

FRESHWATER PERSPECTIVES PUBLIC BENCHMARK SURVEY

FINAL REPORT

October 5, 2021

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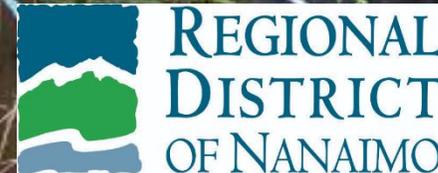


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INTRODUCTION

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Background and Objectives

This report presents the findings of the Regional District of Nanaimo's Freshwater Perspectives Public Benchmark Survey.

The main objective of the research is to better understand community perspectives, behaviours, and priorities concerning freshwater resources in the region.

Specific objectives include:

- Measure the importance of local freshwater issues
- Understand the reasons for conserving water
- Determine water conservation and preservation habits, behaviours, and actions
- Identify barriers to outdoor water conservation
- Measure awareness of local rain gardens
- Measure awareness of and involvement in the Regional District of Nanaimo's Drinking Water and Watershed Protection program
- Measure awareness of drinking water sources and watersheds
- Obtain suggestions for things the Regional District of Nanaimo can do to preserve and protect the local freshwater supply

This year's survey will act as a benchmark against which follow up surveys can be compared to gauge change and progress. The Regional District of Nanaimo anticipates conducting a total of two follow up surveys in 5-year increments.



Methodology

Ipsos conducted a total of 1,393 surveys with adult (18+ years) Regional District of Nanaimo residents using a mixed telephone/online survey methodology. All fieldwork was conducted between June 28 and August 2, 2021.

The telephone survey was conducted using a combination of landline and cellphone sample, and primarily focused on residents of Nanaimo, Parksville, Qualicum Beach, and Lantzville. Residents who declined to participate in the telephone survey were offered the option of completing it online.

While some Electoral Area residents were also included as part of the random telephone dialing, these areas were more difficult to target using a telephone survey approach. To boost the Electoral Area sample, the Regional District of Nanaimo mailed online survey invitation postcards to a random sample of 10,000 residents living in one of these areas. Each postcard included a unique link to the online survey, along with a toll-free number that residents could call if they preferred to complete the survey over the telephone with an Ipsos interviewer. Ipsos provided the unique links and toll-free number for the survey invitation postcard; the Regional District of Nanaimo was responsible for all other aspects of the mail-out.

In total, 800 surveys were completed via the telephone and 593 surveys were completed online. The data from the telephone and online surveys were combined to form the final sample of 1,393. All respondents had to answer an upfront screening question to confirm residency in the Regional District of Nanaimo.

The final data has been weighted to ensure that the gender/age and community distribution reflects that of the actual population in the Regional District of Nanaimo according to 2016 Census data. A summary of the unweighted and weighted sample sizes within each community can be found in the table to the right.

The overall margin of error on the 1,393 surveys is $\pm 3.4\%$, 19 times out of 20. The impact of survey weighting (i.e., correcting for the over-sampling of Electoral Areas) means the margin of error is slightly wider than the $\pm 2.6\%$ margin of error that would occur in a regionally proportionate sample of 1,393 respondents.

Community	Unweighted Sample Size	Weighted Sample Size
Nanaimo	361	815
Parksville	122	113
Qualicum Beach	106	81
Lantzville	73	32
Electoral Area A	98	64
Electoral Area B	108	36
Electoral Area C	62	25
Electoral Area E	154	55
Electoral Area F	87	70
Electoral Area G	135	67
Electoral Area H	87	35

Interpreting and Viewing the Results

Some totals in the report may not add to 100%. Some summary statistics (e.g., total important) may not match their component parts. The numbers are correct, and the apparent errors are due to rounding.

Analysis of some of the statistically significant demographic results is included where applicable. While a number of significant differences may appear in the cross-tabulation output, not all differences warrant discussion.



EXECUTIVE SUMMARY

2

Executive Summary

PERSPECTIVES AND PRIORITIES

All the evaluated freshwater issues are important to residents. Overall, residents attach the greatest importance to availability of supply for long-term community needs with a growing population (96%), seasonal droughts and the effect of low streamflows on fish, wildlife and communities (96%), retention and restoration of streamside trees and vegetation to protect stream water quality (95%), and aquatic habitat loss or degradation (94%). In comparison, slightly less emphasis is placed on access to recreational freshwater locations (89%) and stormwater run-off pollution (88%), although these are still deemed important by a strong majority of residents.

HABITS, BEHAVIOURS, AND ACTIONS

Motivations for conserving water encompass a variety of environmental, social, and financial factors. Overall, the three most important reasons for conserving water are *to be environmentally responsible considering water needs for fish and aquatic ecosystems (97%), to be socially responsible about a vital shared resource (94%), and because we may face reduced water availability and local water shortages due to climate change (93%)*. Other important reasons include *because it means that less sewage will be disposed into the environment (89%) and to save money on water and energy bills (83%)*. In comparison, less emphasis is placed on *to avoid or postpone the costs of new water infrastructure (65%)*, although this is still important to two-thirds of residents.

Most residents repair leaks promptly, and many also demonstrate some degree of knowledge sharing and monitoring their water use. Activities focused on collecting and reusing water are less common. Nine-in-ten (90%) residents say they regularly (combined 'always/often/sometimes' responses) *repair leaky toilets and faucets promptly*. Other relatively common water conservation behaviours include *share your knowledge about saving water through conservation and efficiency with your family, friends, and neighbours (66%) and monitor your water usage on your water bill, water meter or well level monitoring device (63%)*. Only a minority say they *collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions (37%) and collect and re-use greywater, the wastewater that comes from baths, showers, sinks, and washing machines (19%)*.

Executive Summary

HABITS, BEHAVIOURS, AND ACTIONS (cont'd)

Virtually all residents with a lawn demonstrate some positive water behaviours, with avoiding pesticides and letting lawns go dormant the two most common behaviours. Overall, 70% of residents say they have a lawn at their current place of residence for which they are personally responsible for maintaining. Among these residents, 99% say they take at least one of the desired actions evaluated in the survey. The two most common behaviours are avoiding pesticides (88% say they do not apply pesticides or herbicides) and let your lawn go 'dormant' or golden in the summertime by not watering it (75%). Fewer say they plant native species to 're-wild' your landscape and reduce your turf area (42%), aerate your lawn and top-dress with compost to improve water penetration and retention (36%), use a programmable timer for irrigation (34%), and water your lawn deeply but infrequently (33%). Just over one-in-ten (12%) say they have a rain sensor that shuts off your irrigation system when it's raining or has recently rained.

Most of those with trees, shrubs, and outdoor plants demonstrate some positive water behaviours. The most common behaviours are watering early in the morning, mulching, and adding compost. Overall, 87% of residents say they have trees, shrubs, and outdoor plants at their current place of residence for which they are personally responsible for maintaining. Among these residents, 91% say they take at least one of the desired actions evaluated in the survey. The most common behaviours are water early in the morning to reduce losses due to evaporation (77%), mulch around plants to conserve soil moisture and moderate soil temperature (67%), and add compost to increase water retention of your soil (62%). Fewer (41%) say they use water-efficient drip irrigation that delivers water right at the base of the plant.

More than four-in-five of those with a vegetable garden demonstrate some positive water behaviours, with placing plants with similar water requirements close together the most common behaviour. Overall, 57% of residents say they have a vegetable garden at their current place of residence for which they are personally responsible for maintaining. Among these residents, 84% say they take at least one of the desired actions evaluated in the survey. The single most common behaviour is place plants with similar water requirements close together (70%). Other less frequently mentioned behaviours include when planting water-loving plants, line the soil with a thick layer of newspaper or other mulch to maximize water retention (44%) and use water-efficient drip irrigation that delivers water right at the base of the plant (39%).

Nearly half of those with a lawn, trees/shrubs/outdoor plants, or a vegetable garden are unable to identify any barriers to conserving more water outdoors. Of the barriers that are mentioned, caring for plants tops the list. Overall, 46% of those with a lawn, trees/shrubs/outdoor plants, or a vegetable garden are unable to identify any specific barriers to conserving water outdoors (includes 24% saying "none/nothing" and 22% saying "don't know"). While the absence of any top-of-mind barriers may mean residents are doing all that can be done, it may also signal a lack of understanding or awareness around all the different ways to conserve water outdoors. Of the barriers that are mentioned, the most frequently mentioned response (coded open-ends) is "don't want plants to die/growing vegetable garden" (9%), followed by "cost/expensive/affordability" (6%) and "weather/climate (dry/hot/lack of rain)" (5%).

Executive Summary

HABITS, BEHAVIOURS, AND ACTIONS (cont'd)

Almost all those with a riparian area demonstrate some positive water behaviours. Most commonly, this includes taking care not to do things that harm the area, such as disposing of yard waste along streambanks and installing seating areas/trails/bridges. A majority also say they remove invasive species. Overall, 16% of residents say they have a riparian area at their current place of residence for which they are personally responsible for maintaining. Among these residents, 98% say they take at least one of the desired actions evaluated in the survey. Most common are the things residents say they do not do, including *dispose yard waste along streambank* (83% no) and *install seating areas, trails, or bridges* (70% no). A majority also say they *remove invasive species* (59%). Fewer (30%) mention *plant additional native species to expand the vegetated buffer beside the stream or river*.

Most residents are unaware of any rain gardens in their community. Only 26% of residents say they are aware of any rain gardens in their community (includes those saying yes to one or more of the evaluated items). Overall, 12% say there is a rain garden *on their property*, 10% say there is a rain garden *on any of their nearby neighbours' properties*, 11% say there is a rain garden *on any nearby public land*, and 6% say there is a rain garden *on the property of any nearby private businesses*.

AWARENESS AND INVOLVEMENT

Two-in-five residents are aware of the Regional District of Nanaimo's Drinking Water and Watershed Protection program. Overall, 41% of residents say they have heard of the DWWP program.

Similarly, two-in-five have participated in at least one of the evaluated activities. Overall, 42% of residents say they have participated in at least one of the evaluated activities. Participation grows to 63% among those aware of the DWWP program. The three most common types of participation are *shared regional water information with friends, family, colleagues, or neighbours* (28% of all residents), *accessed regional water reports and information online* (21%), and *attended an event or workshop about local water issues* (15%). Fewer say they have *applied for a water stewardship rebate – this includes rebates for irrigation updates & soil improvements, rainwater harvesting, SepticSmart, wellhead upgrades, and well water testing* (5%) and *volunteered in a local water monitoring network* (2%).

Executive Summary

AWARENESS AND INVOLVEMENT (cont'd)

There are some misconceptions around where residents get their drinking water. Overall, 36% of residents believe their home's drinking water comes from a *Regional District of Nanaimo operated system*, 21% believe it comes from a *municipal operated system*, and 18% believe it comes from *your own private domestic well*. All other drinking water sources are mentioned by less than 5% of residents. A total of 14% admit to not knowing the source of their home's drinking water. However, although most residents claim to know the source of their home's drinking water, analysis by community reveals there is widespread misunderstanding in this regard, with many residents incorrectly identifying the source of their drinking water. It is also possible that some residents misidentify the community in which they live, which may partly explain some of the misattribution of drinking water sources.

One-third of residents are unsure what watershed they live in. Overall, 32% of residents say they "don't know" what watershed they live in. Nearly one-quarter (23%) believe they live in the *Nanaimo River watershed*. The next most frequently mentioned responses are *Englishman River* (10%) and *French Creek* (7%). However, it is important to recognize that these results reflect what residents *believe* to be their watershed; some misattribution is likely.

Residents offer a number of suggestions for things the Regional District of Nanaimo can do to preserve and protect the local freshwater supply. Overall, the most frequently mentioned suggestion (coded open-ends) is "more public education/awareness/advertising" (12%). This is followed by "manage growth/development" (8%) and "encourage residential/commercial collection of rainwater" (4%). Two-in-five (41%) decline to offer any specific suggestions (includes 8% saying "none/nothing" and 33% saying "don't know").

Conclusions, Implications, and Recommendations

- The conservation and preservation of local freshwater is important to residents. The widespread public acknowledgement of these issues is a sign residents are open to conversations and initiatives aimed at preserving and protecting local freshwater.
- Residents recognize there are a number of important reasons for conserving water. Messages focusing on the environmental, social, and financial benefits will all resonate.
- While residents regularly engage in some water conservation behaviours, water reclamation could be improved. This includes the collection and reuse of both rainwater and greywater.
- Residents are generally taking steps to conserve water outdoors. However, some actions are less common than others, pointing to opportunities for improvement.
 - For example, programs or initiatives that encourage the installation of smart controllers, rain sensors, drip irrigation systems, and the addition of topsoil/mulch/compost will help target some of the lower incidence behaviours.
 - More public education around how to incorporate water conservation into outdoor water use activities may also be of benefit.
- There is room to expand efforts in supporting riparian planting and restoration activities among riparian landowners.
- Similarly, rain garden awareness and participation could be improved.
- The baseline measure of awareness of the Drinking Water and Watershed Protection program is 41%. As more residents become aware of the program, participation in related activities will likely increase.
- Understanding of local drinking water sources and watersheds could be improved.

DETAILED RESULTS

3

PERSPECTIVES AND PRIORITIES

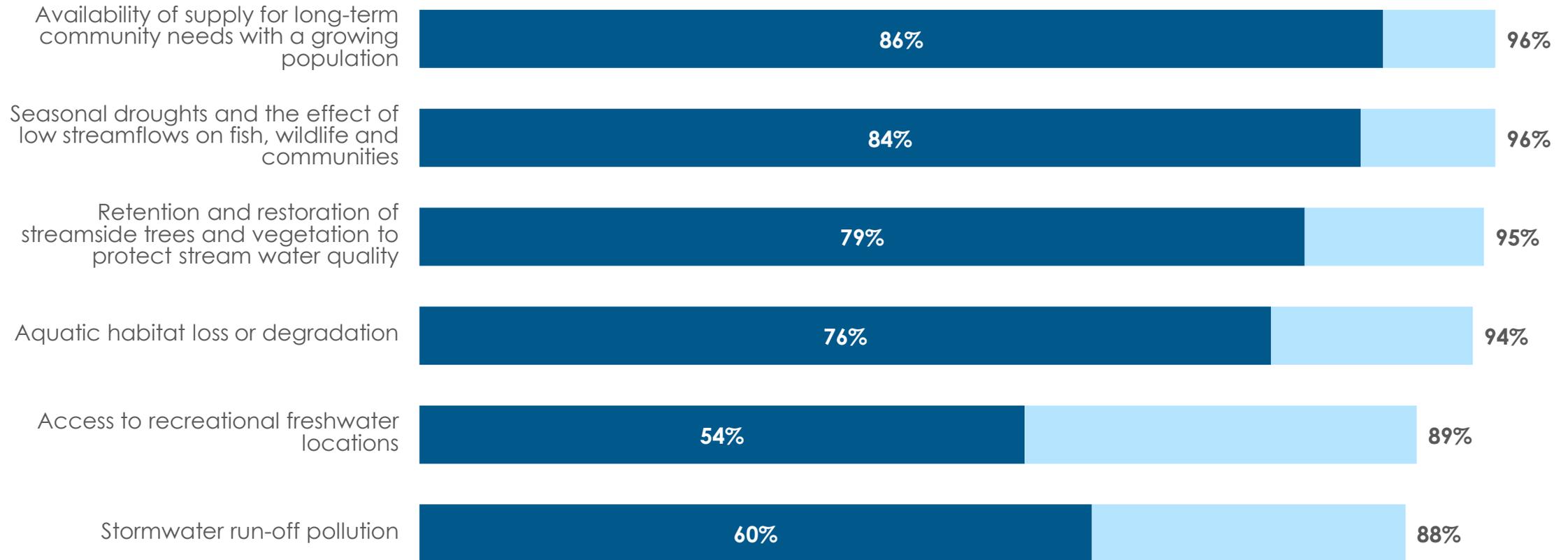
Important Freshwater Issues

All the evaluated freshwater issues are important to residents. Overall, residents attach the greatest importance (combined 'very/somewhat important' responses) to *availability of supply for long-term community needs with a growing population (96%), seasonal droughts and the effect of low streamflows on fish, wildlife and communities (96%), retention and restoration of streamside trees and vegetation to protect stream water quality (95%), and aquatic habitat loss or degradation (94%)*. These four issues also receive high 'very important' scores. In comparison, slightly less emphasis is placed on *access to recreational freshwater locations (89%) and stormwater run-off pollution (88%)*. However, these are still deemed important by a strong majority of residents.

- The importance of freshwater issues is largely consistent by community, with some exceptions. Most notably:
 - Those living in Electoral Area C are *less likely to say that availability of supply for long-term community needs with a growing population is important (88%)*, which may be at least partly attributed to an overall lower level of growth in this area as compared to elsewhere in the region.
 - Those living in Electoral Area B (which is surrounded by ocean recreation opportunities) are *less likely to say that access to recreational freshwater locations is important (64%)*.

Important Freshwater Issues

Very important Somewhat important Total Important



Base: All respondents (n=1,393)

Q3. This survey is about freshwater. By freshwater, we mean the region's lakes, rivers, streams, and ground water. In your opinion, how important are each of the following freshwater issues in the Regional District of Nanaimo? (Scale: very important, somewhat important, not very important, not at all important, don't know)

Important Freshwater Issues

By Community

■ HIGHEST ■ LOWEST

% TOTAL IMPORTANT												
	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
Availability of supply for long-term community needs with a growing population	96%	96%	98%	98%	97%	99%	97%	88%	99%	95%	96%	91%
Seasonal droughts and the effect of low streamflows on fish, wildlife and communities	96%	95%	97%	98%	96%	95%	96%	93%	96%	97%	99%	97%
Retention and restoration of streamside trees and vegetation to protect stream water quality	95%	94%	98%	95%	96%	97%	96%	97%	98%	98%	99%	96%
Aquatic habitat loss or degradation	94%	92%	94%	93%	92%	98%	96%	97%	96%	97%	96%	98%
Access to recreational freshwater locations	89%	91%	90%	86%	88%	88%	64%	88%	85%	87%	85%	81%
Stormwater run-off pollution	88%	88%	88%	83%	87%	87%	83%	92%	90%	84%	88%	86%

*Small base size (<100), interpret with caution.

Base: All respondents

Q3. This survey is about freshwater. By freshwater, we mean the region's lakes, rivers, streams, and ground water. In your opinion, how important are each of the following freshwater issues in the Regional District of Nanaimo? (Scale: very important, somewhat important, not very important, not at all important, don't know)

HABITS, BEHAVIOURS, AND ACTIONS

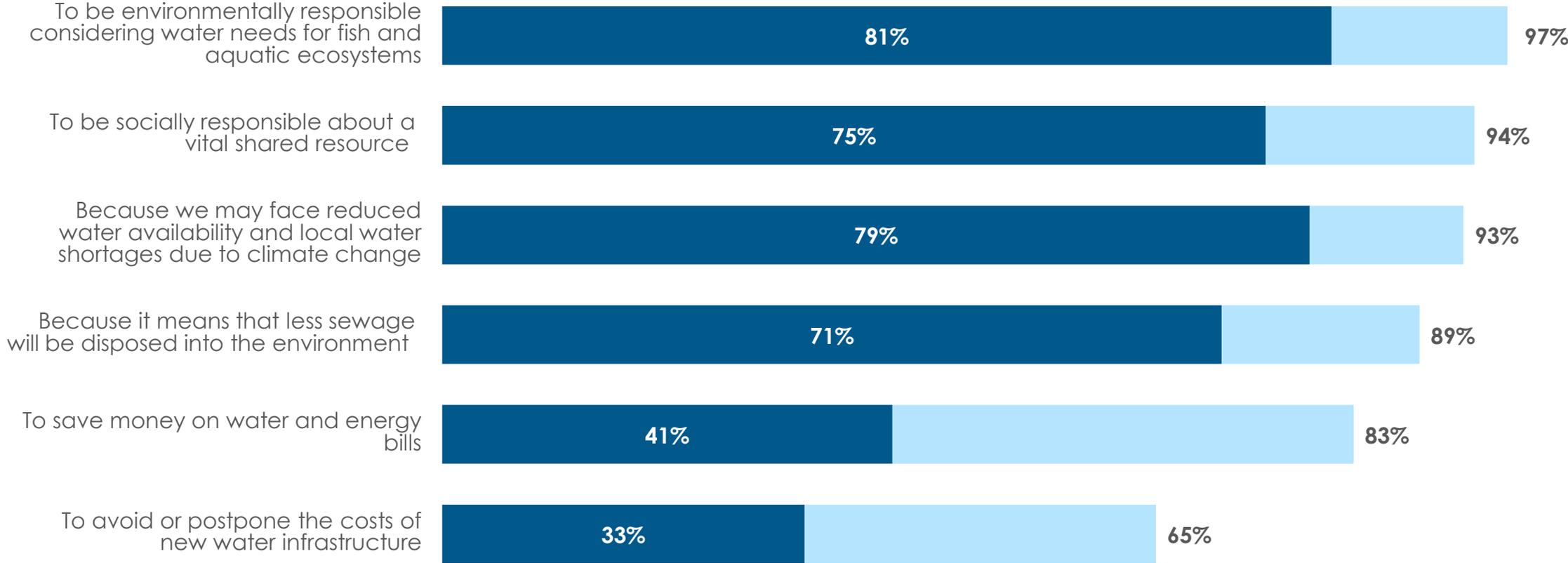
Important Reasons for Conserving Water

Motivations for conserving water encompass a variety of environmental, social, and financial factors. Overall, the three most important (combined 'very/somewhat important' responses) reasons for conserving water are *to be environmentally responsible considering water needs for fish and aquatic ecosystems (97%), to be socially responsible about a vital shared resource (94%), and because we may face reduced water availability and local water shortages due to climate change (93%)*. Other important reasons include *because it means that less sewage will be disposed into the environment (89%) and to save money on water and energy bills (83%)*. In comparison, less emphasis is placed on *to avoid or postpone the costs of new water infrastructure (65%)*, although this is still important to two-thirds of residents.

- The top three reasons for conserving water are consistent across all communities with the exceptions of Qualicum Beach and Parksville, where residents attach an equally high importance to reducing sewage (95% of Qualicum Beach residents and 94% of Parksville residents say water conservation is important *because it means that less sewage will be disposed into the environment*). In comparison, only 76% of those living in Electoral Area C say this is an important reason for conserving water.
- Other noteworthy community differences include:
 - Those living in Electoral Area B are *less likely to say to save money on water and energy bills is important (59%)*.
 - Opinion is mixed on the importance of *to avoid or postpone the costs of new water infrastructure*, ranging from a *high* of 78% in Electoral H to a *low* of 53% in both Electoral Area B and Electoral Area F. Within the municipalities, importance is *higher* in Parksville and Lantzville (74% and 73%, respectively) and *lower* in Nanaimo (64%) and Qualicum Beach (68%).
- The reasons for conserving water are generally consistent by age, with one notable exception: older residents (55+ years) are *more likely to be motivated by to avoid or postpone the costs of new water infrastructure (68% important versus 56% of 18-34 years, 64% of 35-54 years)*.
- Those who get their drinking water from a communal water systems group (includes a Regional District of Nanaimo operated system, a municipal operated system, an improvement district operated system, and a small community water system) are *more likely than those relying on a private domestic well to emphasize to save money on water and energy bills (83% versus 73%)*. This may be less of a consideration for those on a private domestic well because they do not receive a water bill and are thus not directly impacted by this type of cost savings.
- The emphasis placed on *to avoid or postpone the costs of new water infrastructure is directionally higher among those who get their drinking water from a communal water systems group (65%) than those who rely on a private domestic well (59%)*. However, this difference is not statistically significant.

Important Reasons for Conserving Water

Very important Somewhat important Total Important



Base: All respondents (n=1,393)
Q4. The following are some reasons for conserving water. How important are each of these to you personally, using a scale of very important, somewhat important, not very important, not at all important, don't know?



Important Reasons for Conserving Water

By Community

■ HIGHEST ■ LOWEST

	% TOTAL IMPORTANT											
	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
To be environmentally responsible considering water needs for fish and aquatic ecosystems	97%	97%	98%	96%	97%	97%	95%	92%	95%	97%	98%	96%
To be socially responsible about a vital shared resource	94%	95%	95%	93%	93%	93%	97%	91%	93%	91%	93%	93%
Because we may face reduced water availability and local water shortages due to climate change	93%	93%	93%	95%	90%	94%	91%	87%	92%	94%	90%	92%
Because it means that less sewage will be disposed into the environment	89%	90%	94%	95%	84%	86%	81%	76%	85%	83%	89%	85%
To save money on water and energy bills	83%	85%	87%	80%	83%	76%	59%	76%	73%	72%	86%	82%
To avoid or postpone the costs of new water infrastructure	65%	64%	74%	68%	73%	58%	53%	61%	58%	53%	68%	78%

*Small base size (<100), interpret with caution.

Base: All respondents

Q4. The following are some reasons for conserving water. How important are each of these to you personally, using a scale of very important, somewhat important, not very important, not at all important, don't know?

Important Reasons for Conserving Water

By Drinking Water Source

■ HIGHEST ■ LOWEST

	% TOTAL IMPORTANT					
	Total (n=1,393)	Communal Water Systems Group* (n=770)	Private domestic well (n=386)	Water delivery (n=53)**	Rainwater collection (n=77)**	Other (n=83)**
To be environmentally responsible considering water needs for fish and aquatic ecosystems	97%	98%	95%	99%	95%	95%
To be socially responsible about a vital shared resource	94%	95%	91%	97%	99%	91%
Because we may face reduced water availability and local water shortages due to climate change	93%	93%	91%	93%	95%	90%
Because it means that less sewage will be disposed into the environment	89%	90%	83%	93%	92%	86%
To save money on water and energy bills	83%	83%	73%	78%	84%	86%
To avoid or postpone the costs of new water infrastructure	65%	65%	59%	68%	60%	74%

*Includes Regional District of Nanaimo operated system, municipal operated system, improvement district operated system, and small community water system.

**Small base size (<100), interpret with caution.

Base: All respondents

Q4. The following are some reasons for conserving water. How important are each of these to you personally, using a scale of very important, somewhat important, not very important, not at all important, don't know?

Frequency of Water Conservation Behaviours

Most residents repair leaks promptly, and many also demonstrate some degree of knowledge sharing and monitoring their water use. Activities focused on collecting and reusing water are less common. Nine-in-ten (90%) residents say they regularly (combined 'always/often/sometimes' responses) *repair leaky toilets and faucets promptly*, including 69% saying this is something they 'always' do. Other relatively common water conservation behaviours include *share your knowledge about saving water through conservation and efficiency with your family, friends, and neighbours* (66% 'always/often/sometimes') and *monitor your water usage on your water bill, water meter or well level monitoring device* (63%). Only a minority say they *collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions* (37%) and *collect and re-use greywater, the wastewater that comes from baths, showers, sinks, and washing machines* (19%).

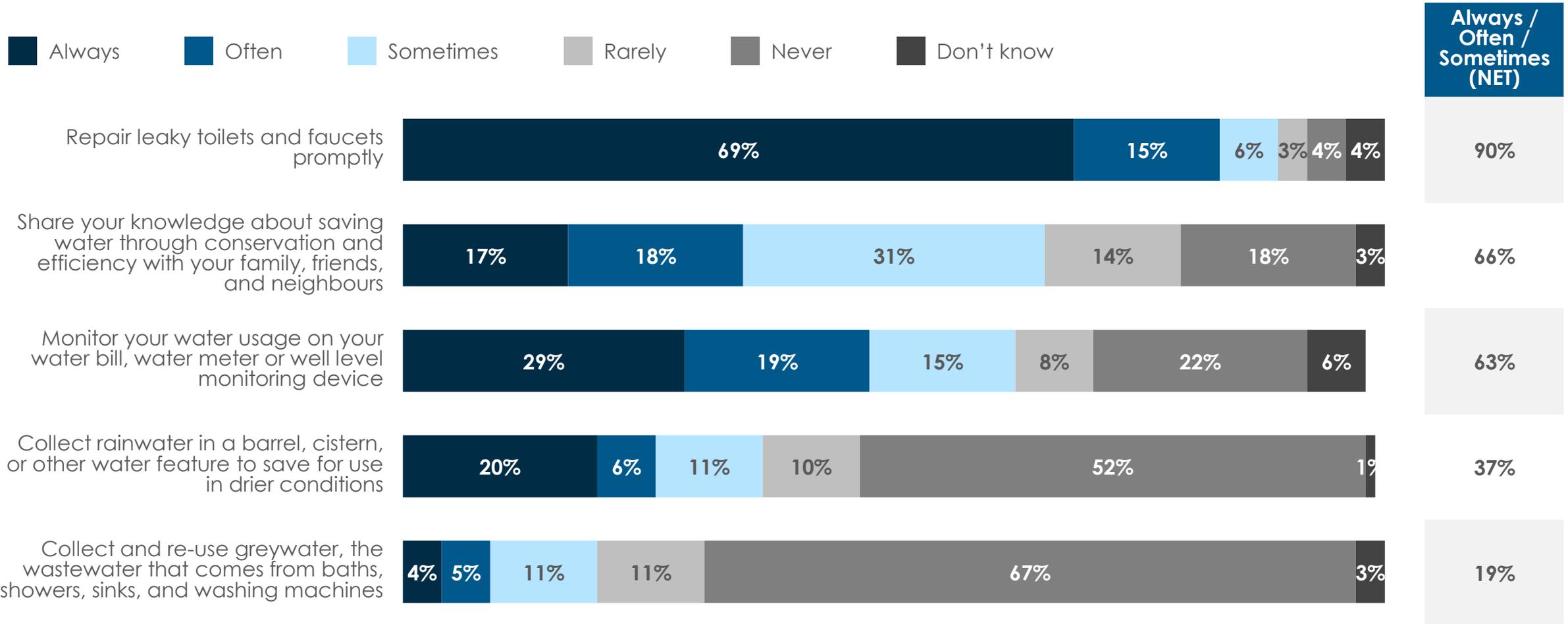
- Water conservation behaviours vary by community – highlights include:
 - Overall, Nanaimo residents are generally *less likely* to say they regularly engage in all the evaluated water conservation behaviours, which may be at least partly attributed to the fact that they are also *less likely* to be homeowners and live in single, detached houses (see last two bullets below).
 - Those living in Electoral Area B are *more likely* to say they regularly *share your knowledge about saving water through conservation and efficiency with your family, friends, and neighbours* (85%), *collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions* (85%), and *collect and re-use greywater, the wastewater that comes from baths, showers, sinks, and washing machines* (47%).
 - Residents of Electoral Area G and Electoral Area H are *more likely* to say they regularly *monitor your water usage on your water bill, water meter or well level monitoring device* (86% and 85%, respectively).
- Older residents (55+ years of age) are *more likely* to say they regularly participate in all the evaluated water conservation behaviours.
- Homeowners are *more likely* than renters to say they regularly participate in several of the evaluated water conservation behaviours, including *repair leaky toilets and faucets promptly* (93% versus 81%), *monitor your water usage on your water bill, water meter or well level monitoring device* (70% versus 45%), and *collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions* (41% versus 27%).
- Those living in single, detached houses are *more likely* than those living in another type of housing to say they *repair leaky toilets and faucets promptly* (95% versus 80%), *monitor your water usage on your water bill, water meter or well level monitoring device* (71% versus 46%), and *collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions* (44% versus 19%).

Frequency of Water Conservation Behaviours (cont'd)

Water conservation behaviours also vary depending on how residents get their drinking water. For example, those relying on rainwater collection are some of the *most likely* to consistently say they regularly participate in many of the evaluated activities. Other highlights include:

- *Repair leaky toilets and faucets promptly* is mentioned *most often* by those on an improvement district operated system (99%) and *least often* by those on a Regional District of Nanaimo operated system (89%).
- *Share your knowledge about saving water through conservation and efficiency with your family, friends, and neighbourhoods* is mentioned *most often* by those relying on rainwater collection (84%) and *least often* by those on an improvement district operated system (61%).
- *Monitor your water usage on your water bill, water meter or well level monitoring device* is mentioned *most often* by those on an improvement district operated system (83%) and *least often* by those on a small community water system (54%).
- *Collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions* is mentioned *most often* by those relying on rainwater collection (92%) and *least often* by those on a municipal operated system (24%).
- *Collect and re-use greywater, the wastewater that comes from baths, showers, sinks, and washing machines* is mentioned *most often* by those relying on rainwater collection (45%) and *least often* by those on a Regional District of Nanaimo operated system (13%).

Frequency of Water Conservation Behaviours



Base: All respondents (n=1,393)
 Q5. How frequently do you personally do each of the following, using a scale of always, often, sometimes, rarely, never, don't know?

Frequency of Water Conservation Behaviours

By Community

■ HIGHEST ■ LOWEST

	% ALWAYS/OFTEN/SOMETIMES											
	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
Repair leaky toilets and faucets promptly	90%	86%	91%	94%	91%	94%	94%	95%	98%	95%	98%	97%
Share your knowledge about saving water through conservation and efficiency with your family, friends, and neighbours	66%	63%	66%	66%	71%	73%	85%	63%	64%	70%	70%	66%
Monitor your water usage on your water bill, water meter or well level monitoring device	63%	60%	60%	74%	64%	60%	61%	60%	71%	62%	86%	85%
Collect rainwater in a barrel, cistern, or other water feature to save for use in drier conditions	37%	28%	34%	49%	54%	49%	85%	63%	34%	65%	47%	49%
Collect and re-use greywater, the wastewater that comes from baths, showers, sinks, and washing machines	19%	14%	19%	29%	25%	25%	47%	26%	20%	27%	20%	32%

*Small base size (<100), interpret with caution.

Base: All respondents

Q5. How frequently do you personally do each of the following, using a scale of always, often, sometimes, rarely, never, don't know?

Water Behaviours: Lawn

Virtually all residents with a lawn demonstrate some positive water behaviours, with avoiding pesticides and letting lawns go dormant the two most common behaviours. Overall, 70% of residents say they have a lawn at their current place of residence for which they are personally responsible for maintaining.

- Lawns are *most* common in Electoral Area H (87%) and *least* common in Electoral Area B (60%).
- The incidence of having a lawn is statistically consistent across all age groups.

Among residents with a lawn, 99% say they take at least one of the desired actions evaluated in the survey. The two most common behaviours are avoiding pesticides (88% say they do not apply pesticides or herbicides) and *let your lawn go 'dormant' or golden in the summertime by not watering it* (75%). Fewer say they *plant native species to 're-wild' your landscape and reduce your turf area* (42%), *aerate your lawn and top-dress with compost to improve water penetration and retention* (36%), *use a programmable timer for irrigation* (34%), and *water your lawn deeply but infrequently* (33%). Just over one-in-ten (12%) say they *have a rain sensor that shuts off your irrigation system when it's raining or has recently rained*.

- Residents in all communities say they take at least one of the desired actions with their lawn. However, the incidence of participating in individual behaviours varies widely. For example:
 - Not applying pesticides or herbicides is mentioned *most* often by those in Electoral Area B (97%) and *least* often by those in Electoral Area G (78%).
 - *Let your lawn go 'dormant' or golden in the summertime by not watering it* is mentioned *most* often by those in Electoral Area B (94%) and *least* often by those in Qualicum Beach and Electoral Area G (both 64%).
 - *Plant native species to 're-wild' your landscape and reduce your turf area* is mentioned *most* often by those in Electoral Area H (62%) and *least* often by those in Parksville (38%).
 - *Aerate your lawn and top-dress with compost to improve water penetration and retention* is mentioned *most* often by those in Electoral Area G (52%) and *least* often by those in Electoral Area A and Electoral Area F (both 23%).
 - *Use a programmable timer for irrigation* is mentioned *most* often by those in Electoral Area E (65%) and *least* often by those in Electoral Area B (18%).
 - *Water your lawn deeply but infrequently* is mentioned *most* often by those in Electoral Area E (39%) and *least* often by those in Electoral Area A (11%).
 - *Have a rain sensor that shuts off your irrigation system when it's raining or has recently rained* is mentioned *most* often by those in Electoral Area G (30%) and *least* often by those in Lantzville, Electoral Area B, and Electoral Area F (all 9%).

Water Behaviours: Lawn (cont'd)

Other demographic differences include:

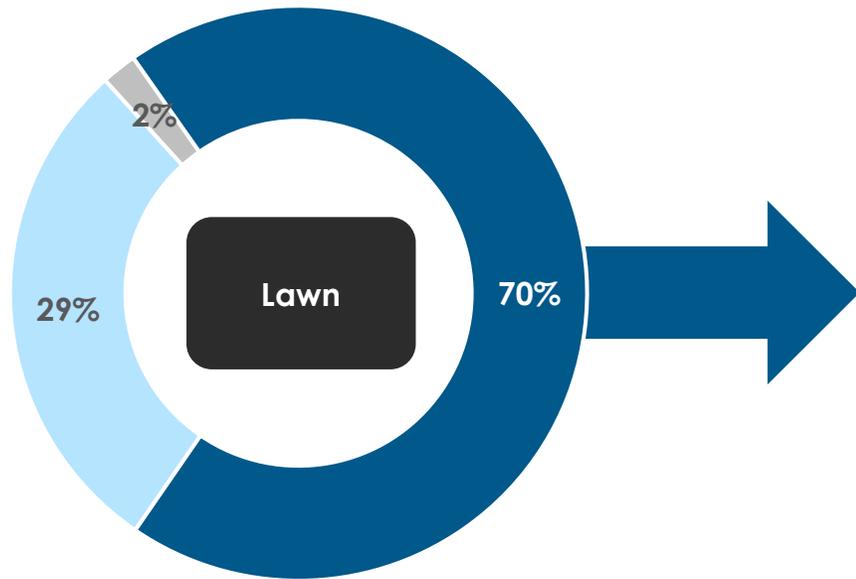
- Older residents (55+ years) are more likely to say they *aerate your lawn and top-dress with compost to improve water penetration and retention* (44% versus 22% of 18-34 years, 30% of 35-54 years) and *use a programmable timer for irrigation* (45% versus 12% of 18-34 years, 27% of 35-54 years). However, they are less likely to say they *let your lawn go 'dormant' or golden in the summertime by not watering it* (70% versus 80% of 35-54 years, 78% of 18-34 years).
- Homeowners are more likely than renters to demonstrate a number of these behaviours, including *plant native species to 're-wild' your landscape and reduce your turf area* (46% versus 28%), *aerate your lawn and top-dress with compost to improve water penetration and retention* (41% versus 20%), *use a programmable timer for irrigation* (39% versus 15%), and *have a rain sensor that shuts off your irrigation system when it's raining or has recently rained* (14% versus 3%). However, homeowners are also slightly more likely than renters to say they *apply pesticides or herbicides* (10% versus 2%).
- There is also some variation in behaviour depending on how residents get their drinking water. For example, those who get their water from a municipal or Regional District of Nanaimo operated system are more likely than those using a private domestic well to say that they *aerate your lawn and top-dress with compost to improve water penetration and retention* (47% and 37% versus 26%, respectively) and *water your lawn deeply but infrequently* (41% and 34% versus 19%). Conversely, those using a private domestic well are more likely to say they *let your lawn go 'dormant' or golden in the summertime by not watering it* (89% versus 66% of those on a municipal operated system and 70% of those on a Regional District of Nanaimo operated system).

Of note, 19% of those with a lawn say they do both of the following: *let your lawn go 'dormant' or golden in the summertime by not watering it* and *water your lawn deeply but infrequently*. Seven-in-ten (70%) say they do only one of these, and 9% say they do neither.

Water Behaviours: Lawn

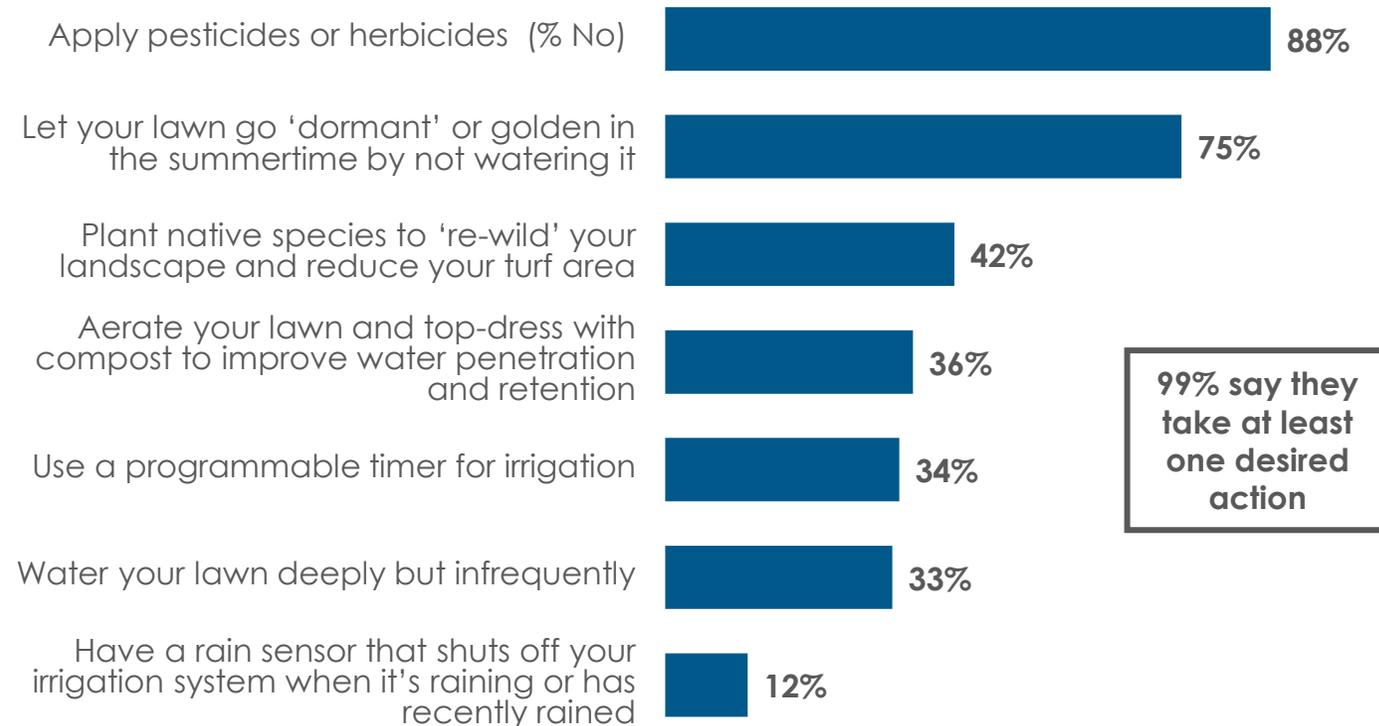
HAVE AT PLACE OF RESIDENCE

■ Yes
 ■ No
 ■ Don't know



Base: All respondents (n=1,393)
 Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

ACTIONS TAKEN (% YES)



99% say they take at least one desired action

Note: "Apply pesticides or herbicides" reversed, shows those responding "No".
 Base: Have lawn (n=1,015)
 Q7. Which of the following actions do you currently take with your lawn?

Water Behaviours: Lawn

By Community

■ HIGHEST ■ LOWEST

	Total	Nanaimo	Parksville	Qualicum Beach	Lantzville	Electoral Area A	Electoral Area B	Electoral Area C	Electoral Area E	Electoral Area F	Electoral Area G	Electoral Area H
HAVE AT PLACE OF RESIDENCE (% YES)	(n=1,393)	(n=361)	(n=122)	(n=106)	(n=73)*	(n=98)*	(n=108)	(n=62)*	(n=154)	(n=87)*	(n=135)	(n=87)*
Lawn	70%	66%	66%	82%	79%	84%	60%	86%	71%	76%	75%	87%
ACTIONS TAKEN (% YES)	(n=1,015)	(n=237)	(n=80)*	(n=87)*	(n=58)*	(n=83)*	(n=65)*	(n=53)*	(n=109)	(n=66)*	(n=101)	(n=76)*
Apply pesticides or herbicides (% No)	88%	90%	87%	90%	85%	89%	97%	95%	81%	90%	78%	85%
Let your lawn go 'dormant' or golden in the summertime by not watering it	75%	71%	82%	64%	87%	91%	94%	92%	66%	88%	64%	74%
Plant native species to 're-wild' your landscape and reduce your turf area	42%	39%	38%	45%	47%	50%	57%	50%	46%	53%	41%	62%
Aerate your lawn and top-dress with compost to improve water penetration and retention	36%	36%	33%	48%	30%	23%	27%	25%	46%	23%	52%	41%
Use a programmable timer for irrigation	34%	27%	45%	45%	29%	28%	18%	27%	65%	32%	62%	39%
Water your lawn deeply but infrequently	33%	37%	31%	37%	21%	11%	12%	16%	39%	24%	38%	36%
Have a rain sensor that shuts off your irrigation system when it's raining or has recently rained	12%	10%	10%	14%	9%	12%	9%	11%	22%	9%	30%	17%
TOTAL TAKE AT LEAST ONE DESIRED ACTION	99%	99%	99%	100%	100%	99%	100%	100%	100%	100%	100%	100%

*Small base size (<100), interpret with caution.

Base: All respondents

Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

Note: "Apply pesticides or herbicides" reversed, shows those responding "No".

Base: Have lawn

Q7. Which of the following actions do you currently take with your lawn?

Water Behaviours: Trees, Shrubs, and Outdoor Plants

Most of those with trees, shrubs, and outdoor plants demonstrate some positive water behaviours. The most common behaviours are watering early in the morning, mulching, and adding compost. Overall, 87% of residents say they have trees, shrubs, and outdoor plants at their current place of residence for which they are personally responsible for maintaining.

- Trees, shrubs, and outdoor plants are *most* common in Electoral Area C (100%) and *least* common in Nanaimo (82%).

Among residents with trees, shrubs, and outdoor plants, 91% say they take at least one of the desired actions evaluated in the survey. The most common behaviours are *water early in the morning to reduce losses due to evaporation (77%), mulch around plants to conserve soil moisture and moderate soil temperature (67%), and add compost to increase water retention of your soil (62%)*. Fewer (41%) say they use *water-efficient drip irrigation that delivers water right at the base of the plant*.

- Those saying they take at least one of the desired actions ranges from a *high* of 99% in Electoral Area F to a *low* of 86% in Lantzville. Participation in individual behaviours also varies – some highlights include:
 - *Water early in the morning to reduce water retention* is mentioned *most* often by those in Electoral Area H (90%) and *least* often by those in Lantzville (64%).
 - *Mulch around plants to conserve soil moisture and moderate soil temperature* is mentioned *most* often by those in Electoral Area E and Electoral Area G (both 83%) and *least* often by those in Nanaimo (61%).
 - *Add compost to increase water retention of your soil* is mentioned *most* often by those in Electoral Area F (78%) and *least* often by those in Nanaimo (56%).
 - *Use water-efficient drip irrigation that delivers water right at the base of the plant* is mentioned *most* often by those in Electoral Area E (59%) and *least* often by those in Electoral Area B (32%).
- Older residents (55+ years of age) and homeowners are *more* likely to say they take all these actions with their trees, shrubs, and outdoor plants.

Water Behaviours: Trees, Shrubs, and Outdoor Plants (cont'd)

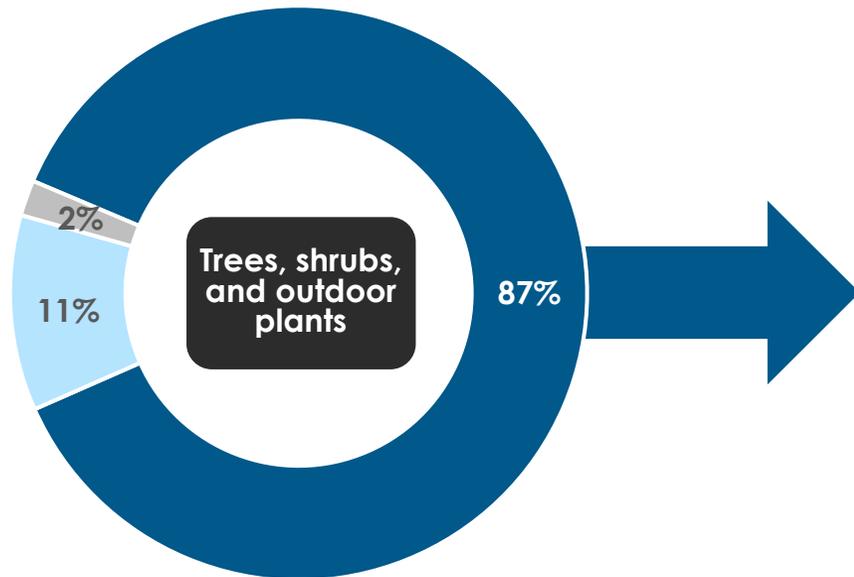
There is also some variation in behaviour depending on how residents get their drinking water. For example:

- *Water early in the morning to reduce losses due to evaporation* is more common among those on an improvement district operated system (94%, compared to a low of 76% among those on a Regional District of Nanaimo operated system).
- *Mulch around plants to conserve soil moisture and moderate soil temperature* is more common among those relying on a private domestic well or a small community water system (both 77%, compared to a low of 60% among those using water delivery).
- *Add compost to increase water retention of your soil* is less common among those who get their water from a municipal operated system (54%, compared to a high of 79% among those relying on rainwater collection).
- *Use water-efficient drip irrigation that delivers water right at the base of the plant* is less common among those relying on water delivery (25%, compared to a high of 45% among those relying on a private domestic well).

Water Behaviours: Trees, Shrubs, and Outdoor Plants

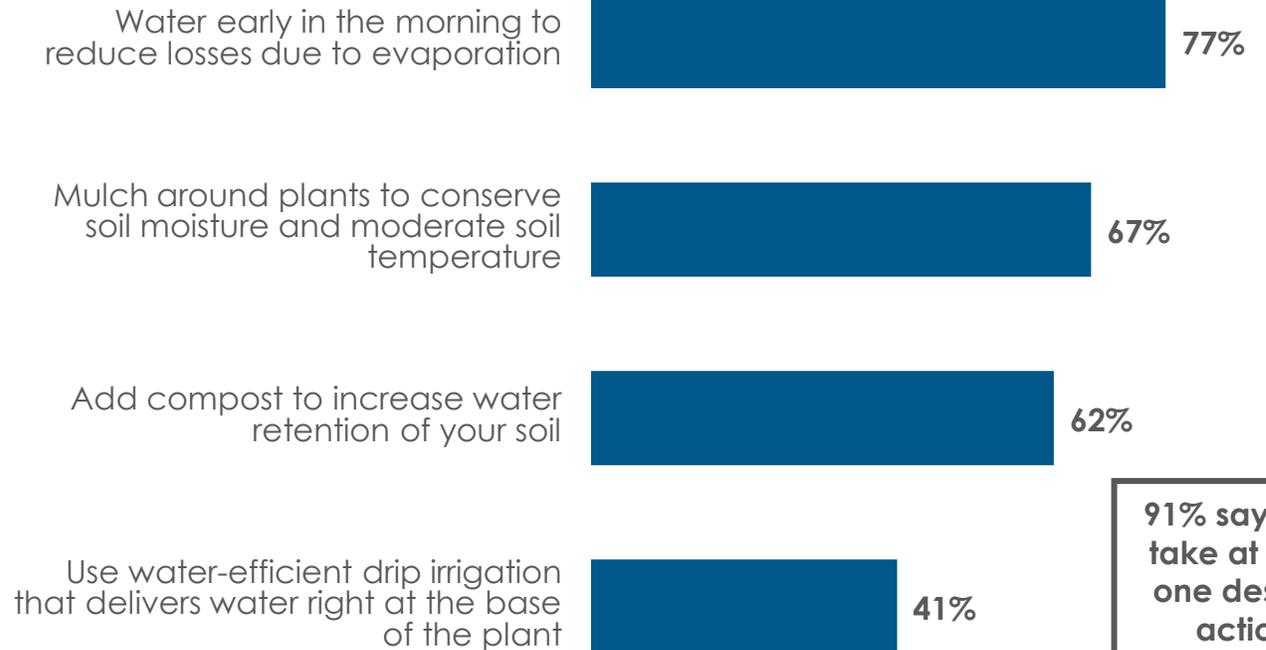
HAVE AT PLACE OF RESIDENCE

■ Yes
 ■ No
 ■ Don't know



Base: All respondents (n=1,393)
 Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

ACTIONS TAKEN (% YES)



Base: Have trees, shrubs, and outdoor plants (n=1,285)
 Q8. Which of the following actions do you currently take with your trees, shrubs, and outdoor plants?

Water Behaviours: Trees, Shrubs, and Outdoor Plants

By Community

■ HIGHEST ■ LOWEST

	Total	Nanaimo	Parksville	Qualicum Beach	Lantzville	Electoral Area A	Electoral Area B	Electoral Area C	Electoral Area E	Electoral Area F	Electoral Area G	Electoral Area H
HAVE AT PLACE OF RESIDENCE (% YES)	(n=1,393)	(n=361)	(n=122)	(n=106)	(n=73)*	(n=98)*	(n=108)	(n=62)*	(n=154)	(n=87)*	(n=135)	(n=87)*
Trees, shrubs, and outdoor plants	87%	82%	88%	94%	96%	97%	96%	100%	98%	98%	94%	99%
ACTIONS TAKEN (% YES)	(n=1,285)	(n=298)	(n=107)	(n=100)	(n=70)*	(n=95)*	(n=104)	(n=62)*	(n=151)	(n=85)*	(n=127)	(n=86)*
Water early in the morning to reduce losses due to evaporation	77%	73%	79%	73%	64%	86%	85%	76%	89%	85%	87%	90%
Mulch around plants to conserve soil moisture and moderate soil temperature	67%	61%	65%	80%	74%	67%	82%	69%	83%	77%	83%	77%
Add compost to increase water retention of your soil	62%	56%	61%	71%	67%	59%	77%	63%	69%	78%	75%	74%
Use water-efficient drip irrigation that delivers water right at the base of the plant	41%	35%	45%	50%	54%	41%	32%	38%	59%	45%	57%	40%
TOTAL TAKE AT LEAST ONE DESIRED ACTION	91%	88%	93%	93%	86%	93%	93%	87%	98%	99%	96%	92%

*Small base size (<100), interpret with caution.

Base: All respondents

Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

Base: Have trees, shrubs, and outdoor plants

Q7. Which of the following actions do you currently take with your trees, shrubs, and outdoor plants?

Water Behaviours: Vegetable Gardens

More than four-in-five of those with a vegetable garden demonstrate some positive water behaviours, with placing plants with similar water requirements close together the most common behaviour. Overall, 57% of residents say they have a vegetable garden at their current place of residence for which they are personally responsible for maintaining.

- Vegetable gardens are *most* common in Electoral Area F (75%) and *least* common in Nanaimo (53%).

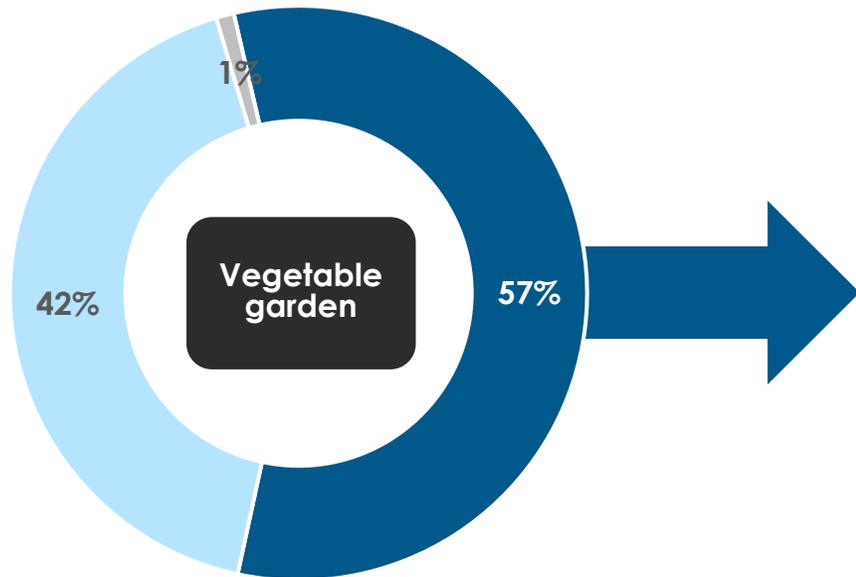
Among residents with vegetable gardens, 84% say they take at least one of the desired actions evaluated in the survey. The single most common behaviour is *place plants with similar water requirements close together* (70%). Other less frequently mentioned behaviours include *when planting water-loving plants, line the soil with a thick layer of newspaper or other mulch to maximize water retention* (44%) and *use water-efficient drip irrigation that delivers water right at the base of the plant* (39%).

- There are no significant community differences in the percentage saying they take at least one of the desired actions with their vegetable garden. However, there are some differences in the specific actions taken. For example :
 - *When planting water-loving plants, line the soil with a thick layer of newspaper or other mulch to maximize water retention* is mentioned most often by those in Electoral Area F (57%) and least often by those in Electoral Area E (34%).
 - *Use water-efficient drip irrigation that delivers water right at the base of the plant* is mentioned most often by those in Electoral Area G (61%) and least often by those in Nanaimo (33%).
 - No single community significantly stands out from the rest when it comes to *place plants with similar water requirements close together*.
- The percentage saying they *use water-efficient drip irrigation that delivers water right at the base of the plant* is higher among older residents (51% of 55+ years versus 14% of 18-34 years, 37% of 35-54 years) and homeowners (45% versus 24% of renters).
- Behaviours are statistically similar regardless of water source.

Water Behaviours: Vegetable Gardens

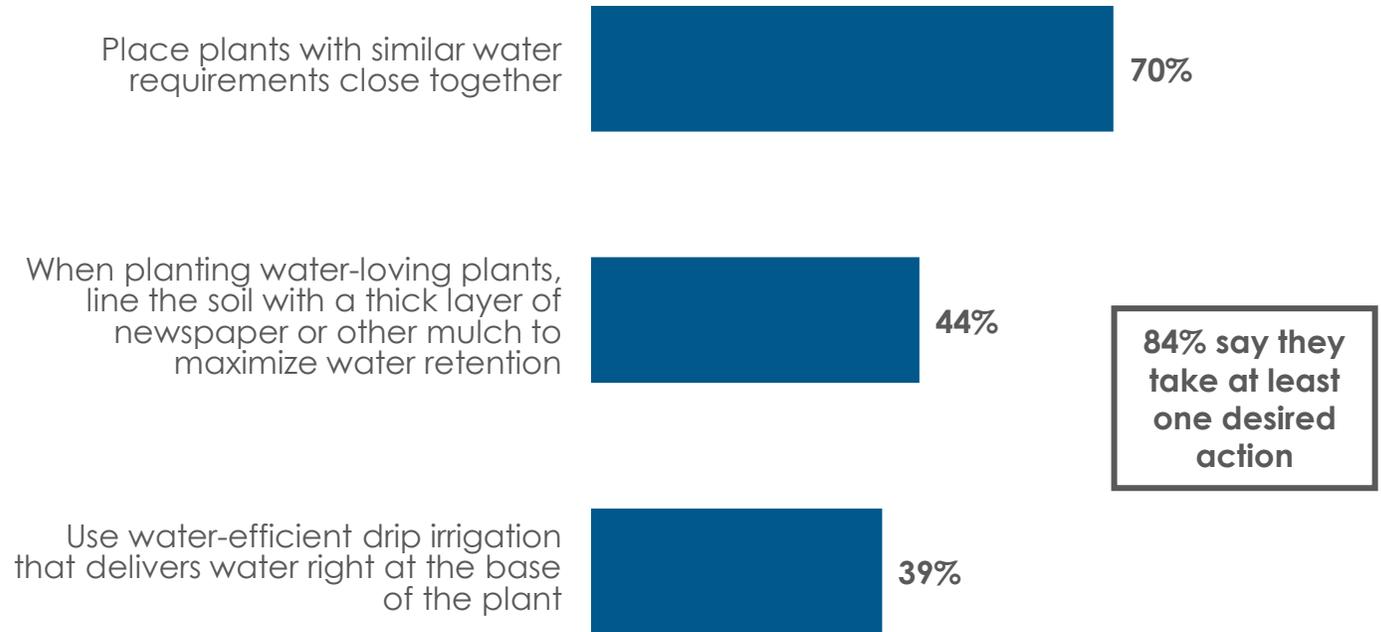
HAVE AT PLACE OF RESIDENCE

■ Yes
 ■ No
 ■ Don't know



Base: All respondents (n=1,393)
 Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

ACTIONS TAKEN (% YES)



Base: Have vegetable garden (n=842)
 Q9. Which of the following actions do you currently take with your vegetable garden?

Water Behaviours: Vegetable Gardens

By Community

■ HIGHEST ■ LOWEST

	Total	Nanaimo	Parksville	Qualicum Beach	Lantzville	Electoral Area A	Electoral Area B	Electoral Area C	Electoral Area E	Electoral Area F	Electoral Area G	Electoral Area H
HAVE AT PLACE OF RESIDENCE (% YES)	(n=1,393)	(n=361)	(n=122)	(n=106)	(n=73)*	(n=98)*	(n=108)	(n=62)*	(n=154)	(n=87)*	(n=135)	(n=87)*
Vegetable garden	57%	53%	54%	57%	62%	69%	72%	73%	54%	75%	59%	74%
ACTIONS TAKEN (% YES)	(n=842)	(n=190)	(n=66)*	(n=59)*	(n=46)**	(n=67)*	(n=78)*	(n=45)**	(n=82)*	(n=66)*	(n=79)*	(n=64)*
Place plants with similar water requirements close together	70%	70%	70%	75%	68%	68%	62%	71%	66%	76%	67%	75%
When planting water-loving plants, line the soil with a thick layer of newspaper or other mulch to maximize water retention	44%	45%	43%	41%	47%	38%	51%	48%	34%	57%	37%	50%
Use water-efficient drip irrigation that delivers water right at the base of the plant	39%	33%	44%	50%	53%	42%	35%	41%	60%	45%	61%	40%
TOTAL TAKE AT LEAST ONE DESIRED ACTION	84%	84%	86%	85%	91%	82%	80%	81%	83%	86%	88%	87%

*Small base size (<100), interpret with caution.

**Very small base size (<50), interpret with extreme caution.

Base: All respondents

Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

Base: Have vegetable garden

Q9. Which of the following actions do you currently take with your vegetable garden?

Barriers to Conserving Water Outdoors

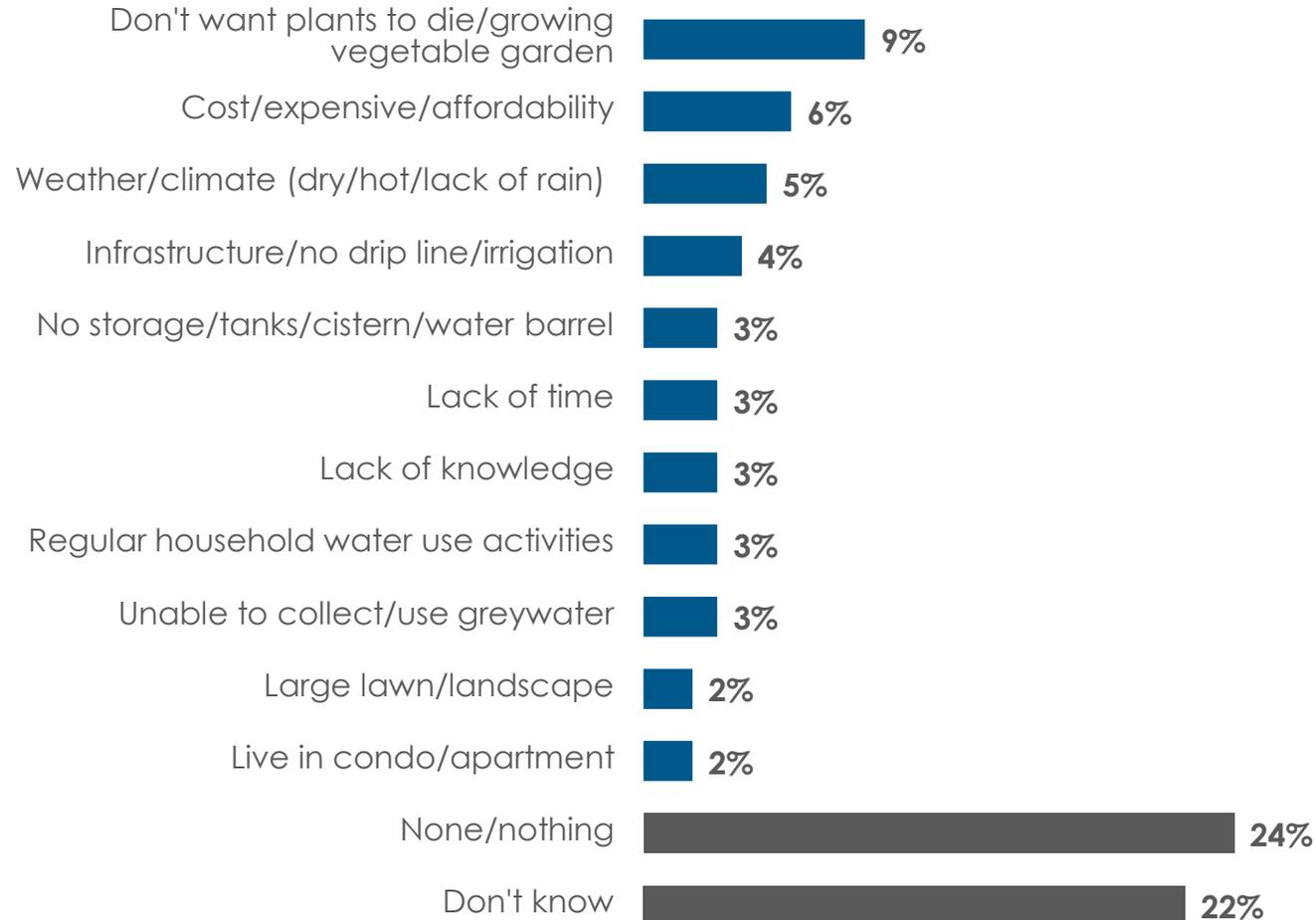
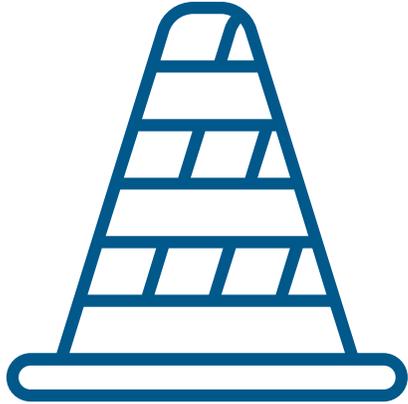
Coded Open-Ends

Nearly half of those with a lawn, trees/shrubs/outdoor plants, or a vegetable garden are unable to identify any barriers to conserving more water outdoors. Of the barriers that are mentioned, caring for plants tops the list. Overall, 46% of those with a lawn, trees/shrubs/outdoor plants, or a vegetable garden are unable to identify any specific barriers to conserving water outdoors (includes 24% saying “none/nothing” and 22% saying “don’t know”). While the absence of any top-of-mind barriers may mean residents are doing all that can be done, it may also signal a lack of understanding or awareness around all the different ways to conserve water outdoors. Of the barriers that are mentioned, the most frequently mentioned response (coded open-ends) is “don’t want plants to die/growing vegetable garden” (9%), followed by “cost/expensive/affordability” (6%) and “weather/climate (dry/hot/lack of rain)” (5%).

- The barriers to outdoor water conservation are largely similar by community, although some differences are noted. For example:
 - Mentions of “don’t want plants to die/growing vegetable garden” are *highest* in Electoral Area A and Electoral Area E (both 14%) and *lowest* in Electoral Area C (4%).
 - Mentions of “cost/expensive/affordability” are *highest* in Electoral Area A (15%) and *lowest* in Lantzville (0%).
- Mentions of “cost/expensive/affordability” are also *higher* among younger residents (11% of 18-34 years versus 5% of 55+ years, 6% of 35-54 years).
- Those who get their drinking water from rainwater collection or an improvement district operated system are *more* likely to mention “weather/climate (dry/hot/lack of rain)” (14% and 12%, respectively).

Barriers to Conserving Water Outdoors

Coded Open-Ends



Mentions <2% not shown.

Base: Have lawn, trees/shrubs/outdoor plants, or vegetable garden (n=1,320)

Q10. Thinking specifically about your outdoor water use, what would you say is the main barrier preventing you from conserving more water in the course of your daily activities involving water use?

Barriers to Conserving Water Outdoors

Coded Open-Ends By Community

■ HIGHEST ■ LOWEST

	Total (n=1,320)	Nanaimo (n=316)	Parksville (n=111)	Qualicum Beach (n=102)	Lantzville (n=73)*	Electoral Area A (n=97)*	Electoral Area B (n=104)	Electoral Area C (n=62)*	Electoral Area E (n=152)	Electoral Area F (n=87)*	Electoral Area G (n=129)	Electoral Area H (n=87)*
Don't want plants to die/growing vegetable garden	9%	8%	8%	6%	7%	14%	12%	4%	14%	12%	12%	13%
Cost/expensive/affordability	6%	5%	3%	6%	0%	15%	12%	10%	7%	5%	7%	10%
Weather/climate (dry/hot/lack of rain)	5%	4%	3%	7%	8%	6%	11%	8%	4%	5%	8%	7%
Infrastructure/no drip line/irrigation	4%	5%	2%	2%	4%	4%	3%	2%	4%	5%	2%	6%
No storage/tanks/cistern/water barrel	3%	2%	2%	4%	5%	6%	14%	4%	6%	5%	4%	6%
Lack of time	3%	4%	2%	5%	4%	1%	2%	3%	3%	1%	2%	1%
Lack of knowledge	3%	4%	4%	1%	0%	2%	1%	5%	3%	0%	0%	4%
Regular household water use activities	3%	4%	2%	2%	1%	0%	2%	0%	2%	2%	2%	1%
Unable to collect/use greywater	3%	3%	2%	3%	4%	1%	6%	6%	3%	1%	3%	2%
Large lawn/landscape	2%	2%	4%	2%	0%	0%	0%	4%	4%	3%	4%	0%
Live in condo/apartment	2%	2%	2%	1%	0%	1%	0%	0%	1%	0%	4%	1%
None/nothing	24%	24%	32%	30%	33%	16%	12%	29%	12%	23%	17%	17%
Don't know	22%	19%	23%	22%	26%	21%	19%	19%	31%	32%	31%	29%

Total mentions <2% not shown.

*Small base size (<100), interpret with caution.

Base: Have lawn, trees/shrubs/outdoor plants, or vegetable garden

Q10. Thinking specifically about your outdoor water use, what would you say is the main barrier preventing you from conserving more water in the course of your daily activities involving water use?

Water Behaviours: Riparian Area

Almost all those with a riparian area demonstrate some positive water behaviours. Most commonly, this includes taking care not to do things that harm the area, such as disposing of yard waste along streambanks and installing seating areas/trails/bridges. A majority also say they remove invasive species. Overall, 16% of residents say they have a riparian area at their current place of residence for which they are personally responsible for maintaining.

- Riparian areas are *most* common in Electoral Area C (51%) and *least* common in Electoral Area G (9%).

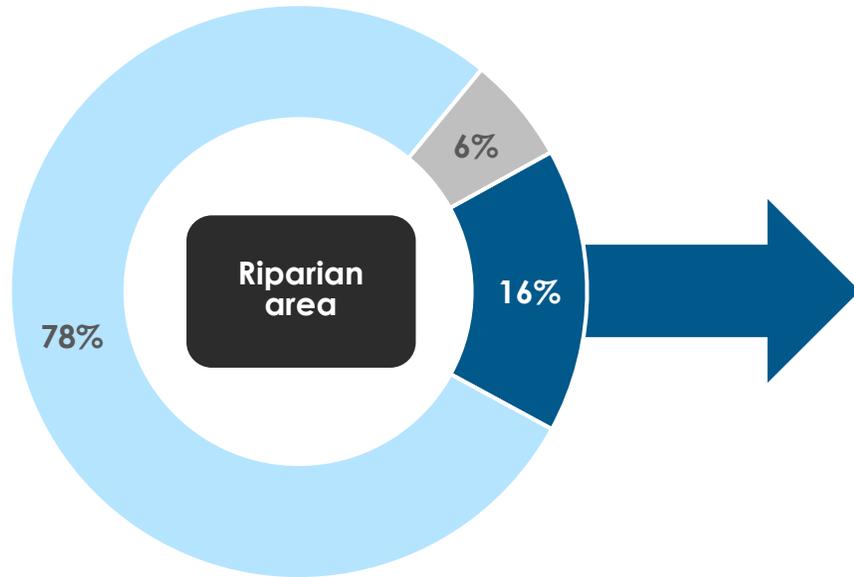
Among residents with riparian areas, 98% say they take at least one of the desired actions evaluated in the survey. Most common are the things residents say they do not do, including *dispose yard waste along streambank* (83% no) and *install seating areas, trails, or bridges* (70% no). A majority also say they *remove invasive species* (59%). Fewer (30%) mention *plant additional native species to expand the vegetated buffer beside the stream or river*.

- Residents in all communities say they take at least one of the desired actions with their riparian area. Small sample sizes limit any meaningful community analysis around the types of specific actions taken.
- Those who have lived in the Regional District of Nanaimo for more than 20 years are *more* likely to say they *remove invasive species* (70% versus 45% of 11-20 years, 59% of 10 years or less).

Water Behaviours: Riparian Area

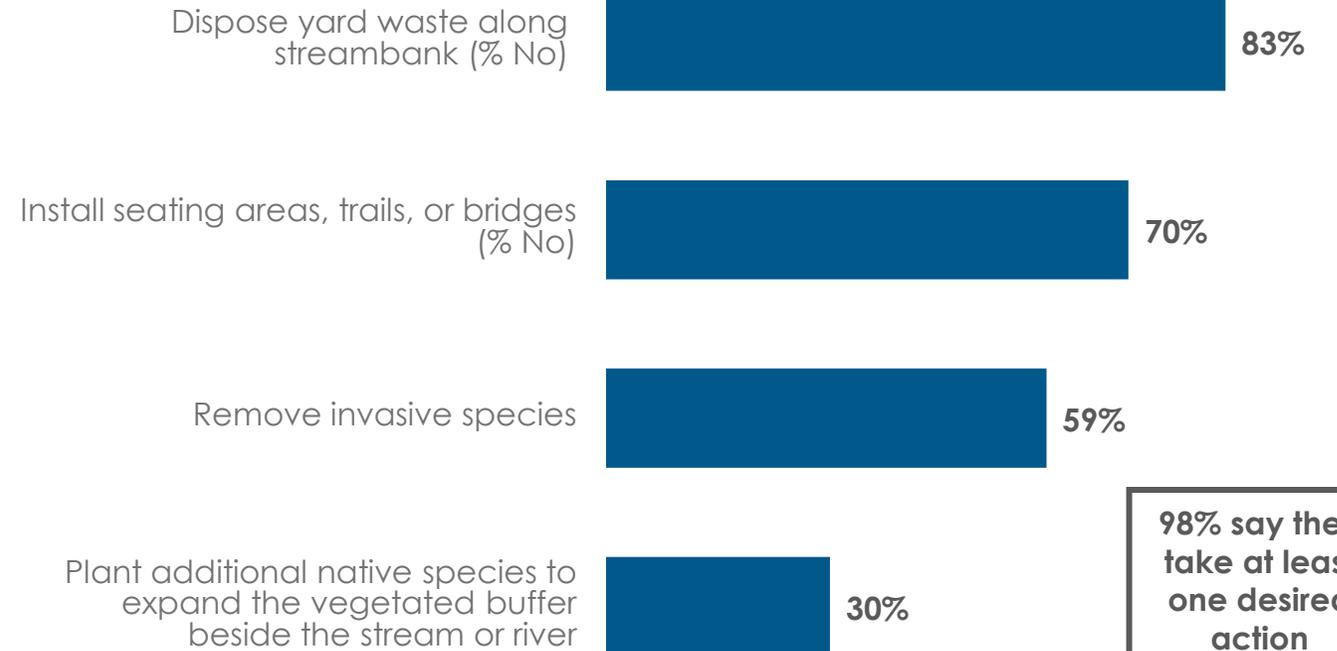
HAVE AT PLACE OF RESIDENCE

■ Yes
 ■ No
 ■ Don't know



Note: Riparian area is defined as an area immediately alongside a stream, wetland or river.
 Base: All respondents (n=1,393)
 Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

ACTIONS TAKEN (% YES)



98% say they take at least one desired action

Note: "dispose yard waste along streambank" and "install seating areas, trails, or bridges" reversed, shows those responding "No".
 Base: Have riparian area (n=266)
 Q11. Which of the following actions do you currently take with your riparian area?

Water Behaviours: Riparian Area

By Community

■ HIGHEST ■ LOWEST

	Total	Nanaimo	Parksville	Qualicum Beach	Lantzville	Electoral Area A	Electoral Area B	Electoral Area C	Electoral Area E	Electoral Area F	Electoral Area G	Electoral Area H
HAVE AT PLACE OF RESIDENCE (% YES)	(n=1,393)	(n=361)	(n=122)	(n=106)	(n=73)*	(n=98)*	(n=108)	(n=62)*	(n=154)	(n=87)*	(n=135)	(n=87)*
Riparian area	16%	12%	15%	23%	24%	29%	14%	51%	11%	37%	9%	31%
ACTIONS TAKEN (% YES)	(n=266)	(n=46)**	(n=19)**	(n=24)**	(n=17)**	(n=29)**	(n=15)**	(n=31)**	(n=15)**	(n=31)**	(n=12)**	(n=27)**
Dispose yard waste along streambank (% No)	83%	74%	89%	92%	100%	97%	94%	92%	79%	86%	84%	89%
Install seating areas, trails, or bridges (% No)	70%	74%	74%	58%	62%	67%	66%	78%	77%	58%	84%	74%
Remove invasive species	59%	49%	73%	48%	62%	76%	85%	66%	64%	64%	75%	66%
Plant additional native species to expand the vegetated buffer beside the stream or river	30%	36%	20%	28%	22%	16%	40%	14%	12%	23%	66%	48%
TOTAL TAKE AT LEAST ONE DESIRED ACTION	98%	96%	100%	96%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Riparian area is defined as an area immediately alongside a stream, wetland or river.

*Small base size (<100), interpret with caution.

**Very small base size (<50), interpret with extreme caution.

Base: All respondents

Q6. Do you have any of the following at your current place of residence? If you live in a multi-family home such as an apartment or townhouse, please only include those for which your household is personally responsible for maintaining.

Note: "dispose yard waste along streambank" and "install seating areas, trails, or bridges" reversed, shows those responding "No".

Base: Have riparian area at place of residence

Q11. Which of the following actions do you currently take with your riparian area?

Awareness of Rain Gardens

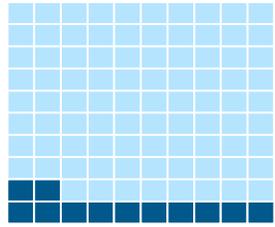
Most residents are unaware of any rain gardens in their community. Only 26% of residents say they are aware of any rain gardens in their community (includes those saying yes to one or more of the evaluated items). Overall, 12% say there is a rain garden *on their property*, 10% say there is a rain garden *on any of their nearby neighbours' properties*, 11% say there is a rain garden *on any nearby public land*, and 6% say there is a rain garden *on the property of any nearby private businesses*.

- Overall awareness of local rain gardens (yes to any) is *highest* in Qualicum Beach (32%) and *lowest* in Electoral Area A and Electoral Area G (both 16%). However, the types of local rain gardens that residents are aware of varies widely – some highlights include:
 - Those saying they have a rain garden *on their property* is *highest* in Electoral Area B and Electoral Area E (both 20%) and *lowest* in Parksville (5%).
 - Those saying there is a rain garden *on any of their nearby neighbours' properties* is *highest* in Electoral Area E (15%) and *lowest* in Electoral Area F (3%).
 - Those saying there is a rain garden *on any nearby public land* is *highest* in Qualicum Beach (21%) and *lowest* in Electoral Area C (1%).
 - Those saying there is a rain garden *on the property of any nearby private businesses* is *highest* in Nanaimo (8%) and *lowest* in Lantzville, Electoral Area F, and Electoral Area G (all 1%).
- Residents who get their drinking water from rainwater collection are *more* likely to say they have a rain garden *on their property* (23%, compared to a low of 4% among those on an improvement district operated system).

Awareness of Rain Gardens

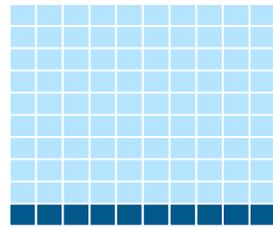
(% YES)

■ HIGHEST ■ LOWEST



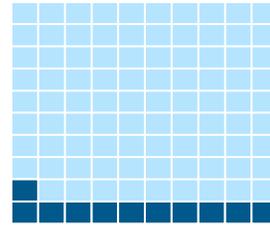
12%

On your property



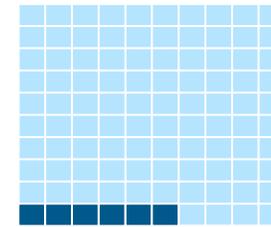
10%

On any of your nearby neighbours' properties



11%

On any nearby public land



6%

On the property of any nearby private businesses

26% say they are aware of a rain garden anywhere in their community

	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
On your property	12%	5%	8%	15%	11%	20%	12%	20%	19%	9%	10%
On any of your nearby neighbours' properties	11%	10%	6%	8%	7%	13%	7%	15%	3%	8%	12%
On any nearby public land	13%	15%	21%	8%	3%	7%	1%	8%	4%	7%	3%
On the property of any nearby private businesses	8%	4%	4%	1%	2%	5%	4%	3%	1%	1%	3%
YES TO ANY	28%	25%	32%	23%	16%	28%	17%	30%	24%	16%	21%

*Small base size (<100), interpret with caution.

Base: All respondents (n=1,393)

Q12. As you may know, a rain garden is a sunken or low-lying feature that includes drought tolerant plants and thick mulch to capture and retain rainwater longer. To the best of your knowledge, are there any rain gardens...?

AWARENESS AND INVOLVEMENT

Awareness of DWWP Program and Participation in Activities

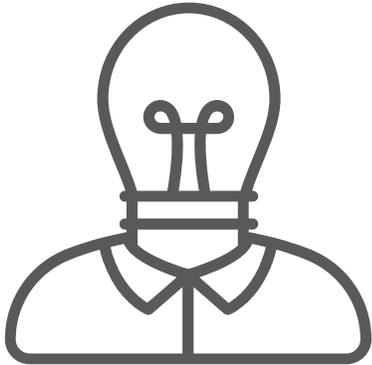
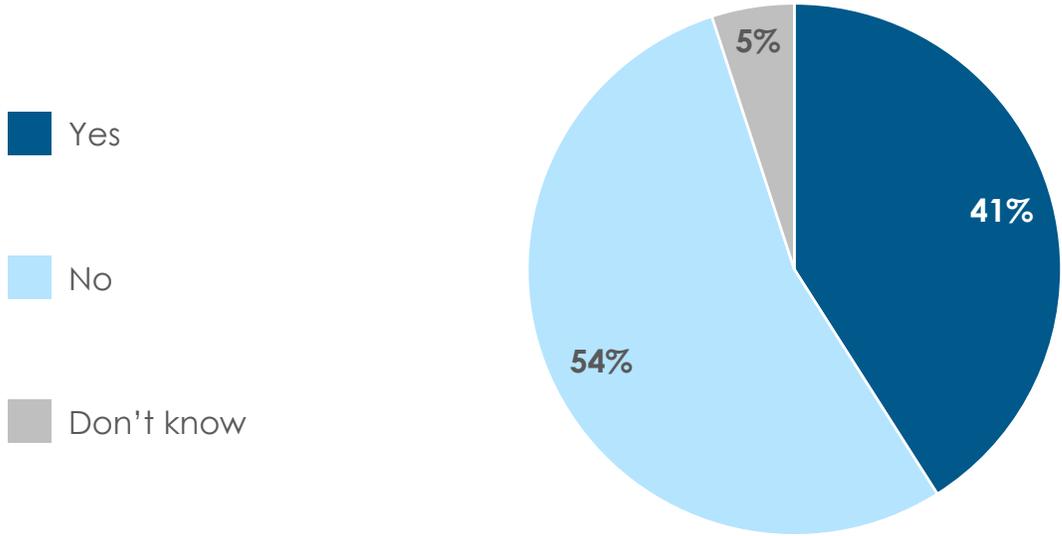
Two-in-five residents are aware of the Regional District of Nanaimo's Drinking Water and Watershed Protection program. Overall, 41% of residents say they have heard of the DWWP program.

- Awareness is *highest* among those living in Electoral Area F (51%) and *lowest* among those living in Qualicum Beach (32%).
- Awareness is also *higher* among those who have lived in the Regional District of Nanaimo for more than 20 years (49% versus 31% of 10 years or less, 40% of 11-20 years) and those living in single, detached homes (44% versus 33% of those in some other type of housing).

Similarly, two-in-five have participated in at least one of the evaluated activities. Overall, 42% of residents say they have participated in at least one of the evaluated activities. The three most common types of participation are *shared regional water information with friends, family, colleagues, or neighbours* (28%), *accessed regional water reports and information online* (21%), and *attended an event or workshop about local water issues* (15%). Fewer say they have *applied for a water stewardship rebate – this includes rebates for irrigation updates & soil improvements, rainwater harvesting, SepticSmart, wellhead upgrades, and well water testing* (5%) and *volunteered in a local water monitoring network* (2%).

- Participation in at least one of the evaluated activities is *highest* in Electoral Area B (64%) and *lowest* in Nanaimo (36%). Notably, Electoral B residents are some of the *least* likely to say they are aware of the DWWP program, pointing to a gap in understanding around how the activities and program are linked. The types of activities that residents have participated in varies by community – highlights include:
 - *Shared regional water information with friends, family, colleagues, or neighbours* is *highest* in Electoral Area E (39%) and *lowest* in Qualicum Beach (23%).
 - *Accessed regional water reports and information online* is *highest* in Electoral Area H (35%) and *lowest* in Lantzville (11%).
 - *Attended an event or workshop about local water issues* is *highest* in Electoral Area H (28%) and *lowest* in Nanaimo (12%).
 - *Applied for a water stewardship rebate* is *highest* in Electoral Area B (24%) and *lowest* in Qualicum Beach (2%).
 - *Volunteered in a local water monitoring network* is *highest* in Electoral Area H (8%) and *lowest* in Nanaimo, Electoral Area A, and Electoral Area C (all 1%).
- Overall participation (yes to any) in these activities is *higher* among older residents (47% of 55+ years versus 35% of 35-54 years, 39% of 18-34 years) and those living in single, detached homes (46% versus 31% of those living in some other type of housing).
- Those who get their drinking water from rainwater collection are *more* likely to say they have participated in at least one of these activities (61%, compared to a low of 40% among those on a municipal operated system).
- Nearly two-thirds (63%) of those aware of the DWWP program say they have participated in at least one activity (versus 27% of those unaware).

Awareness of DWWP Program



■ HIGHEST ■ LOWEST

	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
Yes	40%	43%	32%	35%	42%	33%	48%	47%	51%	39%	36%

*Small base size (<100), interpret with caution.

Base: All respondents (n=1,393)

Q13. Next, a few questions about the Regional District of Nanaimo's Drinking Water and Watershed Protection program. This is a regional service tasked with learning more about water in the region and using this information to inform planning and policy and help communities protect the environment. Prior to today, have you ever heard of the Regional District of Nanaimo's Drinking Water and Watershed Protection program?

Participation in Activities

(% YES)



Shared regional water information with friends, family, colleagues, or neighbours



28%



Accessed regional water reports and information online



21%



Attended an event or workshop about local water issues



15%



Applied for a water stewardship rebate –this includes rebates for irrigation updates & soil improvements, rainwater harvesting, SepticSmart, wellhead upgrades, and well water testing



5%



Volunteered in a local water monitoring network



2%

42% say they have participated in at least one of these activities

Base: All respondents (n=1,393)

Q15. Have you ever personally participated in any of the following?

Participation in Activities

By Community

■ HIGHEST ■ LOWEST

PARTICIPATION (% YES)												
	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
 Shared regional water information with friends, family, colleagues, or neighbours	28%	25%	32%	23%	25%	27%	35%	24%	39%	36%	36%	37%
 Accessed regional water reports and information online	21%	19%	18%	16%	11%	26%	30%	25%	34%	28%	32%	35%
 Attended an event or workshop about local water issues	15%	12%	18%	13%	24%	26%	24%	13%	26%	17%	22%	28%
 Applied for a water stewardship rebate -this includes rebates for irrigation updates & soil improvements, rainwater harvesting, SepticSmart, wellhead upgrades, and well water testing	5%	3%	6%	2%	11%	16%	24%	20%	6%	12%	6%	5%
 Volunteered in a local water monitoring network	2%	1%	4%	2%	4%	1%	7%	1%	5%	3%	3%	8%
TOTAL PARTICIPATED AT LEAST ONE ACTIVITY	42%	36%	43%	40%	44%	48%	64%	42%	55%	58%	55%	50%

*Small base size (<100), interpret with caution.

Base: All respondents

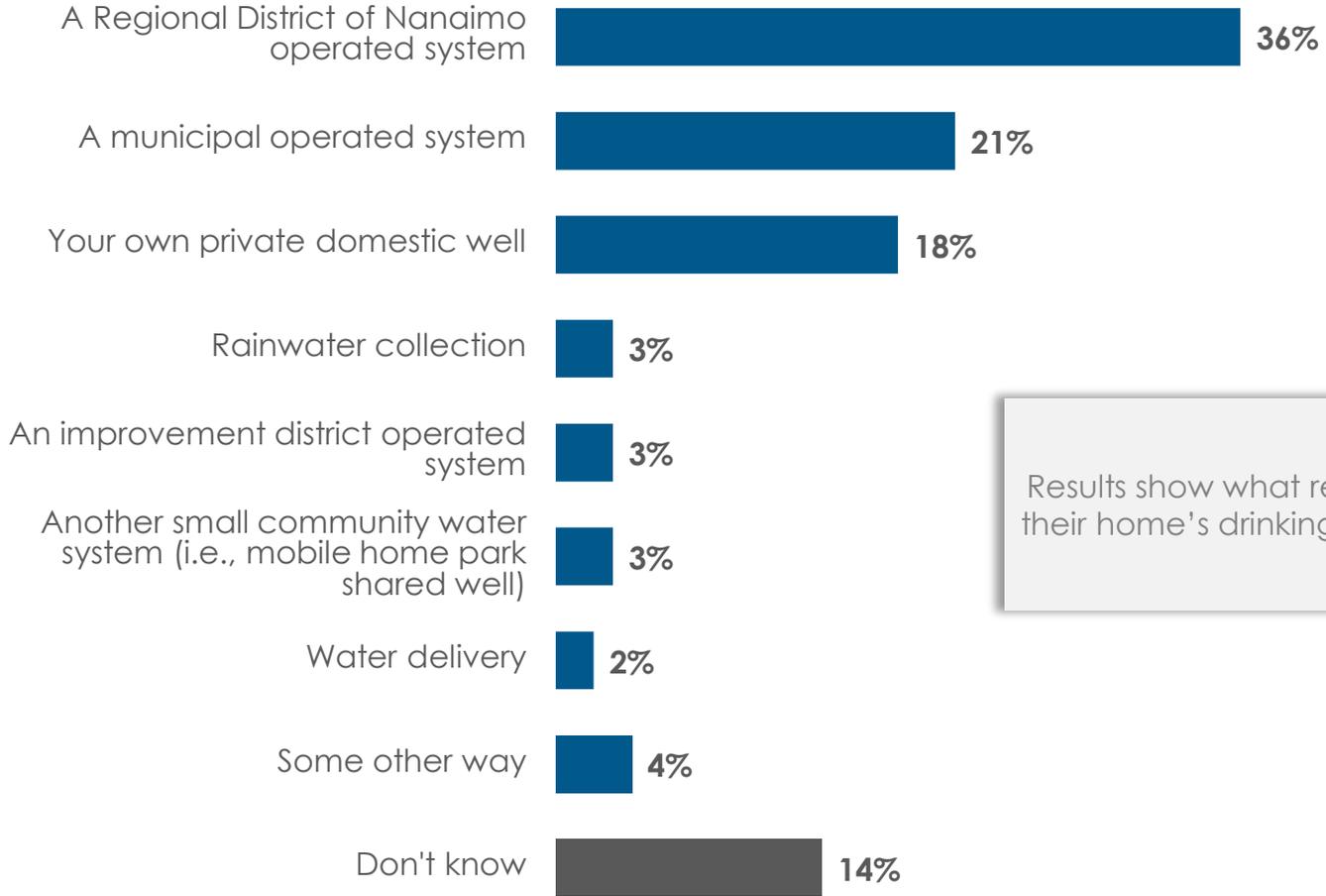
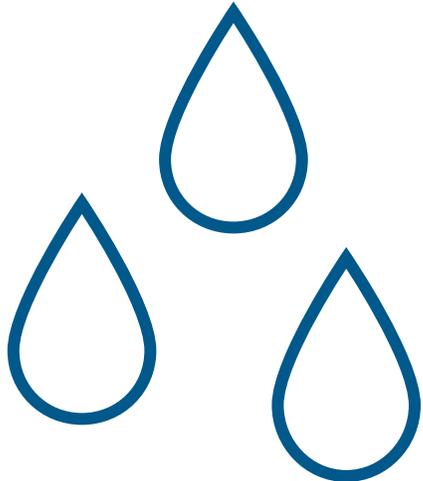
Q15. Have you ever personally participated in any of the following?

Awareness of Drinking Water Source

There are some misconceptions around where residents get their drinking water. Overall, 36% of residents believe their home's drinking water comes from a *Regional District of Nanaimo operated system*, 21% believe it comes from a *municipal operated system*, and 18% believe it comes from *your own private domestic well*. All other drinking water sources are mentioned by less than 5% of residents. A total of 14% admit to not knowing the source of their home's drinking water.

- However, although most residents claim to know the source of their home's drinking water, analysis by community reveals there is widespread misunderstanding in this regard, with many residents incorrectly identifying the source of their drinking water. It is also possible that some residents misidentify the community in which they live, which may partly explain some of the misattribution of drinking water sources. Some examples include:
 - Although the majority of water supply for Nanaimo comes from a *municipal operated system*, only one-quarter (24%) of Nanaimo residents correctly identify this as the source of their drinking water. Rather, Nanaimo residents are more likely to incorrectly believe that their drinking water comes from a *Regional District of Nanaimo operated system* (47%). One-in-five (19%) Nanaimo residents admit to not knowing where their drinking water comes from, more than what is reported by any other community.
 - In Parksville, 34% of residents correctly identify their water source as a *municipal operated system*. One-quarter (26%) incorrectly say their water comes from a *Regional District of Nanaimo operated system* and 11% say *your own private domestic well*.
 - Just over one-third (35%) of Qualicum Beach residents correctly identify their water source as a *municipal operated system*. Nearly one-quarter (23%) incorrectly say it comes from *your own private domestic well*, 14% say *another small community water system*, and 12% say a *Regional District of Nanaimo operated system*. Some of the misattribution may be due to respondents misidentifying their place of residence as Qualicum Beach when they live outside town limits in an Electoral Area.
 - While 43% of Electoral Area H residents correctly identify their water source as an *improvement district operated system*, three-in-ten (30%) incorrectly say a *municipal operated system* and 9% say a *Regional District of Nanaimo operated system*.
- Residents who are more likely to admit that they do not know the source of their drinking water include those who are 18-34 years of age (24% versus 10% of 55+ years, 14% of 35-54 years) and renters (26% versus 9% of homeowners).

Awareness of Drinking Water Source



Results show what residents *believe* to be the source of their home's drinking water. Some misattribution is likely.

Multiple mentions allowed for those selecting own private domestic well, water delivery, rainwater collection, and some other way.
Base: All respondents (n=1,393)
Q21. To the best of your knowledge, where do you get the drinking water for your home?

Awareness of Drinking Water Source

By Community

POSSIBLE CORRECT ANSWERS INCORRECT ANSWERS

Results show what residents believe to be the source of their home's drinking water. Some misattribution is likely. It is also possible that some residents misidentify the community in which they live, which may partly explain some of the misattribution of drinking water sources.

	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
A Regional District of Nanaimo operated system	36%	47%	26%	12%	14%	13%	1%	0%	68%	3%	32%	9%
A municipal operated system	21%	24%	34%	35%	13%	5%	0%	6%	6%	1%	11%	30%
Your own private domestic well	18%	5%	11%	23%	40%	57%	68%	81%	16%	79%	13%	11%
Rainwater collection	3%	2%	1%	3%	0%	4%	41%	17%	1%	6%	2%	1%
An improvement district operated system	3%	1%	4%	1%	6%	14%	0%	1%	1%	0%	8%	43%
Another small community water system (i.e., mobile home park shared well)	3%	1%	2%	14%	8%	6%	1%	0%	1%	9%	5%	3%
Water delivery	2%	1%	0%	0%	3%	10%	13%	21%	2%	6%	2%	1%
Some other way	4%	2%	9%	4%	11%	4%	5%	6%	3%	6%	22%	1%
Don't know	14%	19%	15%	9%	10%	0%	0%	0%	5%	1%	7%	3%

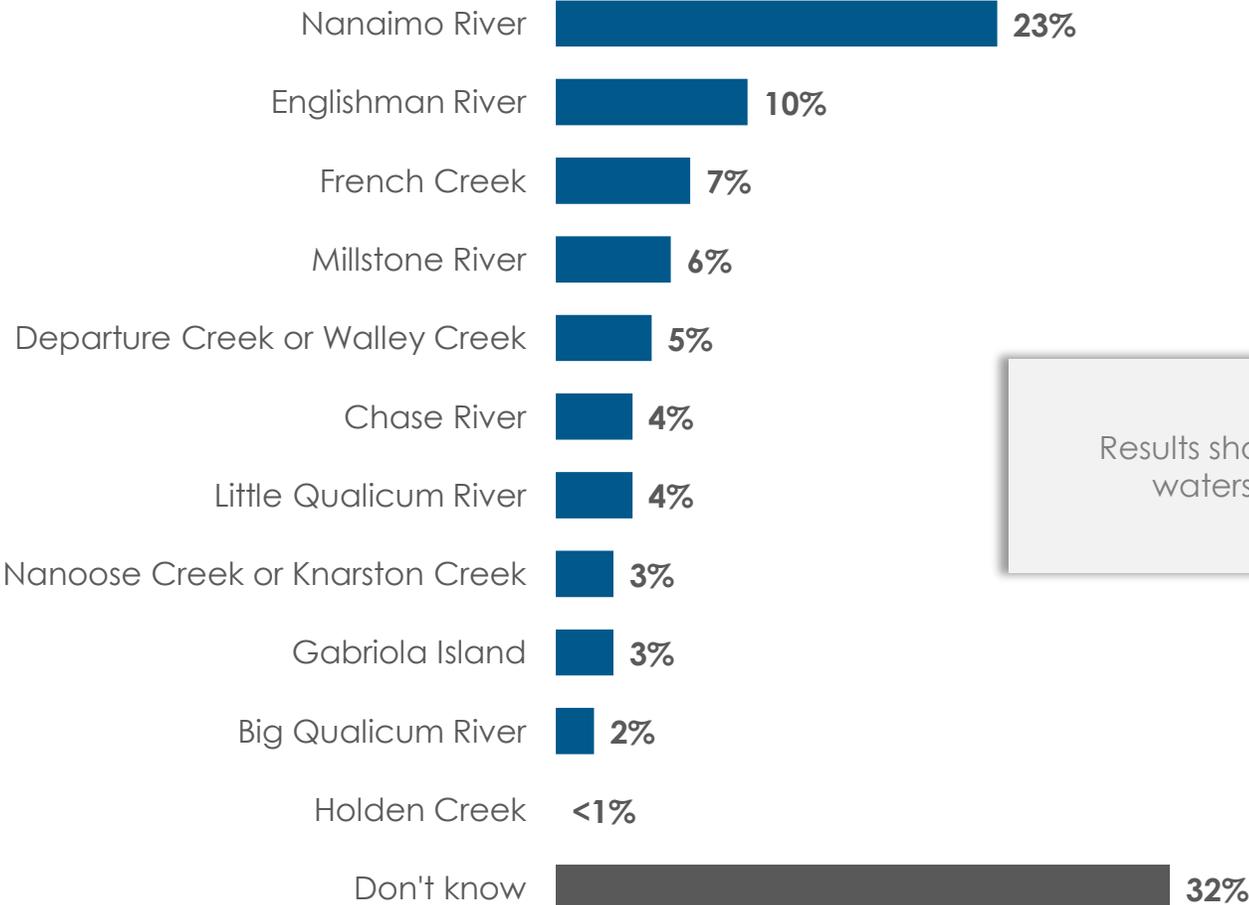
*Small base size (<100), interpret with caution.
 Multiple mentions allowed for those selecting own private domestic well, water delivery, rainwater collection, and some other way.
 Base: All respondents
 Q21. To the best of your knowledge, where do you get the drinking water for your home?

Awareness of Watershed

One-third of residents are unsure what watershed they live in. Overall, 32% of residents say they “don’t know” what watershed they live in. Nearly one-quarter (23%) believe they live in the *Nanaimo River* watershed. The next most frequently mentioned responses are *Englishman River* (10%) and *French Creek* (7%). However, it is important to recognize that these results reflect what residents *believe* to be their watershed; some misattribution is likely.

- Awareness of watersheds varies by community – some highlights are summarized below. It is possible that some residents misidentify the community in which they live, which may partly explain some of the misattribution of watersheds.
 - Three-in-five (61%) Lantzville residents admit to not knowing what watershed they live in, more than what is reported by any other community.
 - In comparison, only 2% of those living in Electoral Area B say they do not know their watershed. Nearly all (98%) of these residents correctly identify their watershed as *Gabriola Island*.
 - One-third (34%) of Nanaimo residents incorrectly identify their watershed as *Nanaimo River*. Moreover, a plurality (38%) admit to not knowing what watershed they live in.
 - Nearly one-in-five (16%) Qualicum Beach residents incorrectly identify their watershed as *Big Qualicum River*.

Awareness of Watershed



Results show what residents *believe* to be their watershed. Some misattribution is likely.

Base: All respondents (n=1,393)
Q22. To the best of your knowledge, which watershed do you live in?

Awareness of Watershed

By Community

POSSIBLE CORRECT ANSWERS INCORRECT ANSWERS

Results show what residents believe to be their watershed. Some misattribution is likely. It is also possible that some residents misidentify the community in which they live, which may partly explain some of the misattribution of watersheds.

	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
Nanaimo River	23%	34%	1%	0%	4%	58%	0%	36%	1%	0%	0%	0%
Englishman River	10%	<1%	55%	5%	1%	0%	0%	0%	39%	50%	12%	1%
French Creek	7%	<1%	25%	10%	0%	0%	0%	2%	1%	12%	65%	0%
Millstone River	6%	10%	0%	0%	3%	1%	0%	26%	0%	0%	0%	0%
Departure Creek or Walley Creek	5%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chase River	4%	6%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%
Little Qualicum River	4%	<1%	2%	35%	0%	0%	0%	0%	0%	18%	12%	7%
Nanoose Creek or Knarston Creek	3%	1%	4%	0%	30%	0%	0%	0%	35%	1%	0%	0%
Gabriola Island	3%	<1%	0%	0%	0%	1%	98%	0%	0%	0%	0%	0%
Big Qualicum River	2%	<1%	2%	16%	1%	0%	0%	0%	0%	0%	1%	45%
Holden Creek	<1%	<1%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Don't know	32%	38%	11%	33%	61%	30%	2%	35%	24%	19%	10%	47%

*Small base size (<100), interpret with caution.
 Base: All respondents
 Q22. To the best of your knowledge, which watershed do you live in?

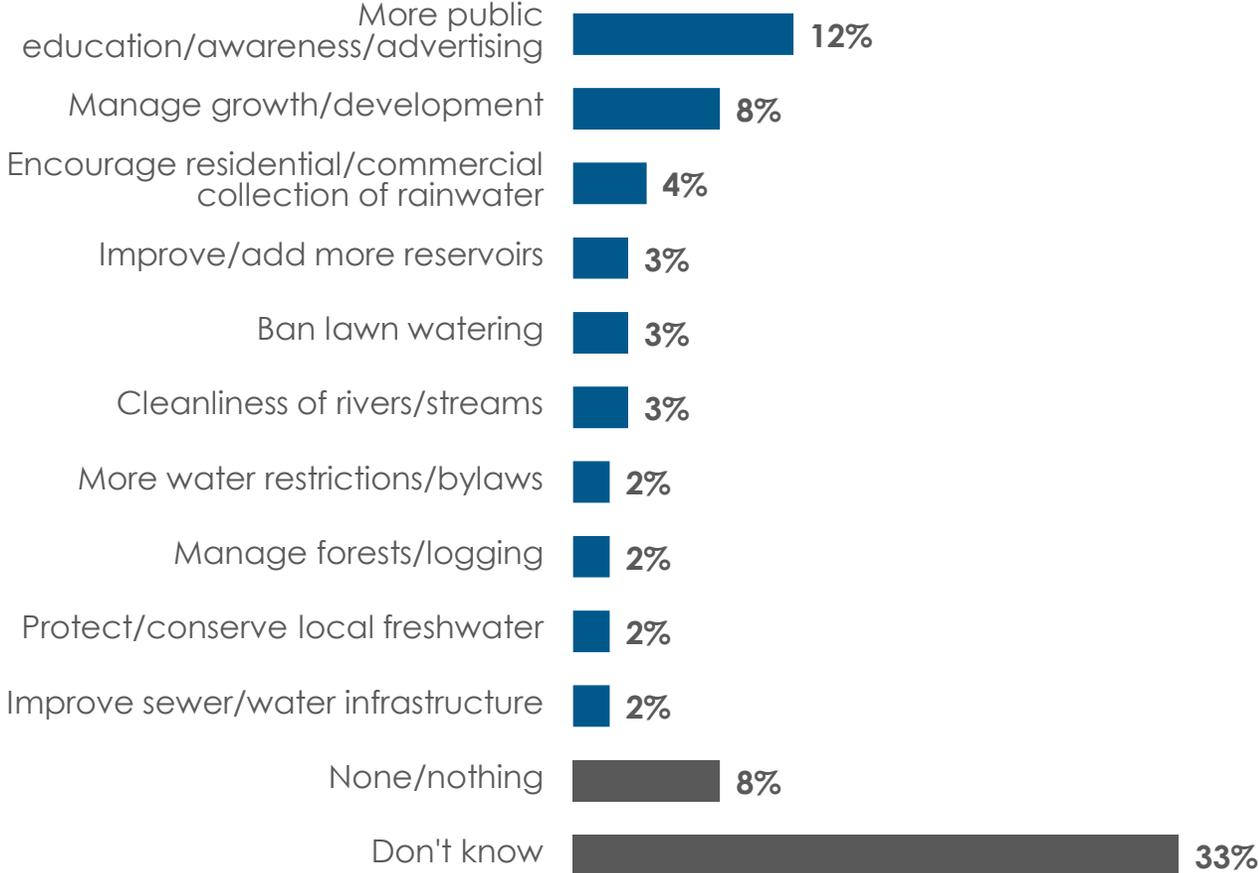
Suggestions for Things the Regional District of Nanaimo Can Do To Preserve and Protect Local Freshwater

Coded Open-Ends

Residents offer a number of suggestions for things the Regional District of Nanaimo can do to preserve and protect the local freshwater supply. Overall, the most frequently mentioned suggestion (coded open-ends) is “more public education/awareness/advertising” (12%). This is followed by “manage growth/development” (8%) and “encourage residential/commercial collection of rainwater” (4%). Two-in-five (41%) decline to offer any specific suggestions (includes 8% saying “none/nothing” and 33% saying “don’t know”).

- The number one suggestion for things the Regional District of Nanaimo can do to preserve and protect the local freshwater supply varies by community.
 - “More public education/awareness/advertising” tops the list of responses in Nanaimo (15%), Electoral Area A (11%), Electoral Area C (9%), and Electoral Area H (11%).
 - “Manage growth/development” is the leading suggestion in Parksville (13%), Qualicum Beach (14%), Lantzville (11%), Electoral Area E (15%), Electoral Area F (15%), and Electoral Area G (18%).
 - “Encourage residential/commercial collection of rainwater” is the main mention among those living in Electoral Area B (21%).
- Mentions of “more public education/awareness/advertising” are *higher* among those who are 35-54 years of age (16% versus 10% of 55+ years, 11% of 18-34 years). Conversely, mentions of “manage growth/development” are *higher* among older residents (12% of 55+ years versus 2% of 18-34 years, 4% of 35-54 years).
- Mentions of “manage growth/development” are also *higher* among homeowners (9% versus 4% of renters).
- Suggestions vary depending on how residents get their drinking water – highlights include:
 - “More public education/awareness/advertising” is mentioned *most* often by those on a municipal operated system (16%) and *least* often by those relying on water delivery (5%).
 - “Manage growth/development” is mentioned *most* often by those relying on a private domestic well (13%) and *least* often by those on a Regional District of Nanaimo operated system or a small community water system (both 4%).

Suggestions for Things the Regional District of Nanaimo Can Do To Preserve and Protect Local Freshwater *Coded Open-Ends*



Mentions <2% not shown.

Base: All respondents (n=1,393)

Q16. If you could suggest one additional thing that the Regional District of Nanaimo could do to preserve and protect the local freshwater supply, what would you say?

Suggestions for Things the RDN Can Do To Preserve and Protect Local Freshwater

Coded Open-Ends By Community

■ HIGHEST ■ LOWEST

	Total (n=1,393)	Nanaimo (n=361)	Parksville (n=122)	Qualicum Beach (n=106)	Lantzville (n=73)*	Electoral Area A (n=98)*	Electoral Area B (n=108)	Electoral Area C (n=62)*	Electoral Area E (n=154)	Electoral Area F (n=87)*	Electoral Area G (n=135)	Electoral Area H (n=87)*
More public education/awareness/ advertising	12%	15%	8%	6%	9%	11%	8%	9%	10%	10%	4%	11%
Manage growth/development	8%	4%	13%	14%	11%	9%	8%	8%	15%	15%	18%	10%
Encourage residential/commercial collection of rainwater	4%	4%	2%	5%	3%	6%	21%	3%	8%	3%	4%	2%
Improve/add more reservoirs	3%	2%	5%	4%	1%	3%	5%	3%	12%	2%	5%	4%
Ban lawn watering	3%	3%	3%	5%	3%	4%	4%	4%	4%	3%	1%	1%
Cleanliness of rivers/streams	3%	4%	1%	2%	2%	1%	0%	2%	0%	2%	1%	0%
More water restrictions/bylaws	2%	2%	2%	2%	5%	5%	3%	0%	1%	3%	2%	5%
Manage forests/logging	2%	2%	0%	4%	3%	1%	1%	4%	2%	3%	5%	1%
Protect/conserve local freshwater	2%	2%	4%	2%	1%	0%	3%	0%	0%	0%	0%	2%
Improve sewer/water infrastructure	2%	2%	2%	3%	4%	1%	0%	0%	1%	1%	1%	3%
None/nothing	8%	12%	6%	5%	6%	1%	1%	6%	1%	3%	1%	1%
Don't know	33%	31%	38%	30%	39%	42%	27%	33%	29%	39%	31%	34%

*Small base size (<100), interpret with caution.

Base: All respondents

Q16. If you could suggest one additional thing that the Regional District of Nanaimo could do to preserve and protect the local freshwater supply, what would you say?

WEIGHTED SAMPLE CHARACTERISTICS

4

Weighted Sample Characteristics

GENDER



46%
Male
51%
Female
<1%
Other
3%
Prefer not to answer

AGE

18 to 34 **20%**
35 to 54 **28%**
55+ **52%**
Prefer not to answer **<1%**

HOMEOWNERSHIP

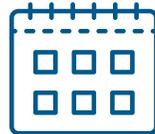
Own **72%**
Rent **25%**
Prefer not to answer **3%**

COMMUNITY

Nanaimo **59%**
Parksville **8%**
Qualicum Beach **6%**
Lantzville **2%**
Electoral Area A **5%**
Electoral Area B **3%**
Electoral Area C **2%**
Electoral Area E **4%**
Electoral Area F **5%**
Electoral Area G **5%**
Electoral Area H **3%**

LENGTH OF RESIDENCY IN REGIONAL DISTRICT OF NANAIMO (YEARS)

10 years or less **34%**
11-20 years **27%**
21-30 years **19%**
31-40 years **9%**
41-50 years **6%**
51+ years **5%**
Prefer not to answer **<1%**



Average # of Years

22.8

HOUSING TYPE

Single, detached house **70%**
Apartment **9%**
Duplex, triplex, or semi-detached **5%**
Townhouse or rowhouse **4%**
Secondary suite **4%**
Other **6%**
Prefer not to answer **2%**

Base: All respondents (n=1,393)
QA, QB, Q17, Q18, Q19, Q20