The 2016 Clackamas River Drinking Water Customer Survey: Customer Perspectives on Source Water Protection



Institute for Sustainable Solutions Portland State UNIVERSITY





Working together to protect and conserve our drinking water.

Summary Report Daniel Larson and Max Nielsen-Pincus Department of Environmental Science and Management Portland State University

With Support From

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Executive Summary

Between March and June of 2016, we conducted a survey of Clackamas County, Oregon, residents who were water customers of seven water providers that rely on the Clackamas River for drinking water. The goals of the survey were to describe water ratepayers' knowledge of the Clackamas watershed, their beliefs and attitudes related to the ecosystem services provided by the Clackamas River, the management actions ratepayers support to maintain or enhance those ecosystem services, and their willingness to pay for source water protection. In addition, we also collected data on attitudes and beliefs about water consumption and climate change, as well as the demographics of our respondents.

Background

The Clackamas River Watershed is the source of drinking water for over 300,000 people in Clackamas and Washington Counties, Oregon. Although each of the water providers using Clackamas River water is responsible for managing their own treatment and delivery systems, an intergovernmental agreement created the Clackamas River Water Providers (CRWP) as an organization designed to collectively manage source water quality. In its 2010 Drinking Water Protection Plan, CRWP outlined two primary goals to establish a source water protection program to maintain the Clackamas River as a high-quality drinking water source:

- 1. Identify, prevent, minimize, and mitigate activities that have known or potentially harmful impacts on drinking water quality so the Clackamas River can be preserved as a high-quality drinking water source that meets future human needs and minimizes drinking water treatment costs.
- 2. Promote public awareness and stewardship of healthy watershed ecology in collaboration with other stakeholders.

Source water protection strategies may range from public communication campaigns designed to raise awareness about drinking water source management to partnerships with watershed landowners or users designed to reduce risks to water quality.

The purpose of this study is to characterize the perspectives of consumers who rely on the Clackamas River for their drinking water, and how their perspectives influence their willingness to support source water protection efforts in the Clackamas River Watershed, including their willingness to pay for such programs.

Key Findings

We sent a questionnaire to nearly 1,200 randomly selected water ratepayers in Clackamas County in March 2016. A total of 405 completed questionnaires were returned for a 33.5% response rate. Surveys were either returned by mail or respondents logged into an online version of the questionnaire and submitted their responses through the internet. Additionally, we posted a link to the questionnaire on each of the water provider websites, to which an additional 60 ratepayers responded.

Respondents were typically middle-aged (median age = 59), college educated (bachelor's degree), homeowners that had a household income between \$50,000-\$124,999, with evenly distributed political leanings. These findings differ slightly from Clackamas County demographic data obtained from the US Census American Community Survey Profile (2011-2015)¹. Although our survey respondents' median age is greater than the census reported median age of 41 years for Clackamas County, recall that our respondents are water ratepayers and not a full cross-section of Clackamas County residents. Approximately 30% of respondents reported possessing a bachelor's degree, which corresponds to the county average of individuals age 25+ with a bachelor's degree or higher (33%). Respondents predominately reported a 2014 household income of \$75,000-\$99,000, while the 2015 median household income for the county was \$65,965. Clackamas County voter registration in November 2016 was 36% Democrat, 31% Republican, and 33%

other², which is similar to our findings. Demographic characteristics of respondents will be elaborated further in Section 2 of this report. A few key themes emerged that were common to most respondents. For example, 60% of respondents reported that the natural features of the Clackamas River watershed are critical to or greatly enhance their quality of life. Building on this theme, there was widespread support (65% "very supportive" and 24% "somewhat supportive") for programs aimed to protect or enhance drinking water quality in the Clackamas River watershed. Below we outline the key messages from our results:

• Knowledge of respondents' drinking water source varies by water provider.

Not all survey respondents were aware of the source of their drinking water. A smaller proportion of respondents in Lake Oswego (40.9%) and Sunrise Water Authority (38.2%) did not know their water comes from the Clackamas River, compared to other water districts where more than 80% of respondents knew their water source.

• Use of the watershed varies by water provider.

Watershed use by activity and frequency of use varied greatly by water providers. Respondents most commonly reported their use of the watershed involved passing through (72%) or recreation (65%). However, less than a quarter of respondents reported frequent use (more than once per month). Oak Lodge, Gladstone, and Estacada are the most frequent users, an unsurprising result given their relatively close proximity to the recreational areas in the the watershed. Watershed use and visitation may also be a function of respondents' sense of place for the watershed, which has been shown to be an important factor in determining the success of watershed protection programs³. When asked about their personal feelings towards the watershed, 38% of respondents reported feeling that the Clackamas River watershed, "is the best place for me to do the outdoor things I enjoy," while only 32% indicated that, "I don't really identify with the Clackamas River Watershed". Customers from Oak Lodge, Gladstone, and Estacada expressed that they did identify with the watershed; again, plausibly related to their location and utilization of recreational opportunities and frequent visits when compared to other water districts.

The questionnaire also asked respondents about their perceived risks to the watershed, their support for watershed protection programs, and their willingness to pay for those programs.

• Perceived risks to the watershed tend to focus on urbanization in the watershed.

Respondents reported that risks of urbanization (70%) and subdivision of forested land (70%) outweighed the benefits, while the benefits of removal of water for domestic uses (80%) and irrigation (63%) outweighed the risks.

• Support for programs that maintain or enhance drinking water quality is strong

A majority of respondents from every water provider reported being very supportive of watershed protection programs, and 89% reported being very supportive or supportive of watershed protection programs. However, a smaller proportion of respondents identify the need for watershed programs as extremely urgent, with 50% indicating that the need is less than very urgent.

• Trust in organizations and stakeholders to support the health of the watershed varied.

Urban residents who use the watershed and private landowners were the least well trusted (36% and 46%, respectively) to support the health of the watershed. Respondents place the greatest amount of trust in the Clackamas County Soil and Water Conservation District (78%) and the Clackamas River Water Providers (75%).

2 Oregon Secretary of State (2016). Nov. 8, 2016, General Election, Official Voter Registration and Turnout Statistics.
 3 Hickson, P. (2012). Public Utility Districts and Payment for Watershed Services: Explaining Water Users' Willingness to Pay.

• A majority of respondents were willing to pay at least \$0.50 per month on their water bill to support programs to maintain or enhance water quality.

Half or more of respondents indicated they were "definitely" willing to pay at least \$0.50 per month to support watershed protection programs that operate on private property (51%) and on US Forest Service land (50%), or to support upgrades at water treatment facilities (54%). When considering "probably" supportive responses, between 65% and 70% of respondents indicated willingness to pay at least \$0.50 per month. At \$1 per month, many respondents, but less than a majority, indicated they were "definitely" willing to pay for programs on private land (41%), US Forest Service land (42%), or at their water treatment plant (45%).

Finally, the questionnaire asked about respondents use of water and perceptions of climate change:

• Half of respondents reported that the price of water doesn't affect their use.

50% of all respondents reported that the price of water doesn't influence how much water they use. Across water providers, however, the influence of price varied, with 65% of Lake Oswego respondents indicating that the price of water doesn't affect their use, while 42% of South Fork Water Board respondents reported the same. Despite this, 71% also agreed that they may need to implement more aggressive water conservation measures, and a majority of respondents also acknowledged already installing water-saving devices (74%) and water efficient appliances (82%).

• A majority of respondents believe that climate change will threaten their water supply and quality of life.

An overwhelming majority of respondents (94%) indicated that they were knowledgeable about climate change. Many also perceive climate change as a threat to the water supply in terms of decreased snowpack (80%) and increased demand due to hotter temperatures (83%). Respondents also indicated that they believe climate change will threaten their quality of life (61%).

Section 1: Overview

The purpose of the study was to contact drinking water customers to understand their attitudes towards the watershed and levels of support for water source protection. Between March and June 2016, we conducted a survey of customers who receive their water from the Clackamas River to understand ratepayers' attitudes towards source watershed protection in Oregon's Clackamas River Watershed. This report is a summary of findings from the survey effort.

Study Area and Methods

Drinking water customers were considered eligible for the survey based upon the following criteria:

- Property falls within the water provider's service boundary.
- Property is coded single-family residential by the Oregon Tax Assessor's Office.
- Property is zoned single-family residential by Metro.

The survey was administered by mail and web to 1,200 customers. Each water district (Clackamas River Water, Lake Oswego, Sunrise Water Authority, and South Fork Water Board) had a sample population of 240. The smaller districts of Oak Lodge, Gladstone, and Estacada (OLGE) were aggregated into one survey unit with a sample population of 240. To enhance response rate, customers were contacted four times using a modified Dillman Tailored Design Method⁴. This method involved an initial postcard, followed by a paper survey packet, a reminder and "thank you" postcard, and a second round of paper surveys for initial non-respondents. As of June 30th, 2016, we received 405 valid responses: a 33.5% response rate.

Most survey questions utilized a Likert scale⁵ comprised of five anchor points - e.g., strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, and strongly disagree, or a similar set of anchors. This report primarily focuses on reporting the relative frequency (%) of responses for each question. Responses were also segmented by water provider and a Chi-Square test was performed to determine whether statistically significant deviations (alpha=0.05) in the proportions of responses existed between water provider. Questions exhibiting statistically significant variation are addressed in sections 2 through 7 by displaying responses by water provider. Where no significant deviations exist, responses are reported for all water providers together. Summary tables for all questions by water provider are reported in Appendix A.

Organization of this Report

The following six sections of this report summarize the key findings and responses by topic. Throughout this report each water district is referred to by an abbreviation:

- Clackamas River Water (CRW)
- Lake Oswego (LO)
- South Fork Water Board (SFWB)
- Sunrise Water Authority (SUN)
- Oak Lodge-Gladstone-Estacada (OLGE)

The organization of the report reflects the structure of the survey questions, where each section includes a summary of the question themes, relevant figures, and tables depicting the distribution of responses. Each section is outlined below.

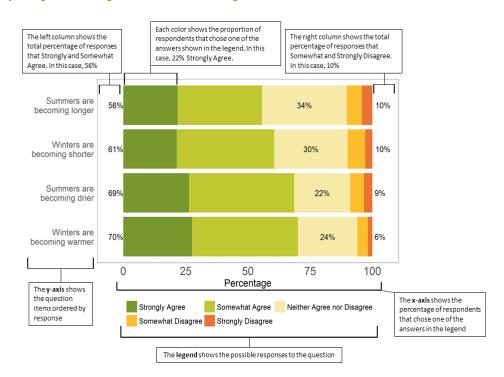
- **Section Two** includes a summary of the respondent demographics. Demographic questions included age, gender, household information, political ideology, education, and income.
- **Section Three** provides a summary of responses to a series of questions regarding customer knowledge of the watershed and its importance in their lives. We asked if they knew where their

water comes from, how often they visit the watershed, how much the watershed enhances their quality of life, and general feelings about the watershed.

- Section Four summarizes the responses from questions about respondent views on risks to watershed health and how to address those risks. We asked respondents to evaluate the risks and benefits of different management practices, how supportive customers are of water quality protection programs, and how urgent it is to develop these programs. We also asked how supportive they were of certain types of education, financial assistance, regulation, open space protection, and restoration programs. We conclude this section with trying to assess how much trust respondents place in different organizations to enact these programs and support the health of the watershed.
- Section Five is dedicated to assessing respondent willingness to pay source water protection programs. We were interested in how much respondents were willing to pay on their monthly utility bills if these activities occurred on private property or US Forest Service property. Finally, we assessed respondent willingness to pay for upgrades at existing water treatment facilities, rather than source water protection strategies.
- Section Six includes summary and response distributions in relation to respondents' use of water and how they conserve it. We asked if respondents had a yard that requires watering, how often they water in the summer, what type of watering system they use, and their attitudes towards water conservation.
- Section Seven is devoted to climate change. We asked about respondent views on climate change and its impact on water, including questions regarding how knowledgeable they were about climate change, attitudes towards climate change, the impacts of climate change locally, and their perceptions of the climate in the Pacific Northwest.
- **Appendix A** contains responses to questions, segmented by water provider.
- Appendix B contains the cover letter of the survey and mailed survey questionnaire booklet.

Interpreting Figures

This report graphically and numerically summarizes responses to questions in the Clackamas River watershed drinking water customer survey. To help understand the figures used throughout this report, we provide an example figure based upon Question 35 to aid in your interpretation (Box 1). The y-axis separates out the different response items, the legend shows the possible responses to each item, and the x-axis shows the percentage of respondents who chose each response. Respondents who answered "Strongly Agree" or "Somewhat Agree" are indicated by shades of green on the graph. Respondents who answered "Neither Agree nor Disagree" were placed in the middle of the graph and shaded yellow. Respondents who expressed "Somewhat Disagree" and "Strongly Disagree" are to the right in shades of orange.



How much do you agree or disagree with the following statements about Pacific Northwest climate?

Box 1. Interpreting Figures

Section 2: Demographics

This section describes the demographic characteristics of respondents segmented by water provider to provide a more descriptive profile of survey respondents. Where possible, to better understand how well our sample represents the population, survey respondents are compared to results from the US Census 2015 American Community Survey (ACS) for Clackamas County census tracts that overlap water provider districts⁶. Not all water districts in the survey fit neatly within US Census tract or city boundaries. This is particularly true of Oak Lodge, Gladstone, and Estacada which were aggregated into one water district due to their smaller size and demographic similarity. Differences between census data and our sample respondents may be due to the difference between the overall population and the population of water ratepayers.

Water Provider	Male	Female	Prefer not to answer
CRW (n=77)	48%	52%	0%
LO (n=85)	48%	52%	0%
SFWB (n=86)	48%	51%	1%
OLGE (n=97)	37%	61%	2%
SUN (n=68)	44%	51%	4%
Average	45%	53%	2%

Question 1 — What is your gender?

Table 1. Gender (n=413)

On average, females accounted for 53% of the survey respondents, while males accounted for 45% (Table 1). The general population of Clackamas County is 50.9% female and 49.1% male. The gender distribution is consistent with Clackamas County data, save the Oak Lodge, Gladstone, and Estacada water districts which had the largest percentage of female respondents (61%).

Age	CRW (n=76)	LO (n=82)	SFWB (n=83)	OLGE (n=94)	SUN (n=65)	Average
20-29	0%	0%	1%	2%	3%	1%
30-39	9%	5%	8%	10%	8%	8%
40-49	8%	18%	22%	14%	18%	16%
50-59	24%	20%	23%	13%	20%	20%
60-69	32%	21%	25%	35%	32%	29%
70-79	22%	23%	17%	21%	14%	20%
80+	6%	12%	4%	5%	5%	6%

Question 2 — What year were you born?

Table 2. Age of respondents (n=400)

The median age of respondents was 59 years old, with 75% of respondents aged 50 and older (Table 2). Very few respondents were in their 20s, or 80 and older. By comparison, the average age for Clackamas County is 41, with 40% aged 50 and older. The differences in age between our sample and the county average is likely due to differences in the overall population and the population of water ratepayers, who are more likely to live in heads of householdes in single family housing, and less likely to be minors or younger adults living in multi-unit apartments.

6 U.S. Census Bureau (2011). Clackamas County Profile, 2001-2015 American Community Survey 5-year estimates.

Water Provider	No	Yes
CRW (n=76)	0%	100%
LO (n=83)	6%	94%
SFWB (n=87)	2%	98%
OLGE (n=101)	3%	97%
SUN (n=69)	4%	96%
Average	3%	97%

Question 3 — Do you consider Clackamas County to be your home?

Table 3. Consider Clackamas County home (n=416)

An overwhelming majority of respondents (97%) consider Clackamas County to be their home (Table 3). It is interesting to note that 100% of CRW respondents consider Clackamas County their home.

Question 4 — Do you rent or own the home you live in?

Water Provider	Rent	Own
CRW (n=75)	3%	97%
LO (n=85)	0%	100%
SFWB (n=87)	1%	99%
OLGE (n=98)	3%	97%
SUN (n=69)	3%	97%
Average	2%	98%

Table 4. Rent or Own home (n=422)

Almost all survey respondents (98%) were homeowners and not renters (Table 4). By comparison, the owneroccupied housing unit rate for Clackamas County, according to the ACS 2011-2015 report, was 68%. During the design of our sample, we intentionally excluded multi-family apartment units to place a specific emphasis on homeowners, as they are directly responsible for paying their water utilities. Renters in our sample are likely to be renting single family houses and responsible for their own water bill.

Year Built	CRW	LO	SFWB	OLGE	SUN	Average
1890-1909	0%	0%	5%	1%	0%	1%
1910-1929	3%	3%	11%	13%	1%	6%
1930-1949	13%	4%	3%	17%	1%	8%
1950-1969	20%	23%	9%	32%	5%	18%
1970-1989	29%	44%	33%	37%	19%	33%
1990-2009	29%	35%	48%	21%	52%	37%
2010-2015	4%	4%	7%	4%	9%	6%

Question 5 — In what year was your house built?

Table 5. Age of home (n=409)

Most survey respondents (Table 5) indicated that their homes were built in 1950 or later (94%). Only 15% of homes were built before 1950. The most prominent bin for age of home is 1990-2009 (37%). However, more homes were built between 1950 and 1989 (51%), which is comparable to the 52% of homes in Clackamas County that were built between 1950 and 1989.

Property Size (Acres)	CRW	LO	SFWB	OLGE	SUN	Average
<0.2 Acre	24%	32%	42%	20%	47%	33%
0.2-0.5 Acre	33%	56%	49%	36%	45%	44%
0.5-1 Acre	26%	11%	5%	30%	7%	16%
1-2 Acre	14%	0%	2%	10%	2%	6%
2+ Acre	3%	1%	1%	4%	0%	2%

Question 6 — What is the size of the property you live on in acres?

Table 6. Size of property (n=382)

Most survey respondents' property size (Table 6) is less than 0.5 acres (77%). The most common property size is 0.2-0.5 acres (44%). Larger property sizes are evident in more rural areas such as some of the areas covered by Clackamas River Water and the Oak Lodge, Gladstone, and Estacada areas.

Question 7 — How many people live in your household including yourself?

Number of Adults	CRW	LO	SFWB	OLGE	SUN	Average
1	18%	13%	12%	15%	16%	15%
2	58%	61%	58%	63%	55%	59%
3	23%	12%	15%	12%	15%	15%
>4	1%	12%	15%	9%	13%	9%

Table 7. Number of adults living in household (n=404)

Number of Children	CRW	LO	SFWB	OLGE	SUN	Average
1	40%	33%	44%	64%	22%	37%
2	50%	56%	38%	22%	43%	40%
3	0%	11%	13%	15%	8%	8%
>4	10%	0%	6%	0%	28%	9%

Table 8. Of households reporting children, the number of children in the household (n=78)

The most common number of adults living in a household (Table 7) was two (59%). Only 24% of respondents had three or more adults living in the household. By comparison, only 40% of Clackamas County households are two person households. Of those respondents who reported having children living in their home (17%), most reported two or more children (57%).

Question 8 — Please rate whether you consider your political attitudes to be more conservative or more liberal in nature?

Water Provider	Very Liberal	Somewhat Liberal	Neither Conservative nor Liberal	Somewhat Conservative	Very Conservative
CRW (n=74)	14%	24%	32%	20%	9%
LO (n=84)	18%	39%	18%	19%	6%
SFWB (n=84)	11%	30%	31%	23%	6%
OLGE (n=96)	14%	29%	27%	22%	8%
SUN (n=66)	11%	29%	36%	14%	11%
Average	14%	30%	29%	20%	8%

Table 9. Political tendencies (n=404)

The plurality of respondents (Table 9) identified as Somewhat Liberal to Very Liberal (44%). Lake Oswego appears to be the most liberal among the water districts (51%). The Oak Lodge, Gladstone, and Estacada districts identified as the most conservative (30%). By comparison, Clackamas County voter registration in November 2016 was 36% Democrat, 31% Republican, and 33% other which is not too dissimilar for the average political leanings from survey respondents.

Water Provider	Less than \$25,000	\$25,000- \$49,999	\$50,000- \$74,999	\$75,000- \$99,999	\$100,000- \$124,999	\$125,000- \$149,999	\$150,000- \$174,999	\$175,000- \$199,999	Greater than \$200,000
CRW (n=67)	6%	16%	21%	18%	21%	6%	1%	9%	1%
LO (n=78)	1%	6%	13%	15%	6%	8%	14%	4%	32%
SFWB (n=74)	7%	9%	11%	24%	20%	9%	8%	7%	4%
OLGE (n=86)	5%	17%	20%	14%	14%	7%	7%	3%	13%
SUN (n=56)	2%	18%	16%	27%	16%	2%	13%	4%	4%
Average	4%	13%	16%	20%	15%	6%	9%	5%	11%

Question 9 — Please estimate your 2014 total household income before taxes?

Table 10. 2014 Household income (n=361)

The most common 2014 household income bin selected by all survey respondents (Table 10) was \$75,000-\$99,999; however, the modal bin varied by water provider. Nearly a third of respondents from Lake Oswego (32%) reported household income greater than \$200,000, while the most common household income bin reported for Clackamas River Water and the Oak Lodge, Gladstone, and Estacada was \$50,000-\$74,999. Only 17% of all respondents reported earning less than \$50,000, which may be a result of the education and home ownership status of our sample. By comparison, the US Census estimate of 2014 median household income for owner occupied housing in Clackamas County was approximately \$82,100, which is near the midpoint of our most commonly selected income bin.

Water Provider	Less than a High School degree	High School degree or equivalent	Some college,	Associate's degree (2 yr)	Bachelor's degree (4 yr)	Graduate or professional degree
CRW (n=76)	4%	18%	28%	13%	21%	16%
LO (n=84)	0%	1%	7%	5%	30%	57%
SFWB (n=84)	0%	13%	18%	15%	33%	20%
OLGE (n=94)	0%	10%	22%	10%	27%	32%
SUN (n=64)	0%	13%	20%	11%	38%	19%
Average	1%	11%	19%	11%	30%	29%

Question 10 — What is the highest level of school you have completed?

Table 11. Highest level of education completed (n=402)

Survey respondents were highly educated, with 59% of respondents having received a bachelor's degree or higher, and fewer than 1% having not completed high school (Table 11). By comparison, in Clackamas County, 33% of the population over age 25 has a bachelor's degree or higher. Lake Oswego maintains the highest percentage of respondents (57%) that have a graduate or professional degree. By comparison to census data, 23% of Lake Oswego residents possess a graduate degree or higher. Although a tendency towards more educated respondents is a common finding in survey research, some explanations for our findings include that our respondents were more likely to be homeowners and heads of household, both of which are associated with increased educational attainment⁷.

⁷ Segal, L. M., & Sullivan, D. G. (1998). Trends in homeownership: Race, demographics, and income. ECONOMIC PERSPECTIVES-FEDERAL RESERVE BANK OF CHICAGO, 22, 53-72. See also Dynarski, S. M. (2016). The dividing line between haves and have-nots in home ownership: Education, not student debt. Evidence Speaks Reports, 1, 17.

Section 3: Watershed Use and Its Importance

A series of questions regarding customers' knowledge of the watershed and its importance asked if respondents knew where their water came from, how often they visited the watershed, how much the watershed enhanced their quality of life, and about their feelings towards the watershed.

Knowledge of Water Source

Question 11 — Prior to receiving this survey, did you know that your tap water comes from the Clackamas River?

Responses to the question of whether or not customers knew their water source (Figure 1) reveal that over 40% of Lake Oswego and 38% of Sunrise Water Authority respondents did not know their water comes from the Clackamas River prior to reading the questionnaire. An overwhelming majority (more than 80%) of customers from South Fork Water Board, Clackamas River Water, Oak Lodge, Gladstone, and Estacada know that their water comes from the Clackamas River. The lack of knowledge about the water source for Lake Oswego and Sunrise Water Authority customers may be associated with the fact that both water providers switched their source water from Bull Run to the Clackamas River in recent history. This may offer an opportunity to engage customers from those districts to increase the education about the importance of the Clackamas River to their lives.

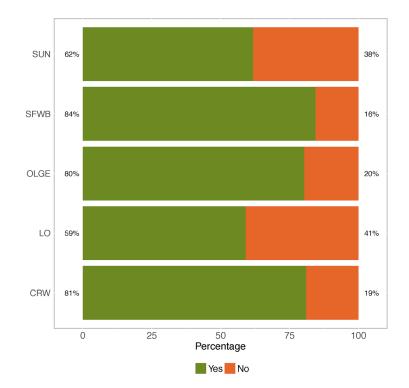


Figure 1. [Q11] Customer knowledge of the Clackamas River as their water source (n=432)

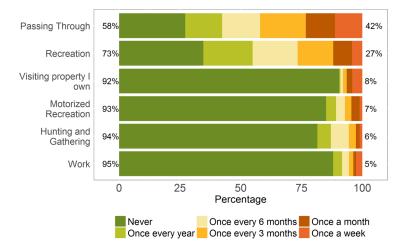
Water Provider	Yes	No
CRW	81%	19%
LO	59%	41%
SFWB	84%	16%
OLGE	80%	20%
SUN	62%	38%
Average	73%	27%

Table 12. Knowledge of water source (n=432)

Watershed Use

Question 12 — In the past year, how often did you visit natural areas in the Clackamas River Watershed for the following...

In order to understand the importance of the watershed to its customers we asked respondents how they used the watershed and how frequently they used it. Customers revealed (Figure 2) that their primary uses were for passing through (72%) and recreation (65%), with frequency of use ranging from "once every year" to "once a week". The third most common activity was visiting the watershed for hunting or gather activities, but these activities were relatively infrequent with only 6% of respondents indicating they visit the watershed for hunting or gathering activities more than once every three months. Recreation and motorized recreation exhibited the most variation between districts with nearly a third of respondents from CRW (32%) and OLGE (32%) visiting the watershed at least every three months for recreation. In contrast 14% of OLGE and 11% of CRW respondents reported visiting the watershed at least every three months for motorized recreation. Respondents from the OLGE water providers were the most frequent users of the watershed, which likely reflects the districts' proximity to the recreation areas in the watershed. Understanding what people use the watershed for and how frequently they visit provides valuable insight regarding the watershed's importance to people. If customers can be encouraged to spend more time enjoying the natural areas of the watershed perhaps it will deepen their appreciation, and in turn, support for watershed protection programs.



Category	Water Provider	Never	Once Every Year	Once Every 6 Months	Once every 3 months	Once a Month	Once a Week
	CRW (n=48)	21%	15%	19%	31%	6%	8%
	LO (n=64)	34%	19%	20%	8%	9%	9%
	SFWB (n=47)	38%	11%	11%	19%	15%	6%
	OLGE (n=68)	16%	15%	15%	22%	12%	21%
Passing	SUN (n=49)	29%	16%	12%	16%	18%	8%
Through	Average	28%	15%	15%	19%	12%	11%

Figure 2. [Q12] Visitation and use of the Clackamas Watershed (n=269-286)

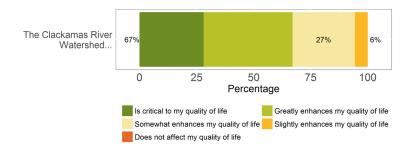
	CRW (n=49)	35%	14%	18%	16%	14%	2%
	LO (n=64)	54%	19%	16%	6%	3%	2%
	SFWB						
	(n=50)	39%	24%	12%	12%	8%	4%
	OLGE (n=72)	20%	20%	22%	20%	8%	11%
	SUN (n=54)	29%	24%	22%	18%	6%	0%
Recreation	Average	35%	24 %	18%	15%	8%	4%
necleation	CRW (n=49	91%	0%	2%	2%	2%	2%
	LO (n=57)	91%	2%	0%	4%	2%	2%
	SFWB	5170	2 /0	0 /0	4 /0	2 /0	2 /0
	(n=50)	94%	0%	0%	0%	2%	4%
	OLGE						
Visiting	(n=71)	87%	0%	0%	1%	3%	9%
property l	SUN (n=48)	92%	0%	4%	0%	2%	2%
own	Average	91%	0%	1%	1%	2%	4%
	CRW (n=47)	79%	6%	4%	0%	11%	0%
	LO (n=57)	93%	5%	2%	0%	0%	0%
	SFWB						
	(n=48)	92%	0%	4%	0%	0%	4%
	OLGE (n=70)	76%	4%	6%	10%	3%	1%
Motorized	SUN (n=47)	89%	4%	2%	0%	4%	0%
Recreation	Average	86%	4%	4%	2%	4%	1%
	CRW (n=45)	80%	7%	7%	4%	2%	0%
	LO (n=57)	96%	4%	0%	0%	0%	0%
	SFWB (n=50)	84%	4%	8%	2%	0%	2%
	OLGE						
	(n=71)	68%	6%	17%	6%	1%	3%
Hunting &	SUN (n=48)	83%	8%	2%	2%	4%	0%
Gathering	Average	82%	6%	7%	3%	2%	1%
	CRW (n=49)	86%	2%	2%	6%	0%	4%
	LO (n=57)	89%	2%	4%	4%	0%	2%
	SFWB (n=50)	86%	4%	8%	0%	2%	0%
	OLGE						
	(n=71)	89%	3%	1%	0%	3%	4%
	SUN (n=48)	90%	8%	0%	0%	0%	2%
Work	Average	88%	4%	3%	2%	1%	2%

Table 13. [Q12] Visitation and use of the Clackamas Watershed (n=269-286)

Watershed and Quality of Life

Question 13 — How much do the natural areas of the Clackamas River Watershed enhance your quality of life?

Building upon the previous question assessing how customers used the watershed and how frequently they used it (Figure 3), we asked how the watershed enhanced customers' quality of life. Respondents indicated overwhelmingly (90%) that the Clackamas watershed enhances their quality of life. Only 10% of respondents stated that the watershed did not enhance their quality of life. It is important to note that 60% of respondents felt that the watershed greatly or critically enhanced their quality of life. There is a statistically significant variation among the water districts. 78% of respondents from Oak Lodge, Gladstone, and Estacada, and 60% or more of Clackamas River Water and South Fork Water Board expressed that the watershed "Greatly Enhances" or is "Critical" to their quality of life. In contrast, 20% of Lake Oswego respondents reported that the Clackamas River watershed did not affect their quality of life.



N	Water Provider	Critical	Greatly enhances	Somewhat enhances	Slightly enhances	Does not affect
	CRW (n=78)	19%	41%	22%	8%	10%
	LO (n=85)	22%	27%	27%	4%	20%
	SFWB (n=87)	29%	32%	18%	10%	10%
	OLGE (n=106)	36%	37%	20%	3%	5%
	SUN (n=67)	16%	37%	39%	1%	6%
423	Average	25%	35%	25%	5%	10%

Figure 3. [Q13]. Watershed and importance to quality of life (n=423)

Table 14. [Q13]. Watershed and importance to quality of life (n=423)

Feelings About the Clackamas Watershed

Question 14 — How much do you agree or disagree with the following statements about the Clackamas watershed...?

The following questions (Figure 4) center on the personal importance of the watershed to respondents. These questions have been designed to understand a customer's "sense of place." Sense of place has emerged in the literature as a critical factor in determining the success of locally-based payment for watershed services programs, specifically source water protection programs⁸. Although 38% of respondents indicated that the watershed "is the best place for me to do the outdoor things I enjoy", and equal number indicated that they "would enjoy the activities I do there just as well in another place" (38%). All of the place attachment questions exhibit some statistically significant variation. 47% of respondents from CRW and OLGE reported that they strongly or somewhat agree with the statement that "it is the best place for me to do the outdoor

8 Lurie, S., Bennett, D. E., Duncan, S., Gosnell, H., Hunter, M. L., Morzillo, A. T., ... & White, E. M. (2013). PES marketplace development at the local scale: The Eugene Water and Electric Board as a local watershed services marketplace driver. Ecosystem Services, 6, 93-103. things I enjoy." In contrast only 17% of Lake Oswego respondents reported the same. If use and visitation can be encouraged it may foster a stronger sense of place attachment.

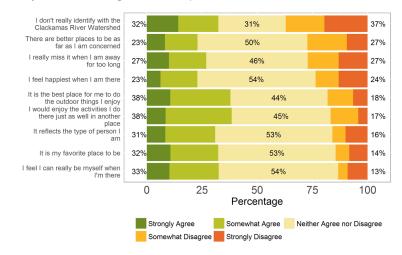


Figure 4. [Q14]. Feelings about the Clackamas Watershed (n=414-429)

	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Strongly Disagree
	CRW (n=77)	8%	26%	48%	12%	6%
I don't really	LO (n=79)	8%	33%	47%	11%	1%
identify	SFWB (n=87)	13%	33%	38%	14%	2%
with the Clackamas	OLGE (n=104)	10%	25%	45%	13%	7%
River	SUN (n=68)	4%	29%	50%	12%	4%
Watershed	Average	8%	29%	46%	12%	4%
	CRW (n=73)	11%	12%	41%	27%	8%
	LO (n=78)	12%	14%	62%	12%	1%
There are	SFWB (n=83)	8%	10%	54%	20%	7%
better places to be as	OLGE (n=102)	4%	18%	41%	21%	17%
far as I am	SUN (n=69)	7%	19%	52%	9%	13%
concerned	Average	8%	15%	50%	18%	9%
	CRW (n=75)	8%	19%	57%	5%	11%
	LO (n=80)	4%	14%	49%	20%	14%
	SFWB (n=84)	1%	18%	58%	8%	14%
I really miss it when I am	OLGE (n=103)	14%	18%	44%	11%	14%
away for too	SUN (n=69)	3%	14%	64%	7%	12%
long	Average	6%	17%	54%	10%	13%
	CRW (n=76)	8%	20%	37%	16%	20%
	LO (n=83)	29%	24%	22%	14%	11%
	SFWB (n=88)	15%	15%	40%	15%	16%
l feel happiest	OLGE (n=104)	10%	13%	24%	22%	31%
when I am	SUN (n=69)	9%	20%	32%	19%	20%
there	Average	14%	18%	31%	17%	20%

	CRW (n=76)	17%	30%	43%	5%	4%
	LO (n=81)	5%	12%	54%	14%	15%
It is the best	SFWB (n=86)	7%	36%	38%	15%	3%
place for me to do	OLGE (n=104)	16%	31%	35%	13%	5%
the outdoor	SUN (n=69)	7%	23%	55%	9%	6%
things I enjoy	Average	11%	27%	45%	11%	7%
	CRW (n=75)	8%	27%	48%	3%	15%
	LO (n=79)	0%	18%	63%	8%	11%
I would enjoy	SFWB (n=85)	12%	21%	53%	4%	11%
the activities I do there	DLGE (n=103)	15%	25%	45%	9%	7%
just as well in	SUN (n=69)	6%	19%	62%	7%	6%
another place	Average	8%	22%	54%	6%	10%
	CRW (n=74)	8%	24%	59%	1%	7%
	LO (n=81)	2%	20%	60%	5%	12%
	SFWB (n=85)	7%	28%	51%	7%	7%
It reflects	DLGE (n=103)	20%	22%	44%	4%	10%
the type of	SUN (n=69)	12%	16%	61%	4%	7%
person I am	Average	10%	22%	55%	4%	9%
	CRW (n=76)	13%	24%	49%	7%	8%
	LO (n=79)	4%	13%	58%	10%	15%
	SFWB (n=84)	8%	26%	57%	5%	4%
lt is my	OLGE (n=105)	19%	21%	49%	5%	7%
favorite place	SUN (n=68)	7%	24%	54%	6%	9%
to be	Average	10%	21%	53%	6%	8%
	CRW (n=75)	15%	21%	47%	7%	11%
	LO (n=80)	4%	14%	45%	20%	18%
	SFWB (n=85)	5%	19%	46%	16%	14%
I feel I can	OLGE (n=102)	19%	20%	36%	15%	11%
really be myself when	SUN (n=69)	7%	10%	59%	13%	10%
I'm there	Average	10%	17%	47%	14%	13%

Table 15. [Q14]. Feelings about the Clackamas Watershed (n=414-429)

Section 4: Watershed Health

The survey included a series of questions regarding respondent views on risks to watershed health and how to address those risks. We asked what management practices pose greater benefits or risk to society and water quality, how supportive they are of water quality protection programs, and how urgent it is to develop these programs. We also asked how supportive they were of certain types of education, financial assistance, restriction, open space protection, and restoration programs. We conclude this section with trying to assess how much trust respondents place in different organizations to enact these programs and to support the health of the watershed.

Risks to Society and Water Quality

Question 15 — To what extent do you believe the following offer greater benefits or greater risks to society and water quality?

We were interested in respondents' perceptions of risks and benefits to society and water quality based on a list of potential activities. Understanding perceived risk may illuminate respondents' reasoning behind supporting or not supporting watershed protection. Responses are similar across the water districts. Respondents indicated (Figure 5) that the three activities where the "benefits outweigh the risks" are thinning forests to prevent wildfire (55%), generating electricity from dams (45%), withdrawing water for domestic uses (44%), and the three activities where "risks outweigh benefits" are subdividing agricultural or forestry land (70%), expanding urban areas in the watershed (70%), and the use of pesticides and fertilizer (69%).

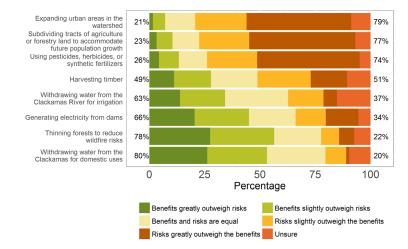


Figure 5.[Q15] Risks to society and water quality (n=354-359)

	Water Provider	Benefits greatly outweigh risk	Benefits slightly outweigh risks	Benefits and risks are equal	Risks slightly outweigh benefits	Risks greatly outweigh benefits	Unsure
	CRW (n=64)	0%	6%	16%	17%	44%	17%
	LO (n=72)	4%	7%	10%	26%	42%	11%
	SFWB (n=75)	3%	4%	13%	23%	56%	1%
Eveneding	OLGE (n=90)	0%	8%	14%	21%	50%	7%
Expanding urban areas in	SUN (n=57)	0%	0%	16%	30%	46%	9%
the watershed	Average	1%	5%	14%	23%	47%	9%

Subdividing	CRW (n=64)	3%	13%	6%	17%	50%	11%
tracts of	LO (n=72)	4%	8%	10%	31%	38%	10%
agriculture or forestry land to	SFWB (n=75)	4%	5%	11%	25%	51%	4%
accommodate	OLGE (n=87)	3%	7%	13%	18%	55%	3%
population	SUN (n=57)	2%	0%	23%	25%	44%	7%
growth	Average	3%	7%	12%	23%	47%	7%
	CRW (n=64)	3%	13%	8%	33%	34%	9%
	LO (n=73)	4%	7%	11%	21%	55%	3%
	SFWB (n=75)	4%	5%	8%	29%	48%	5%
Using pesticides, herbicides,	OLGE (n=89)	7%	11%	15%	17%	46%	4%
or synthetic	SUN (n=57)	2%	9%	25%	14%	47%	4%
fertilizers	Average	4%	9%	13%	23%	46%	5%
	CRW (n=65)	8%	17%	25%	20%	15%	15%
	LO (n=72)	10%	15%	19%	26%	17%	13%
	SFWB (n=73)	5%	15%	23%	30%	19%	7%
	OLGE (n=90)	17%	20%	17%	21%	19%	7%
Harvesting	SUN (n=57)	12%	16%	23%	25%	11%	14%
timber	Average	10%	17%	21%	24%	16%	11%
	CRW (n=64)	20%	17%	28%	11%	5%	19%
	LO (n=72)	8%	22%	26%	15%	8%	19%
	SFWB (n=75)	13%	20%	32%	15%	4%	16%
Withdrawing water from	OLGE	470/	2004	220/	2004	0.01	44.07
the Clackamas	(n=90)	17%	20%	23%	20%	9%	11%
River for	SUN (n=58)	9%	24%	36%	14%	3%	14%
irrigation	Average	13%	21%	29%	15%	6%	16%
	CRW (n=64)	23%	30%	16%	13%	11%	8%
	LO (n=71)	18%	18%	27%	14%	15%	7%
	SFWB (n=75)	19%	29%	17%	15%	16%	4%
	OLGE (n=89)	24%	24%	16%	13%	20%	3%
Generating	SUN (n=58)	16%	24%	31%	12%	10%	7%
electricity from dams	Average	20%	24 %	21%	12 %	15%	6%
	CRW (n=64)	20%	34%	21%	3%	5%	9%
	LO (n=71)	31%	27%	17%	7%	8%	10%
	SFWB (n=75)	20%	33%	28%	8%	7%	4%
	OLGE	2070	0/ 00	2070	0 /0	/ /0	4 /0
Thinning	(n=90)	37%	22%	18%	13%	6%	4%
forests to reduce wildfire	SUN (n=58)	17%	28%	26%	9%	9%	12%
risks	Average	26%	29%	22%	8%	7%	8%
	-						

	CRW (n=64)	20%	17%	28%	11%	5%	19%
	LO (n=70)	8%	22%	26%	15%	8%	19%
	SFWB (n=75)	13%	20%	32%	15%	4%	16%
Withdrawing water from	OLGE (n=89)	17%	20%	23%	20%	9%	11%
the Clackamas for domestic	SUN (n=56)	9%	24%	36%	14%	3%	14%
uses	Average	13%	21%	29%	15%	6%	16%

Table 16. [Q15] Risks to society and water quality (n=354-359)

Support for Water Quality Protection or Enhancement

Question 16 — In general, how supportive or unsupportive are you of programs that aim to protect or enhance drinking water quality in the Clackamas River Watershed?

Customers are overwhelmingly supportive (Table 6) of water quality protection and enhancement programs (89%). Only 10% indicated a neutral position, and fewer than 1% of respondents were unsupportive. Given the overwhelming support, it will be important to conduct outreach programs to determine which types of programs water customers favor.

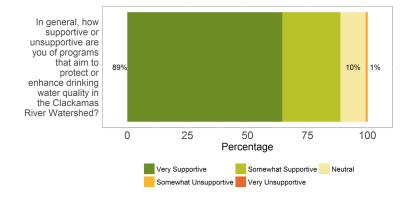


Figure 6.[Q16] Support for water quality protection or enhancement (n=363)

Very Supportive	Somewhat Supportive		Somewhat Unsupportive	Very Unsupportive
65%	24%	11%	0%	0%

Table 17. [Q16] Support for water quality protection or enhancement (n=363)

Urgency for Water Quality Protection or Enhancement

Question 17 — How urgent do you think it is to develop programs that protect or enhance drinking water quality in the Clackamas River Watershed?

In addition to the level of support for watershed protection programs, we asked if there was also an associated sense of urgency. In contrast to the strong support for watershed protection programs, 50% of respondents seem to feel (Figure 7) that the need for water quality protection programs less than very urgent. Only 18% of respondents were unsure, and 5% felt that the development of water quality protection and enhancement programs was not very urgent.

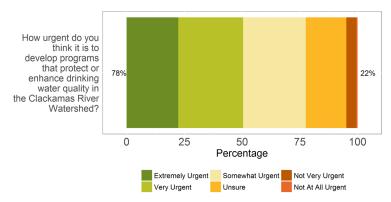


Figure 7. [Q17] Urgency for water quality protection or enhancement (n=362)

Extremely Urgent		Somewhat Urgent		Not Very Urgent	Not At All Urgent
22%	28%	27%	18%	5%	0%

Table 18. [Q17] Urgency for water quality protection or enhancement (n=362)

Support for Education Programs

Question 18 — How supportive or unsupportive would you be of establishing or enhancing the following types of education programs about watershed stewardship?

Education is an important component of promoting watershed stewardship. Respondents are generally supportive of all proposed programs (Figure 8), with more respondents unsure or unsupportive of community education programs about watershed protection (22%). Nearly half of respondents (48%) expressed that they were "Very Supportive" of a pesticide stewardship program, which echoes the earlier result highlighting customers' perceived risks of pesticide and herbicide use. Technical assistance to farmers and pesticide stewardship were the most overall supported programs at 88% and 86%, respectively.

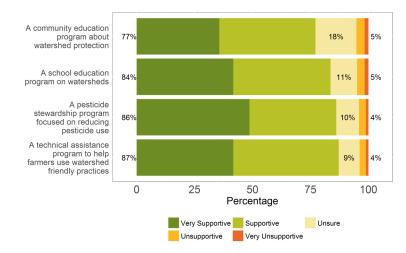


Figure 8. [Q18] Support for education programs (n=367-368)

Education Program	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
A technical assistance program to help farmers use watershed friendly practices	41%	47%	9%	3%	1%
A pesticide stewardship program focused on reducing pesticide use	48%	38%	10%	3%	1%
A community education program about watershed protection	35%	43%	17%	3%	2%
A school education program on watersheds	41%	43%	12%	3%	1%
Average	41%	43%	12%	3%	1%

Table 19. [Q18] Support for education programs (n=367-368)

Support for Financial Assistance Programs

Question 19 — How supportive or unsupportive would you be of establishing or enhancing the following types of financial assistance programs for agricultural, forest, and residential landowners in the watershed, assuming they are well-designed and managed by a trustworthy organization?

Financial assistance to landowners for watershed protection is a common source water protection strategy. Respondents are generally supportive (Figure 9) of grant programs for landowners to do watershed restoration (71%), fix failing septic systems (68%), adopt watershed friendly practices (68%), and maintain streamside forests (61%). Respondents tended to be the most unsure (27%) of grants to landowners for maintaining streamside forests.

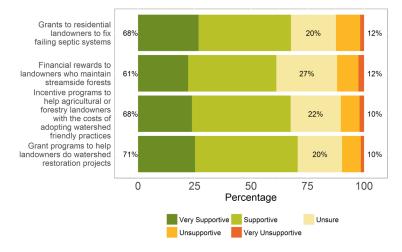


Figure 9. [Q19] Support for financial assistance programs (n=352-354)

Assistance Programs	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
Grant programs to help landowners do watershed restoration projects	24%	45%	21%	8%	1%
Grants to residential landowners to fix failing septic systems	25%	41%	21%	11%	2%
Financial rewards to landowners who maintain streamside forests	21%	39%	28%	10%	3%
Incentive programs to help agricultural or forestry landowners with the costs of adopting watershed friendly practices	22%	44%	23%	8%	2%
Average	23%	42%	23%	9%	2%

Table 20. [Q19] Support for financial assistance programs (n=352-354)

Support for Restrictions

Question 20 — How supportive or unsupportive would you be of the following types of restrictions, assuming they are well-designed and enforced?

Generally speaking, respondents were supportive of restrictions designed to maintain watershed health (Figure 10). The only question where responses varied significantly between the districts was the restriction of residential development in ecologically important areas. Requiring the maintenance of vegetation near streams garnered the lowest level of support with 63% of respondents "Very Supportive" and "Supportive". This category also presented the most unsure responses (27%). The highest support (82%) was for programs reducing the amount of pavement in residential developments. The second most supported restriction was restricting new septic systems in ecologically important areas (79%).

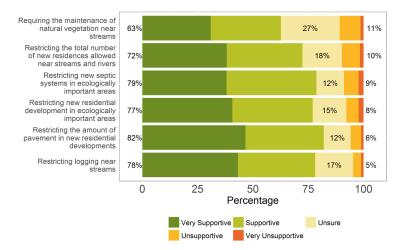


Figure 10. [Q20] Support for restrictions (n=351-354)

	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
Requiring the maintenance of natural vegetation near streams	31%	32%	27%	9%	1%
Restricting the total number of new residences allowed near streams and rivers	38%	34%	18%	8%	2%
Restricting new septic systems in ecologically important areas	38%	42%	12%	6%	2%
Restricting new residential development in ecologically important areas	40%	37%	16%	6%	2%
Restricting the amount of pavement in new residential developments	46%	36%	12%	5%	1%
Restricting logging near streams	43%	35%	17%	3%	1%

Average

Table 21. [Q20] Support for restrictions (n=351-354)

Support for Open Space Protections

Question 21 — How supportive or unsupportive would you be of the following types of open space protections, assuming they are done with willing landowners and managed by a trustworthy organization?

Customers showed support (Figure 11) for open space protections, particularly creating additional parks (72%) and buying lands that are ecologically important for conservation (71%). Responses varied significantly between the water districts on support for rewarding landowners financially for limiting residential development of farm and forest land (see Table 22, next page). Lake Oswego was most supportive of rewarding landowners for limiting development (57%) while respondents from Sunrise Water Authority were least supportive (33%). Rewarding landowners for limiting development also garnered the most unsure responses (32%), and exhibited relative low support (49%) compared to the other open space protections.

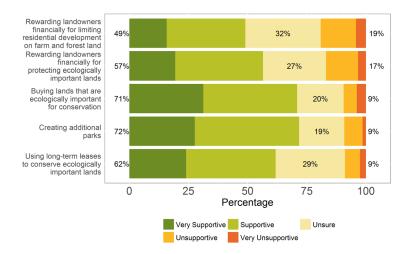


Figure 11. [Q21] Support for open space protections (n=353-354)

	Water Provider	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
	CRW (n=65)	12%	43%	25%	15%	5%
	LO (n=71)	13%	44%	27%	15%	1%
	SFWB (n=74)	16%	26%	35%	20%	3%
Rewarding landowners financially for limiting	OLGE (n=85)	22%	28%	29%	12%	8%
residential development on	SUN (n=58)	12%	21%	50%	14%	3%
farm and forest land	Average	15%	32%	33%	15%	4%
	CRW (n=65)	14%	51%	18%	14%	3%
	LO (n=71)	18%	41%	27%	14%	0%
	SFWB (n=74)	16%	30%	35%	16%	3%
Rewarding landowners	OLGE (n=86)	28%	33%	23%	9%	7%
financially for protecting	SUN (n=58)	16%	33%	33%	16%	3%
ecologically important lands	Average	18%	37%	27%	14%	3%
	CRW (n=65)	32%	37%	20%	9%	2%
	LO (n=71)	31%	45%	21%	3%	0%
	SFWB (n=74)	34%	36%	16%	7%	7%
Buying lands that are	OLGE (n=85)	34%	33%	22%	5%	6%
ecologically important for	SUN (n=58)	21%	52%	19%	3%	5%
conservation	Average	30%	41%	20%	5%	4%
	CRW (n=65)	22%	52%	15%	11%	0%
	LO (n=70)	26%	47%	19%	9%	0%
	SFWB (n=74)	36%	36%	19%	8%	0%
	OLGE (n=86)	27%	41%	21%	6%	6%
	SUN (n=58)	26%	47%	21%	7%	0%
Creating additional parks	Average	27%	45%	19%	8%	1%
	CRW (n=65)	22%	42%	31%	5%	2%
	LO (n=71)	23%	49%	23%	6%	0%
	SFWB (n=74)	28%	32%	28%	4%	7%
	OLGE (n=86)	28%	29%	33%	8%	2%
Using long-term leases to conserve ecologically	SUN (n=58)	16%	40%	33%	10%	2%
important lands	Average	23%	38%	29%	7%	2%

Table 22. [Q21] Support for open space protections (n=353-354)

Riparian Buffers

Question 22 — To protect water quality, natural resource managers often recommend a natural or forested area along streams and rivers called a riparian buffer. In general, for the Clackamas River, do you think the following buffers are too small, too big, or just about right?

Riparian buffers are often an important element in the toolkit of a source water protection program. When asked questions regarding the appropriate size of riparian buffers (Figure 12), the most common "Just about right" response was a 100-foot riparian buffer (34%). Fewer than 10% of respondents indicated that buffers of less than 10-feet were appropriate, and 25% of respondents indicated that up to 200-feet would be appropriate. It is worth noting that between a quarter and a third of all respondents indicated they were unsure at all buffer distances, which is likely reflects respondents' lack of familiarity with riparian buffers or the implications of establishing them.

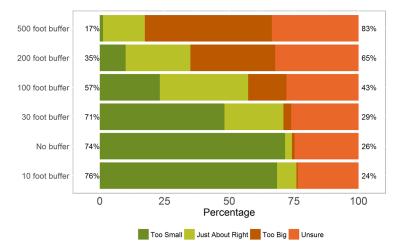


Figure 12. [Q22] Support for riparian buffers (n=392-400)

Buffer	Too Small	Just About Right	Too Big	Unsure
No buffer	71%	2%	1%	25%
10 foot buffer	69%	7%	0%	24%
30 foot buffer	48%	23%	2%	27%
100 foot buffer	22%	34%	14%	29%
200 foot buffer	10%	25%	32%	33%
500 foot buffer	1%	16%	48%	34%
Average	37%	18%	16%	29%

Table 23. [Q22] Support for riparian buffers (n=392-400)

Trust

Question 23 — "Programs and activities to maintain water quality in the Clackamas River could be implemented by a variety of agencies or organizations. How much do you trust the following types of agencies and organizations to support the health of the Clackamas River Watershed?

Trust is an important element in any relationship and respondent trust of diffferent agecencies, organizations, and stakeholders varied (Figure 13). Urbanites who use the watershed were the least trusted group, with only 36% of respondents reporting trust that this group of users were trusted to support the health of the watershed. In contrast, the Clackamas River Water Providers and the Clackamas County Soil and Water Conservation District were the most trusted organizations, with 75% and 78% of respondents indicating some trust, respectively. Trust in private landowners in the watershed was also relatively low (45%). The only question where responses varied significantly between the water districts was trust in the Federal government. Lake Oswego (44%) reported moderate to high trust in the federal government, while Sunrise Water Authority (54%) and Clackamas River Water (51%) reported not much to no trust in the federal government.

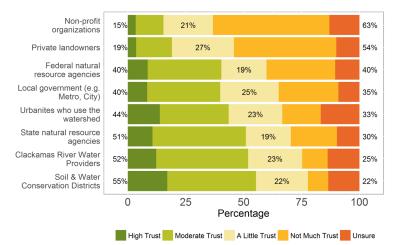


Figure 13.	[Q23] Trust (n=407-414)	

Organization	Water Provider	High Trust	Moderate Trust	A Little Trust	Not Much Trust	Unsure
	CRW (n=75)	4%	9%	23%	48%	16%
	LO (n=82)	5%	10%	24%	51%	10%
	SFWB (n=83)	2%	12%	24%	42%	19%
	OLGE (n=101)	3%	13%	14%	60%	10%
Urban residents who use the	SUN (n=67)	3%	18%	21%	46%	12%
watershed	Average	3%	12%	21%	50%	13%
	CRW (n=76)	3%	18%	26%	43%	9%
	LO (n=83)	5%	11%	28%	45%	12%
	SFWB (n=84)	4%	15%	25%	40%	15%
	OLGE (n=102)	5%	14%	28%	45%	8%
	SUN (n=67)	0%	19%	24%	51%	6%
Private landowners	Average	3%	16%	26%	45%	10%

Organization	Water Provider	High Trust	Moderate Trust	A Little Trust	Not Much Trust	Unsure
- Organization	CRW (N=76)	11%	25%	25%	29%	11%
	LO (n=82)	16%	28%	22%	23%	11%
	SFWB (n=85)	1%	36%	21%	24%	18%
	OLGE (n=101)	10%	32%	17%	36%	6%
	SUN (n=68)	4%	35%	13%	38%	9%
Federal natural resource agencies	Average	8%	31%	20%	30%	11%
	CRW (n=76)	12%	26%	25%	28%	9%
	LO (n=80)	5%	33%	25%	26%	11%
	SFWB (n=84)	6%	35%	26%	21%	12%
	OLGE (n=102)	9%	28%	27%	28%	7%
	SUN (n=68)	10%	34%	22%	26%	7%
Local government (e.g. Metro)	Average	8%	31%	25%	26%	9%
	CRW (n=76)	14%	20%	32%	16%	18%
	LO (n=82)	16%	37%	20%	9%	20%
	SFWB (n=85)	14%	28%	24%	18%	16%
	OLGE (n=101)	9%	34%	24%	21%	13%
	SUN (n=67)	18%	28%	16%	19%	18%
Non-profit Organizations	Average	14%	29%	23%	16%	17%
	CRW (n=75)	16%	35%	20%	19%	11%
	LO (n=82)	11%	40%	22%	16%	11%
	SFWB (n=86)	7%	45%	13%	21%	14%
	OLGE (n=102)	12%	34%	25%	23%	6%
	SUN (n=68)	7%	46%	18%	21%	9%
State natural resource agencies	Average	11%	40%	20%	20%	10%
	CRW (n=76)	16%	33%	29%	7%	16%
	LO (n=78)	10%	40%	21%	14%	15%
	SFWB (n=85)	11%	41%	24%	6%	19%
	OLGE (n=100)	13%	38%	22%	18%	9%
	SUN (n=68)	12%	47%	19%	10%	12%
Clackamas River Water Providers	Average	12%	40%	23%	11%	14%
	CRW (n=76)	16%	39%	24%	7%	14%
	LO (n=83)	19%	39%	17%	7%	18%
	SFWB (n=85)	18%	41%	19%	7%	15%
	OLGE (n=102)	15%	36%	27%	12%	10%
Soil and Water Conservation	SUN (n=68)	18%	34%	26%	10%	12%
Districts	Average	17%	38%	23%	9%	14%

Table 24. [Q23] Trust (n=407-414)

Section 5: Investing in Source Watershed Protection

We asked a series of questions regarding respondent willingness to pay for in source water protection. Source water protection programs can have a variety of measures, including but not limited to: paying landowners to maintain buffers around streams, planting native trees and plants, providing assistance to landowners who adopt new practices, and delivering education programs. We were interested in how much respondents were willing to pay per month if these activities occurred on private property or US Forest Service property. We also asked if respondents were willing to pay for upgrades at existing water treatment facilities.

Willingness to Support Source Water Protection on Private Property

Question 24 —How much are you willing to pay to support source water protection programs if it meant funding water quality projects on land owned by willing private property owners?

When respondents were asked if they were willing to pay to support source water protection on private property (Figure 14), 60% indicated they were "Definitely Yes" or "Probably Yes" willing to pay up to \$1 per month; however, willingness to pay declines after the cost increases beyond \$1 per month (and 66% indicated the same at \$0.50 per month). Support for these programs on private land stand in contrast to the previous question regarding trust in private landowners. Almost a third (30%) of respondents were not willing to pay at least \$0.01 per month indicating likely opposition rather than price sensitivity.

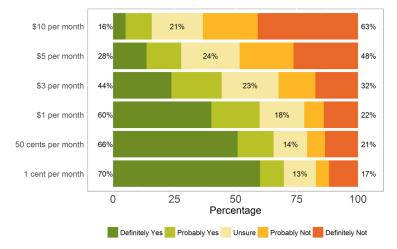


Figure 14. [Q24] Support for source water protection on private property (n=383-394)

Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
60%	10%	13%	5%	12%
51%	14%	13%	8%	13%
41%	19%	18%	8%	14%
24%	20%	23%	15%	17%
14%	14%	24%	23%	26%
5%	11%	20%	23%	41%
	60% 51% 41% 24% 14%	60% 10% 51% 14% 41% 19% 24% 20% 14% 14%	60% 10% 13% 51% 14% 13% 41% 19% 18% 24% 20% 23% 14% 14% 24%	60% 10% 13% 5% 51% 14% 13% 8% 41% 19% 18% 8% 24% 20% 23% 15% 14% 14% 24% 23%

Table 25. [Q24] Support for source water protection on private property (n=383-394)

Willingness to Support Source Water Protection on US Forest Service Property

Question 25 — How much are you willing to pay to support source water protection if it meant funding water quality projects on US Forest Service property?

Similar results were observed when asked of their willingness to pay for source water protection (Table 15) on US Forest Service property (the largest landowner in the watershed). "Definitely yes" and "Probably yes" responses were over 60% and declined after \$1 per month.

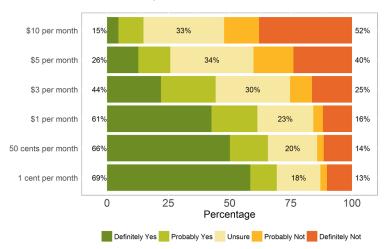


Figure 15. [Q25] Support for source water protection on US Forest Service property (n=357-373)

Amount of Support	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
1 cent per month	58%	11%	18%	3%	10%
50 cents per month	50%	16%	20%	3%	11%
\$1 per month	42%	19%	23%	4%	12%
\$3 per month	22%	22%	31%	9%	16%
\$5 per month	13%	13%	34%	17%	23%
\$10 per month	11%	3%	19%	13%	54%

Table 26. [Q25] Support for source water protection on US Forest Service property (n=357-373)

Willingness to Support Facility Upgrades at Water Treatment Plants

Question 26 — How much are you willing to pay to support facility upgrades and new technology at your water provider's treatment plant?

In this question, we intended to capture respondent attitudes towards the notion of green vs. grey infrastructure. Are source water protection programs that focus on watershed management by pursuing ecological restoration and other "green" methods to manage water quality held in higher regard? Or do respondents prefer treatment plant technology (grey) to provide the drinking water solutions? Similar to the results to the two previous questions regarding support for source water protection (Figure 16), respondent support is 64% and declines when the cost is greater than \$1 per month. Whether the slightly higher willingness to pay (3% to 4%) for facility upgrades at a water treatment plant are represents a meaningful difference in respondent preferences is unclear. Results could be due to respondent unfamiliarity with "green" water quality projects on private and federal land, or could be due to appearance of more tangible and concrete options represented by technological facility upgrades.

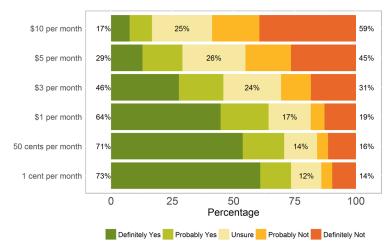


Figure 16. [Q26] Support for upgrades at water treatment facility (n=357-373)

Amount of Support	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
1 cent per month	61%	13%	13%	4%	10%
50 cents per month	54%	17%	14%	4%	11%
\$1 per month	45%	20%	17%	6%	12%
\$3 per month	28%	18%	24%	12%	18%
\$5 per month	13%	16%	25%	19%	26%
\$10 per month	8%	9%	24%	20%	39%

Table 27. [Q26] Support for upgrades at water treatment facility (n=357-373)

Section 6: Water Use and Conservation

We asked respondents about their use and conservation of water. Understanding respondents' current uses and needs for water will enable water resource managers to better plan for periods when demand is high and supply is low. We asked respondents if they had a yard which requires watering, how often they water in the summer, what type of watering system they use, and about their attitudes towards water conservation.

Yard Watering

Question 27 — Do you have a yard or outdoor area that requires watering to keep vegetation alive?

When asked if customers have a yard or outdoor area which requires watering, 94% said "Yes." Only 6% of respondents do not have lawns which require watering.

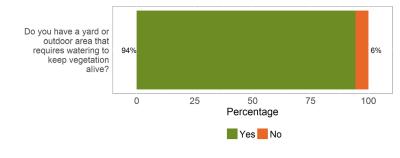


Figure 17. [Q27] Yard watering (n=419)

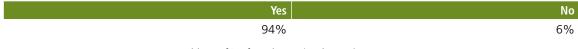


Table 28. [Q27] Yard watering (n=419)

Watering Frequency

Question 28 — During the summer, how often do you typically water your outdoor vegetation, including lawn?

When asked about their summer yard watering behavior (Figure 18), the most frequent outdoor watering behavior is 2-3 times a week (44%), followed by every other day (19%). Daily watering (11%) is not as prominent.

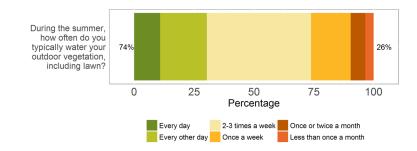


Figure 18. [Q28] Watering Frequency (n=399)

Every day	Every other day	2-3 times a week	Once a week	Once or twice a month	
11%	19%	44%	17%	6%	3%

Table 29. [Q28] Watering Frequency (n=399)

Watering System

Question 29 — When you water your yard, including your lawn, what type of watering system do you typically use?

We asked how respondents watered their yards for those that have them. Generally, respondents were evenly split between autmatic irrigation and manual watering methods (Table 30). Less than a third reported typical use of water cans or similar methods and about a quarter reported typical use of drip or soaker methods. Other methods, including recycled household water use were reported by about 5% of respondents. Percentages do not add to 100% because respondents were allowed to select multiple methods for watering their yard. The only significant variation in watering behavior among the water districts was the use of automatic irrigation systems as evident from the relatively high reported use in Lake Oswego and Sunrise districts (>60%), and relatively lower use in Clakamas River Water and the Oak Lodge, Gladstone, and Estacada districts (<40%).

Water Provider	Automatic irrigation system	Manual sprinkler system or hose (shower, sink)	Drip irrigation or soaker hose	Watering can, jug, or container	Recycled water from houshold use	Other
CRW (n=71)	39%	56%	23%	30%	8%	6%
LO (n=79)	66%	38%	30%	29%	3%	6%
SFWB (n=84)	48%	45%	27%	30%	5%	2%
OLGE (n=96)	38%	55%	25%	26%	2%	8%
SUN (n=65)	63%	45%	18%	32%	6%	5%
Average	51%	49%	26%	30%	5%	6%
N	197	190	99	115	18	22

Table 30. [Q29] Watering System

Water Conservation

Question 30 — How much do you agree or disagree with the following statements about water conservation?

Understanding customer attitudes towards water conservation provides insight on water use, and in many cases denotes the value of water as a resource to be conserved. Respondents showed an awareness (Figure 19) of curtailment measures and drought mitigation, with 71% of respondents indicating that they "Strongly Agree" and "Agree" with communities imposing more aggressive water conservation measures during drought. Most respondents also make sure to install water-saving devices in their homes (74%) and purchase water-efficient appliances (82%). Respondents were least motivated to join a water conservation program based on knowledge of their neighbors participation (41%), or to think about water conservation daily (42%).

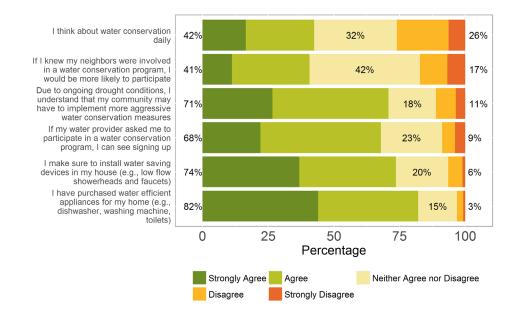


Figure 19. [Q30] Water Conservation (n=369-379)

CRW (n=66) 9% 26% 36% 21% LO (n=75) 20% 21% 27% 25% SFWB (n=79) 18% 18% 34% 24%	8%
SFWB (n=79) 18% 18% 34% 24%	70/
	7%
	6%
OLGE (n=85) 19% 34% 29% 13%	5%
I think about water conservationSUN (n=64) 14% 28% 34% 17%	6%
daily Average 16% 25% 32% 20%	6%
CRW (n=69) 13% 32% 33% 17%	4%
LO (n=74) 12% 39% 35% 8%	5%
SFWB (n=80) 10% 33% 41% 8%	9%
If I knew my neighbors were OLGE (n=86) 9% 22% 49% 10%	9%
involved in a water conservation program, I would be more likely to SUN (n=66) 14% 26% 47% 9%	5%
program, robula se more melli to participate Average 12% 30% 41% 11%	6%
CRW (n=69) 23% 42% 22% 9%	4%
LO (n=76) 28% 49% 9% 11%	4%
Due to ongoing drought conditions, SFWB (n=81) 31% 36% 21% 7%	5%
I understand that my community OLGE (n=87) 24% 52% 15% 8%	1%
may have to implement more aggressive water conservation SUN (n=66) 27% 42% 26% 2%	3%
measures Average 27% 44% 19% 7%	3%
CRW (n=69) 22% 45% 23% 10%	0%
LO (n=76) 24% 54% 17% 0%	5%
SFWB (n=80) 25% 41% 25% 4%	5%
OLGE (n=87) 18% 47% 26% 5%	3%
If my water provider asked me to participate in a water conservation SUN (n=66) 21% 42% 26% 6%	5%
program, I can see signing up Average 22% 46% 23% 5%	4%
CRW (n=69) 38% 35% 20% 6%	1%
LO (n=76) 37% 42% 16% 5%	0%
SFWB (n=80) 43% 34% 15% 8%	1%
OLGE (n=87) 39% 33% 22% 3%	2%
I make sure to install water saving devices in my house (e.g., low flow SUN (n=66) 26% 42% 27% 5%	0%
showerheads and faucets) Average 36% 37% 20% 5%	1%
CRW (n=68) 43% 35% 16% 6%	0%
LO (n=76) 51% 32% 13% 3%	1%
SFWB (n=80) 54% 31% 11% 3%	1%
I have purchased water efficient OLGE (n=86) 43% 38% 17% 0%	1%
appliances for my home (e.g., dishwasher, washing machine, SUN (n=66) 26% 56% 17% 2%	0%
toilets) Average 43% 39% 15% 3%	1%

Table 31. [Q30] Water Conservation (n=369-379)

Yard and Lawn Maintenance

Question 31 — How much do you agree or disagree with the following statements about yard and lawn maintenance?

Customer attitudes towards yard and lawn maintenance provide a snapshot of how much water they use, particularly during drought periods (Figure 20). Respondents exhibited the most agreement on the statements: "The appearance of a well-maintained neighborhood helps to reduce property crime" (65%), "A well-maintained lawn improves prestige and home value" (78%), and that "I use more water in the summer than winter" (87%). There was statistical variation between water districts regarding the statements: "I feel pressure from my neighbors to keep my yard and lawn well-maintained" LO (35%) and SUN (44%), "Where I live homeowners must have grass or some form of cover on their yards" SFWB (25%) and SUN (35%), and "Lawn and yard maintenance practices are set forth by my homeowners' associations (HOA) in newer and more developed suburban neighborhoods are more likely to have stricter lawn care rules set forth by their HOA.

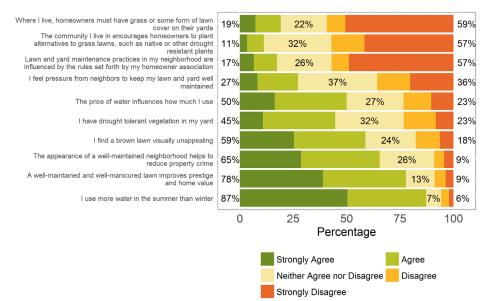


Figure 20. [Q31] Yard and Lawn Maintenance (n=370-380)

Yard and Lawn Maintenance Statements	Water Provider	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
	CRW (n=66)	3%	12%	12%	8%	65%
	LO (n=76)	9%	5%	29%	16%	41%
	SFWB (n=81)	6%	19%	19%	4%	53%
	OLGE (n=83)	7%	4%	14%	8%	66%
Where I live, homeowners must have grass or some form of lawn cover on their .	SUN (n=66)	12%	23%	33%	6%	26%
yards	Average	7%	13%	21%	8%	50%
	CRW (n=68)	3%	3%	24%	21%	50%
	LO (n=76)	7%	12%	34%	18%	29%
	SFWB (n=80)	4%	8%	29%	11%	49%
The community I live in encourages	OLGE (n=84)	2%	6%	36%	8%	48%
homeowners to plant alternatives to grass lawns, such as native or other drought	SUN (n=66)	0%	9%	35%	21%	35%
resistant plants	Average	3%	8%	32%	16%	42%

Yard and Lawn Maintenance Statements	Water Provider	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
	CRW (n=66)	2%	3%	32%	5%	59%
	LO (n=75)	12%	16%	20%	13%	39%
	SFWB (n=81)	2%	7%	30%	9%	52%
Lawn and yard maintenance practices	OLGE (n=85)	2%	5%	21%	5%	67%
in my neighborhood are influenced by the rules set forth by my homeowner	SUN (n=64)	17%	25%	22%	11%	25%
association	Average	7%	11%	25%	9%	48%
	CRW (n=69)	7%	10%	46%	14%	22%
	LO (n=75)	11%	24%	37%	13%	15%
	SFWB (n=79)	8%	19%	28%	19%	27%
	OLGE (n=88)	6%	13%	35%	22%	25%
I feel pressure from neighbors to keep my	SUN (n=66)	12%	32%	39%	8%	9%
lawn and yard well maintained	Average	9%	20%	37%	15%	20%
	CRW (n=69)	22%	29%	30%	9%	10%
	LO (n=75)	23%	40%	17%	12%	8%
	SFWB (n=81)	10%	32%	26%	17%	15%
	OLGE (n=87)	14%	31%	24%	18%	13%
The price of water influences how much	SUN (n=66)	15%	35%	38%	6%	6%
I use	Average	17%	33%	27%	12%	10%
	CRW (n=67)	15%	30%	31%	13%	10%
	LO (n=76)	8%	37%	26%	22%	7%
	SFWB (n=77)	8%	35%	31%	13%	13%
	OLGE (n=84)	12%	37%	29%	15%	7%
I have drought tolerant vegetation in my	SUN (n=66)	11%	30%	42%	12%	5%
yard	Average	11%	34%	32%	15%	8%
	CRW (n=69)	22%	25%	35%	13%	6%
	LO (n=76)	29%	37%	16%	14%	4%
	SFWB (n=80)	28%	29%	23%	15%	6%
	OLGE (n=87)	20%	33%	30%	9%	8%
	SUN (n=66)	32%	45%	14%	5%	5%
I find a brown lawn visually unappealing	Average	26%	34%	24%	11%	6%
	CRW (n=69)	36%	33%	25%	4%	1%
	LO (n=77)	29%	39%	25%	4%	4%
	SFWB (n=80)	25%	31%	34%	5%	5%
	OLGE (n=88)	24%	42%	20%	7%	7%
The appearance of a well-maintained neighborhood helps to reduce property	SUN (n=66)	35%	33%	26%	2%	5%
crime	Average	30%	36%	26%	4%	4%
	CRW (n=690	42%	38%	14%	3%	3%
	LO (n=77)	35%	43%	12%	5%	5%
	SFWB (n=80)	39%	35%	13%	10%	4%
	OLGE (n=88)	32%	36%	20%	6%	6%
A well-maintained and well-manicured	SUN (n=66)	53%	42%	5%	0%	0%
lawn improves prestige and home value	Average	40%	39%	13%	5%	4%

Yard and Lawn Maintenance Statements	Water Provider	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
	CRW (n=68)	60%	27%	6%	3%	3%
	LO (n=77)	57%	35%	6%	1%	0%
	SFWB (n=79)	38%	46%	6%	8%	3%
	OLGE (n=87)	56%	33%	5%	5%	2%
l use more water in the summer than winter	SUN (n=66)	48%	43%	6%	2%	2%
	Average	51%	35%	8%	4%	2%

Table 32. [Q31] Yard and Lawn Maintenance (n=370-380)

Section 7: Climate and Water

The Pacific Northwest region has experienced variation in weather over the last few years; the summer of 2015 (the year before this survey was administered) was the hottest on record in many places across the Pacific Northwest. Attributing that variation to climate change is beyond the scope of this report; however, we were interested in respondents' perceptions of climate change and its impact on water locally. We asked questions regarding how knowledgeable respondents were about climate change, their attitudes towards it, what impacts it may have, and about their perceptions of climate change in the Pacific Northwest.

Climate Change Knowledge

Question 32 — How knowledgeable are you about climate change?

We asked how knowledgeable respondents were about climate change. Over 94% of respondents were knowledgeable about climate change (Figure 21), with 26% reporting that they are "very knowledgeable" about climate change. Only 5% of respondents reported being "not very knowledgeable," with 2% "not at all knowledgeable."

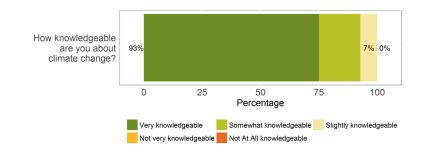


Figure 21. [Q32] Climate change knowledge (n=380)

Very knowledgeable	Somewhat knowledgeable	Slightly knowledgeable	· · · · · · · · · · · · · · · · · · ·	Not at all knowledgeable
26%	49%	19%	5%	2%

Table 33. [Q32] Climate change knowledge (n=380)

Attitudes towards Climate Change

Question 33 — Please indicate the extent to which you agree or disagree with the following statements.

We asked respondents to report their perceptions of the cause and severity of climate change (Figure 22). Respondents largely disagree (58%) with the statement that there is nothing we can do to stop climate change. The majority also disagree with the notion that climate change is not as bad as it is being portrayed (53%). Respondents overwhelmingly felt that if we do nothing, climate change will have dire consequences (75%). Climate change denial and the notion that it is not as bad as it is being portrayed produced the only significant variation in responses between the districts. LO expressed the most disagreement with the notion that climate change is not as bad as it is being portrayed (70%), followed by SFWB (54%), OLGE (51%), SUN (46%), and CRW (42%).

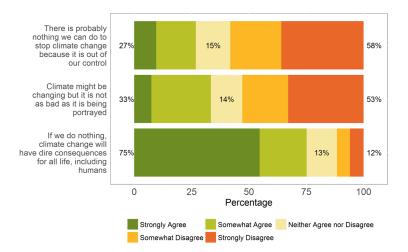


Figure 22. [Q33] Attitudes towards climate change (n=378-379)

Climate Attitudes	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	CRW (n=69)	1%	17%	22%	25%	35%
	LO (n=77)	8%	17%	8%	26%	42%
	SFWB (n=81)	14%	16%	19%	19%	33%
There is probably nothing we can do	OLGE (n=87)	14%	15%	14%	20%	38%
to stop climate change because it is	SUN (n=65)	9%	23%	15%	23%	29%
out of our control	Average	9%	18%	16%	23%	35%
	CRW (n=69)	4%	36%	17%	13%	29%
	LO (n=77)	5%	21%	4%	19%	51%
	SFWB (n=80)	9%	24%	14%	26%	28%
	OLGE (n=87)	10%	26%	11%	18%	33%
Climate might be changing but it is _	SUN (n=65)	6%	25%	23%	23%	23%
not as bad as it is being portrayed	Average	7%	26%	14%	20%	33%
	CRW (n=69)	51%	23%	16%	7%	3%
	LO (n=76)	67%	18%	5%	4%	5%
	SFWB (n=81)	49%	22%	15%	7%	6%
liferen ele medicine, elimente elemento d'	OLGE (n=87)	60%	17%	10%	5%	8%
If we do nothing, climate change will have dire consequences for all life,	SUN (n=65)	46%	22%	22%	6%	5%
including humans	Average	55%	20%	14%	6%	5%

Table 34. [Q33] Attitudes towards climate change (n=378-379)

Perceived Impacts from Climate Change

Question 34 — How much do you agree or disagree with the following statements about the impacts of climate change on water in the Clackamas River Watershed?

Continuing with the theme from previous questions, we asked respondents to rate their perceptions of climate change as a threat to water quality, supply, and their way of life (Figure 23). Respondents felt that climate change will threaten their quality of life (60%). They also felt very strongly that it will decrease water supply due to a reduction in snowpack (80%) while simultaneously increasing water demand (83%). Although 60% agreed that climate change will threaten their quality of life, only 15% agreed that climate change would threaten the way they make a living. Generally speaking, respondents showed an awareness to climate change and concern over its effects on water supply.

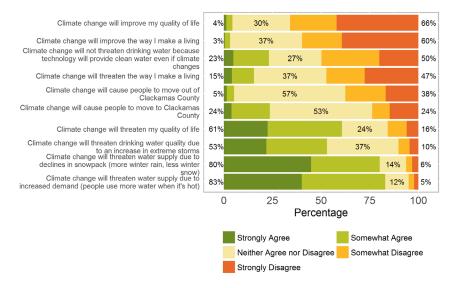


Figure 23. [Q34] Perceived impacts from climate change (n=369-375)

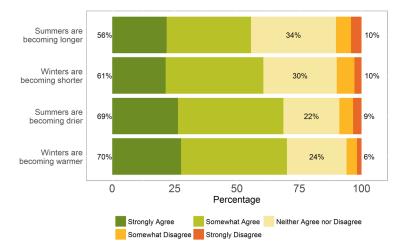
Climate Impact Statements Climate change will	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
improve my quality of life	1%	3%	30%	24%	42%
improve the way I make a living	0%	3%	37%	20%	39%
not threaten drinking water because technology will provide clean water even if climate changes	5%	18%	27%	29%	20%
threaten the way I make a living	4%	11%	38%	19%	28%
cause people to move out of Clackamas County	2%	4%	58%	20%	16%
cause people to move to Clackamas County	4%	20%	53%	9%	15%
threaten my quality of life	22%	38%	24%	9%	6%
threaten drinking water quality due to an increase in extreme storms	22%	31%	37%	5%	4%
threaten water supply due to declines in snowpack (more winter rain, less winter snow)	45%	36%	13%	3%	3%
threaten water supply due to increased demand (people use more water when it's hot)	40%	43%	12%	3%	2%

Table 35. [Q34] Perceived impacts from climate change (n=369-375)

Perceived Changes in Pacific Northwest Climate

Question 35 — How much do you agree or disagree with the following about Pacific Northwest climate?

We asked respondents about perceived long term trends in seasonal climate. The majority of respondents (Figure 24) felt that the seasons and climate in the Pacific Northwest are changing. Most agree that summers are becoming longer (56%) and drier (69%) and winters are becoming shorter (61%) and warmer (70%).



PNW climate Statements	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	CRW (n=69)	26%	23%	41%	4%	6%
	LO (n=75)	29%	31%	35%	1%	4%
	SFWB (n=79)	16%	47%	25%	5%	6%
	OLGE (n=85)	21%	34%	35%	5%	5%
Summers are	SUN (n=65)	17%	34%	35%	14%	0%
becoming longer	Average	22%	34%	34%	6%	4%
	CRW (n=69)	20%	41%	29%	9%	1%
	LO (n=75)	29%	35%	28%	4%	4%
	SFWB (n=79)	22%	41%	27%	6%	5%
Winters are	OLGE (n=87)	23%	37%	33%	5%	2%
becoming	SUN (n=65)	12%	46%	29%	12%	0%
shorter	Average	21%	40%	29%	7%	2%
	CRW (n=69)	30%	36%	23%	7%	3%
	LO (n=75)	32%	43%	21%	1%	3%
	SFWB (n=79)	23%	47%	18%	5%	8%
	OLGE (n=87)	28%	37%	29%	3%	3%
Summers are	SUN (n=65)	20%	51%	18%	11%	0%
becoming drier	Average	27%	43%	22%	5%	3%

Figure 24. [Q35] Perceived changes in Pacific Northwest Climate (n=373-375)

PNW climate Statements	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	CRW (n=69)	32%	36%	26%	6%	0%
	LO (n=76)	37%	39%	20%	1%	3%
	SFWB (n=79)	27%	46%	19%	5%	4%
	OLGE (n=87)	29%	40%	26%	2%	2%
Winters are becoming	SUN (n=65)	14%	54%	28%	5%	0%
warmer	Average	28%	43%	24%	4%	2%

Table 36. [Q35] Perceived changes in Pacific Northwest Climate (n=373-375)

Appendix A

Appendix A contains for all questions segmented by segmented by water provider.

Demographics

Question 1 — Gender

Ν	Water Provider	Male	Female	Prefer not to answer
	CRW (n=77)	48%	52%	0%
	LO (n=85)	48%	52%	0%
	SFWB (n=86)	48%	51%	1%
	OLGE (n=97)	37%	61%	2%
413	SUN (n=68)	44%	51%	4%
	Average	45%	53%	1%

Question 2 — Age

n	Age	CRW (n=76)	LO (n=82)	SFWB (n=83)	OLGE (n=94)	SUN (n=65)	Average
	20-29	0%	0%	1%	2%	3%	1%
	30-39	9%	5%	8%	10%	8%	8%
	40-49	8%	18%	22%	14%	18%	16%
	50-59	24%	20%	23%	13%	20%	20%
	60-69	32%	21%	25%	35%	32%	29%
	70-79	22%	23%	17%	21%	14%	20%
400	80+	6%	12%	4%	5%	5%	6%

Question 3 — Do you consider Clackamas County home?

N	Water Provider	No	Yes
	CRW (n=76)	0%	100%
	LO (n=83)	6%	94%
	SFWB (n=87)	2%	98%
	OLGE (n=101)	3%	97%
416	SUN (n=69)	4%	96%
	Average	3%	97%

Question 4 — Do you rent or own the home you live in?

Ν	Water Provider	Rent	Own
	CRW (n=75)	3%	97%
	LO (n=85)	0%	100%
	SFWB (n=87)	1%	99%
	OLGE (n=98)	3%	97%
422	SUN (n=69)	3%	97%
	Average	2%	98%

Question 5 — Age of home

N	Year Built	CRW	LO	SFWB	OLGE	SUN	Average
	1890-1909	0%	0%	5%	1%	0%	1%
	1910-1929	3%	3%	11%	13%	1%	6%
	1930-1949	13%	4%	3%	17%	1%	8%
	1950-1969	20%	23%	9%	32%	5%	18%
	1970-1989	29%	44%	33%	37%	19%	33%
	1990-2009	29%	35%	48%	21%	52%	37%
409	2010-2015	4%	4%	7%	4%	9%	6%

Question 6 — Size of property

N	Property Size (Acres)	CRW	LO	SFWB	OLGE	SUN	Average
	0-0.1 Acre	24%	32%	42%	20%	47%	33%
	0.2-0.5 Acre	33%	56%	49%	36%	45%	44%
	0.5-1 Acre	26%	11%	5%	30%	7%	16%
	1-2 Acre	14%	0%	2%	10%	2%	6%
382	2+ Acre	3%	1%	1%	4%	0%	2%

Question 7 — How many adults and children live in your household?

N	Number of Adults	CRW	LO	SFWB	OLGE	SUN	Average
	0	0%	1%	0%	1%	0%	0%
	1	18%	13%	12%	15%	16%	15%
	2	58%	61%	58%	63%	55%	59%
	3	23%	12%	15%	12%	15%	15%
	4	1%	7%	12%	6%	10%	7%
	5	0%	5%	2%	2%	3%	2%
	7	0%	0%	1%	0%	0%	0%
404	8	0%	0%	0%	1%	0%	0%
N	Number of Children	(CRW	LO	SFWB	OLGE	SUN Average
	0		0%	0%	0%	26%	7% 7%
	1	4	10%	33%	44%	47%	20% 37%
	2	5	50%	56%	38%	16%	40% 40%
	3		0%	11%	13%	11%	7% 8%
	4	1	0%	0%	6%	0%	13% 6%
78	5		0%	0%	0%	0%	13% 3%

Question 8 — Political attitudes

N	Water Provider	Very Liberal	Somewhat Liberal	Neither Conservative nor Liberal	Somewhat Conservative	Very Conservative
	CRW (n=74)	14%	24%	32%	20%	9%
	LO (n=84)	18%	39%	18%	19%	6%
	SFWB (n=84)	11%	30%	31%	23%	6%
	OLGE (n=96)	14%	29%	27%	22%	8%
404	SUN (n=66)	11%	29%	36%	14%	11%
	Average	14%	30%	29%	20%	8%

Question 9 — 2014 Household pre-tax income

N	Water Provider	Less than \$25,000	\$25,000- \$49,999	\$50,000- \$74,999	\$75,000- \$99,999	\$100,000- \$124,999	\$125,000- \$149,999	\$150,000- \$174,999	\$175,000- \$199,999	Greater than \$200,000
	CRW (n=67)	6%	16%	21%	18%	21%	6%	1%	9%	1%
	LO (n=78)	1%	6%	13%	15%	6%	8%	14%	4%	32%
	SFWB (n=74)	7%	9%	11%	24%	20%	9%	8%	7%	4%
	OLGE (n=86)	5%	17%	20%	14%	14%	7%	7%	3%	13%
361	SUN (n=56)	2%	18%	16%	27%	16%	2%	13%	4%	4%
	Average	4%	13%	16%	20%	15%	6%	9%	5%	11%

Question 10 — Education

N	Water Provider	Less than a High School degree	High School degree or equivalent	Some college, no degree	Associate's degree (2 yr)	Bachelor's degree (4 yr)	Graduate or professional degree
	CRW (n=76)	4%	18%	28%	13%	21%	16%
	LO (n=84)	0%	1%	7%	5%	30%	57%
	SFWB (n=84)	0%	13%	18%	15%	33%	20%
	OLGE (n=94)	0%	10%	22%	10%	27%	32%
402	SUN (n=64)	0%	13%	20%	11%	38%	19%
	Average	1%	11%	19%	11%	30%	29%

Response by Water District

Question 11 — Prior to receiving this survey, did you know that your tap water comes from the Clackamas River?

N	Water Provider	Yes	No
	CRW (n=79)	81%	19%
	LO (n=88)	59%	41%
	SFWB (n=90)	84%	16%
	OLGE (n=107)	80%	20%
432	SUN (n=68)	62%	38%
	Average	73%	27%

Question 12 — In the past year, how often did you visit the natural areas in the Clackamas River Watershed for the following?

N	Category	Water Provider	Never	Once Every Year	Once Every 6 Months	Once every 3 months	Once a Month	Once a Week
	category	CRW (n=48)	21%	15%	19%	31%	6%	8%
		LO (n=64)	34%	19%	20%	8%	9%	9%
		SFWB (n=47)	38%	11%	11%	19%	15%	6%
		OLGE (n=68)	16%	15%	15%	22%	12%	21%
	Passing	SUN (n=49)	29%	16%	12%	16%	18%	8%
276	Through	Average	28%	15%	15%	19%	12%	11%
		CRW (n=49)	35%	14%	18%	16%	14%	2%
		LO (n=64)	54%	19%	16%	6%	3%	2%
		SFWB (n=50)	39%	24%	12%	12%	8%	4%
		OLGE (n=72)	20%	20%	22%	20%	8%	11%
		SUN (n=54)	29%	24%	22%	18%	6%	0%
286	Recreation	Average	35%	20%	18%	15%	8%	4%
		CRW (n=49	91%	0%	2%	2%	2%	2%
		LO (n=57)	91%	2%	0%	4%	2%	2%
		SFWB (n=50)	94%	0%	0%	0%	2%	4%
	Visiting	OLGE (n=71)	87%	0%	0%	1%	3%	9%
	property I	SUN (n=48)	92%	0%	4%	0%	2%	2%
266	own	Average	91%	0%	1%	1%	2%	4%

		CRW						
		(n=47)	79%	6%	4%	0%	11%	0%
		LO (n=57)	93%	5%	2%	0%	0%	0%
		SFWB (n=48)	92%	0%	4%	0%	0%	4%
		OLGE (n=70)	76%	4%	6%	10%	3%	1%
	Motorized	SUN (n=47)	89%	4%	2%	0%	4%	0%
269	Recreation	Average	86%	4%	4%	2%	4%	1%
		CRW (n=45)	80%	7%	7%	4%	2%	0%
		LO (n=57)	96%	4%	0%	0%	0%	0%
		SFWB (n=50)	84%	4%	8%	2%	0%	2%
		OLGE (n=71)	68%	6%	17%	6%	1%	3%
	Hunting &	SUN (n=48)	83%	8%	2%	2%	4%	0%
271	Gathering	Average	82%	6%	7%	3%	2%	1%
		CRW (n=49)	86%	2%	2%	6%	0%	4%
		LO (n=57)	89%	2%	4%	4%	0%	2%
		SFWB (n=50)	86%	4%	8%	0%	2%	0%
		OLGE (n=71)	89%	3%	1%	0%	3%	4%
		SUN (n=48)	90%	8%	0%	0%	0%	2%
275	Work	Average	88%	4%	3%	2%	1%	2%

Question 13 — How much do the natural areas of the Clackamas River Watershed enhance your quality of life?

N	Water Provider	Critical	Greatly enhances	Somewhat enhances	Slightly enhances	Does not affect
	CRW (n=78)	19%	41%	22%	8%	10%
	LO (n=85)	22%	27%	27%	4%	20%
	SFWB (n=87)	29%	32%	18%	10%	10%
	OLGE (n=106)	36%	37%	20%	3%	5%
	SUN (n=67)	16%	37%	39%	1%	6%
423	Average	25%	35%	25%	5%	10%

Question 14 — How much do you agree or disagree with the following statements about the Clackamas Watershed? The Clackamas River Watershed:

N		Water Provider	Strongly Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Strongly Disagree
		CRW (n=77)	8%	26%	48%	12%	6%
	I don't really	LO (n=79)	8%	33%	47%	11%	1%
	identify	SFWB (n=87)	13%	33%	38%	14%	2%
	with the Clackamas	OLGE (n=104)	10%	25%	45%	13%	7%
	River	SUN (n=68)	4%	29%	50%	12%	4%
415	Watershed	Average	8%	29%	46%	12%	4%

		CRW (n=73)	11%	12%	41%	27%	8%
		LO (n=78)	12%	14%	62%	12%	1%
	There are	SFWB (n=83)	8%	10%	54%	20%	7%
	better places	OLGE (n=102)	4%	18%	41%	21%	17%
	to be as far as I am	SUN (n=69)	7%	19%	52%	9%	13%
405	concerned	Average	8%	15%	50%	18%	9%
		CRW (n=75)	8%	19%	57%	5%	11%
		LO (n=80)	4%	14%	49%	20%	14%
		SFWB (n=84)	1%	18%	58%	8%	14%
	I really miss	OLGE (n=103)	14%	18%	44%	11%	14%
	it when I am away for too	SUN (n=69)	3%	14%	64%	7%	12%
411	long	Average	6%	17%	54%	10%	13%
		CRW (n=76)	8%	20%	37%	16%	20%
		LO (n=83)	29%	24%	22%	14%	11%
		SFWB (n=88)	15%	15%	40%	15%	16%
	l feel	OLGE (n=104)	10%	13%	24%	22%	31%
	happiest when I am	SUN (n=69)	9%	20%	32%	19%	20%
420	there	Average	14%	18%	31%	17%	20%
		CRW (n=76)	17%	30%	43%	5%	4%
		LO (n=81)	5%	12%	54%	14%	15%
	It is the best	SFWB (n=86)	7%	36%	38%	15%	3%
	place for	OLGE (n=104)	16%	31%	35%	13%	5%
	me to do the outdoor	SUN (n=69)	7%	23%	55%	9%	6%
416	things I enjoy	Average	11%	27%	45%	11%	7%
		CRW (n=75)	8%	27%	48%	3%	15%
		LO (n=79)	0%	18%	63%	8%	11%
	I would enjoy	SFWB (n=85)	12%	21%	53%	4%	11%
	the activities	OLGE (n=103)	15%	25%	45%	9%	7%
	I do there just as well in	SUN (n=69)	6%	19%	62%	7%	6%
411	another place	Average	8%	22%	54%	6%	10%
		CRW (n=74)	8%	24%	59%	1%	7%
		LO (n=81)	2%	20%	60%	5%	12%
		SFWB (n=85)	7%	28%	51%	7%	7%
	lt vofle etc	OLGE (n=103)	20%	22%	44%	4%	10%
	It reflects the type of	SUN (n=69)	12%	16%	61%	4%	7%
412	person I am	Average	10%	22%	55%	4%	9%
		CRW (n=76)	13%	24%	49%	7%	8%
		LO (n=79)	4%	13%	58%	10%	15%
		SFWB (n=84)	8%	26%	57%	5%	4%
	14 in 1973	OLGE (n=105)	19%	21%	49%	5%	7%
	It is my favorite place	SUN (n=68)	7%	24%	54%	6%	9%
412	to be	Average	10%	21%	53%	6%	8%

		CRW (n=75)	15%	21%	47%	7%	11%
		LO (n=80)	4%	14%	45%	20%	18%
		SFWB (n=85)	5%	19%	46%	16%	14%
	I feel I can really be myself when I'm there	OLGE (n=102)	19%	20%	36%	15%	11%
		SUN (n=69)	7%	10%	59%	13%	10%
411		Average	10%	17%	47%	14%	13%

Question 15 — To what extent do you believe the following offer greater benefits or greater risks to society and water quality?

N		Water Provider	Benefits greatly outweigh risk	Benefits slightly outweigh risks	Benefits and risks are equal	Risks slightly outweigh benefits	Risks greatly outweigh benefits	Unsure
		CRW (n=64)	0%	6%	16%	17%	44%	17%
		LO (n=72)	4%	7%	10%	26%	42%	11%
		SFWB (n=75)	3%	4%	13%	23%	56%	1%
	Expanding	OLGE (n=90)	0%	8%	14%	21%	50%	7%
	urban areas in	SUN (n=57)	0%	0%	16%	30%	46%	9%
358	the watershed	Average	1%	5%	14%	23%	47%	9%
		CRW (n=64)	3%	13%	6%	17%	50%	11%
	Subdividing	LO (n=72)	4%	8%	10%	31%	38%	10%
	tracts of agriculture or	SFWB (n=75)	4%	5%	11%	25%	51%	4%
	forestry land to accommodate future	OLGE (n=87)	3%	7%	13%	18%	55%	3%
	population	SUN (n=57)	2%	0%	23%	25%	44%	7%
355	growth	Average	3%	7%	12%	23%	47%	7%
		CRW (n=64)	3%	13%	8%	33%	34%	9%
		LO (n=73)	4%	7%	11%	21%	55%	3%
		SFWB (n=75)	4%	5%	8%	29%	48%	5%
	Using pesticides, herbicides,	OLGE (n=89)	7%	11%	15%	17%	46%	4%
	or synthetic	SUN (n=57)	2%	9%	25%	14%	47%	4%
358	fertilizers	Average	4%	9%	13%	23%	46%	5%
		CRW (n=65)	8%	17%	25%	20%	15%	15%
		LO (n=72)	10%	15%	19%	26%	17%	13%
		SFWB (n=73)	5%	15%	23%	30%	19%	7%
		OLGE (n=90)	17%	20%	17%	21%	19%	7%
	Harvesting	SUN (n=57)	12%	16%	23%	25%	11%	14%
357	timber	Average	10%	17%	21%	24%	16%	11%

		CRW (n=64)	20%	17%	28%	11%	5%	19%
		LO (n=72)	8%	22%	26%	15%	8%	19%
		SFWB (n=75)	13%	20%	32%	15%	4%	16%
	Withdrawing water from the Clackamas	OLGE (n=90)	17%	20%	23%	20%	9%	11%
	River for	SUN (n=58)	9%	24%	36%	14%	3%	14%
359	irrigation	Average	13%	21%	29%	15%	6%	16%
		CRW (n=64)	23%	30%	16%	13%	11%	8%
		LO (n=71)	18%	18%	27%	14%	15%	7%
		SFWB (n=75)	19%	29%	17%	15%	16%	4%
	Generating	OLGE (n=89)	24%	24%	16%	13%	20%	3%
	electricity from	SUN (n=58)	16%	24%	31%	12%	10%	7%
357		Average	20%	25%	21%	13%	15%	6%
		CRW (n=64)	27%	34%	22%	3%	5%	9%
		LO (n=71)	31%	27%	17%	7%	8%	10%
		SFWB (n=75)	20%	33%	28%	8%	7%	4%
	Thinning forests to	OLGE (n=90)	37%	22%	18%	13%	6%	4%
	reduce wildfire	SUN (n=58)	17%	28%	26%	9%	9%	12%
358	risks	Average	26%	29%	22%	8%	7%	8%
		CRW (n=64)	20%	17%	28%	11%	5%	19%
		LO (n=70)	8%	22%	26%	15%	8%	19%
		SFWB (n=75)	13%	20%	32%	15%	4%	16%
	Withdrawing	OLGE (n=89)	17%	20%	23%	20%	9%	11%
	water from the Clackamas for	SUN (n=56)	9%	24%	36%	14%	3%	14%
354	domestic uses	Average	13%	21%	29%	15%	6%	16%

Question 16 — In general, how supportive or unsupportive are you of programs that aim to protect or enhance drinking water quality in the Clackamas River Watershed?

N	Water Provider	Very Supportive	Somewhat Supportive	Neutral	Somewhat Unsupportive	Very Unsupportive
	CRW (n=66)	59%	23%	17%	2%	0%
	LO (n=73)	74%	18%	7%	0%	1%
	SFWB (n=75)	65%	24%	11%	0%	0%
	OLGE (n=90)	62%	29%	9%	0%	0%
	SUN (n=59)	63%	25%	12%	0%	0%
363	Average	65%	24%	11%	0%	0%

N	Water Provider	Extremely Urgent	Very Urgent	Somewhat Urgent	Unsure	Not very urgent	Not at all urgent
	CRW (n=66)	23%	32%	23%	20%	3%	0%
	LO (n=73)	21%	27%	27%	19%	4%	1%
	SFWB (n=75)	20%	27%	29%	19%	5%	0%
	OLGE (n=89)	27%	26%	29%	12%	6%	0%
362	SUN (n=59)	20%	29%	27%	20%	3%	0%
	Average	22%	28%	27%	18%	4%	0%

Question 17. How urgent do you think it is to develop programs that protect or enhance drinking water quality in the Clackamas River Watershed?

Question 18 — How supportive or unsupportive would you be of establishing or enhancing the following types of education programs about watershed stewardship?

N	Education Programs	Water Provider	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
		CRW (n=65)	38%	37%	22%	2%	2%
		LO (n=73)	34%	48%	14%	1%	3%
	A community education	SFWB (n=74)	36%	36%	20%	4%	3%
	program about watershed	OLGE (n=88)	40%	34%	18%	7%	1%
		SUN (n=59)	25%	59%	14%	2%	0%
359		Average	35%	43%	17%	3%	2%
		CRW (n=65)	46%	42%	11%	0%	2%
		LO (n=73)	40%	48%	8%	1%	3%
		SFWB (n=74)	43%	34%	15%	4%	4%
	A school education	OLGE (n=88)	40%	41%	14%	6%	0%
	program on	SUN (n=59)	37%	51%	8%	3%	0%
359	watersheds	Average	41%	43%	11%	3%	2%
		CRW (n=66)	44%	44%	8%	3%	2%
		LO (n=73)	55%	36%	5%	1%	3%
	A pesticide	SFWB (n=74)	53%	32%	11%	3%	1%
	stewardship	OLGE (n=88)	47%	36%	13%	5%	0%
	program focused on	SUN (n=59)	42%	41%	14%	3%	0%
360	reducing pesticide use	Average	42 %	38%	14 %	3%	1%
300	pesticide use	CRW (n=65)	43%	43%	10 %	2%	2%
		LO (n=73)	43 %	43 %	7%	3%	3%
	A technical	SFWB (n=74)	44%	44%	11%	3%	1%
	assistance program	. ,			10%	5%	0%
	to help	OLGE (n=88)	47%	39%	10%	5%	0%
	farmers use watershed		270/	6604	50/	20/	0.01
	friendly	SUN (n=59)	27%	66%	5%	2%	0%
359	practices	Average	41%	47%	9%	3%	1%

Question 19 — How supportive or unsupportive would you be of establishing or enhancing the following types of financial assistance programs for agricultural, forest, and residential landowners in the watershed, assuming they are well-designed and managed by a trustworthy organization?

N		Water Provider	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
		CRW (n=64)	20%	53%	16%	9%	2%
		LO (n=72)	24%	40%	25%	11%	0%
	Grants to	SFWB (n=74)	32%	42%	19%	5%	1%
	residential	OLGE (n=87)	33%	34%	17%	11%	3%
	landowners to fix failing	SUN (n=57)	18%	37%	26%	18%	2%
354	septic systems	Average	25%	41%	21%	11%	2%
		CRW (n=64)	22%	44%	23%	8%	3%
	Financial rewards to	LO (n=72)	17%	44%	25%	14%	0%
		SFWB (n=74)	24%	36%	28%	9%	1%
	landowners	OLGE (n=86)	28%	33%	27%	8%	5%
	who maintain streamside	SUN (n=57)	16%	37%	35%	9%	4%
353		Average	21%	39%	28%	10%	3%
		CRW (n=64)	23%	48%	17%	9%	2%
	Incontino	LO (n=72)	21%	53%	22%	4%	0%
	Incentive programs	SFWB (n=73)	21%	47%	23%	8%	1%
	to help	OLGE (n=86)	35%	30%	20%	12%	3%
	agricultural or forestry	SUN (n=57)	12%	42%	33%	9%	4%
352	landowners with the costs of adopting watershed friendly practices	Average	22%	44%	23%	8%	2%
002	produced	CRW (n=64)	25%	52%	19%	3%	2%
		LO (n=72)	23 %	51%	21%	7%	0%
	Grant	SFWB (n=74)	26%	41%	23%	9%	1%
	programs to help	OLGE (n=86)	34%	40%	13%	10%	3%
	landowners	SUN (n=57)	16%	44%	28%	12%	0%
353	do watershed restoration projects	Average	24%	44 %	21%	8%	1%

N		Water Provider	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
		CRW (n=64)	28%	36%	31%	3%	2%
	Requiring the	LO (n=71)	37%	23%	30%	11%	0%
	maintenance of natural vegetation	SFWB (n=74)	34%	32%	16%	15%	3%
354	near streams	OLGE (n=87)	32%	31%	26%	9%	1%
	Restricting the total	CRW (n=64)	39%	30%	20%	9%	2%
		LO (n=71)	41%	31%	20%	8%	0%
	number of new	SFWB (n=74)	41%	30%	18%	9%	3%
	residences	OLGE (n=87)	41%	38%	13%	6%	2%
	allowed near streams and	SUN (n=57)	28%	44%	19%	7%	2%
351	rivers	Average	38%	34%	18%	8%	2%
		CRW (n=64)	33%	48%	16%	2%	2%
	Restricting	LO (n=71)	38%	41%	14%	6%	1%
	new septic	SFWB (n=74)	49%	34%	8%	7%	3%
	systems in	OLGE (n=87)	39%	34%	10%	11%	5%
	ecologically important	SUN (n=58)	31%	50%	14%	5%	0%
354	areas	Average	38%	42%	12%	6%	2%
		CRW (n=64)	38%	48%	9%	5%	0%
	Restricting new	LO (n=71)	45%	35%	15%	4%	0%
	residential	SFWB (n=74)	47%	32%	9%	7%	4%
	development	OLGE (n=86)	42%	26%	20%	7%	6%
	in ecologically important	SUN (n=58)	28%	43%	24%	5%	0%
353	areas	Average	40%	37%	16%	6%	2%
		CRW (n=64)	47%	39%	11%	3%	0%
	Restricting	LO (n=71)	45%	37%	13%	6%	0%
	the amount	SFWB (n=74)	51%	28%	9%	9%	1%
	of pavement	OLGE (n=85)	52%	30%	11%	3%	3%
	in new residential	SUN (n=57)	34%	47%	17%	2%	0%
354	developments	Average	46%	36%	12%	5%	1%
		CRW (n=64)	41%	42%	13%	5%	0%
		LO (n=71)	48%	30%	17%	6%	0%
		SFWB (n=73)	49%	30%	16%	1%	3%
	Postrictina	OLGE (n=87)	43%	34%	15%	6%	2%
	Restricting logging near	SUN (n=58)	34%	40%	26%	0%	0%
353	streams	Average	43%	35%	17%	3%	1%

Question 20 — How supportive or unsupportive would you be of the following types of restrictions assuming they are well-designed and enforced?

Question 21 — How supportive or unsupportive would you be of the following types of open space protections, assuming they are done with willing landowners and managed by a trustworthy organization?

N		Water Provider	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
		CRW (n=65)	12%	43%	25%	15%	5%
	Rewarding landowners	LO (n=71)	13%	44%	27%	15%	1%
	financially	SFWB (n=74)	16%	26%	35%	20%	3%
	for limiting residential development	OLGE (n=85)	22%	28%	29%	12%	8%
		SUN (n=58)	12%	21%	50%	14%	3%
353	on farm and forest land	Average	15%	32%	33%	15%	4%
555		CRW (n=65)	13%	51%	18%	13%	3%
	Rewarding	LO (n=71)	18%	41%	27%	14%	0%
	landowners financially for	SFWB (n=74)	16%	30%	35%	14%	3%
	protecting	OLGE (n=86)	28%	33%	23%	9%	7%
	ecologically	SUN (n=58)	16%	33%	33%	16%	3%
354	important lands	Average	18%	37%	27%	14%	3%
		CRW (n=65)	32%	37%	20%	9%	2%
		LO (n=71)	31%	45%	21%	3%	0%
	Buying lands	SFWB (n=74)	34%	36%	16%	7%	7%
	that are	OLGE (n=85)	34%	33%	22%	5%	6%
	ecologically important for	SUN (n=58)	21%	52%	19%	3%	5%
353	conservation	Average	30%	41%	20%	5%	4%
		CRW (n=65)	22%	52%	15%	11%	0%
		LO (n=70)	26%	47%	19%	9%	0%
		SFWB (n=74)	36%	36%	19%	8%	0%
	Creating	OLGE (n=86)	27%	41%	21%	6%	6%
	additional	SUN (n=58)	26%	47%	21%	7%	0%
353	parks	Average	27%	45%	19%	8%	1%
		CRW (n=65)	22%	42%	31%	5%	2%
	Using long-	LO (n=71)	23%	49%	23%	6%	0%
	term leases	SFWB (n=74)	28%	32%	28%	4%	7%
	to conserve	OLGE (n=86)	28%	29%	33%	8%	2%
	ecologically important	SUN (n=58)	16%	40%	33%	10%	2%
354	lands	Average	23%	38%	29%	7%	2%

Question 22 — To protect water quality, natural resource managers often recommend a natural or forested area along streams and rivers called a riparian buffer. In general, for the Clackamas River, do you think the following buffers are too small, too big, or just about right?

N	Buffer	Water Provider	Too Small	Just About Right	Too Big	Unsure
		CRW (n=74)	74%	1%	3%	22%
		LO (n=78)	72%	1%	1%	26%
		SFWB (n=86)	65%	5%	1%	29%
		OLGE (n=96)	75%	3%	0%	22%
		SUN (n=66)	71%	2%	0%	27%
400	No buffer	Average	71%	2%	1%	25%
		CRW (n=72)	71%	8%	0%	21%
		LO (n=78)	72%	0%	1%	27%
		SFWB (n=81)	65%	6%	0%	28%
		OLGE (n=95)	67%	12%	1%	20%
		SUN (n=66)	68%	8%	0%	24%
392	10 foot buffer	Average	69%	7%	0%	24%
		CRW (n=73)	44%	27%	4%	25%
		LO (n=79)	43%	24%	3%	30%
	SFWB (n=82)	49%	22%	0%	29%	
	OLGE (n=94)	54%	20%	5%	20%	
		SUN (n=67)	48%	22%	0%	30%
395	30 foot buffer	Average	48%	23%	2%	27%
		CRW (n=69)	16%	39%	17%	28%
		LO (n=79)	27%	28%	18%	28%
		SFWB (n=82)	24%	39%	9%	28%
		OLGE (n=96)	28%	30%	18%	24%
		SUN (n=67)	16%	36%	10%	37%
393	100 foot buffer	Average	22%	34%	14%	29%
		CRW (n=71)	7%	28%	35%	30%
		LO (n=80)	15%	23%	29%	34%
		SFWB (n=80)	11%	24%	29%	36%
		OLGE (n=94)	10%	27%	35%	29%
		SUN (n=67)	6%	24%	33%	37%
392	200 foot buffer	Average	10%	25%	32%	33%
		CRW (n=71)	1%	11%	54%	34%
		LO (n=81)	2%	22%	40%	36%
		SFWB (n=82)	2%	23%	41%	33%
		OLGE (n=94)	0%	14%	53%	32%
		SUN (n=67)	0%	9%	54%	37%
395	500 foot buffer	Average	1%	16%	48%	34%

Question 23 — Programs and activities to maintain water quality in the Clackamas River could be implemented by a variety of organizations. How much do you trust the following types of agencies and organizations to support the health of the Clackamas River Watershed?

N	Organization	Water Provider	High Trust	Moderate Trust	A Little Trust	Not Much Trust	Unsure
		CRW (n=75)	4%	9%	23%	48%	16%
		LO (n=82)	5%	10%	24%	51%	10%
		SFWB (n=83)	2%	12%	24%	42%	19%
		OLGE (n=101)	3%	13%	14%	60%	10%
		SUN (n=67)	3%	18%	21%	46%	12%
408	NPO	Average	3%	12%	21%	50%	13%
		CRW (n=76)	3%	18%	26%	43%	9%
		LO (n=83)	5%	11%	28%	45%	12%
		SFWB (n=84)	4%	15%	25%	40%	15%
		OLGE (n=102)	5%	14%	28%	45%	8%
	Private	SUN (n=67)	0%	19%	24%	51%	6%
412	landowners	Average	3%	16%	26%	45%	10%
		CRW (N=76)	11%	25%	25%	29%	11%
		LO (n=82)	16%	28%	22%	23%	11%
		SFWB (n=85)	1%	36%	21%	24%	18%
	Federal	OLGE (n=101)	10%	32%	17%	36%	6%
	natural resource	SUN (n=68)	4%	35%	13%	38%	9%
412	agencies	Average	8%	31%	20%	30%	11%
		CRW (n=76)	12%	26%	25%	28%	9%
		LO (n=80)	5%	33%	25%	26%	11%
		SFWB (n=84)	6%	35%	26%	21%	12%
	Local	OLGE (n=102)	9%	28%	27%	28%	7%
	Local government	SUN (n=68)	10%	34%	22%	26%	7%
410	(e.g. Metro)	Average	8%	31%	25%	26%	9%
		CRW (n=76)	14%	20%	32%	16%	18%
		LO (n=82)	16%	37%	20%	9%	20%
		SFWB (n=85)	14%	28%	24%	18%	16%
	Urbanitos	OLGE (n=101)	9%	34%	24%	21%	13%
	Urbanites who use the	SUN (n=67)	18%	28%	16%	19%	18%
411	watershed	Average	14%	29%	23%	16%	17%
		CRW (n=75)	16%	35%	20%	19%	11%
		LO (n=82)	11%	40%	22%	16%	11%
		SFWB (n=86)	7%	45%	13%	21%	14%
	State natural	OLGE (n=102)	12%	34%	25%	23%	6%
	resource	SUN (n=68)	7%	46%	18%	21%	9%
412	agencies	Average	11%	40%	20%	20%	10%

		CRW (n=76)	16%	33%	29%	7%	16%
		LO (n=78)	10%	40%	21%	14%	15%
		SFWB (n=85)	11%	41%	24%	6%	19%
	Clackamac	OLGE (n=100)	13%	38%	22%	18%	9%
	Clackamas River Water	SUN (n=68)	12%	47%	19%	10%	12%
407	Providers	Average	12%	40%	23%	11%	14%
		CRW (n=76)	16%	39%	24%	7%	14%
		LO (n=83)	19%	39%	17%	7%	18%
		SFWB (n=85)	18%	41%	19%	7%	15%
	Soil and	OLGE (n=102)	15%	36%	27%	12%	10%
	Water Conservation	SUN (n=68)	18%	34%	26%	10%	12%
414	Districts	Average	17%	38%	23%	9%	14%

Question 24 — How much are you willing to pay to support source water protection programs if it meant funding water quality projects on land owned by willing private property owners?

N	Amount of Support	Water Provider	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
		CRW (n=71)	61%	10%	17%	1%	11%
		LO (n=76)	68%	8%	9%	4%	11%
		SFWB (n=81)	57%	9%	17%	5%	12%
		OLGE (n=89)	55%	10%	9%	8%	18%
	1 cent per	SUN (n=66)	61%	12%	12%	9%	6%
383	•	Average	60%	10%	13%	5%	12%
		CRW (n=74)	51%	9%	18%	7%	15%
		LO (n=76)	63%	13%	9%	4%	11%
		SFWB (n=82)	45%	17%	17%	5%	16%
		OLGE (n=90)	46%	17%	10%	10%	18%
	50 cents per	SUN (n=66)	52%	15%	14%	12%	8%
388	month	Average	51%	14%	13%	8%	13%
		CRW (n=71)	45%	14%	18%	8%	15%
		LO (n=76)	52%	22%	14%	3%	9%
		SFWB (n=81)	34%	20%	25%	6%	15%
		OLGE (n=89)	37%	21%	14%	12%	16%
		SUN (n=66)	36%	19%	19%	12%	13%
394	\$1 per month	Average	41%	19%	18%	8%	14%
		CRW (n=71)	21%	24%	28%	13%	14%
		LO (n=76)	32%	21%	20%	13%	14%
		SFWB (n=81)	22%	21%	25%	14%	19%
		OLGE (n=94)	23%	19%	22%	14%	21%
		SUN (n=64)	20%	17%	22%	23%	18%
387	\$3 per month	Average	24%	20%	23%	15%	17%

		CRW (n=71)	11%	13%	31%	21%	24%
		LO (n=75)	13%	20%	23%	20%	24%
		SFWB (n=83)	16%	13%	30%	16%	25%
		OLGE (n=93)	15%	14%	17%	22%	32%
		SUN (n=66)	14%	11%	17%	35%	24%
388	\$5 per month	Average	14%	14%	24%	23%	26%
		CRW (n=71)	42%	20%	23%	10%	6%
		LO (n=74)	32%	32%	16%	16%	3%
		SFWB (n=83)	42%	12%	27%	16%	4%
		OLGE (n=92)	45%	23%	18%	7%	8%
	\$10 per	SUN (n=66)	42%	27%	18%	6%	6%
386	month	Average	41%	23%	20%	11%	5%

Question 25 — How much are you willing to pay to support source water protection programs if it meant funding water quality projects on US Forest Service property? For reference, the US Forest Service is the biggest land manager in the Clackamas River Watershed.

N	Amount of Support	Water Provider	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
		CRW (n=69)	54%	13%	25%	1%	7%
		LO (n=70)	66%	11%	13%	6%	4%
		SFWB (n=77)	56%	8%	23%	0%	13%
		OLGE (n=84)	60%	7%	13%	4%	17%
	1 cent per Month	SUN (n=64)	56%	16%	16%	3%	9%
364		Average	58%	11%	18%	3%	10%
		CRW (n=72)	46%	14%	28%	3%	10%
		LO (n=71)	55%	17%	17%	4%	7%
		SFWB (n=75)	48%	17%	24%	0%	11%
		OLGE (n=84)	52%	11%	15%	2%	19%
	50 cents per	SUN (n=64)	48%	19%	17%	5%	11%
366	month	Average	50%	16%	20%	3%	11%
		CRW (n=69)	39%	19%	29%	4%	9%
		LO (n=71)	48%	23%	17%	7%	6%
		SFWB (n=78)	45%	15%	27%	0%	13%
		OLGE (n=88)	44%	16%	20%	2%	17%
		SUN (n=67)	36%	21%	22%	7%	13%
373	\$1 per month	Average	42%	19%	23%	4%	12%
		CRW (n=67)	21%	21%	34%	15%	9%
		LO (n=69)	23%	23%	28%	13%	13%
		SFWB (n=73)	26%	23%	32%	1%	18%
		OLGE (n=88)	22%	23%	30%	7%	19%
		SUN (n=64)	19%	20%	30%	9%	22%
361	\$3 per month	Average	22%	22%	31%	9%	16%

		CRW (n=68)	10%	15%	38%	18%	19%
		LO (n=68)	10%	16%	29%	24%	21%
		SFWB (=75)	16%	16%	35%	12%	21%
		OLGE (n=87)	16%	9%	32%	14%	29%
		SUN (n=63)	11%	10%	35%	17%	27%
361	\$5 per month	Average	13%	13%	34%	17%	23%
		CRW (n=68)	6%	9%	35%	16%	34%
		LO (n=68)	3%	12%	29%	19%	37%
		SFWB (n=76)	4%	16%	33%	12%	36%
		OLGE (n=84)	6%	10%	32%	11%	42%
	\$10 per	SUN (n=61)	5%	5%	34%	15%	41%
357	month	Average	5%	10%	33%	15%	38%

Question 26 — How much are you willing to pay to support facility upgrades and new technology at your water provider's treatment plant?

N	Amount of Support	Water Provider	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
		CRW (n=69)	57%	14%	14%	7%	7%
		LO (n=73)	68%	10%	8%	3%	11%
		SFWB (n=77)	58%	13%	18%	1%	9%
	1 cent per	OLGE (n=89)	58%	10%	8%	8%	16%
373	•	SUN (n=65)	62%	17%	14%	3%	5%
		CRW (n=74)	50%	22%	15%	4%	9%
		LO (n=72)	63%	14%	10%	3%	11%
		SFWB (n=79)	52%	18%	20%	1%	9%
	50 cents per	OLGE (n=88)	53%	11%	8%	9%	18%
378	month	SUN (n=65)	52%	18%	15%	5%	9%
		CRW (n=68)	40%	26%	18%	6%	10%
		LO (n=74)	54%	15%	15%	4%	12%
		SFWB (n=81)	43%	22%	20%	5%	10%
		OLGE (n=91)	49%	12%	11%	8%	20%
382	\$1 per month	SUN (n=68)	38%	25%	21%	6%	10%
		CRW (n=72)	31%	13%	28%	14%	15%
		LO (n=73)	29%	23%	18%	12%	18%
		SFWB (n=78)	33%	14%	28%	8%	17%
		OLGE (n=91)	23%	25%	20%	9%	23%
379	\$3 per month	SUN (n=65)	25%	14%	25%	18%	18%
		CRW (n=71)	13%	18%	23%	21%	25%
		LO (n=71)	15%	14%	30%	15%	25%
		SFWB (n=77)	12%	25%	30%	12%	22%
		OLGE (n=90)	13%	12%	22%	22%	30%
374	\$5 per month	SUN (n=65)	12%	12%	23%	25%	28%

		CRW (n=71)	7%	13%	24%	20%	37%
		LO (n=73)	10%	8%	25%	23%	34%
		SFWB (n=78)	5%	13%	29%	19%	33%
	\$10 per	OLGE (n=89)	8%	8%	21%	16%	47%
376	month	SUN (n=65)	9%	5%	20%	22%	45%

Question 27 — Do you have a yard or outdoor area that requires watering to keep vegetation alive?

Water Provider	Yes	No
CRW	93%	7%
LO	92%	8%
SFWB	95%	5%
OLGE	96%	4%
SUN	96%	4%

Question 28. During the summer, how often do you typically water your outdoor vegetation, including lawn?

Water Provider	Every day	Every other day	2-3 times a week	Once a week	Once or twice a month	Less than once a month (I let my outdoor areas die back)
CRW (n=115)	17%	13%	47%	8%	11%	4%
LO (n=136)	8%	25%	41%	18%	5%	4%
SFWB (n=132)	11%	15%	48%	17%	4%	6%
OLGE (n=148)	5%	20%	44%	23%	6%	2%
SUN (n=113)	18%	27%	36%	12%	6%	1%
Average	12%	20%	43%	16%	6%	3%

Question 29 — When you water your yard, including your lawn, what type of water system do you typically use?

Water Provider	Automatic irrigation system	Manual sprinkler system or hose (shower, sink)	Drip irrigation or soaker hose	Watering can, jug, or container	Recycled water from household use	Other
CRW (n=115)	14%	21%	16%	18%	32%	18%
LO (n=136)	26%	15%	23%	19%	11%	23%
SFWB (n=132)	20%	19%	22%	21%	21%	9%
OLGE (n=148	18%	27%	23%	21%	11%	36%
SUN (n=113)	21%	15%	13%	18%	21%	14%
Ν	201	190	100	116	18	22

N	Water Conservation Statements	Water Provider	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
		CRW (n=66)	9%	26%	36%	21%	8%
		LO (n=75)	20%	21%	27%	25%	7%
		SFWB (n=79)	18%	18%	34%	24%	6%
	I think about water	OLGE (n=85)	19%	34%	29%	13%	5%
	conservation	SUN (n=64)	14%	28%	34%	17%	6%
369	daily	Average	16%	25%	32%	20%	6%
	If I knew my	CRW (n=69)	13%	32%	33%	17%	4%
	neighbors were involved	LO (n=74)	12%	39%	35%	8%	5%
	in a water	SFWB (n=80)	10%	33%	41%	8%	9%
	conservation	OLGE (n=86)	9%	22%	49%	10%	9%
	program, l would be	SUN (n=66)	14%	26%	47%	9%	5%
	more likely to						
375	participate	Average	12%	30%	41%	11%	6%
	Due to	CRW (n=69)	23%	42%	22%	9%	4%
	ongoing drought	LO (n=76)	28%	49%	9%	11%	4%
	conditions, I	SFWB (n=81)	31%	36%	21%	7%	5%
	understand that my	OLGE (n=87)	24%	52%	15%	8%	1%
	community	SUN (n=66)	27%	42%	26%	2%	3%
	may have to implement aggressive water conservation						
379	measures	Average	27%	44%	19%	7%	3%
	If my water provider	CRW (n=69)	22%	45%	23%	10%	0%
	asked me to	LO (n=76)	24%	54%	17%	0%	5%
	participate	SFWB (n=80)	25%	41%	25%	4%	5%
	in a water conservation	OLGE (n=87)	18%	47%	26%	5%	3%
	program, I can see	SUN (n=66)	21%	42%	26%	6%	5%
378	signing up	Average	22%	46%	23%	5%	4%
	I make sure	CRW (n=69)	38%	35%	20%	6%	1%
	to install water saving	LO (n=76)	37%	42%	16%	5%	0%
	devices in my	SFWB (n=80)	43%	34%	15%	8%	1%
	house (e.g.,	OLGE (n=87)	39%	33%	22%	3%	2%
	low flow showerheads	SUN (n=66)	26%	42%	27%	5%	0%
378	and faucets)	Average	36%	37%	20%	5%	1%

Question 30 — How much do you agree or disagree with the following statements about water conservation?

I have	CRW (n=68)	43%	35%	16%	6%	0%
purchased water	LO (n=76)	51%	32%	13%	3%	1%
efficient	SFWB (n=80)	54%	31%	11%	3%	1%
appliances	OLGE (n=86)	43%	38%	17%	0%	1%
for my home (e.g.,	SUN (n=66)	26%	56%	17%	2%	0%
dishwasher, washing machine,		420/	2004	450(20/	10/
toilets)	Average	43%	39%	15%	3%	1%

Question 31 — How much do you agree or disagree with the following statements about yard and lawn maintenance?

N	Yard and Lawn Maintenance Statements	Water Provider	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
		CRW (n=66)	3%	12%	12%	8%	65%
	Where I live,	LO (n=76)	9%	5%	29%	16%	41%
	homeowners	SFWB (n=81)	6%	19%	19%	4%	53%
	must have grass or some form of	OLGE (n=83)	7%	4%	14%	8%	66%
	lawn cover on	SUN (n=66)	12%	23%	33%	6%	26%
372	their yards	Average	7%	13%	21%	8%	50%
	The community	CRW (n=68)	3%	3%	24%	21%	50%
	I live in encourages	LO (n=76)	7%	12%	34%	18%	29%
	homeowners	SFWB (n=80)	4%	8%	29%	11%	49%
	to plant	OLGE (n=84)	2%	6%	36%	8%	48%
	alternatives to grass	SUN (n=66)	0%	9%	35%	21%	35%
374	lawns, such as native or other drought resistant plants	Average	3%	8%	32%	16%	42%
	Lawn and yard	CRW (n=66)	2%	3%	32%	5%	59%
	maintenance	LO (n=75)	12%	16%	20%	13%	39%
	practices in my neighborhood	SFWB (n=81)	2%	7%	30%	9%	52%
	are influenced	OLGE (n=85)	2%	5%	21%	5%	67%
	by the rules	SUN (n=64)	17%	25%	22%	11%	25%
	set forth by my homeowner	. ,					
371	association	Average	7%	11%	25%	9%	48%
		CRW (n=69)	7%	10%	46%	14%	22%
		LO (n=75)	11%	24%	37%	13%	15%
	I feel pressure	SFWB (n=79)	8%	19%	28%	19%	27%
	from neighbors to keep my	OLGE (n=88)	6%	13%	35%	22%	25%
	lawn and yard	SUN (n=66)	12%	32%	39%	8%	9%
377	well maintained	Average	9%	20%	37%	15%	20%

		CRW (n=69)	22%	29%	30%	9%	10%
		LO (n=75)	23%	40%	17%	12%	8%
		SFWB (n=81)	10%	32%	26%	17%	15%
	T I . (OLGE (n=87)	14%	31%	24%	18%	13%
	The price of water influences	SUN (n=66)	15%	35%	38%	6%	6%
378	how much I use	Average	17%	33%	27%	12%	10%
		CRW (n=67)	15%	30%	31%	13%	10%
		LO (n=76)	8%	37%	26%	22%	7%
		SFWB (n=77)	8%	35%	31%	13%	13%
	I have drought	OLGE (n=84)	12%	37%	29%	15%	7%
	tolerant vegetation in	SUN (n=66)	11%	30%	42%	12%	5%
370	my yard	Average	11%	34%	32%	15%	8%
		CRW (n=69)	22%	25%	35%	13%	6%
		LO (n=76)	29%	37%	16%	14%	4%
		SFWB (n=80)	28%	29%	23%	15%	6%
	l find a brown	OLGE (n=87)	20%	33%	30%	9%	8%
	lawn visually	SUN (n=66)	32%	45%	14%	5%	5%
378	unappealing	Average	26%	34%	24%	11%	6%
		CRW (n=69)	36%	33%	25%	4%	1%
	The appearance	LO (n=77)	29%	39%	25%	4%	4%
	of a well-	SFWB (n=80)	25%	31%	34%	5%	5%
	maintained neighborhood	OLGE (n=88)	24%	42%	20%	7%	7%
	helps to reduce	SUN (n=66)	35%	33%	26%	2%	5%
380	property crime	Average	30%	36%	26%	4%	4%
		CRW (n=690	42%	38%	14%	3%	3%
	A well-	LO (n=77)	35%	43%	12%	5%	5%
	maintained and	SFWB (n=80)	39%	35%	13%	10%	4%
	well-manicured lawn improves	OLGE (n=88)	32%	36%	20%	6%	6%
	prestige and	SUN (n=66)	53%	42%	5%	0%	0%
380	home value	Average	40%	39%	13%	5%	4%
		CRW (n=68)	54%	25%	15%	3%	3%
		LO (n=77)	57%	35%	6%	1%	0%
	l use more	SFWB (n=79)	38%	46%	6%	8%	3%
	water in the summer than	OLGE (n=87)	56%	33%	3%	5%	2%
377	winter	Average	51%	35%	8%	4%	2%

Question 32 — How knowledgeable are you about climate change?

N	Water Provider	Very knowledgeable	Somewhat knowledgeable	Slightly knowledgeable	Not very knowledgeable	Not at all knowledgeable
380	CRW (n=69)	26%	38%	26%	9%	1%
	LO (n=77)	35%	49%	13%	3%	0%
	SFWB (n=81)	15%	60%	20%	5%	0%
	OLGE (n=87)	36%	48%	9%	3%	3%
	SUN (n=66)	17%	47%	29%	3%	5%
	Average	26%	49%	19%	5%	2%

N	Climate Attitudes	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	There is	CRW (n=69)	1%	17%	22%	25%	35%
	probably	LO (n=77)	8%	17%	8%	26%	42%
	nothing we can do to	SFWB (n=81)	14%	16%	19%	19%	33%
	stop climate	OLGE (n=87)	14%	15%	14%	20%	38%
	change	SUN (n=65)	9%	23%	15%	23%	29%
	because it is out of our						
379	control	Average	9%	18%	16%	23%	35%
		CRW (n=69)	4%	36%	17%	13%	29%
	Climate might	LO (n=77)	5%	21%	4%	19%	51%
	be changing	SFWB (n=80)	9%	24%	14%	26%	28%
	but it is not as bad as	OLGE (n=87)	10%	26%	11%	18%	33%
	it is being	SUN (n=65)	6%	25%	23%	23%	23%
378	portrayed	Average	7%	26%	14%	20%	33%
	If we do	CRW (n=69)	51%	23%	16%	7%	3%
	nothing,	LO (n=76)	67%	18%	5%	4%	5%
	climate change will	SFWB (n=81)	49%	22%	15%	7%	6%
	have dire	OLGE (n=87)	60%	17%	10%	5%	8%
	consequences	SUN (n=65)	46%	22%	22%	6%	5%
378	for all life, including humans	Average	55%	20%	14%	6%	5%

Question 33 — Please indicate the extent to which you agree or disagree with the following statements.

Question 34 — How much do you agree or disagree with the following statements about the impacts of climate change on water in the Clackamas River Watershed?

N	Climate Impact Statements	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
		CRW (n=68)	1%	3%	37%	22%	37%
		LO (n=76)	3%	1%	18%	32%	46%
		SFWB (n=78)	0%	3%	31%	22%	45%
	Climate	OLGE (n=86)	1%	5%	24%	26%	44%
	change will improve my	SUN (n=65)	2%	5%	40%	17%	37%
373	quality of life	Average	1%	3%	30%	24%	42%
		CRW (n=67)	0%	1%	43%	13%	42%
		LO (n=74)	0%	0%	31%	28%	41%
	Climate	SFWB (n=78)	0%	3%	41%	18%	38%
	change will	OLGE (n=85)	2%	4%	32%	22%	40%
	improve the way I make a	SUN (n=65)	0%	6%	38%	20%	35%
369	living	Average	0%	3%	37%	20%	39%

	Climate	CRW (n=69)	6%	22%	33%	17%	22%
	change will	LO (n=76)	4%	16%	21%	39%	20%
	not threaten	SFWB (n=78)	4%	17%	28%	26%	26%
	drinking water	OLGE (n=87)	7%	16%	23%	34%	20%
	because	SUN (n=66)	5%	21%	30%	30%	14%
	technology will provide clean water even if climate						
376	changes	Average	5%	18%	27%	29%	20%
		CRW (n=69)	3%	12%	41%	14%	30%
		LO (n=75)	4%	8%	33%	28%	27%
	Climate	SFWB (n=78)	3%	5%	38%	22%	32%
	change will threaten the	OLGE (n=85)	6%	14%	32%	20%	28%
	way I make a	SUN (n=66)	6%	17%	44%	12%	21%
373	living	Average	4%	11%	38%	19%	28%
		CRW (n=69)	1%	0%	67%	20%	12%
	Climate	LO (n=74)	0%	3%	59%	23%	15%
	change will	SFWB (n=78)	3%	4%	53%	17%	24%
	cause people	OLGE (n=87)	2%	6%	48%	22%	22%
	to move out of Clackamas	SUN (n=65)	2%	6%	63%	20%	9%
373	County	Average	2%	4%	58%	20%	16%
		CRW (n=69)	6%	19%	59%	6%	10%
	Climate	LO (n=74)	3%	28%	53%	3%	14%
	change will	SFWB (n=77)	4%	14%	48%	16%	18%
	cause people	OLGE (n=87)	5%	21%	47%	9%	18%
	to move to Clackamas	SUN (n=65)	2%	17%	60%	9%	12%
372	County	Average	4%	20%	53%	9%	14%
		CRW (n=69)	20%	30%	32%	10%	7%
		LO (n=76)	22%	49%	16%	8%	5%
		SFWB (n=77)	23%	34%	26%	9%	8%
	Climate	OLGE (n=86)	24%	40%	17%	13%	6%
	change will threaten my	SUN (n=66)	21%	39%	29%	8%	3%
374	quality of life	Average	22%	38%	24%	10%	6%
	Climate	CRW (n=69)	22%	30%	41%	4%	3%
	change will	LO (n=74)	27%	32%	30%	5%	5%
	threaten drinking	SFWB (n=79)	25%	25%	41%	5%	4%
	water quality	OLGE (n=87)	18%	34%	33%	8%	6%
	due to an increase	SUN (n=66)	18%	33%	41%	5%	3%
375	in extreme storms	Average	22%	31%	37%	5%	4%

	Climate	CRW (n=69)	46%	35%	17%	1%	0%
	change will	LO (n=75)	57%	29%	7%	4%	3%
,	threaten water supply	SFWB (n=79)	37%	38%	15%	6%	4%
	due to	OLGE (n=86)	47%	35%	12%	1%	6%
	declines in	SUN (n=66)	39%	42%	15%	2%	2%
	snowpack (more winter rain, less						
375	winter snow)	Average	45%	36%	13%	3%	3%
	Climate	CRW (n=69)	38%	48%	12%	3%	0%
	change will	LO (n=75)	47%	41%	8%	1%	3%
	threaten water supply	SFWB (n=78)	36%	38%	21%	3%	3%
	due to	OLGE (n=87)	39%	44%	9%	5%	3%
	increased	SUN (n=65)	43%	46%	9%	2%	0%
774	demand (people use more water	A	410/	420/	120/	20/	2.0/
374	when it's hot)	Average	41%	43%	12%	3%	2%

Question 35 — How much do you agree or disagree with the following about Pacific Northwest climate?

N	PNW climate Statements	Water Provider	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
		CRW (n=69)	26%	23%	41%	4%	6%
		LO (n=75)	29%	31%	35%	1%	4%
		SFWB (n=79)	16%	47%	25%	5%	6%
	Summers are	OLGE (n=85)	21%	34%	35%	5%	5%
	becoming	SUN (n=65)	17%	34%	35%	14%	0%
373	longer	Average	22%	34%	34%	6%	4%
		CRW (n=69)	20%	41%	29%	9%	1%
		LO (n=75)	29%	35%	28%	4%	4%
		SFWB (n=79)	22%	41%	27%	6%	5%
	Winters are	OLGE (n=87)	23%	37%	33%	5%	2%
	becoming	SUN (n=65)	12%	46%	29%	12%	0%
375	shorter	Average	21%	40%	29%	7%	2%
		CRW (n=69)	30%	36%	23%	7%	3%
		LO (n=75)	32%	43%	21%	1%	3%
		SFWB (n=79)	23%	47%	18%	5%	8%
	Summers are	OLGE (n=87)	28%	37%	29%	3%	3%
	becoming	SUN (n=65)	20%	51%	18%	11%	0%
375	drier	Average	27%	43%	22%	5%	3%
		CRW (n=69)	32%	36%	26%	6%	0%
		LO (n=76)	37%	39%	20%	1%	3%
		SFWB (n=79)	27%	46%	19%	5%	4%
	Winters are	OLGE (n=87)	29%	40%	26%	2%	2%
	becoming	SUN (n=65)	14%	54%	28%	5%	0%
376	warmer	Average	28%	43%	24%	4%	2%

Appendix B

The following section contains the cover page and paper survey questionnaire booklet.

We are contacting you to ask for your help in a study on drinking water customers desire to participate in ongoing drinking water source protection efforts in the Clackamas River Watershed. This study is being conducted by Daniel Larson and Dr. Max Nielsen-Pincus from the Portland State University Department of Environmental Science and Management in collaboration with the Clackamas River Water Providers (CRWP), a coalition of drinking water utilities operating in the Clackamas River Watershed.

As part of this study, we request that you complete the enclosed questionnaire about your attitudes to participation in a source water protection program. Participation in this study is an opportunity for you to voice your opinions about programs that promote watershed conservation while providing the highest quality drinking water. This research will contribute to a growing body of work regarding the role that public utilities and the private sector can play in strengthening and supporting the environmental and economic benefits of local watersheds. **As a thank you for submitting your completed survey, you will be automatically entered into a drawing to receive a \$100 gift card.**

For convenience, we are also offering the questionnaire in a web-based form. If you would prefer to complete the questionnaire online, you may enter the link and four-digit passcode listed below:

http://tinyurl.com/ClackamasRatepayer Passcode:

Please complete the questionnaire and mail it back to us in the enclosed postage-paid envelope, or complete the web version. **Your responses are entirely confidential, and your name will never be connected to your answers.** Your decision to take part in this study is completely voluntary, you may skip any questions you do not want to answer, and you have the right to end your participation at any time. When you complete and return the attached questionnaire, it means that you have read and understood this information, and you agree to take part in this study. If you have questions or concerns about your participation in this study or about your rights as a research participant, please contact the Human Subjects Research Review Committee at:

PSU Office of Research Integrity 1600 SW 4th Ave., Market Center Building, Suite 620 Portland, OR 97201 503-725-2227 or 877-480-4400

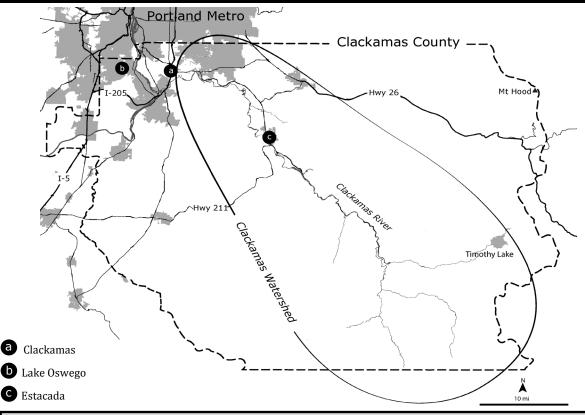
Thank you very much for your time and support of this study.

Sincerely, Daniel Larson Ph.D. Student dlar2@pdx.edu

Max Nielsen-Pincus Assistant Professor maxnp@pdx.edu



The Clackamas River Watershed



A Survey of Drinking Water Customers in Clackamas County

We need your help! The Clackamas River provides drinking water to more than a quarter million residents in the Clackamas County area. Protecting your drinking water starts at the source.

Instructions:

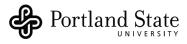
- Please carefully read each question and make your responses clear.
- Feel free to write in any additional comments or explanations anywhere on the questionnaire.
- Please mail your completed questionnaire back in the prepaid envelope provided.
- Your responses will be kept completely confidential.

In addition to providing drinking water the Clackamas River watershed is one of the state's most productive agriculture areas, an important recreational destination, and important habitat for some of the region's most iconic fish and wildlife.

The purpose of this study is to understand the attitudes of Clackamas River drinking water customers and their willingness to support ongoing stewardship of their drinking water watershed. The survey that follows is 8 pages in length and contains 35 questions. It should take about 20 minutes to complete.

If you have any questions or concerns, please feel free to contact us. Dan Larson (dlar2@pdx.edu), Ph.D. Student

Max Nielsen-Pincus (maxnp@pdx.edu), Assistant Professor



	Instructions . Your response	es are complet	ely confidentia	ake your respons al. back in the prepa		rovided.
	The Clackamas Niver Watershed	he watershed	and how it's	important to yo	u	
1	Prior to receiving this survey, did you	know that your t	ap water comes	from the Clackama	s River?	
	OYes ONo					
2	In the past year, how often did you	ı visit natural aı	eas in the Clac	kamas River Wate	ershed for the f	ollowing?
	For each activity, select the Nev best response	er Once eve year	ery Once ever 6 Months		Once a Month	Once a Week
	Work C	-	0	0	0	0
	Visiting property I own	-	0	0	0	0
	Recreation C Motorized Recreation C		0	0	0	0
	Hunting & gathering activities	_	0	0	0	0
	Passing through	-	Ŏ	0	Ö	Ŏ
	 The Clackamas River Wat 	tershed greatly tershed somew tershed slightly	enhances my q hat enhances m enhances my q	uality of life. Ny quality of life. Juality of life.		
4	How much do you agree or disagre Clackamas River Watershed:	ee with the follo	wing statemen	ts about the Clac	kamas Watersh	ed? The
	The Clackamas Watershed	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	It is my favorite place to be	0	0	0	0	0
	There are better places to be as far as I concerned,	am O	0	0	0	0
	It is the best place for me to do the out things I enjoy	^{door} O	0	0	0	0
	I would enjoy the activities I do there j as well in another place	^{ust} O	0	0	0	0
	It reflects the type of person I am	0	0	0	0	
		iere 🔘	0	0	0	0
	I feel I can really be myself when I'm th		-	-	0	Õ
	I really miss it when I am away for too	long O	Ö	Ö	Õ	
		long O	0	0	õ	Õ

Health of the Watershed

Your views about risks to watershed health and how to address those risks

The Clackamas River Watershed has many different forestry, agricultural, and residential uses before entering urban areas where drinking water is withdrawn near where the Clackamas & Willamette Rivers meet.

5	To what extent do you believe	the follow	ving offer gre	eater benefits	or greater risks t	o society & wat	ter quality?
	For each statement, select	Benefits greatly utweigh risks	Benefits slightly outweigh risks	Benefits and risks are equal		Risks greatly outweigh the benefits	Unsure
	Using pesticides, herbicides, or synthetic fertilizers	0	0	0	0	0	0
	Withdrawing water from the Clackamas River for irrigation	0	0	0	0	0	0
	Harvesting timber	0	0	0	0	0	0
	Expanding urban areas in the watershed	0	0	0	0	0	0
	Subdividing tracts of agriculture or forestry land to accommodate future population growth	0	0	0	0	0	0
	Thinning forests to reduce wildfir risks	e O	0	0	0	0	0
	Generating electricity from dams	0	0	0	0	0	0
	Withdrawing water from the Clackamas for domestic uses	0	0	0	0	0	0
6	In general, how supportive of drinking water quality in the					protect or en	hance
	○ Very Supportive	() Neutral		⊖ Very I	Unsupportive	
	O Somewhat Supportive				OSome	what Unsupp	ortive
7	How urgent do you think it i the Clackamas River Waters		lect one)	-	_		r quality in
	O Extremely Urgent		-	hat Urgent	_	Very Urgent	
-	O Very Urgent		OUnsure			At All Urgent	
8	How supportive or unsuppor education programs about w	rtive wou atershee	ıld you be o l stewardsh	f establishing ip?	g or enhancing t	he following	_
	Select one response for each progra	am Su	Very pportive	Supportive	Unsure Un	supportive Ur	Very supportive
	A technical assistance program to ers use watershed friendly practic	help farm		0	0	0	0
		help farm es	-	0 0	0	0 0	0 0
	ers use watershed friendly practic A pesticide stewardship program	help farm res	0	0 0 0	0 0 0	0 0 0	0 0 0

2

How supportive or unsupportive would you be of establishing or enhancing the following types of financial assistance programs for agricultural, forest, and residential landowners in the watershed, assuming they are well-designed and managed by a trustworthy organization?

For each program, select the one best response	Very	Supportive	Unsure	Unsupportive	Very
Grant programs to help landowners do watershed restoration projects	0	0	0	0	0
Grants to residential landowners to fix failing septic systems	0	0	0	0	0
Financial rewards to landowners who maintain streamside forests	0	0	0	0	0
Incentive programs to help agricultural or forestry landowners with the costs of adopting watershed friendly practices	0	0	0	0	0

10 How supportive or unsupportive would you be of the following types of restrictions, assuming they are well-designed and enforced?

For each restriction, select the one response	Very Supportive	Supportive	Unsure	Unsupportive	Very Unsupportive
Restricting the total number of new residences allowed near streams and rivers	0	0	0	0	0
Restricting new residential development in ecologically important areas	0	0	0	0	0
Restricting new septic systems in ecologically important areas	0	0	0	0	0
Restricting the amount of pavement in new residential developments	0	0	0	0	0
Restricting logging near streams	0	0	0	0	0
Requiring the maintenance of natural vegetation near streams	0	0	0	0	0

11

1 How supportive or unsupportive would you be of the following types of open space protections, assuming they are done with willing landowners and managed by a trustworthy organization?

For each open space protection, select the one best response	Very	Supportive	Unsure	Unsupportive	Very
Creating additional parks	0	0	0	0	0
Rewarding landowners financially for limiting residential development on farm and forest land	0	0	0	0	0
Rewarding landowners financially for protecting ecologically important lands	0	0	0	0	0
Buying lands that are ecologically im- portant for conservation	0	0	0	0	0
Using long-term leases to conserve ecologically important lands	0	0	0	0	0

To protect water quality, natural resource managers often recommend a natural or forested area along streams and rivers called a riparian buffer. In general, for the Clackamas River, do you think the following buffers are too small, too big, or just about right?

Select one response for each type of buffer	Too Small	Just About Right	Too Big	Unsure
No buffer	0	0	0	0
10 foot buffer	0	0	0	0
30 foot buffer	0	0	0	0
100 foot buffer	0	0	0	0
200 foot buffer	0	0	0	0
500 foot buffer	0	0	0	0

13 Programs and activities to maintain water quality in the Clackamas River could be implemented by a variety of agencies or organizations. How much do you trust the following types of agencies and organizations to support the health of the Clackamas River Watershed?

For each item, please select the one best response for you.	High Trust	Moderate Trust	A Little Trust	Not Much Trust	Unsure
Federal natural resource agencies	0	0	0	0	0
State natural resource agencies	0	0	0	0	0
Local government (e.g. Metro, City)	\bigcirc	0	0	0	0
Clackamas River Water Providers	0	0	0	0	0
Private landowners	0	0	0	0	0
Urbanites who use the watershed	\bigcirc	0	0	0	0
Non-profit organizations	\bigcirc	0	0	0	0
Soil & Water Conservation Districts	0	0	0	0	0

Protecting Drinking W<u>ater</u>

Investing in Source Watershed Protection

Source Water Protection — Working with willing upstream landowners on projects to maintain and restore natural areas, wetlands, and riparian habitats. Source water protection may involve:

- Paying landowners to maintain buffers around streams
- Planting native trees and plants

• **Providing assistance to landowners who adopt new practices** • **Delivering education programs** These efforts can help ensure water quality for downstream drinking water, and may prolong or reduce the need to make facility upgrades and purchase new technology for water treatment facilities.

14 How much are you willing to pay to support source water protection programs if it meant funding water quality projects on land owned by willing private property owners?

Amount of support	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
1 cent per month	0	0	0	0	0
50 cents per month	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
\$1 per month	0	\bigcirc	0	0	0
\$3 per month	\bigcirc	0	\bigcirc	\bigcirc	\bigcirc
\$5 per month	0	0	0	0	0
\$10 per month	0	0	\bigcirc	0	0

4

How much are you willing to pay to support source water protection if it meant funding water quality projects on U.S. Forest Service property? For reference, the U.S. Forest Service is the biggest land manager in the Clackamas River watershed.

Amount of support	Definitely	Probably	Unsure	Probably	Definitely
1 cent per month	0	0	0	0	0
50 cents per month	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
\$1 per month	0	0	0	0	0
\$3 per month	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0
\$5 per month	0	0	0	0	0
\$10 per month	0	0	0	0	0

16

How much are you willing to pay to support facility upgrades and new technology at your water provider's treatment plant?

Amount of support	Definitely Yes	Probably Yes	Unsure	Probably Not	Definitely Not
1 cent per month	0	0	0	0	0
50 cents per month	\bigcirc	\bigcirc	0	\bigcirc	0
\$1 per month	0	0	0	0	0
\$3 per month	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
\$5 per month	0	0	0	0	0
\$10 per month	0	0	0	0	0

Your Use of Water

How you use water and how you conserve it

Understanding water consumers' current uses and needs for water can **help water resource managers develop strategies to avoid restrictions** to water use. Please tell us about your current water use and perspectives on water conservation.

17	Do you have a yard or outdoor area that requires watering to keep vegetation alive?					
	() Yes	O No, if no please skip to question #20 (next page)				
18	During the summer, how often do you (Select one)	typically water your outdoor vegetation, including lawn?				
	OEvery day	Once a week				
	OEvery other day	\bigcirc 0nce or twice a month				
	\bigcirc 2-3 times a week	O Less than once a month (I let my outdoor areas die back)				
19	When you water your yard, including (check all that apply)	your lawn, what type of water system do you typically use?				
	Automatic irrigation system	Watering can, jug or container				
	Manual sprinkler system or ho (shower, sink)	se Recycled water from household use				
	Drip irrigation or soaker hose	□ Other:				

5

How much do you agree or disagree with the following statements about water conservation?							
Select one response for each statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree		
I make sure to install water saving devices in my house (e.g., low flow showerheads and faucets)	0	0	0	0	0		
I have purchased water efficient appliances for my home (e.g., dishwasher, washing machine, toilets)		0	0	0	0		
I think about water conservation daily	0	0	0	0	0		
Due to ongoing drought conditions, I understand that my community may have to implement more aggressive water conservation measures	0	0	0	0	0		
If my water provider asked me to participate in a water conservation program, I can see signing up	0	0	0	0	0		
If I knew my neighbors were involved in a water conservation program, I would be more likely to	0	0	0	0	0		

How much do you agree or disagree with the following statements about yard and lawn maintenance?

Select one response for each statement	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
A well-maintained and well-manicured lawn improves prestige and home value	0	0	0	0	0
The appearance of a well-maintained neighborhood helps to reduce property crime	0	0	0	0	0
I feel pressure from neighbors to keep my lawn and yard well maintained	0	0	0	0	0
Lawn and yard maintenance practices in my neighborhood are influenced by the rules set forth by my homeowner association	0	0	0	0	0
Where I live, homeowners must have grass or some form of lawn cover on their yards	0	0	0	0	0
The community I live in encourages homeowners to plant alternatives to grass lawns, such as native or other drought resistant plants	0	0	0	0	0
I find a brown lawn visually unappealing	0	0	0	0	0
I have drought tolerant vegetation in my yard	0	0	0	0	0
I use more water in the summer than winter	0	0	0	0	0
The price of water influences how much I use	0	0	0	0	0

	Climate and Water	Your views on climate	e and its ii	mpact on wa	ater				
	-	limate change is the idea that the world's average temperature has been increasing over the ast 150 years and may continue to increase.							
22	O Very	How knowledgeable are you about climate change (Select one) O Very knowledgeable O Slightly O Not very O knowledgeable Knowledgeable							
23	Please indicate the	he extent to which you a	agree or d	isagree with	the following	statements.			
	Select one respo	nse for each statement	Strongly Agree		Neither Agree nor Disagree	Somewhat Stro Disagree Disa	ongly agree		
		nate change will have dire life, including humans	0	0	0	0	0		
	Climate might be cha as it is being portray	anging but it is not as bad red	0	0	0	0	0		
		othing we can do to stop use it is out of our control	0	0	0	0	0		
24		u agree or disagree wit in the Clackamas River		-	ents about th	e impacts of cl	imate		
		nange will	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree		Strongly Disagree		
		pply due to declines in nter rain, less winter snow)	0	0	0	0	0		
		pply due to increased more water when it's hot)	0	0	0	0	0		
	Threaten drinking increase in extreme	water quality due to an storms	0	0	0	0	0		
	Threaten the way I	make a living	0	0	0	0	0		
	Threaten my quali	ty of life	Õ	Õ	Õ	Õ	Õ		
	Not threaten drink technology will prov climate changes	ing water because vide clean water even if	0	0	0	0	0		
	Improve the way I	make a living	0	0	0	0	0		
	Improve my qualit	y of life	0	0	0	0	0		
	Cause people to mov	ve to Clackamas County	0	0	0	0	0		
	Cause people to mov	ve out of Clackamas County	0	0	0	0	0		
25	How much do yo	u agree or disagree wit	h the follo	wing about l	Pacific Northv	vest climate?			
	Select one respons	se for each statement	Strongly	Somewhat	Neither Agre	e Somewhat S	trongly		
	Winters are becomin	ng warmer	0	0	0	0	0		
	Winters are becomin	ng shorter	0	0	0	0	0		
	Summers are becom	-	0	0	0	0	0		
	Summers are becom	ing longer	0	0	0	0	0		
							7		

	About You	Please tell us a little about yourself. Your responses are entirely confidential		
26	What is your gender? O Male O Female			
27	What year were you born?			
28	Do you consider Clackamas County to be your home? O Yes O No			
29	Do you rent or own the home you live in? O Rent O Own			
30	In what year was your house built?			
31	What is the size of the property you live on in acres? Or in square feet?			
32	How many people live in your household including yourself? Adults (18+): Children:			
33	nature? (Please s O Very cons			
34	Please estimate y O Less than O \$25,000-\$	<u> </u>		
	\$50,000-\$	\$74,999	\$200,000	
35	What is the highest level of school you have completed? (Please select one) O Less than High School degree O Associate's degree (2 yr) O High School degree or equivalent O Bachelor's degree (4 yr) O Some college, no degree O Graduate or professional degree			
Please use the space below to write any additional comments you have about your connection to the Clackamas River watershed, or managing the watershed for the benefits it provides to our region.				
	Thank you fo	for your participation in this study! If you have any questions, please contact:		
	Dan Larson, Ph.D. StudentMax Nielsen-Pincus, Assistant Professor503-850-8209 / dlar2@pdx.edu503-725-2827 / maxnp@pdx.edu			