by the CRD (some suggested harsher penalties instead of a rewards system);
- Promoting and educating consumers on alternative water use strategies (e.g., rain barrels, sprinkler systems, grey water use, xeriscaping), as well as providing rebates/incentives for related equipment;
- Encourage community-based participation such as neighbourhood water reduction challenges – begin with pledging to reduce municipal and regional water use (such as the visible frequently watering of park and boulevard land), as well as showcasing residents that have conserved water using alternative methods; and
- School awareness campaigns, as it was noted by the female Core Communities group in particular that children often take up conservation and protection causes energetically and will encourage their parents to conserve as well.

7. Information and Resources

At the conclusion of the group session, participants were asked where they typically find information and resources concerning lawn and garden care. Word-of-mouth (advice from friends, family and neighbours) and local garden centres (informal visits as well as workshops) were the top two sources of information and resources. It was also mentioned by quite a few participants, particularly women, that they will often check out books and guides from the library. Very few participants indicated that they look to gardening magazines. Some mentioned that they will look up information on the internet, and a few stated that they read regular gardening columns in the newspaper. Other than a small number who had visited the CRD website to check water reservoir levels, participants do not refer to the CRD website as a source of information concerning outdoor water use.

8. Key Findings

Participant Snapshot

- 35 participants across four groups: Core Communities (male), Core Communities (female), West Shore (mixed) and Peninsula (mixed)
- 57.1% male, 42.9% female
- The participants were generally older and better-off financially than the average CRD resident:
 - Three-quarters of the participants were between 50 and 70 years of age; almost half were retired
 - Median household income was \$80,000

Water Use Snapshot

- The average summer water use across all groups was 545.4 m³, with an average of 331.8 m³ used in the winter months, for a total of 877.2 m³ annually: 366% more water annually than the average CRD water user. A large proportion of this excess occurs during the summer months
- Half of the participants have a permanent, automatic irrigation or sprinkler system
- Most outdoor water is used first for watering aesthetic gardens/trees/shrubs and second for watering lawns; it is used least for water features and pools/hot tubs

Those with irrigation systems tend to use water outdoors more frequently and for a longer duration.

From the survey results, it was apparent that those who had an irrigation system (approximately half of the participants) watered their lawns and gardens significantly more frequently and for a longer duration than those without an automatic system. Over 80% use their irrigation system between two and six times per week, and 60% do so for 30 minutes or longer. This suggests that while many of the participants with an irrigation system believe that they are conserving water due to targeted and often low-flow systems, they are potentially using a great deal more water than manual/hand-watering households.

Outdoor water use is affected primarily by necessity, cost and maintaining aesthetics/curb appeal.

Practical factors had the most significant role in directing participants' water use, such as maintaining the health and aesthetics of lawns/gardens, as well as the related cost of water use.

Conservation was not a significant factor in water-related decisions, although women were more likely to state that it was something they consider.

There is growing awareness about water conservation, although lack of transparency from the CRD/municipalities is perceived to contradict this message.

While conservation is not a key motivating factor for day-to-day outdoor water use, participants agreed that within the past several years there has been growing pressure to conserve water, reflected in the bylaws and media/community messages. Almost all respondents stated that they have worked to reduce their water use during this time, and have become more aware of using less water both outdoors and indoors. However, there was a prevalent perception that despite their best efforts, water prices are still rising with little to no explanation from the CRD/municipalities. There is a common perception that the CRD is purposefully raising rates in order to make up lost revenue due to residents' successful reduction in water use. In addition, many group members expressed that the CRD has a surplus of water, and thus conservation messages seem contradictory. Focus group participants indicated that they would benefit from greater transparency and understanding of both the pricing structures and rationale behind conservation efforts, including why it is necessary to conserve water, and an explanation of why costs are rising.

Perceptions surrounding 'golden' lawns were neutral or favourable.

It was generally acknowledged that perceptions surrounding golden/dormant (or 'brown' as it was commonly referred to) lawns in the summer months have changed substantially over the past several years in the CRD; it is no longer looked on strictly unfavourably if homeowners allow their lawns to go dormant. It was felt that people should not strive to keep their lawns lush and green during a time of drought, and that CRD residents have a responsibility to conserve water during those periods. Participants were interested in the concept of dormancy and lawn health in this climate, and were keen on learning more about it. They also noted that there needs to be more information provided regarding the reasons for this 'culture of conservation.'

Participants thought their properties were aesthetically average compared to their neighbours, and very few felt that they were high water users.

Respondents felt that their properties were fairly average as compared to their neighbours, and did not think a sense of competition was very predominant in their neighbourhoods. Male participants were somewhat more inclined, however, to rate their lawns and gardens as above average, while women were somewhat more likely to state that they were slightly below average. It was noted across all groups that Victoria as a region is known for its gardens, and people take a certain pride in maintaining their properties. Almost all participants considered

themselves to be average to low water users, despite the fact that all use significantly more than the typical CRD resident.

There is not a consistent understanding of the amount of water lawns and/or gardens require in order to be healthy.

A wide range of measurements and durations were given in response to how much water lawns and gardens require in order to be healthy. There was a general understanding that watering needs mirror the bylaws: approximately two times per week. Only a few participants gave a reasonably correct measure (i.e., one inch or ‘tuna can’ per week), while most gave varying durations. While these responses were not entirely off base, it was evident that there is not a consistent message being understood. Through the group discussion, participants indicated that they would benefit from a clear, consistent and ‘catchy’ message that is easy to remember and communicate.

Participants have an understanding of how to ensure the health of a lawn while using less water.

There were many suggestions given for how to retain a healthy lawn while using less water, including aerating, leaving clippings on the lawn, and letting it grow longer or using a higher mower blade. They identified over-watering as being detrimental to lawns, marked by yellowed or muddy patches, or water runoff. There was a general understanding that there is such thing as too much water, and several participants also noted that lawns do not require any water other than normal rainfall in order to remain healthy/alive and emerge from their dormancy in the rainy season.

Lawns are still an important part of CRD residents’ properties.

While many participants noted that they had replaced some of their lawn with lower-maintenance and lower-water use plantings, most stated that they would not replace their entire lawn with these or other alternatives. Lawns are a part of the property balance for CRD residents, and have an important function as recreational or relaxing space. In addition, it was viewed as being too costly and time-intensive to remove a large expanse of lawn and replace it with other plantings.

The participants generally adhere to the watering bylaws, but do not feel that they should become more strict.

Almost three-quarters of the participants indicated that they follow the outdoor water use bylaws most or all of the time. The majority felt that stricter bylaws were not a necessary or warranted method of encouraging water conservation. It was noted by many that the municipalities themselves need to lead by example, as boulevards, parkland and other public spaces are perceived to be watered excessively while individual residents are pressured to conserve.

The groups provided constructive suggestions for the CRD to encourage water conservation during the summer months.

A number of creative suggestions were provided by the participants in terms of how the CRD could better encourage water conservation in the summer months among its residents; most of the suggestions were constructive and positive (e.g., providing rewards, rebates and recognition) as opposed to punitive (financial penalties, increased regulation). The main themes of the suggestions concentrated around:

- Billing structures – water bills should be issued more frequently, contain more detailed comparative information and should possibly be tiered so as to monetarily reward low water users;
- Education and awareness – the CRD could facilitate greater awareness surrounding water conservation, particularly in regards to why it is necessary and how it can benefit the community. Marketing campaigns across a variety of platforms (online, newspapers, community letters and radio) would be useful, as well as workshops on lawn/garden health, watering tips, alternative plantings and different methods of reducing municipal water use (e.g., rain barrels).
- Incentives – providing a variety of awards and recognition for individuals/communities who reduce their outdoor water use (e.g., billing reduction, community/neighbourhood equipment or event, rebates on micro-heads or rain barrels).

9. Appendix A: Questionnaire

The CRD (Capital Regional District) is currently looking at factors that affect outdoor water use in the summer. Your participation in this questionnaire and the focus group will help guide us in the types of information and resources that we provide to our water users. No identifying information will be kept with the questionnaire, and data will be presented in aggregate form only.

Thank you for your input!

The first few questions concern basic demographic information.

1. What is your gender?

Male

Female

2. Which age category do you belong to?

Under 18

50-59

19-29

60-69

30-39

70+

40-49

3. What municipality do you reside in?

Victoria (including Esquimalt
and Vic West)

Sidney

Oak Bay

West Shore (Langford, Colwood,
View Royal, Metchosin, Sooke)

Saanich

Other: _____

North Saanich

4. How many adults (18 or older), including yourself, live in your household (including any tenants)?

1

3

2

4 or more

5. How many children (under 18) live in your household?

None

3

1

4 or more

2

6. Do you live at your primary residence year-round?

- Yes
- No – only in the summer half (or less) of the year
- No – only in the winter half (or less) of the year

The next set of questions relates to your home/property.

7. Does your home contain a rental suite?

- Yes
- No

8. What is the approximate size of your lot in feet?

- Under 3,000 square feet
- 3,000-5,999 square feet
- 6,000-8,999 square feet
- 9,000-11,999 square feet
- 12,000 square feet to one acre
- 1-2 acres
- More than 2 acres
- Don't know/Prefer not to say

9. Please indicate the approximate proportion of your property that is comprised of:

- | | |
|--------------------------------|--------|
| Lawn | _____% |
| Aesthetic (non-edible) gardens | _____% |
| Vegetable/fruit gardens | _____% |

10. Do you have (select all that apply) an:

- In-ground pool
- Above-ground pool
- Hot tub
- Aesthetic water feature (e.g., pond)

11. How often do you use a professional landscaper and/or gardener?

- More than once a week
- 2-3 times per month
- Monthly
- Less than once a month
- Every few months
- 1-2 times per year
- Less than once per year
- Never

12. If applicable, what tasks does your landscaper/gardener typically perform?

This set of questions concern **the typical outdoor** summer water usage on your property using municipal water (i.e., from an indoor/outdoor tap/spigot), not well/collected rainwater. Please consider the **overall average water use** for a period of typical summer temperature/rainfall.

13. Do you have a permanent, automatic watering/irrigation system?

- Yes No

14. How often do you adjust the irrigation schedule on your permanent watering system?

- More than once a week Less than once a month
 2-3 times per month Not applicable
 Monthly

15. How often is the automatic **watering/irrigation system** scheduled to turn on and for what duration during the summer months, on average?

Frequency

- Once or more per day
 2-6 times per week
 Weekly
 2-3 times per month
 Monthly or less frequently
 Don't know/Not applicable

Duration

- Under 10 minutes
 10-29 minutes
 30-59 minutes
 One hour or longer
 Don't know/Not applicable

16. How often do you water your **lawn** in the summer months and for what duration?

Frequency

- Once or more per day
 2-6 times per week
 Weekly
 2-3 times per month
 Monthly or less frequently
 Don't know/Not applicable

Duration

- Under 10 minutes
 10-29 minutes
 30-59 minutes
 One hour or longer
 Don't know/Not applicable

17. How often do you hand-water your **gardens/shrubs/trees** in the summer months and for what duration?

Frequency

- Once or more per day
 2-6 times per week
 Weekly
 2-3 times per month
 Monthly or less frequently
 Don't know/Not applicable

Duration

- Under 10 minutes
 10-29 minutes
 30-59 minutes
 One hour or longer
 Don't know/Not applicable

18. Considering your total amount of water used outdoors in summer months, please assign the percentage that each activity accounts for (should total 100%).

Type of Summer Outdoor Water Use	Percent of Summer Outdoor Water Use
Watering lawns	
Watering non-edible/aesthetic gardens and trees	
Watering vegetable/food gardens or plots	
Pool/hot tub	
Permanent water feature (e.g., pond)	
Recreational water use (e.g., sprinkler, slip and slide, child pool)	
Car washing or other outdoor cleaning	
Other (please describe):	
TOTAL	100%

Finally, these last questions will help us classify your responses. Again, no personal information will be recorded or shared.

19. What is your marital status?

- Single
 Married/common-law
 Divorced
 Widowed
 Prefer not to say

20. What is your employment status?

- Employed full-time
 Employed part-time
 Self employed
 Retired
 Student
 Not employed

21. In which range does your combined household income before taxes and deductions fall?

- Under \$20,000
 \$20,000-\$39,999
 \$40,000-\$59,999
 \$60,000-\$79,999
 \$80,000-\$99,999
 \$100,000-\$119,999
 \$120,000-\$139,999
 \$140,000-\$159,999
 More than \$160,000
 Prefer not to say

10. Appendix B: Moderator Guide

Introduction

Personal Introductions [5 minutes]

Thank you all for taking the time to participate in this group discussion. My name is [Name], and I am conducting this focus group on behalf of the CRD. We are interested in finding out what factors motivate outdoor water use in the summer time, and wanted to speak directly with water users to explore this. Your feedback will be used to guide the development of materials and resources on water use awareness distributed by the CRD.

Your comments are completely confidential, and your name will not be associated with any remarks you make during the discussion. We are recording this conversation, but only so we can refer back to the comments made when developing our report on the key themes. Is everybody fine with this?

The format of our discussion will be informal, although I will be guiding us from topic to topic – it will last about two hours. We want everyone to have the chance to share their ideas, so please take this opportunity to contribute your perspective. There are no right or wrong answers, and all comments are welcome! I will be getting you to record some of your answers on the notepads provided, which we will collect at the end of the discussion. Does anyone have any comments or concerns before we begin? Let's start by going around the table and introducing ourselves.

Warm-Up [5 minutes]

- To get started, let's brainstorm all of the ways we use water outdoors [*write on board/projector*]
 - We're going to use this as a framework for our discussion – we'll consider these types of water use, what factors and situations affect them, and your own experiences/habits.

Factors Affecting Outdoor Water Use

Motivating Factors [20 minutes]

- Where do you generally use the most water outdoors in the summer? [*Have them write out answers first, then share. Put in an overall order based on consensus*]
 - Probe (particularly if differs): what factors affect why people use water in different ways?

- How do you generally use water outdoors in the summer? E.g., do you water your lawn frequently? Your gardens? Vegetable gardens? [Speak about their experiences/habits with each category identified]
- What are the main factors that influence how you use water outdoors? [*Have them write out answers first, then share*]
 - Probe: aesthetic versus functional (e.g., growing vegetables)
 - Get them to divide the list between essential and non-essential water use. Explore if it's difficult to break them apart.
 - If there are ways/times in which you use water that we may not be aware of how much you're using? Are you generally aware when you use more/less water? How does it compare to your awareness surrounding how much hydro/gas you use?

Perceptions and Internal Motivators [30 minutes]

- *Ideal lawn/garden exercise.* I'm going to show you a few pictures one at a time, and I'd like you to record the first few words or phrases that occur to you when you view the images [*Show image of green lawn with high maintenance gardens, then one with dormant lawns/minimal gardens, then one with native plants, and finally one with lawn/garden substitutes*]. Now, I'd like you to write out a brief description of how you would describe your ideal property with respect to the lawns, trees and gardens.
- *After they are finished, get them to share and record on board.*
 - What affects your opinions about these different properties?
 - How important is having lush lawns and gardens to you? Why it is important to some to have a well-manicured and attended lawn and garden? (*i.e., sense of pride, achievement, competition/comparative*)
 - Where do you rank your own lawn in gardens in comparison to that of your neighbours? [*Go around table*]. How much does this matter to you? Are there certain expectations/pressure within your neighbourhood to have nice lawns and gardens?

Knowledge of Watering Needs of Lawns/Gardens [10 minutes]

- How much water does your lawn require to be healthy? What about gardens/trees/shrubbery? [*Get them to write out*]
 - What, if anything, can be done to a lawn so that it remains healthy but uses less water? [*Get them to write out*]
 - How can you tell if a lawn is over-watered? What would it look like? [*Get them to write out*]

- How do periods of summer drought affect how much you water your lawns and gardens?
 - Do you water more or less during a dry spell? Does it differ depending on whether it's your lawn, garden or vegetable plot?
 - On the island, we often go through periods where many people's lawns are dormant in the summer. Do you think that people should strive to keep their lawns green during these periods? [*Get them to write out*]
 - Why or why not? [*If all generally agree that no, should not water lawns during a drought*] Why do some people water during these periods?
- Would you consider replacing your lawn with other plantings, such as regional plant life, or mulch/woodchips? Why or why not? [*Get them to write out*]

Water Costs and Reducing Use

- Do you think the CRD bylaws on watering in the summer months are fair? [10 minutes]
[*Get them to write out responses to questions*]
 - Are you aware of/do you adhere to watering schedules?
 - Do people in your neighbourhood adhere to them?
 - What do you think or do when people don't adhere to the watering schedules set by the CRD?
 - How would you feel if there were stricter policies put into place regarding outdoor water use? For example, if you could only water your lawn one day per week?
- What are the factors that influence you to use less water, if any? Is it something that you think about? [*Have them write down their answers first, then share.*] [5 minutes]
Probes:
 - *Cost*
 - *Social responsibility*
 - *Neighbourhood practices*
 - *Regulations/bylaws*
 - *Others*
- Small group exercise: I would now like you to get into small groups of two or three and brainstorm what would motivate CRD water users to use less water outdoors in the summer. You can get creative! Make sure to note which motivating factors would be the strongest or most compelling. [Q9 - *Give them 5 minutes, have one person in group record. Discussion afterwards going from group to group, record on board*] [15 minutes]
Probes:
 - *Cost – raising prices?*
 - *Cost – introducing incentives?*
 - *More neighbourhood monitoring?*

- *Different types of landscaping that do not require irrigation?*

- *Different regulations for different types of gardens, e.g., aesthetic vs. functional (food providing)*
- *Conservation awareness campaigns (social awareness/accountability)?*
- *After the group discussion, get them to reflect on how they would individually feel if each one of the suggestions was to be implemented (e.g., higher prices, etc.). Would it affect their water usage? Why or why not?*

Conclusion

Information and Resources [5 minutes]

- Where do you get most of your information on lawn/garden care?
 - Are there other sources that may be beneficial?
 - What would you be interested in learning more about?
 - Have you received lawn and maintenance info in the past, and how would you like to receive it in the future? What sorts?

Are there any additional comments you would like to make before we end our discussion?

Thank you again for your time. I will now distribute our token of appreciation for sharing your input and perspective – enjoy the rest of your night! [*Collect all papers*]

11. Appendix C: Images Used

Image One:



Image Two:



Image Three:



Image Four:

