APPENDIX A

CONSULTATION SUMMARY AND FINDINGS

CRD Regional Water Supply

Consulting Services for Agricultural Water Rate Review and Rate Model Options Study

June 30, 2023

Prepared for:
Capital Regional District
Integrated Water Service

Prepared by:
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Project Number:
111720162

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Executive Summary

CRD engaged Stantec Consulting to consult on CRD's agricultural water rate (ag. rate). The CRD has provided an ag. rate since 2002 to properties that hold a BC Assessment Farm Classification. Historically, the rate has been substantially lower than the municipal retail or distribution rates which was intended to promote and support local food production. The ag. rate provides a benefit to farmers by lowering the cost for crop irrigation and livestock rearing. The rate 'subsidy' is funded through the annual Regional Water Supply Service operating budget which funds the difference between the municipal retail rate and the agricultural water rate, keeping the municipalities/distributors 'whole' financially.

Consultation for the Agricultural Water Rate Review and Rate Model Options Study included coordination with the Water Advisory Committee (WAC) which includes membership from the Regional Water Supply commission, Juan de Fuca Water Distribution Commission, Saanich Peninsula Water Commission, and various other groups including the Agricultural Community.

Stantec participated in a 45-minute presentation with questions and answers during the Water Advisory Committee (WAC) meeting on March 28, 2023 and provided an information handout and link to an online questionnaire that was distributed by the CRD. The information handout stated the goal of the rate review, explained the Agricultural Water Rate Program, presented a conceptual economic framework to guide analysis, summarized topics raised about the existing ag. rate on which more understanding may be required, and provided a brief timeline of the history of the CRD Agricultural Water Rate.

Following the meeting, six members of the WAC formed an Agricultural Water Rate Working Group and this group provided recommendations for revising the questionnaire and the information handout. Stantec revised the questionnaire and document where possible and provided updated versions. The CRD provided a link to the revised questionnaire to the WAC.

The revised questionnaire was available online from April 28 to May 12. Five members of the WAC responded to the questionnaire. The WAC members who responded to the questionnaire unanimously support the continuation of the agriculture subsidy at its current rate. Members of the Agricultural Water Rate Working Group provided pertinent information about not only the value of agriculture in CRD's service area but the value of agriculture outside of CRD's service area as well. The WAC members were also asked to comment on a variety of rate options and administrative changes to the current rate structure.

Stantec developed the following policy considerations and recommendations to assist CRD to make an informed policy decision about possible modifications to the ag. rate program. These recommendations are based on the WAC's feedback through the presentation and the questionnaire as well as research, experience and technical expertise. It is important to note that implementing a subsidized ag. rate program is a policy decision, one that the CRD undertook in 2002, to support local food and feed production. Stantec has significant experience both helping clients establish cost-of service water rates, as well as determining specialized rates for agriculture and other identified uses. In comparing the two types of rate-setting

analyzes, setting a subsidy is as much policy analysis as financial analysis, where setting a rate using cost-of-service analysis is focused on economic and financial considerations. Stantec's recommended actions are intended to help CRD make well-informed decisions on the continued analysis and potential refinement of its ag. rate, ultimately reflecting organizational and community values through CRD's policy decision.

Subsidized agriculture water rates are not uncommon throughout Canada and the United States. CRD's implementation of the program in 2002 is consistent with many other regional programs, and the WAC respondents agree that the objective of supporting local agriculture is still relevant (question 7). Furthermore, there is unanimous support from the questionnaire respondents to maintain the ag. rate subsidy (question 13).

Questions for all resource managers evaluating subsidized rate programs can prove challenging to answer. Common policy questions about programs are:

- What should the total cost of the subsidy be?
- Who should pay for the subsidy?
- Who is eligible for the subsidy?
- How should the rate be structured?
- Should recipients of the subsidy report on the benefits they produce with the subsidy?

The following is a list of policy questions that we recommend CRD consider over the next year to inform future reviews. During that year we recommend that CRD make no changes to its current rate and rate structure. Table ES-1 summarizes the actions we recommend in regard to these policy questions in the form of an implementation plan.

1. Determine a maximum total annual subsidy amount. In 2022 the total cost of the subsidy was $1.7M. The current structure of the subsidy rate results in annual increases in CRD's total cost for the subsidy (Figure ES-1). The Scenario Modeling Tool developed for CRD estimated that by 2030 CRD's annual cost to provide the subsidy will be $5.7M. We recommend that CRD review the estimated annual total cost to determine whether they would like to set a maximum total annual cost for the subsidy. Various methods can be used to estimate the maximum annual subsidy cost. Some of those methods include:

a. A total valuation study like those completed for Abbotsford[1] and Metro Vancouver[2] can be used to suggest the value of the benefit of a subsidy and is frequently used as a basis for the total cost of a subsidy. This approach assumes value of the public benefits provided by the subsidy should meet or exceed the cost of the subsidy. This benefit/cost approach for assessing the subsidy program was provided to the WAC to give them a framework for their review. Either an original, survey-based valuation study can be undertaken, or a careful application of existing studies competed in other geographies could be undertaken and applied to the CRD service area. Such studies estimate all the public values of agriculture, including many benefits unrelated to food production such as soil formulation, greenspace preservation, education, etc. Should CRD choose to undertake such a study the task may well be undertaken outside the Water Infrastructure Operations / Integrated Water Services department, or in collaboration with the Water Infrastructure Operations, as the public benefits accrue to other Divisions within CRD, for example Parks, Recreation and Culture.

b. A study that examines the costs of providing the subsidy could be undertaken. Cost constraint studies do not look at the total benefit generated by a subsidy, instead focusing on the ability and/or willingness to pay for the subsidy, recognizing that funds are limited. For example, the CRD agriculture subsidy is "paid" by retail customers, whose rates are higher because of the subsidy. We developed a spreadsheet-based tool (scenario modeling tool) to estimate how much the average household would have paid for water but for the agriculture subsidy. If the agricultural subsidy had been eliminated in 2022, CRD's wholesale rate of $\$0.73/m^3$ would have been $\$0.69/m^3$. The average 3-person household would have paid roughly $10 less annually. CRD could use this information to estimate the maximum subsidy that individual households will pay and then estimate the maximum total subsidy amount based on household use.

[1] Public Amenity Benefits and Ecological Services Provided by Farmland to Local Communities in the Fraser Valley – A Case Study in Abbotsford https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/strengthening-farming/800100-1_public_amenity_benefits_report.pdf

[2] An Estimate of the Public Amenity Benefits and Ecological Goods Provided by Farmland in Metro Vancouver. https://www.fraserbasin.bc.ca/_Library/FVR/fvr_public_amentity_benefits_of_farmland_report_2009.pdf

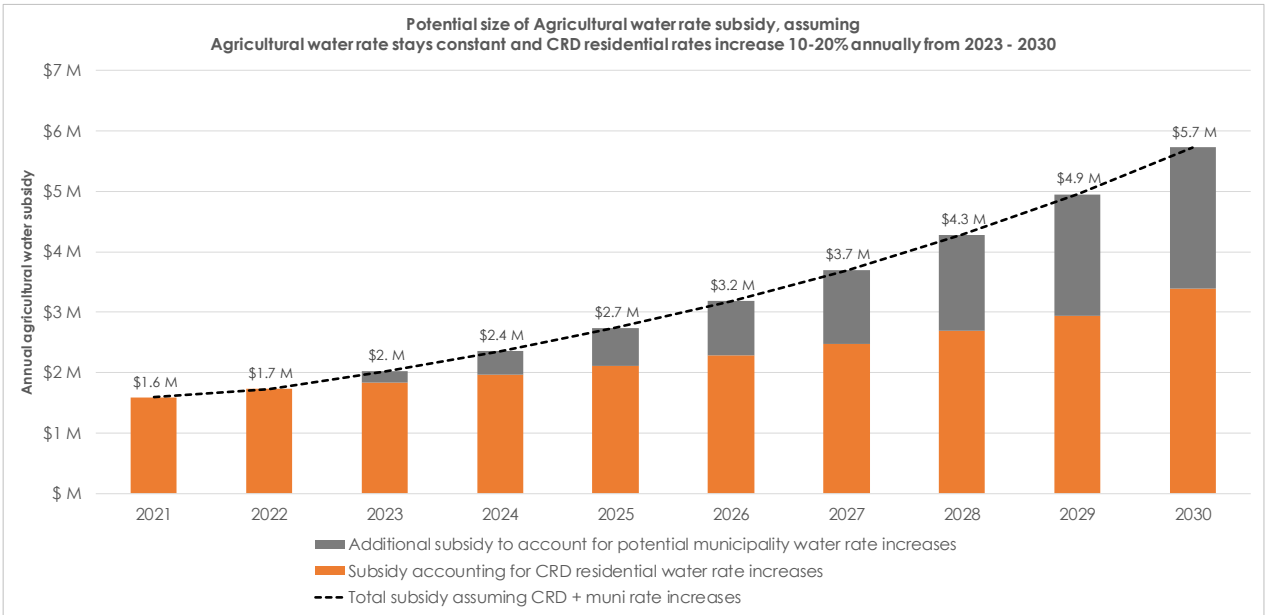


Figure ES-1. History and Estimated Future Total Cost of Agriculture Rate Subsidy

2. Prioritize attributes of various rate structures. Examples of rate structure attributes include: equity, e.g., should all users pay the same rate? How/when to bill? (a topic more sensitive to agriculture users), conservation, e.g., should the rate structure incentivize water conservation? Rate attributes go hand in hand with implementation challenges. For example, because CRD does not bill agricultural users directly some attributes may be more difficult to implement than others. The respondent's prioritized two attributes in their answers to the questionnaire: a structure that equated the subsidy/m^3 across all retail providers and accommodating billing for agricultural users. We recommend CRD undertake an internal review of the implementation feasibility of the following attributes' by estimating both the investment in staff time and/or infrastructure that may be needed implement prior to undertaking further study:

    a. Incentivize conservation

    b. Charge a $/acre of arable land

    c. Re-structure the rate so the subsidy/m^3 is equal across all retail providers

    d. Adjust billing cycle to work better for agricultural cycles

3. Develop a reporting program. It is not uncommon for agencies that distribute subsidies to ask the recipients to report on the benefits they receive. We recommend that CRD consider an annual reporting requirement for recipients of the subsidy. The reporting could be relatively minimal.

Additionally, completing the report could be a condition of continuing to receive the subsidy. If a water user does not submit the report they would no longer be eligible for the subsid. The majority of questionnaire respondents answer that they supported the idea (both moderate support and strong support). No respondent did not support the idea. When asked about the types of information the report should include the respondents stated: livestock numbers, area irrigated, crops grown, acres by crop, irrigation method, ownership (family or corporate) and if the crops were consumed locally or exported. The report would serve a number of purposes including:

a. Provide information to CRD about the types of activities the subsidy is supporting, e.g., small family farms selling produce locally or larger entities grow trees.

b. Use the reporting requirement as a screening tool for those agriculture users who are less dependent on the subsidy for their business. For example, one of the respondent commented that “some recipients of discounted water rates are not using the water to produce food and feed”.

c. Use the information gathered in the reports to prepare an annul report from CRD to the public about its on-going efforts to support locally grown food and feed. This idea had support from a majority of the questionnaire respondents.

4. Review expanding eligibility. Expanding the program to provide the agriculture subsidy to water uses that are not classified as agriculture land, like urban users, who are growing food and feed.

Table ES-1. Summary of Policy Questions, Considerations and Stantec Recommendations for Implementation

Policy question / consideration	Year 1	Year 2	Year 3	Key Consideration
Establish a maximum total annual subsidy amount	Action: CRD to select a valuation method and estimate what the revised rate would be. Publish notice of study and potential future rate change Ag. rate: Unchanged	Action: Beta-test rate. Estimate how the estimated revised rate would have achieved the cost target. Revise rate as needed. Ag. rate: Unchanged	Action: Change ag. rate and verify actual cost versus target	Answering this question likely involves understanding more operational considerations and is best left to the CRD to decide and could well be a CRD Board decision.
Prioritize rate attributes	Action: CRD to evaluate implementation feasibility of each attribute. Report to community the findings and publish a notice of change if warranted. Ag. rate: Unchanged	Action: Beta-test attribute change. Estimate how the estimated revised attribute would have achieved the cost target. Revise rate as needed. Ag. rate: Unchanged	Action: Change ag. rate and verify actual cost versus target	Answering this question likely involves understanding more operational considerations and is best left to the CRD to decide
Develop a reporting program	CRD to determine the multiple objectives of requesting the report and develop reporting requirements. Publish notice of study and future potential requirements. Meet with retail providers to discuss implementation plans. Develop format (e.g., power ap, on-line tool, forms, etc.)	Beta-test report with a select group of ag water users.	Role-out report requirement	We recommend that CRD consider implementing this report for the multiple benefits it could provide
Review expanding eligibility	On-hold	On-hold		We recommend that CRD consider this but only after the reporting requirement is in place, and careful analysis of cost and administrative considerations can be completed.

Glossary

public benefits	Positive impacts to society (i.e., in the case of the CRD Agricultural Water Rate public benefits may include locally produced food, climate change and adaption, and land stewardship among others).
climate change adaptation	Actions that reduce the negative impact of climate change.
economic framework	A conceptual structure of decision rules that align everyone to the financial objectives of the solution and guides the economic decision-making process.
CRD Agricultural Water Rate	A price charged for water consumption that is lower than municipal retail or distribution rates and can be applied to properties that hold a BC Assessment farm classification.
rate subsidy	A sum of money granted by the government or a public body to assist an industry or business so that the price of a commodity or service may remain low or competitive. For the CRD Agricultural Water Rate, the money is funded through the annual Regional Water Supply Service operating budget which funds the difference between the municipal retail water rate and the agricultural water rate.
fixed and consumptive rates	Many utilities use a combination of a fixed fee (base) and a variable fee (volume) for their water rate structures. Fixed charges generally include the price the customer pays as a base charge, a fixed fee, and the variable or consumptive rate is charged based on the volumetric consumption
cost-of-service rates	A fixed price paid or charged that covers the total cost of providing a service including operational and administrative costs and expenses
Water allotment	Maximum quantity of water set by a governing body for a specified user or area.
ability-to-pay study	Application of the principle of ability to pay establishes profitability or irrigated farms as the basis for water pricing.
retail residential water rate	A price charged for water consumption that is applied to properties classified as residential.

1 Background, Goals, Approach

The Capital Regional District (CRD) contracted with Stantec Consulting to review and analyze the CRD's agricultural water rate. The analysis includes a review of the water rate model and a recommendation of potential model options. The goal of the rate review is to:

*Recommend **a fair rate that supports farming operations** that contribute to the **regional objective** of supporting local food production, while addressing the **service budget implications** and the additional cost burden to non-agricultural customers.*

1.1 Background – What is the Agricultural Water Rate Program?

The CRD has provided an agricultural water rate through the Regional Water Supply Service since 2002. Properties that hold a BC Assessment farm classification[3] are eligible to receive the rate subject to the provisions of CRD Bylaw No. 2570[4], which sets out how the rate applies to properties with or without a residence. Historically, the rate has been substantially lower than the municipal residential water rates, which was intended to promote and support local food production. The ag. rate provides a benefit to farmers by lowering the cost for crop irrigation and livestock rearing, with the objective of supporting local food (fruits, vegetables and livestock) and feed production.

The rate 'subsidy' is funded through the annual Regional Water Supply Service operating budget. The subsidy funds the difference between the municipal residential water rate and the agricultural water rate of $0.2105 per cubic metre ($m^3$), keeping the municipalities 'whole' financially. Residential water rates are higher than the CRD wholesale rate because municipalities buy wholesale water from CRD and also operate and maintain their own distribution systems. As such, residential water rates vary across municipalities. In 2022, residential rates were $1.68/ m^3 in North Saanich, $1.86/ m^3 in Central Saanich and Saanich, and $2.40/ m^3 in Western & Sooke. These charges include the $0.7332/ m^3 that the municipality pays CRD for the wholesale water. By funding the difference between residential rates and the ag. rate, the subsidy allows CRD to reduce the cost of agricultural water by more than 90% on a volumetric basis.

All fixed meter charges built into the municipal residential rates are also covered by the subsidy, though not all municipalities have fixed charges within their rate structure. Central Saanich and Saanich are the only municipalities to include fixed meter charges. In 2022, the subsidy covered a total of $13,680 in fixed meter charges (less than 1% of the total subsidy).

[3] See the BC Assessment Authority Understanding Farm Classification website for more details, located: info.bcassessment.ca/services-and-products/Pages/Understanding%20Farm%20Classification.aspx

[4] See the CRD Regulations and Bylaws website for more details, located: www.crd.bc.ca/about/regulations-bylaws

When the current program was first established in 2002, the agricultural water rate was set at $0.2060/m^3, which was 72% of the wholesale water rate ($0.2860/ m^3). In 2010, the agricultural water rate was increased to $0.2105/ m^3 and has remained constant ever since. The ag. rate has not changed since 2010, while during that time, the Regional Water Supply bulk supply or 'wholesale' water rate and the municipal distribution or 'retail' water rates have steadily increased. The number of accounts, volume of water, and total subsidy amount has also increased gradually. In 2020 there were 532 Agricultural/Residential (AR) and 133 Agricultural (AG) accounts that in total received 1,053,155 m^3 of subsidized water, and the 2021 Regional Water Supply ag. rate funding budget was $1.6 million. In 2022, the funding budget was $1.7 million which subsidized 1,089,368 m^3 of water for 545 AR and 137 AG accounts.

Many of these agricultural accounts use relatively small amounts of agricultural water. In 2022, 50% of accounts received less than $500 in subsidized water, and 20% of accounts received no subsidy at all. A smaller number of accounts are heavy water users, with nearly a quarter of the water subsidized in 2022 went to only 1% of accounts.

See the CRD Agricultural Water Rate Timeline for an overview of the rate history (included as the last page in Appendix A CRD Agricultural Water Rate Review and Rate Model Options Study: Background Information).

1.2 Goals

The outcome of this review recommends an ag. rate/rate model option as well as an implementation plan that supports farming operations while addressing the service budget implications and the additional cost burden to non-agricultural customers. One goal that the CRD requested is that the rate structure/rate model should also encourage water conservation.

1.3 Framework

A useful conceptual framework to consider when reviewing subsidized irrigated water rate programs categorizes benefits and costs into two categories: private and public (Figure 1).

Private benefits account for the gross revenue that farmers receive for their output (e.g., fruits, vegetables, and livestock). Private costs include farmers' costs of production (e.g., supplies, labor, water, and a return on their time and capital investments). For a farming operation to be financially sustainable these private benefits must exceed the private costs.

Public benefits account for the benefits that society receives from the agricultural industry. Public costs equal the total subsidy that CRD contributes through the subsidized ag. rates.

Figure 1 shows this benefit / cost conceptual framework for a situation where both the public benefits equal the public cost and the private benefits equal the private costs (e.g., cost of the subsidy). This situation is considered to be an efficient allocation of resources.

The challenge with this framework is that public benefits are not necessarily denominated in dollars. However public benefits can be quantified, using economic tools, or qualified. An example of qualifying of the value of public benefits is found in CRD's 2023 Regional Growth Strategy (RGS) during which members of the public and stakeholder groups classified food and agriculture systems at the top of a list of nine other sustainability topics (CRD, 2023).[5]

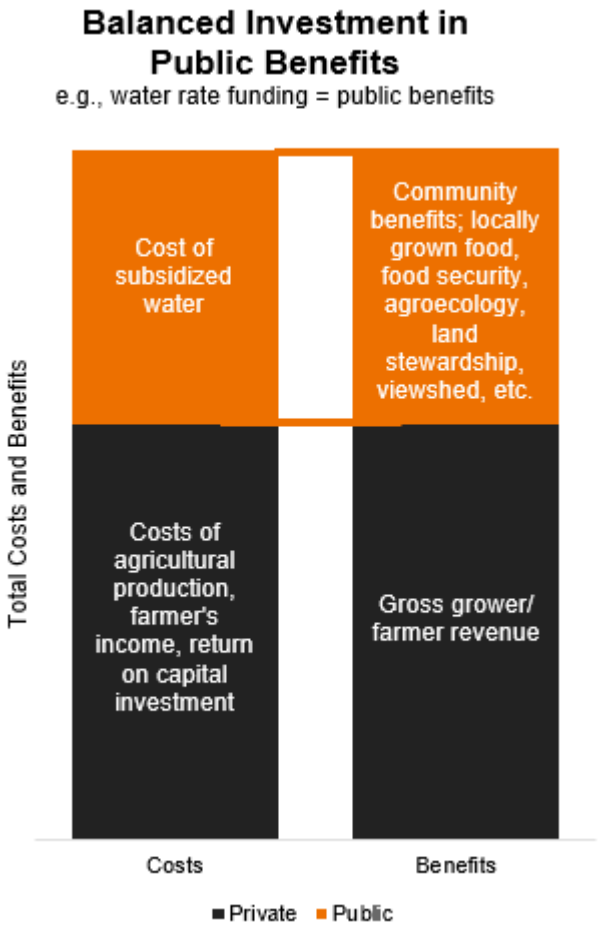


Figure 1. Conceptual Framework

[5] See the CRD Regional Food and Agriculture Strategy website located at: Food & Agriculture | CRD

The categories of public benefits qualified by the CRD include locally produced food, climate change and adaption, and land stewardship. Other qualified public benefits of agriculture production that have been cited in other regions include educational opportunities, preservation of undeveloped lands, and food security.

Public benefits can also be quantified. For example, in 2007 the BC Ministry of Agriculture published a report on the "Public Amenity Benefits and Ecological Services Provided by Farmland to Local Communities in the Fraser Valley – A Case Study in Abbotsford"[6]. Similarly, in 2009 the Fraser Basin Council published a report entitled "An Estimate of the Public Amenity Benefits and Ecological Goods Provided by Farmland in Metro Vancouver"[7]. These reports demonstrate that the public does indeed value the public benefits generated by the agricultural sector, and further that resource managers are interested in investing in economic studies to quantifying these benefits. The valuation estimates in these reports are unique to place, time and specifics of the types of questions being asked. Therefore, its not appropriate to apply the values estimated in those report to the current CRD review of the ag. rates without careful evaluation, however it is useful to see an example of such valuation studies.

Regardless of whether public benefits are quantified or qualified a survey instrument can provide valuable insights into how the public values the resources. These surveys generally describe alternative plans and ask respondents their preferences. For this CRD analysis a questionnaire was prepared for the Water Advisory Committee (WAC) to ask gather information about the WAC's preferences for the program. What follows is a description of how the survey was developed.

[6] https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/strengthening-farming/800100-1_public_amenity_benefits_report.pdf

[7] https://www.fraserbasin.bc.ca/_Library/FVR/fvr_public_amentity_benefits_of_farmland_report_2009.pdf

2 Questionnaire Development

The questionnaire focused on two categories of potential changes to the ag. rate program. The first category would be administrative changes to the program. Administrative changes are not mutually exclusive. The second category of change would be to the ag. rate, either increasing or decreasing or changing the structure of the rate. Rate changes are mutually exclusive. What follows is the detail about these changes that was presented to the WAC at a meeting on March 28, 2023

2.1 Potential Administrative Changes

Administrative changes include any change to the program that is unrelated to setting the rate.

2.1.1 REQUIRE ANNUAL REPORTING FROM RECIPIENTS OF THE SUBSIDY

It is not uncommon for agencies that distribute subsidies to ask the recipients to report on the benefits they receive. The reporting could be relatively minimal or extensive depending on the objectives of the reporting program, including;

- Inform decision makers about the public benefits being produced with the aid of the subsidized water. And provide a way to verify that the subsidy is being used to support the types of activities that CRD is endeavouring to support.
- Summarize the information in the individual subsidy recipients reports into a CRD communication to the community regard the public benefit generated through the subsidy. At a minimum this CRD communication would go to retail water users to inform them about the costs and the benefits of the program. Acknowledging the fact that retail water users are cross subsidizing the agricultural users.
- Use the individual subsidy recipients' as a requirement to stay in the program. Asking for a report from a subsidy recipient can be an indication of the value they place on the subsidy. If a recipient takes the time to complete the report their time is an indicator of the value that they place on continuing to receive the subsidy.

2.1.2 EXPAND ELIGIBILITY AND REVISE APPLICATION

Properties that hold a BC Assessment farm classification[8] are eligible to receive the rate. However, there are reports from members of the WAC and others that some urban dwellers are engaged in food production

[8] See the BC Assessment Authority Understanding Farm Classification website for more details, located: info.bcassessment.ca/services-and-products/Pages/Understanding%20Farm%20Classification.aspx

but cannot receive the subsidy. Under this administrative change these urban users would be eligible to apply for the program.

Implementing this change could involve development of a parallel application process (Figure 2). What Figure 2 shows is the implementation of both the expanded eligibility of the subsidy program as well as the implementation of the reporting requirement described above in 2.1.1. The process would first ask whether the applicant farmed and if so whether they are classified under the BC assessment classification system. If no, then the applicant would submit a CRD-developed application. Depending on the result of the application they would either receive or not receive the subsidy.

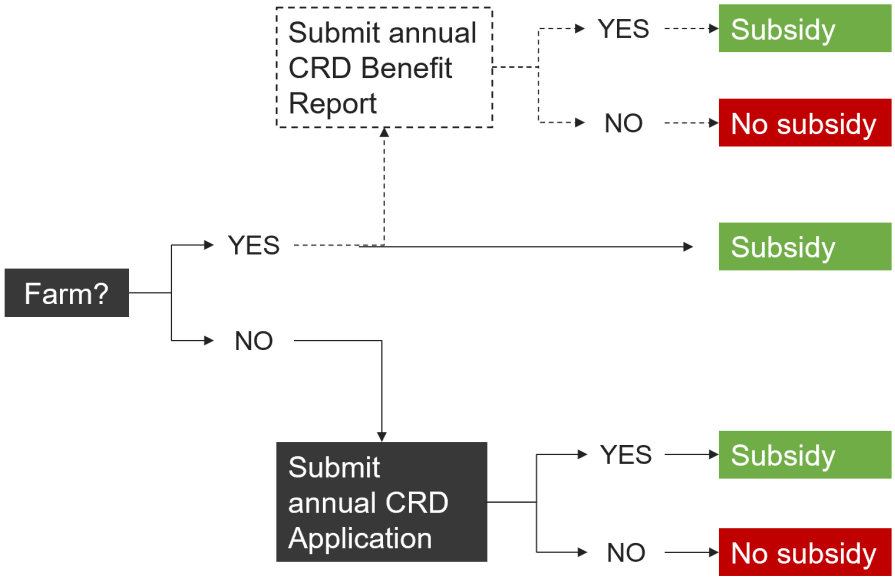


Figure 2. Potential Parallel Application Process

Figure 2 also illustrates a second eligibility requirement of the CRD-developed benefits report describe above under 2.1.1.

2.1.3 ADDRESS UNEQUAL COVERAGE OF FIXED METER COSTS BY STANDARDIZING THE REBATE FOR FIXED AND CONSUMPTIVE COSTS

Central Saanich and Saanich include fixed meter charges in their water rate structures, which are reimbursed at 100% by the agricultural subsidy. Other municipalities have previously expressed concerns with this difference in cost coverage. The 2019 Peninsula and Area Agricultural Commission letter to CRD states “in the interest of fairness that North Saanich get the rebate from the CRD from AG meters equivalent to the fixed meter charges charged by the other municipalities”.

This administrative option would change the percent coverage of the fixed costs to be equal to the percent coverage of volumetric charges. For example, the fixed meter charge in Central Saanich is $47 annually.

Central Saanich consumptive charges are covered at 88.9% by CRD ($1.86 residential rate reduced to $0.2105). Instead of being reimbursed $47 for that meter, CRD would only reimburse $41.78 (88.9%) of the fixed rate. CRD could also consider covering all fixed charges at this percent coverage, beyond only fixed meter charges. According to the 2019 PAAC letter, residential retail rates in North Saanich include a yearly fixed per parcel charge that is not reimbursed by CRD.

2.1.4 ADJUST BILLING CYCLE TO WORK BETTER FOR AGRICULTURAL CYCLES AND WATER USAGE TRACKING

This administrative option was originally proposed to the WAC as two administrative options: Adjust Billing Cycle & Report on Usage On-Demand. Different municipalities bill on different cycles, sending water bills either three times annually (Central Saanich, Saanich, Western & Sooke) or four times annually (North Saanich). Billing cycle and availability of water usage data were identified as concerns in the *City of Kelowna Agriculture Water Rate Design Engagement Report* [9]. It is included as an administrative change in this evaluation for CRD to consider gathering more information about within their service area, as no concerns regarding billing cycle or usage data were identified in existing CRD engagement documents. CRD could work with municipalities to explore different billing cycles that work best for agricultural producers, such as being billed more regularly to allow for tracking water usage or being billed annually at the end of the growing season. 40% of agricultural users in Kelowna preferred an annual billing cycle billed December 31st after the growing season had ended. Other agricultural producers preferred more regular billing to allow producers to keep track of water usage on a more regular basis.

[9] https://kelownapublishing.escribemeetings.com/filestream.ashx?DocumentId=24947

2.2 Rate Changes

Six potential rate change options were explored as part of the study. Each option was evaluated for both potential impacts and attributes. Following a description of the impacts and attributes each of the rate change options is discussed below. The attributes and impacts of each rate change option are described below and summarized in Table 1 at the end of this section.

2.2.1 IMPACTS

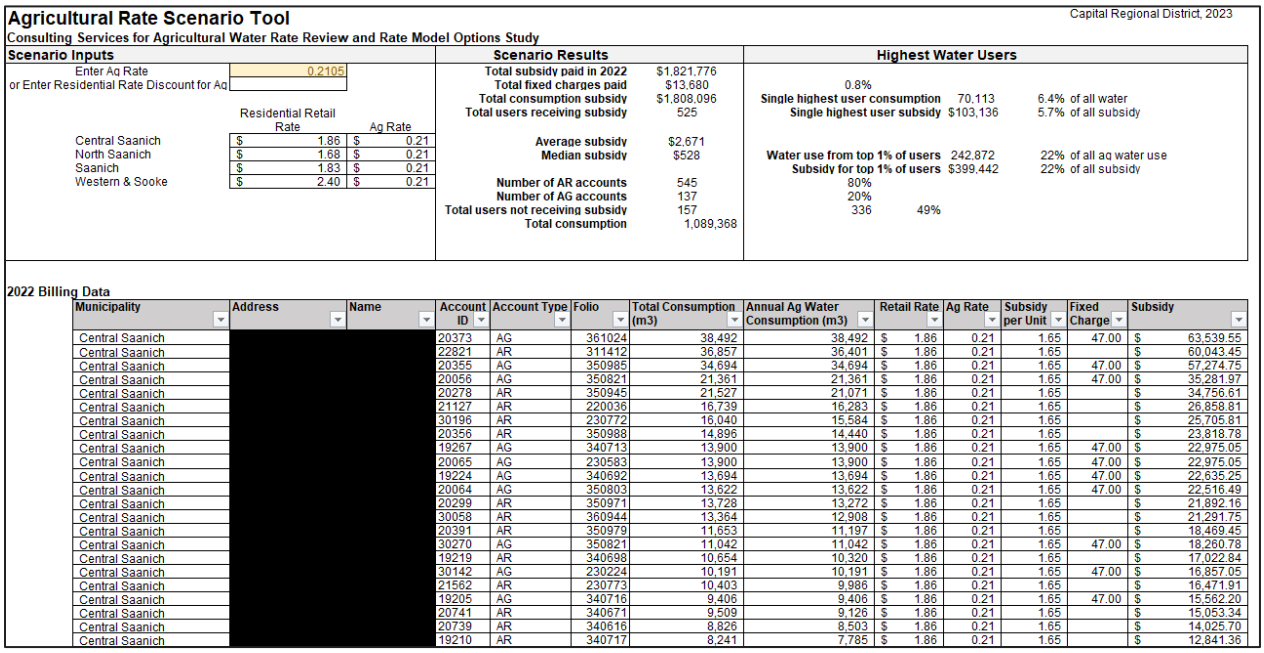
Three categories of impacts were assessed for each potential option. The impact categories consider the financial and or economic impact of the proposed change in the rate on the total cost of the subsidy (Fiscal Impacts), the potential impact the rate change might have on the agricultural sector (change in agricultural benefits) and the administrative level of effort, or challenges of implementing the proposed rate change.

- **Fiscal Impacts** are measured as an increase or a decrease in the cost of the subsidy to CRD. Stantec developed an ag rate Scenario Tool (Scenario Tool) by synthesizing all 2022 billing data across all four municipalities that receive agricultural subsidies (Central Saanich, North Saanich, Saanich, and Western & Sooke). Names and addresses of accounts were removed for anonymity. Account IDs, type, total consumption, agricultural consumption, fixed meter charges, and residential retail rates for each municipality were compiled. The Scenario Tool allows for different ag. rates scenarios to be tested and a hypothetical subsidy for 2022 to be calculated based on different inputs, resulting in a hypothetical financial impact for various scenarios. A screen capture of the tool is shown in Figure 3.

- **Change in Agricultural Benefits** (Public and Private) are estimated assuming that if the ag. rate increases, resulting in increases to farmers' costs, some farmers may go out of business. Therefore, as the ag. rate increased (e.g., the subsidy decreases) both public and private agricultural benefits would decline. Where "reduced benefits" means an increased ag rate may result in a reduction in water use and/or agricultural production and therefore a reduction in public and private benefits.

- **Change in Wholesale Rates** are estimated to decrease if agricultural rates increase because the agricultural rate is cross-subsidized by wholesale rates. For example, in 2022 an average 3-person household paid $9.60 in their annual water bill for the agricultural subsidy. This is calculated for an average 3-person household using an average of 220 L/ day (80 m^3/year).

- **Administrative Level of Effort** reflects an assumption about how much CRD staff time would have to increase to administer the potential rate option. Where "low" refers to the least impact and high assumes that the CRD staff time would have to increase to administer the program.



Agricultural Rate Scenario Tool — Capital Regional District, 2023

Consulting Services for Agricultural Water Rate Review and Rate Model Options Study

Scenario Inputs

Enter Ag Rate: 0.2105
or Enter Residential Rate Discount for Ag:

	Residential Retail Rate	Ag Rate
Central Saanich	$ 1.86	$ 0.21
North Saanich	$ 1.68	$ 0.21
Saanich	$ 1.83	$ 0.21
Western & Sooke	$ 2.40	$ 0.21

Scenario Results

Total subsidy paid in 2022	$1,821,776
Total fixed charges paid	$13,680
Total consumption subsidy	$1,808,096
Total users receiving subsidy	525
Average subsidy	$2,671
Median subsidy	$528
Number of AR accounts	545
Number of AG accounts	137
Total users not receiving subsidy	157
Total consumption	1,089,368

Highest Water Users

0.8%

Single highest user consumption	70,113	6.4% of all water
Single highest user subsidy	$103,136	5.7% of all subsidy
Water use from top 1% of users	242,872	22% of all ag water use
Subsidy for top 1% of users	$399,442	22% of all subsidy

80%
20%
336 49%

2022 Billing Data

Municipality	Address	Name	Account ID	Account Type	Folio	Total Consumption (m3)	Annual Ag Water Consumption (m3)	Retail Rate	Ag Rate	Subsidy per Unit	Fixed Charge	Subsidy
Central Saanich	[redacted]		20373	AG	361024	38,492	38,492	$ 1.86	0.21	1.65	47.00	$ 63,539.55
Central Saanich			22821	AR	311412	36,857	36,401	$ 1.86	0.21	1.65		$ 60,043.45
Central Saanich			20355	AG	350985	34,694	34,694	$ 1.86	0.21	1.65	47.00	$ 57,274.75
Central Saanich			20056	AG	350821	21,361	21,361	$ 1.86	0.21	1.65	47.00	$ 35,281.97
Central Saanich			20278	AR	350945	21,527	21,071	$ 1.86	0.21	1.65		$ 34,756.61
Central Saanich			21127	AR	220036	16,739	16,283	$ 1.86	0.21	1.65		$ 26,858.81
Central Saanich			30196	AR	230772	16,040	15,584	$ 1.86	0.21	1.65		$ 25,705.81
Central Saanich			20356	AR	350988	14,896	14,440	$ 1.86	0.21	1.65		$ 23,818.78
Central Saanich			19267	AG	340713	13,900	13,900	$ 1.86	0.21	1.65	47.00	$ 22,975.05
Central Saanich			20065	AG	230583	13,900	13,900	$ 1.86	0.21	1.65	47.00	$ 22,975.05
Central Saanich			19224	AG	340692	13,694	13,694	$ 1.86	0.21	1.65	47.00	$ 22,635.25
Central Saanich			20064	AG	350803	13,622	13,622	$ 1.86	0.21	1.65	47.00	$ 22,516.49
Central Saanich			20299	AR	350971	13,728	13,272	$ 1.86	0.21	1.65		$ 21,892.16
Central Saanich			30058	AR	360944	13,364	12,908	$ 1.86	0.21	1.65		$ 21,291.75
Central Saanich			20391	AR	350979	11,653	11,197	$ 1.86	0.21	1.65		$ 18,469.45
Central Saanich			30270	AG	350821	11,042	11,042	$ 1.86	0.21	1.65	47.00	$ 18,260.78
Central Saanich			19219	AR	340698	10,654	10,320	$ 1.86	0.21	1.65		$ 17,022.84
Central Saanich			30142	AG	230224	10,191	10,191	$ 1.86	0.21	1.65	47.00	$ 16,857.05
Central Saanich			21562	AR	230773	10,403	9,986	$ 1.86	0.21	1.65		$ 16,471.91
Central Saanich			19205	AG	340716	9,406	9,406	$ 1.86	0.21	1.65	47.00	$ 15,562.20
Central Saanich			20741	AR	340671	9,509	9,126	$ 1.86	0.21	1.65		$ 15,053.34
Central Saanich			20739	AR	340616	8,826	8,503	$ 1.86	0.21	1.65		$ 14,025.70
Central Saanich			19210	AR	340717	8,241	7,785	$ 1.86	0.21	1.65		$ 12,841.36

Figure 3. Agriculture Rate Scenario Tool Screenshot

2.2.2 ATTRIBUTES

An attribute refers to the ability of the rate plan to achieve policy goals. Three categories of attributes were assessed for each potential rate option. These three attributes were selected out of many possible attributes based on the economic framework used in this consultation and a review of background documents from various meetings and letters where the ag. rate was discussed.

There very well could be other meaningful attributes to consider, we selected these as potentially the most useful to consider in the near term. Question 16 of the questionnaire asked what other attributes respondents would like to see included in a comparison of potential options. Answers included addressing the differing total subsidy received by different retail providers (see description in administrative changes above in 2.1.3), to several comments about quantifying public benefits of the subsidy (see Section 3.1)

The attributes included in the current version of the comparison table are:

- **Allows CRD to set an ag. rate equal to the perceived public benefit:** refers to the ability of the rate to be determined based on the total perceived value of the subsidy. For example, if the public

benefit of agriculture was quantified as was done in Abbotsford[10] and Metro Vancouver[11] the ag. rate could be set to provide the estimated public benefit.

- **Promotes water conservation:** refers to a rate that is designed to encourage agricultural producers to reduce water use, such as by charging higher rates for higher consumption rates. For example, a base volume of water at one rate and subsequent volumes of water that are delivered are charge a higher rate.
- **Rate constant across agricultural accounts:** refers to a comment that the CRD received from its retail providers about the method used to calculate the subsidy. Under the current rate structure, the rate is the same for all agricultural accounts, regardless of what municipality the account is in. However, municipalities charge different residential rates, meaning for ag. rates to be constant, the size of the subsidy varies across municipalities. Unequal subsidies has been expressed as a concern by municipalities, but it allows for agricultural producers to have consistent rates across geographies. A "no" under this attribute would indicate the system would vary across agricultural producers and be more equal across municipalities.

2.2.3 IMPACT AND ATTRIBUTE EVALUATION OF POTENTIAL RATE OPTIONS

2.2.3.1 No Change

The current program rate is $0.2105 per cubic meter of agricultural water. An analysis of 2022 billing data resulted in a calculated total subsidy in 2022 to be $1,821,776. Agricultural water accounts for roughly 2% of the CRD water demand, in 2022 requiring 1.3 million of the 47.5 million m^3 of annual water demand. The remaining 98% of non-agricultural water sold to customers subsidizes the 2% of agricultural water, which in 2022 cost $1.8M. This breaks down to roughly four cents ($0.0378) of the $0.7332 wholesale rate to recover the cost of the agricultural subsidy. Under the No Change scenario, in 2022, an average 3-person household paid $9.60 in their annual water bill for the agricultural subsidy. This is calculated for an average 3-person household using an average of 220 L/ day (80 m^3/year).

For the No Change scenario, future growth of the subsidy was also considered. The ag. rate has not changed since 2010 and under the No Change scenario, there would be no planned increases for the agricultural water rate. Wholesale rates, however, have steadily increased to recover the increasing cost of water service delivery for CRD, meaning the "wedge" between the wholesale and ag. rates continues to grow (Figure 4).

The latest CRD rate study indicated that wholesale water rates may increase 10-20% annually through 2030. At 15% per year for 8 years, wholesale rates may increase from $0.0733/$m^3$ (2022) to $2.25/$m^3$

[10] https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/strengthening-farming/800100-1_public_amenity_benefits_report.pdf

[11] https://www.fraserbasin.bc.ca/_Library/FVR/fvr_public_amentity_benefits_of_farmland_report_2009.pdf

(2030), an increase of ~$1.50/m^3. If the agricultural water rate stays at $0.2105/m^3 under the No Change scenario, 100% of these rate increases will be covered by the subsidy. This increase does not include any likely rate increases incorporated by retailers. An additional $1.9M would be required in subsidy to cover $1.50/m^3 for the 1.3M m^3 of agricultural water, which is roughly double the existing subsidy. This breaks down to a 2030 wholesale rate that includes $0.08/m^3 for the agricultural subsidy, meaning a household of three people would pay $20 annually towards supporting local agriculture.

By construction then, the current ag. rate subsidy/m^3 will increase over time, estimated to be $2.24/m^3 by 2030. The historical and future fiscal impact is shown in Figure 4. Considering the forecasted increase in agricultural water demand due to climate change, these estimated future rates may be even greater. The magnitude of this increasing impact was a primary driver of CRD's decision to undertake this project.

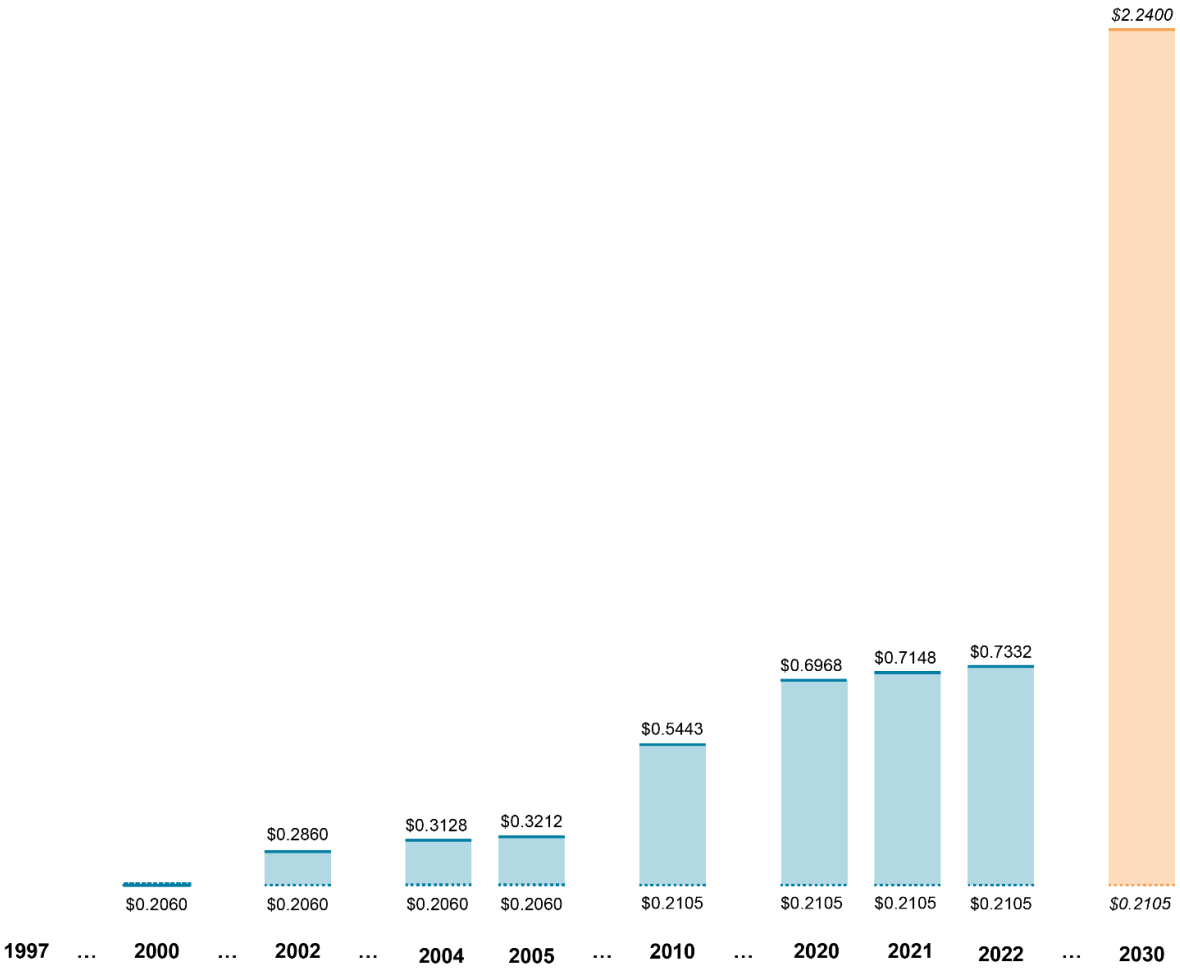


Figure 4. History and Estimated Future Agriculture Rates of the No Change Option

The estimated total subsidy cost of the No Change option would increase as a result of the increase in the per unit subsidy. The total future cost of the subsidy is estimated to be $5.7M by 2030 (Figure 5).

The No Change option will have low impact on the current production of public agricultural benefits, assuming that current farmers receiving the subsidized rate will continue operations at current levels. The administrative impact to CRD of the No Change option is also low, assuming the no policies or procedures would be required.

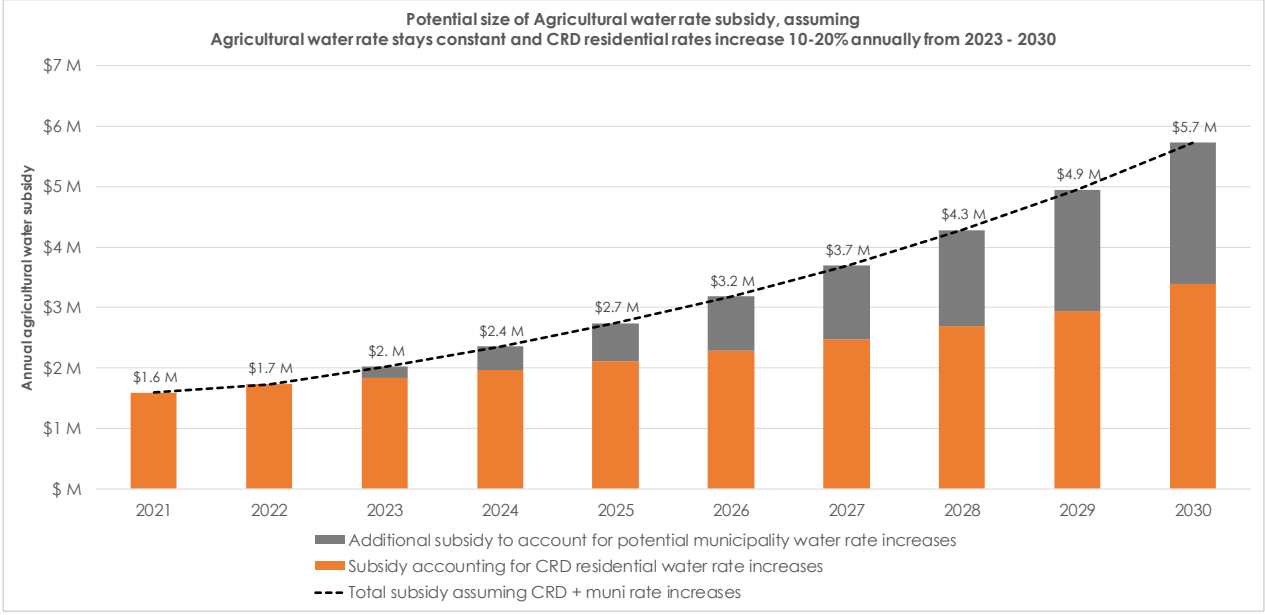


Figure 5. History and Estimated Future Total Cost of Agriculture Rate Subsidy

The No Change option does not provide the ability to set the ag. rate equal to perceived public benefit. This option does not promote water conservation as it is a fixed rate regardless of water use, but it is consistent across all agricultural users, as each individual farmer is charged 0.2105 per cubic meter.

2.2.3.2 Agriculture rate equal to CRD wholesale rate

If the ag. rate was set equal to CRD's wholesale rate the cost of the subsidy would be reduced. If the ag. rate in 2022 was equal to the wholesale rate $0.7332 the cost to CRD would have been reduced to $1.25M.

An increase in the ag. rate would presumably reduce farm production, and therefore the public and private benefits of agriculture would be reduced. It is not known whether some farmers would go out of business or not. Some irrigation districts undertake what is called an Ability to Pay study to estimate the economically

feasible water rate that farmers can pay for water to help establish water rates. Without an Ability to Pay study we can only assume that increasing water rates will decrease farm production.

Equating the ag. rate to the wholesale rate would have a minimal impact on CRD's administrative level of effort, and in fact may decrease effort from current levels as the retail providers would no longer receive subsidy checks.

This option does not provide the ability to set the ag. rate equal to perceived public benefit. Increasing the price of water may indirectly promote conservation, but as this option does not include any form of increasing rate with higher consumption, it does not explicitly promote conservation. This option is consistent across all agricultural users, as each individual farmer would be charged the wholesale rate 0.2105 per cubic meter.

2.2.3.3 Cap the total annual cost of the subsidy

The fiscal impact of a cap on the subsidy would depend on the level of the cap. If the cap was set lower than $1.7M the impact would be a cost savings, if the cap was set higher than $1.7M then the subsidy cost would increase from current levels.

It is unknown what impact capping the subsidy would have on public and private farm benefits without knowing whether the cap would be set higher or lower than the current subsidy. If the cap was set higher and the program was expanded, then public and private benefits could increase.

The administrative level of effort to cap the subsidy could be higher than the current level of administrative effort assuming the rate may need to be readjusted periodically to arrive at the cap.

This option does provide the ability to set the ag. rate equal to perceived public benefit, unless the perceived public benefit was equal to $1.25M in 2020 and increases each year after as described above and illustrated in Figure 4. It does not promote water conservation as it is a fixed rate regardless of water use, but it is consistent across all agricultural users, as each individual farmer is charged the wholesale rate of 0.2105 per cubic meter.

2.2.3.4 Per acre rates

The CRD could consider developing a program similar to the Regional District of North Okanagan and the City of Kelowna, in which a base water rate is charged per acre or hectare of arable land. Any consumption past the allotment and any off-season water usage is charged additional fees. In Okanagan, the water allotment is set at 5,500 m^3 per hectare per year and is charged at a rate of $339/year, or $0.06/$m^3$, with an overconsumption fee of $0.30/$m^3$. The financial impact of this option is dependent on the per-hectare rate adopted. Using the North Okanagan rate of $0.06/$m^3$ and 2022 billing data, the financial impact to CRD would have been a 2022 subsidy of $1.98M if no overconsumption or off-season usage fees were applied.

The impact of this option on farm and public benefits is unknown and requires further study. Due to the need for additional study and the need to estimate a per-hectare allotment for the region, the administrative level of effort was estimated to be high.

This option would allow CRD to set the rate based on the perceived public benefit and is the only option that would promote water conservation due to the introduction of over-consumption fees. It would also allow rates to stay constant across agricultural accounts, based on the number of acres or hectares. As this option would require investigation into the location of the farms, CRD could also explore having different rates for acres or hectares that are on Agricultural Reserve Land.

2.2.3.5 Discount from retail rates

The option to discount the retail rate did not specify a particular rate, however it is assumed that the resulting discounted rate would be higher than the current ag. rate, therefore this option would lower the CRD cost of the subsidy. We estimated CRD's cost of the subsidy using a 50 percent discount from the retail rate, which equated to a $1.0M cost of the subsidy. If the retail rate was discounted by 25 percent, the resulting CRD subsidies cost would be $1.5M.

The discounted retail rate is assumed to reduce the provision of public and private benefits from agriculture, assuming the discounted retail rate would be more than the current ag. rate. This assumption is based on the idea that if agriculture water rates increase some farmers may go out of business.

The discounted retail rate is assumed to have little to no impact on the CRD administrative effort. The administration of the program would be similar to the current program.

The CRD could set the discount rate to achieve a total subsidy cost that was equal to the perceived public benefits of the agriculture, but this option does not promote water conservation as it is a fixed rate regardless of water use. The discounted retail rate would not be consistent across all retailer providers as the retail rates are not the same. This attribute, equating ag. rates across all subsidy recipients, could be achieved if the discount rates were set for each retail provider, but this would increase the administrate level of effort required to administer the program.

2.2.3.6 Stop the agriculture rate subsidy program

If the ag. rate program was discontinued CRD's cost for the subsidy would be eliminated. Additionally, since the agricultural subsidy makes up roughly four cents of the wholesale rate, we can calculate the reduction in the wholesale rate if the agriculture subsidy were terminated. Using the 2022 billing data in the Scenario Modeling Tool, if the agricultural subsidy had been eliminated in 2022, CRD's wholesale rate of $0.73/$m^3$ would have been $0.69/$m^3$. The average 3-person household would have paid roughly $10 less annually. When factoring in anticipated potential increases in the wholesale rate over the next eight years, the average 3-person household would pay roughly $19 less annually in 2030.

Discontinuing the ag. rate subsidy is assumed to reduce the provision of public and private benefits from agriculture, assuming the discounted retail rate would be more than the current ag. rate, thereby increasing farmers costs. This assumption is based on the idea that if agriculture water rates increase some farmers may go out of business.

Discontinuing the ag. rate subsidy would reduce the CRD administrative effort.

Discussion of the attributes is moot for this option since it would discontinue the ag. rate subsidy.

2.2.3.7 Rate Option Attributes and Impacts Summary

Table 1. Summary of Attributes and Impacts of Potential Agriculture Rate Options

	IMPACT				ATTRIBUTES		
OPTION	**CRD financial impact**	**Change in Agricultural Benefits**	**Change in Wholesale Rate**	**Admin. level of effort**	**Allows CRD to set rate equal to perceived public benefit**	**Promotes water conservation***	**Rate constant across agricultural accounts**
No change	$1.7M (in 2022)	No Impact	No Impact	Low	No	No	Yes
Set Ag. rate equal to the CRD wholesale rate	$1.25M (in 2022)	Reduced Benefits	Reduced Rates	Low	No	No	Yes
Cap subsidy	e.g., $1M or 2% of CRD budget	Unknown	Unknown	Medium	Yes	No	Maybe
Rate/hectare arable land, rates increase for over consumption	Requires additional study. Using North Okanagan rates, $1.98M in 2022	Unknown	Unknown	High	Yes	Yes	Yes
Retail rate discount	Medium	Reduced Benefits	Reduced Rates	Low	Yes	No	No
Stop program	$0	Reduced Benefits	Reduced Rates	Low	No	No	No

*Only options that are designed to charge higher rates for higher consumption rates are marked “Yes” here. Water conservation behaviors that may result from higher rates are not considered to explicitly promote conservation.

3 Consultation

The framework, potential administrative changes, impacts, attributes, and potential rate changes presented in the previous sections were shared to gather feedback during consultation. Consultation for the Agricultural Water Rate Review and Rate Model Options Study focused on the Regional Water Supply, Protection and Conservation Advisory Committee, known as the Water Advisory Committee (WAC), which represents impacted water supply and distribution commissions as well as other water users and the agriculture community among other stakeholders.

Stantec participated in a 45-minute presentation with questions and answers during the Water Advisory Committee (WAC) meeting on March 28, 2023 (Appendix B) and provided an information handout (Appendix A) and a link to an online questionnaire that was distributed by the CRD. The information handout stated the goal of the rate review, explained the Agricultural Water Rate Program, presented a conceptual economic framework to guide analysis, summarized topics raised about the existing ag. rate on which more understanding may be required, and provided a brief timeline of the CRD Agricultural Water Rate.

Following the meeting, six members of the WAC formed an Agricultural Water Rate Working Group and this group provided recommendations for revising the questionnaire and the information handout. Stantec revised the questionnaire and document where possible and provided updated versions. The CRD provided a link to the revised questionnaire to the WAC.

The revised questionnaire was available online from April 28 to May 12. Five members out of the 21 members of the WAC responded to the questionnaire. The results of the questionnaire are provided in the following section and were considered in the implementation plan.

3.1 Questionnaire Results

Strong support was expressed to maintain the subsidy, explore ways to measure the public benefits of the subsidy, and gather more information. A glossary of terms was provided at the beginning of the questionnaire and has been included at the end of this document. Open ended responses are included verbatim in italics.

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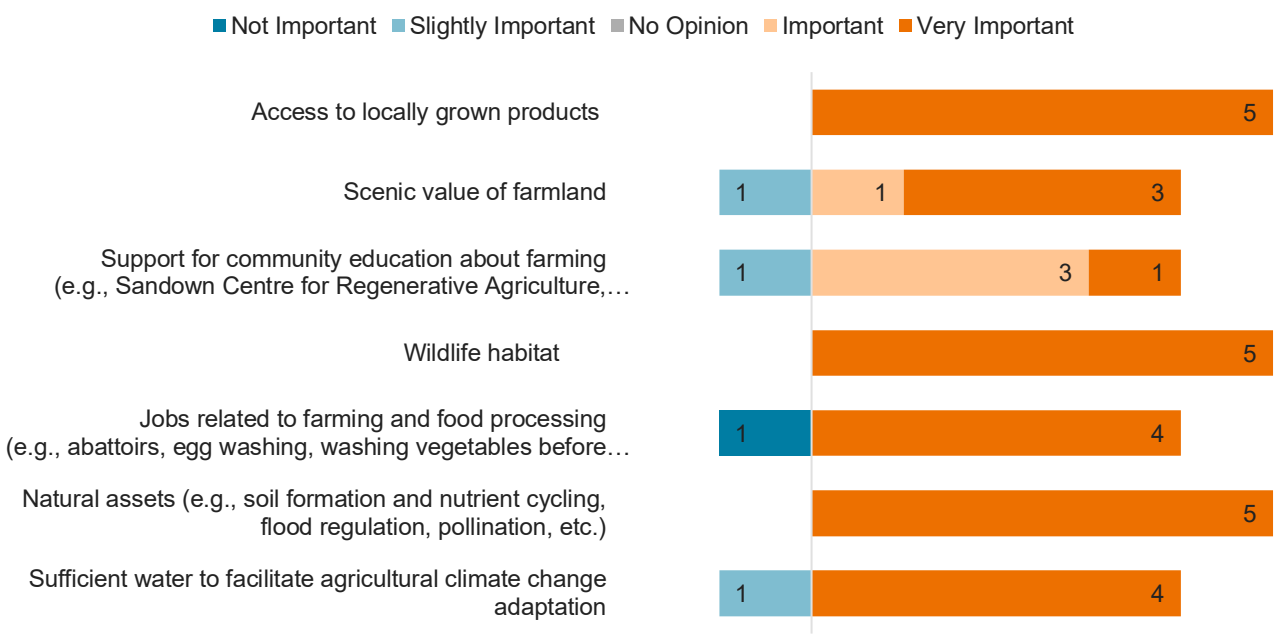
1. Names were collected to monitor participation, but responses remain anonymous.

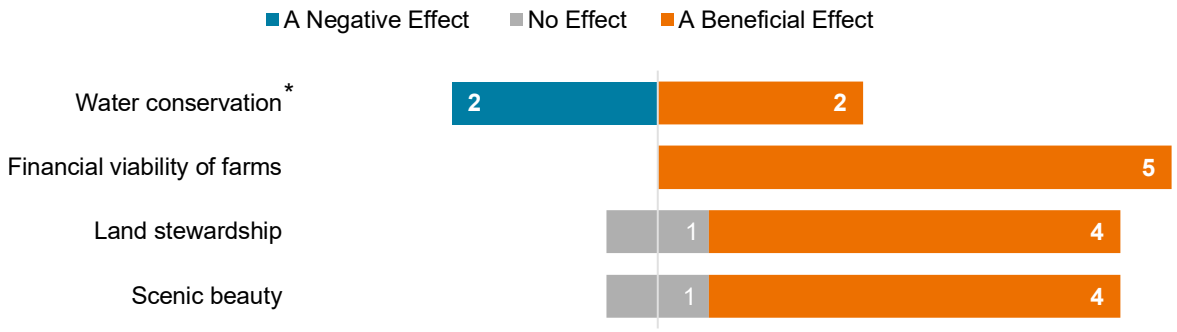
2. Rate the following possible public benefits of the agricultural water rate program:



3. Do you see other public benefits? Please enter them below and note if the benefit is slightly important, important, or very important if possible.

- *Public greenspace, flood plain preservation, both very important.*
- *mental sanity, I see it everyday when im on the road on a tractor, folks smiling and waving and pulling over on narrow roads, much more than before when tractors were often considered an slow nuisance*
- *Regional resiliency. There will be more 'black-swan events' (related to climate change, crop failure, cold-chain/supply chain disruption) that will make regional food production orders of magnitude more important than it may seem now and we need to be ready for that.*

4. Rate the effect that the agriculture water rate subsidy has on community agriculture and resource use:

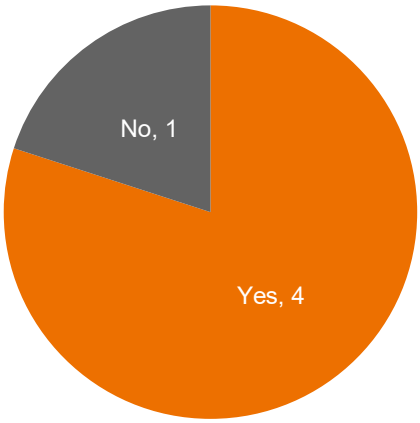


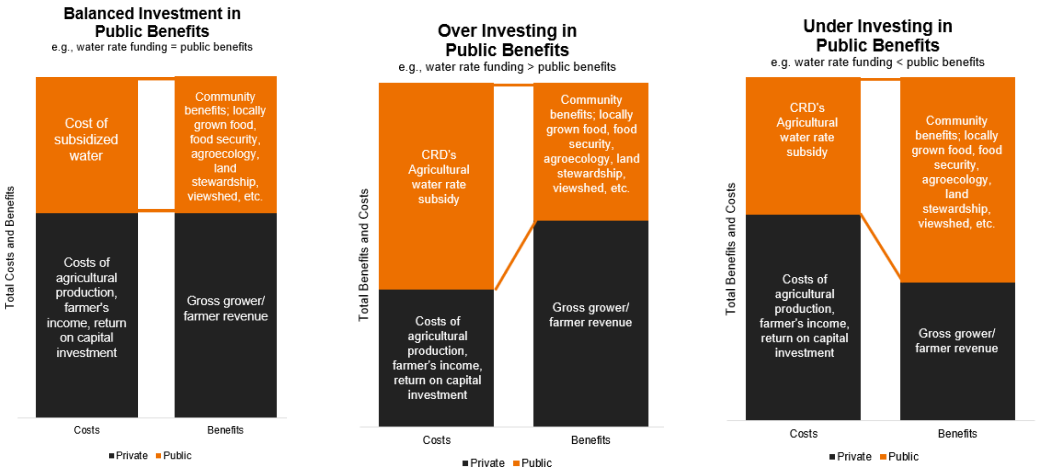
*One participant had no opinion about water conservation.

5. Do you see other effects? Please enter them below and note if the effect is beneficial or negative.

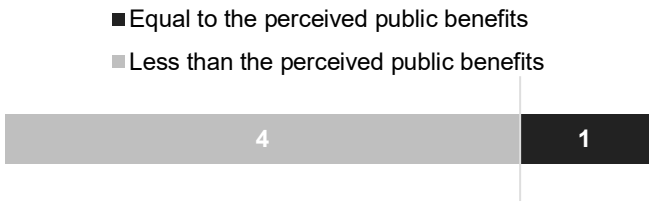
- *City water is still very expensive as compared to many jurisdictions in and around the pacific northwest for farm watering, so is used carefully. The question below needs a space to expand options for example the municipalities could receive less of the differential. I will mark in yes but do not agree. Also the next bunch of question also need a space to write in more answers so this is getting to be a bit lopsided with the yes and no only possibilities*

6. Do you support higher rates for residential accounts which provides funding for the Agricultural Water Rate subsidy?





7. Keeping in mind the economic framework and the information presented on public benefits and costs in the background information handout, do you think that the 2022 $1.7M subsidy was:

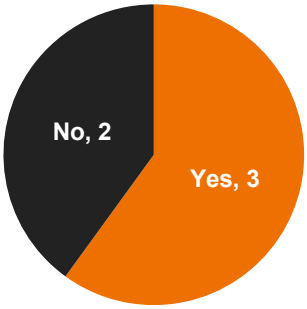


No participants selected the third response “More than perceived public benefits”.

8. The objective of the CRD Agricultural Water Rate is to support local agriculture. Is the objective of the agricultural water rate still relevant?

Five out of five participants said yes.

9. Do you think objective of the CRD Agricultural Water Rate should be amended to include public benefits other than local agricultural products?



10. What other public benefits should be added?

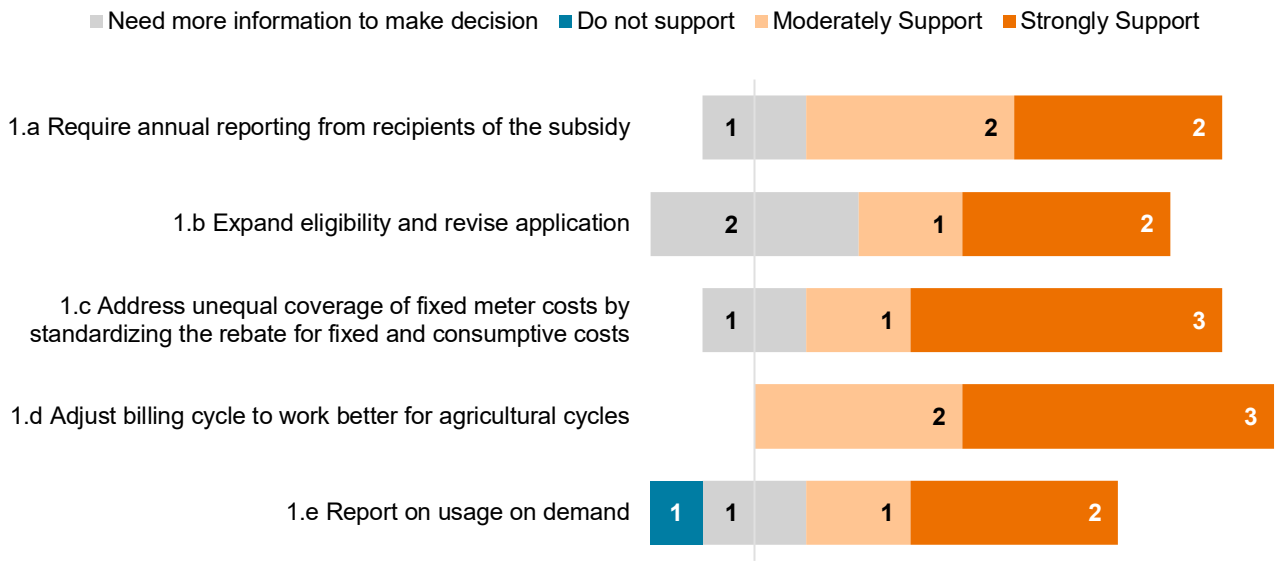
- *greenspace and preservation of agricultural land*
- *Like what, more housing, crime, homelessness, boat washing, estate lawn watering*
- *All of the public benefits listed in Question 2, above.*

11. Do you think the CRD should increase information about the CRD Agricultural Water Rate as part of its ongoing public education efforts (e.g., reservoir tours, lesson plans for children)?

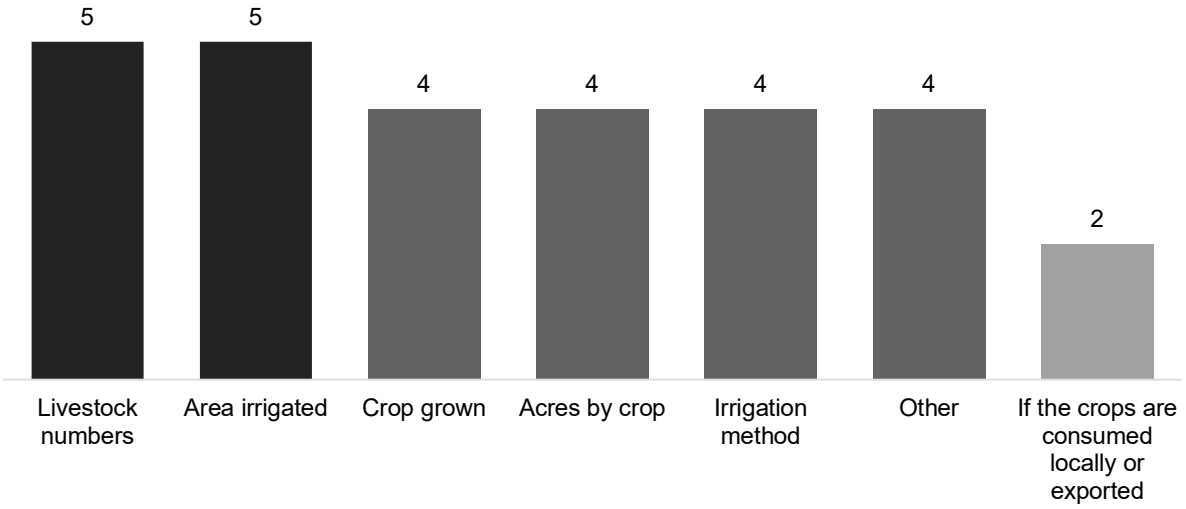
Three participants responded to this question and all three responded yes.

12. How much do you support the following potential Administrative Changes? Note that these changes are not mutually exclusive, and it is possible to implement any and/or all of them along with the different Rate Changes (with the exception of stopping the program).

The strongest support was expressed for the Administrative Change “Adjust billing cycle to work better for agricultural cycles”.



13. If an annual report to receive the subsidy becomes a requirement, it should include (select all that apply):



Other suggestions include:

- *Beneficial ownership of the farm. I.e. is it corporate or family-owned, and is it domestic or foreign-owned*
- *If the crops are consumed locally or exported*
- *exported to where, up island or vancouver?*
- *growing practices, soil preparation techniques, organic or not*
- *Other ag. water use, e.g., egg washing, abattoir, etc.*

2. Comparison of Rate Options

Option		IMPACT			ATTRIBUTES		
		CRD financial impact	Reduction in farm and public benefits	Administrative level of effort	Gives CRD ability to set rate to equal perceived public benefit	Promotes water conservation	Rate constant across agricultural accounts
2.a	No change	$1.7M (in 2022)	Low	Low	No	No	Yes
2.b	Set Ag. rate equal to the CRD wholesale rate	$1.25M (in 2022)	Medium	Low	No	No	Yes
2.c	Cap subsidy	e.g., $1M or 2% of CRD budget	Medium	Medium	Yes	No	Maybe
2.d	Rate per acre/ hectare arable land with increasing rates for over-consumption	Requires rate study, i.e., $300/ hectare/yr, $0.30/m^3 over allotment	Unknown	High	Yes	Yes	Yes
2.e	Retail rate discount	Medium	Medium	Low	Yes	No	No
2.f	Stop program	$0	High	Low	No	No	No

14. Rank the potential Rate Changes from most preferred option to least preferred option.

2.a No change to agricultural rate subsidy

2.b Charge the wholesale rate for current agricultural customers

Agricultural water rate matches the matches the wholesale rate and increases along with it.

2.c Cap the subsidy ($ amount or budget %)

Set a target for the total annual subsidy budget based on recognition of value. Work backwards to develop a rate that hits the target amount. Annual increase could be tied to the increase of cost-of-service rates.

2.d Rate per acre/ hectare arable land with increasing rates for overconsumption

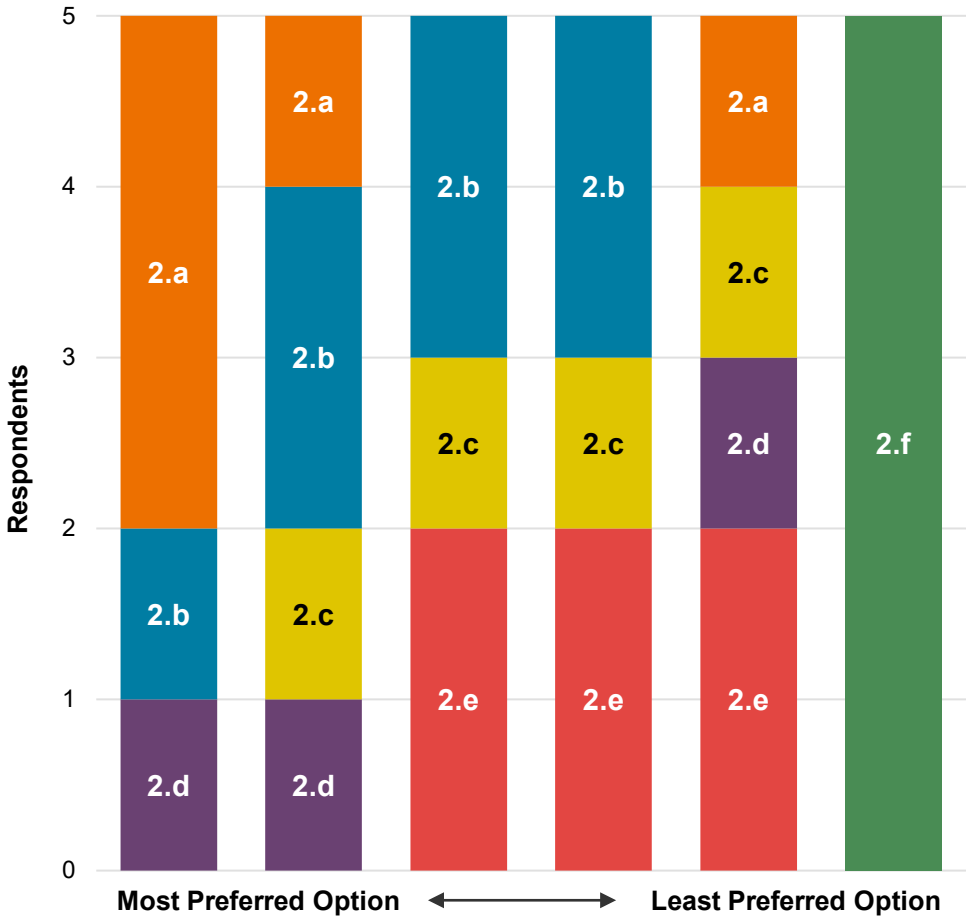
Water allotment provided per acre (or hectare) based on type of agriculture & crop, charged base rate for that allotment. Increasing rates for over-allocation and/or off-season use. Consider an ability-to-pay study.

2.e Provide a "% discount" off the retail residential rate

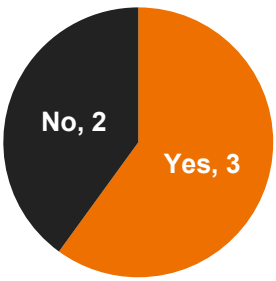
Set the agricultural rate equal to the same "% discount" from the retail residential rate for all municipalities, i.e., 50% discount.

2.f Stop the subsidy

"No change to agricultural rate subsidy" was the most preferred option by the majority of participants (3) and "Stop the subsidy" was the least preferred option by all participants (5).

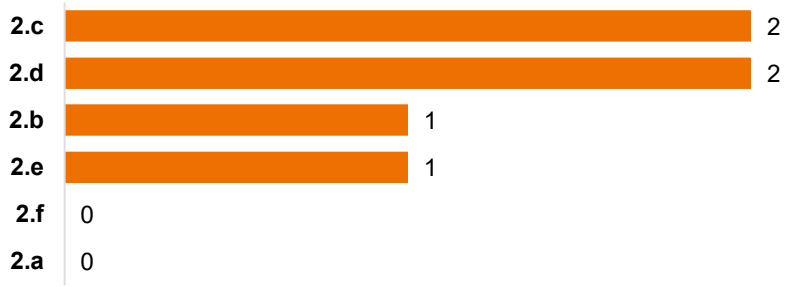


15. Did you have enough information to make an informed decision on ranking the Rate Changes?



16. If not, on which Rate Changes would you like more information (select all that apply)?

Rate Changes “2.c Cap the subsidy ($ amount or budget %)” and “2.d Rate per acre/ hectare arable land with increasing rates for overconsumption” had the most requests for more information.



2. Comparison of Rate Options

Option		IMPACT			ATTRIBUTES		
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2.a	No change	$1.7M (in 2022)	Low	Low	No	No	Yes
2.b	Set Ag. rate equal to the CRD wholesale rate	$1.25M (in 2022)	Medium	Low	No	No	Yes
2.c	Cap subsidy	e.g., $1M or 2% of CRD budget	Medium	Medium	Yes	No	Maybe
2.d	Rate per acre/ hectare arable land with increasing rates for over-consumption	Requires rate study, i.e., $300/ hectare/yr, $0.30/m^3 over allotment	Unknown	High	Yes	Yes	Yes
2.e	Retail rate discount	Medium	Medium	Low	Yes	No	No
2.f	Stop program	$0	High	Low	No	No	No

17. Is anything missing from this comparison table? What other impacts or attributes would you like to see included?

- *does not address the letter from the PAAC and its differing subsidy comparing saanich to central saanich, you and ask me any time how this works as it seems getting missed in all the questions*

- *I believe that certified organic producers should get a higher subsidy than non-organic producers. While this is an imperfect system (since there are many ecologically focused non-certified organic producers), I do think this is an opportunity to reward good ecological farm stewardship (regenerative farming - see Rodale's Regenerative Organic Certification Process).*

- *There is a huge difference in the public benefit between agricultural operations, from (for example - two extremes):*

    - *A. a holistically planned grazing farm with constant cover of perennial vegetation; or other no-till perennial crop focused farm*

    - *B. a round-up ready corn (for dairy feed) farm with bare soil all winter long causing erosion and pesticide drift*

- *Without attempting to quantify the public benefits, it is unclear to me how the CRD will be able to determine whether the conceptual model of public benefits being greater than, equal to, or less than the water rate funding can be determined. The fact that the answer is "Yes" in rows 2c, 2d and 2e and "No" in row 2a under "Gives CRD ability to set rate to equal perceived public benefit" seems to indicate a pre-conceived hypothesis that reducing the current subsidy would be a greater fit with the what the CRD PERCEIVES to be the public benefits. (I.e. the current rate is higher than the perceived public benefits, and reducing the current rate is a better fit with the model). While the Metro Vancouver (MV) public amenity benefits' studies may not be directly comparable, the 2021 census data indicates that the CRD population has similar education levels (38.9% have a Bachelor's degree or higher, vs. 43.2% for MV), similar median household income ($84,000 for CRD vs. $90,000 for MV), and is less ethnically diverse (78.9% European ancestry for the CRD vs. 43.1% for MV). The two regions are not completely dissimilar, and protection of the ALR is a high priority for all British Columbians (e.g., https://thenarwhal.ca/poll-majority-british-columbians-see-farmland-vital-public-forests-and-water/). The ALR needs an adequate affordable water supply to continue to be viable in the future.*

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18. Below is a list of topics (with comments noted under each) that have been compiled from Regional Water Supply Commission and WAC meeting minutes, and CRD staff reports. On which topics do you feel you would need more information in order to make an informed decision regarding changes to the agricultural water rate (select all that apply)?

- Impacts to non-agricultural water users:
    - Recipients of discounted agricultural water rate currently pay around 70% less than non-agricultural customers (in terms of wholesale pricing)
    - Unwillingness of homeowners in municipalities in which there is no agricultural land to subsidize

- Use of agricultural water:
    - Some recipients of discounted water rates are not using the water to produce food and feed
    - Possibility that water may not be used wisely if it is priced low

- Subsidy recipient requirements:
    - Qualifications should be tightened up for farms that are eligible for the agricultural rate
    - Water use is heavily concentrated within a limited number of subsidy recipients

- Implementation:
    - Inconsistent application of the rate subsidy – in some cases the fixed water charge was being charged to customers with agriculture only meters
    - Some jurisdictions are not rolling the water-rate savings back into agricultural infrastructure
    - Who will pay to extend piping systems to farms that are not presently served with regional water
    - Water being used for agriculture has been disinfected, the same as potable water

Five people responded to this question. Three participants feel they need more information on "Subsidy recipient requirements" and two participants feel they need more information on the other three topics.

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19. What other information do you think should be collected before making a decision regarding changes to the agricultural water rate?

- *beneficial ownership of farms*

- *working with ministry of Ag and BC assessment to weed out the cheaters who I'm paying for with my tax dollars*

- *All of the topics in Question 18 above had a detailed response from the Agricultural Working Group (AWG), but those detailed responses were not included in the Information Handout that was sent out with this questionnaire. If the rest of the WAC did not read the AWG response, I am concerned that they will not have had sufficient information to answer Question 18. The AWG responses should be included in the final report (e.g., there are some very good reasons for farmers to use potable quality water such as watering livestock, irrigating ready-to-eat crops, and for on-farm processing and packing).*

20. Is there anything else you would like us to keep in mind while completing the CRD Agricultural Water Rate Review and Rate Model Options Study?

- *Making the Municipalities "whole" is nothing like actually supporting agriculture, that extra revenue they get is plowed into other pet projects and do nothing to actually attempt to reach the collective CRD goals of increased food production period!*
- *While I understand it is administratively difficult to offer graded water rate options, I can't help but think that it would be great if the massive differences in public benefit between regenerative land use practices (increasing soil organic matter, constant soil coverage, incorporating perennial crops, silva-pasture, agroforestry, planned grazing, etc..) and degenerative land use practices (constant tillage, bare soil in rainy season, soil erosion, synthetic fertilizer impacting soil biota, pesticide runoff & drift) could be factored into the rate of the subsidy.*
- *I understand the CRD is unlikely to create their own 'grading scale' for those metrics, but perhaps these pre-existing certifications could be used to create a slightly more nuanced subsidy rate:*
    - *1. BC Farm Assessment*
    - *2. Environmental Farm Plan completed*
    - *3. Environmental Farm Plan completed with all green lights*
    - *4. Certified Organic*
    - *5. Certified Regenerative Organic (Rodale Institute or BCARA)*
- *As a residential water user, my local government does not make it clear on my water bill that my rate helps to support local farmers. I think that adding that information to the bill would be useful. In fact, if my local government went a step further and asked if I wanted to donate an additional sum, on top of my bill, for the AWR subsidy, I would be willing to do that. This would be similar to the initiative Victoria took last year when the property tax bills also enabled residents to make an additional payment towards reconciliation with First Nations.*

4 Recommendations and Implementation Plan

Implementing a subsidized ag. rate program is a policy decision, one that the CRD undertook in 2002, to support local food and feed production. The CRD is now reviewing policy choices about potential improvements and modifications to the program. Ultimately the path forward will be determined by CRD's priorities, considering fiscal and administrative constraints. Stantec developed the following considerations and recommendations to assist CRD in making informed policy decisions about the future of the ag. rate program. These recommendations are based on our understanding of CRD's objectives, experience with other utilities, and the WAC's feedback gathered through the presentation and the questionnaire.

Subsidized agriculture water rates are not uncommon throughout Canada and the United States. CRD's adoption of the program in 2002, with the objective to support locally grown food and feed is shared with other regional programs, and the WAC respondents unanimously agree that the objective of supporting local agriculture is still a relevant (question 7).

Any water utility utilizing a subsidized pricing program will face ongoing questions, which sometimes can prove challenging to answer. Common policy questions about such programs are:

- What is the total cost of the subsidy?
- Who should pay for the subsidy?
- Who is eligible for the subsidy?
- How should the rate be structured?
- Can the benefits of the subsidy be demonstrated to be larger than the costs of the subsidy?
- How should program managers or recipients of the subsidy report on the benefits resulting from the subsidy?

The challenges these questions pose to resource managers are exemplified in the WAC respondents' answers to the questionnaire questions. For example, in considering how large the subsidy should be the majority of the respondents felt that the $1.7M 2022 subsidy cost was less than the public benefit provided (question 6), suggesting that these respondents felt that the 2022 subsidy was not too large. The answers can only be based the respondents' informed opinions of knowledge committee members, as a valuation study has never been completed. By construction, the cost of the subsidy will increase over time so CRD's review of the rate structure is timely.

Regarding the rate structure, it is common to consider attributes such as equity, (e.g., do all entities receive similar benefits?), efficiency, and incentivizing conservation. For example, WAC respondents anonymously agreed that billing should be changed to work better for agricultural users and standardizing the rebate for retail providers.

The following is a list of policy questions that we recommend CRD answer within the next year to better inform future rate reviews and support the analysis of potential refinements or ongoing policy questions. During that year we recommend that CRD make no changes to its current rate and rate structure. These actions are summarized in Table xx.

1. **Determine a maximum total annual subsidy that CRD can pay.** The current structure of the subsidy results in annual increases in CRD's cost for the subsidy (Figure 5). The Scenario Modeling Tool projects that CRD's annual cost to provide the subsidy will reach approximately $3.7M by 2030. Various methods can be used to estimate the maximum annual subsidy cost. Some of those methods include:

    a. A total valuation study like those completed for Abbotsford and Metro Vancouver. This approach to answering the question is consistent with the total economic benefit and cost framework utilized for this review. Either an original, survey-based valuation study can be undertaken or a careful application of existing studies competed in other geographies could be undertaken and applied to the CRD. Such studies estimate all the public values of agriculture, including many benefits unrelated to food production such as soil formulation, greenspace preservation, education, etc. Should CRD choose to undertake such a study the task may well be undertaken outside Integrated Water Services or in collaboration with the Water Infrastructure Operations, as the public benefits accrue to other Divisions within CRD, (for example Regional and Strategic Planning).

    b. A study that examines the costs of providing the subsidy could be undertaken. Cost constraint studies do not look at the total benefit generated by a subsidy, recognizing that funds are limited. For example, the CRD agriculture subsidy is "paid" by retail customers, whose rates are higher because of the subsidy. We used the Scenario Modeling Tool to estimate how much the average household would have paid for water but for the agriculture subsidy. If the agricultural subsidy had been eliminated in 2022, CRD's wholesale rate of $0.73/$m^3$ would have been $0.69/$m^3$. The average 3-person household would have paid roughly $10 less annually. CRD could use this information to estimate the maximum individual households can afford to subsidize agriculture to "back-into" a maximum total subsidy amount.

2. **Prioritize rate attributes.** Common rate attribute questions include the following: should all users pay the same rate? How will billing occur, a topic more sensitive to agriculture users. Should the rate incentivize conservation? Rate attributes go hand in hand with implementation challenges. For example, because CRD does not bill agricultural users directly some attributes may be more difficult to implement than others. The respondent's prioritized two attributes in their answers to the questionnaire: a structure that equated the subsidy/m3 across all retail providers and accommodating billing for agricultural users. We recommend CRD undertake an internal review of

the following attributes to assess logistical feasibility and the investment that may be need in both staff time or infrastructure to implement prior to undertaking further study:

a. Incentivize conservation

b. Charge a $/acre of arable land

c. Re-structure the rate so the subsidy/m^3 is equal across all retail providers

d. Adjust billing cycles to better align with agricultural cycles

3. **Develop a reporting program.** It is not uncommon for agencies that manage subsidized rate programs to require recipients to report on the benefits they receive. We recommend that CRD consider an annual reporting requirement for recipients of the subsidy. The reporting could be structured to minimize the burden on customers but still generate valuable information. Completing periodic reports could be established as a condition of continuing to receive the subsidy.

   The majority of questionnaire respondents answer that they supported the idea (both moderate support and strong support). No respondent did not support the idea. When asked about the types of information the report should include the respondents stated: livestock numbers, area irrigated, crops grown, acres by crop, irrigation method, ownership (family or corporate), and if the crops were consumed locally or exported.

   Another example of the benefit of a reporting program comes from the *City of Kelowna Agriculture Water Rate Design Engagement Report*[12] where a respondent was quoted as saying: “It was strongly felt that if agricultural users were to be charged reduced rates, those rates should only apply to bona fide farm operators. …. Those at the workshops pointed to the need for legitimate agricultural activities to be conducted in order to receive an agricultural rate. It was also noted that SEKID’s system currently offers allocations to all agricultural land holders, regardless of whether agriculture is occurring or not.”

   The report would serve a number of purposes included:

   a. Provide information to CRD about the types of activities the subsidy is supporting, (e.g., small family farms selling produce locally or larger entities grow trees).

   b. Use the reporting requirement as a screen tool for those agriculture users who are less dependent of the subsidy for their business.

   c. Use the information gathered in the reports to prepare an annul report from CRD to the public about its on-going efforts to support locally grown food and feed. This idea had support from a majority of the questionnaire respondents.

[12] https://kelownapublishing.escribemeetings.com/filestream.ashx?DocumentId=24947

Review expanding eligibility. Carefully review the expansion of the program to provide the agriculture subsidy to water uses that are not classified as agriculture land, like urban users, who are growing food and feed. The interest in expanding the program to urban farmers that do not qualify as agriculture land under BC Assessment is understandable. And there are financial and administrative implications and burdens to CRD when expanding any program. We recommend continued consideration of the expansion but not in the immediate future.

Table 2. Summary of Policy Questions Potential Timelines, and Key Considerations

Policy question / consideration	Year 1	Year 2	Year 3	Key Consideration
Establish a maximum total annual subsidy amount	Action: CRD to select a valuation method and estimate what the revised rate would be. Publish notice of study and potential future rate change Ag. rate: Unchanged	Action: Beta-test rate. Estimate how the estimated revised rate would have achieved the cost target. Revise rate as needed. Ag. rate: Unchanged	Action: Change ag. rate and verify actual cost versus target	Answering this question likely involves understanding more operational considerations and is best left to the CRD to decide and could well be a CRD Board decision.
Prioritize rate attributes	Action: CRD to evaluate implementation feasibility of each attribute. Report to community the findings and publish a notice of change if warranted. Ag. rate: Unchanged	Action: Beta-test attribute change. Estimate how the estimated revised attribute would have achieved the cost target. Revise rate as needed. Ag. rate: Unchanged	Action: Change ag. rate and verify actual cost versus target	Answering this question likely involves understanding more operational considerations and is best left to the CRD to decide
Develop a reporting program	CRD to determine the multiple objectives of requesting the report and develop reporting requirements. Publish notice of study and future potential requirements. Meet with retail providers to discuss implementation plans. Develop format (e.g., power ap, on-line tool, forms, etc.)	Beta-test report with a select group of ag water users.	Role-out report requirement	We recommend that CRD consider implementing this report for the multiple benefits it could provide
Review expanding eligibility	On-hold	On-hold		We recommend that CRD consider this but only after the reporting requirement is in place, and careful analysis of cost and administrative considerations can be completed.

Appendix A CRD Agricultural Water Rate Review and Rate Model Options Study: Background Information

CRD Agricultural Water Rate Review and Rate Model Options Study: **Background Information**

Background

The Capital Regional District (CRD) contracted Stantec Consulting to review and analyze the CRD's agricultural water rate. The analysis includes a review of the water rate model and a recommendation of potential model options. The goal of the rate review is to:

*Recommend **a fair rate that supports farming operations** that contribute to the **regional objective** of supporting local food production, while addressing the **service budget implications** and the additional cost burden to non-agricultural customers.*

— CRD Regional Water Supply Consulting Services for Agricultural Water Rate Review and Rate Model Options Study Request for Proposal

What is the Agricultural Water Rate Program?

The CRD has provided an agricultural water rate through the Regional Water Supply Service since 2002. Properties that hold a BC Assessment farm classification[1] are eligible to receive the rate subject to the provisions of CRD Bylaw No. 2570[2], which sets out how the rate applies to properties with or without a residence. Historically, the rate has been substantially lower than the municipal retail or distribution rates which was intended to promote and support local food production. The agricultural rate provides a benefit to farmers by lowering the cost for crop irrigation and livestock rearing. The rate 'subsidy' is funded through the annual Regional Water Supply Service operating budget which funds the difference between the municipal retail water rate and the agricultural water rate, keeping the municipalities/distributors 'whole' financially.

The rate was implemented with the objective of supporting local food (fruits, vegetables and livestock) and feed production. The rate has not changed since 2010, while during that time, the Regional Water Supply bulk supply or 'wholesale' water rate and the municipal distribution or 'retail' water rates have steadily increased.

For context, the 2021 Regional Water Supply agricultural rate funding budget was $1.6 million. In 2020 there were 532 Agricultural/Residential (AR) and 133 Agricultural (AG) accounts that received the agricultural water rate. The Regional Water Supply agricultural water volume was 1.053,155 cubic metres.

See the attached CRD Agricultural Water Rate Timeline for an overview of the rate history.

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[1] See the BC Assessment Authority Understanding Farm Classification website for more details, located: info.bcassessment.ca/services-and-products/Pages/Understanding%20Farm%20Classification.aspx

[2] See the CRD Regulations and Bylaws website for more details, located: www.crd.bc.ca/about/regulations-bylaws

Conceptual Economic Framework

The goal of the review is to recommend **a fair rate that supports farming operations** that contribute to the **regional objective**, of supporting local food production, while addressing the **service budget implications** and the additional cost burden to non-agricultural customers.

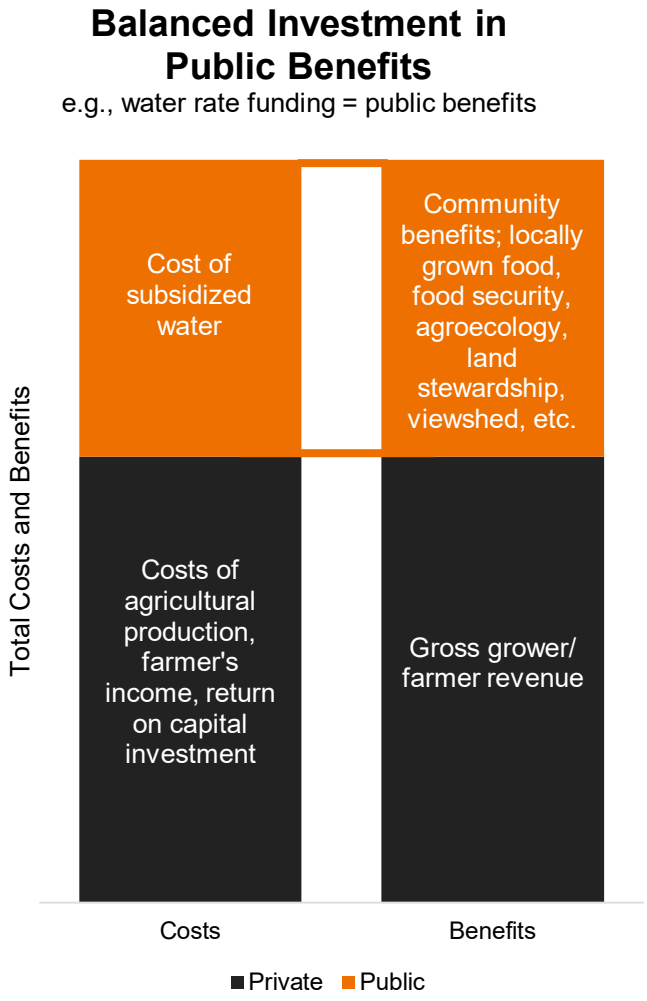
An economic framework that may be useful in guiding the analysis considers the benefits and costs of achieving the regional objective, supporting local food production. We need not quantify the benefits or costs to use the framework, but it can be useful in considering both how to 'support farmer operations' – the benefits – and address the 'service budget implications' – the costs.

As applied to irrigated water supply programs, particularly those that include a subsidized rate structure, it is useful to categorize the benefits and costs into private and public. Private benefits account for the gross revenue that farmers receive for their output (e.g., fruits, vegetables, and livestock). Private costs include their costs of production (e.g., supplies, labor, water, and a return on their time and capital investments). To be in business these private benefits must exceed the private costs.

Public benefits account for **the benefits that society sees in the agricultural industry** as well as the **economic "ripple" effects** that production agriculture creates. For example, the value of public benefits is on display in the 2003 Regional Growth Strategy (RGS) during which members of the public and stakeholder groups expressed the greatest interest in food and agriculture systems out of all nine sustainability topics (CRD, 2023).[3] The categories of public benefits cited by the CRD include locally produced food, agroecology, climate change and adaption, and land stewardship. Other public benefits of agriculture production that have been cited in other regions include agrotourism, educational opportunities, preservation of undeveloped lands, and food security. These benefits need not be quantified to be considered in the benefits cost analysis. In fact, the magnitude of these public benefits is based on individual or group values and may require stakeholders to reach a consensus about the value of the benefits. The public benefits that are generated from the economic "ripple effects" feel somewhat more tangible and are often quantified in similar studies. The ripple effects include jobs created by the value added in businesses that support agriculture as well as the processing and marketing of agricultural output, for example when berries are processed into frozen products or sold at a local farmers' market. Taken together, the more tangible economic ripple effects and the less tangible categories of benefits comprise total public benefits of the agriculture industry.

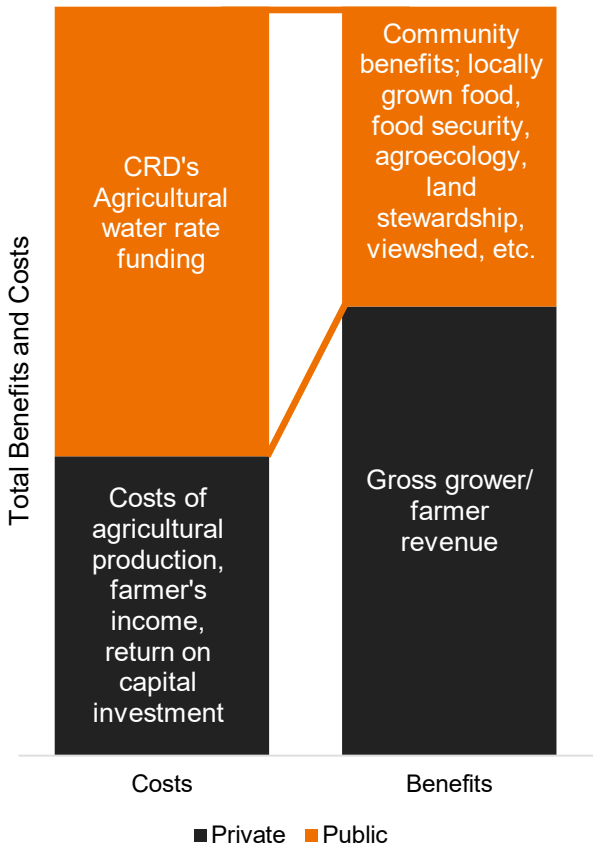
[3] See the CRD Regional Food and Agriculture Strategy website located at: Food & Agriculture | CRD

The public costs are simply the **value of the total water rate subsidy**. Prudent fiscal management suggests that these public costs should be less than the perceived public benefit of the subsidy. The challenge ensues when stakeholder groups have difficulty agreeing as to the value of the public benefits and therefore the magnitude of the subsidy. See the following charts for examples of the conceptual framework.



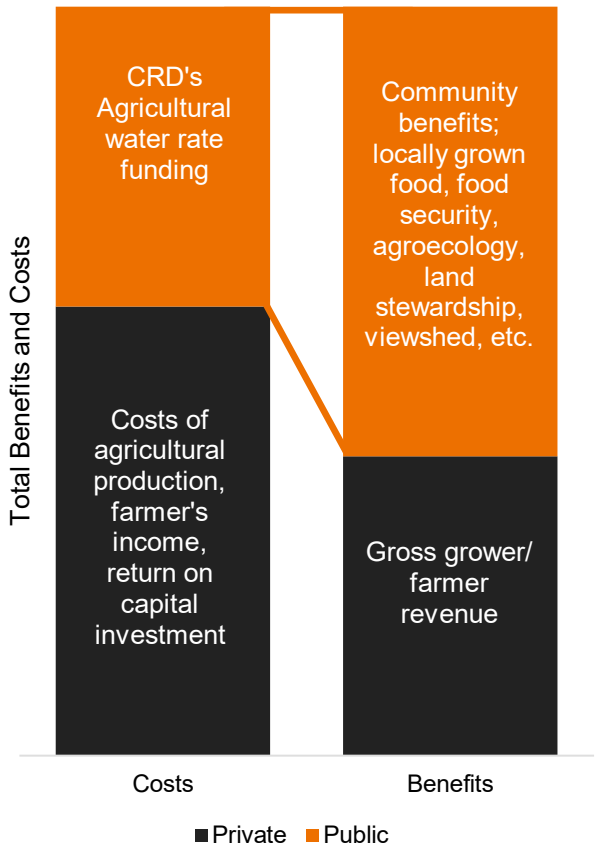
Over Investing in Public Benefits

e.g., water rate funding > public benefits



Under Investing in Public Benefits

e.g. water rate funding < public benefits



Concerns That Have Been Expressed with the Existing Agricultural Rate

This list of concerns expressed with the existing agricultural rate has been compiled from Regional Water Supply Commission and WAC meeting minutes, and CRD staff reports.

- Recipients of discounted agricultural water rate currently pay around 70% less than non-agricultural customers (in terms of wholesale pricing)
- Some jurisdictions are not rolling the water-rate savings back into agricultural infrastructure
- Some recipients of discounted water rates are not using the water to produce food and feed
- Unwillingness of homeowners in municipalities in which there is no agricultural land to subsidize
- Possibility that water may not be used wisely if it is priced low
- Who will pay to extend piping systems to farms that are not presently served with regional water
- Water being used for agriculture has been disinfected, the same as potable water
- Qualifications should be tightened up for farms that are eligible for the agricultural rate
- Inconsistent application of the rate subsidy – in some cases the fixed water charge was being charged to customers with agriculture only meters
- Water use is heavily concentrated within a limited number of subsidy recipients

CRD Agricultural Water Rate Timeline

OBJECTIVE:

Support local food (fruits, vegetables and livestock) and feed production

Legend

— Wholesale Rate ····· Agricultural Rate

How CRD Bylaw No. 2570 works:

Properties that hold a **BC Assessment farm classification** are eligible to receive the rate.

AGRICULTURAL (AG)

No residence, all water consumption is related to agriculture:

Agricultural water rate applies to:
Total volume of water consumed

AGRICULTURAL/RESIDENTIAL (AR)

Property has a residence, some water consumption is related to agriculture:

Local municipal distribution water rate applies to:
First 455 cubic metres consumed in a calendar year
(Rates around the region typically range from $1.50 to $2.21 per cubic metre)

Agricultural water rate applies to:
Volume of water consumed during remainder of the year

APPENDIX A

2023 Regional Water Supply agricultural rate funding budget could be 7–11.4% of the total annual budget.

If rates increase 15% annually, by 2030 the CRD wholesale rate would be $2.24.

In the unlikely case that municipal water rates do not increase, the agricultural water rate funding budget would comprise 7% of the CRD total annual budget for 2030.

If municipal water rates increase at the same rate as the CRD wholesale rate, the rate funding budget would comprise 11.4% of the CRD total annual budget for 2030.

The CRD Board began to explore an agricultural water rate subsidized by domestic water rates on the recommendation of the Regional Water Supply Commission.

Farmers in the CRD paid the highest irrigation rates in North America and could not be competitive when paying these rates.

1997

The Regional Water Supply Commission agreed to provide farm status properties in the greater Victoria area with water for agricultural use at the wholesale rate.

This interim water rate was subject to annual review, with a major review of water use and the benefits to local agriculture after five years.

The rate was implemented with the objective of supporting local food (fruits, vegetables and livestock) and feed production.

The agricultural water rate helped increase agricultural production; however, the rate did not make local famers competitive.

2000

$0.2060 | $0.2060

CRD has provided an agricultural water rate through the Regional Water Supply Service since 2002 when Bylaw No. 2570 was established which made the agricultural water rate official.

Properties that hold a BC Assessment farm classification are eligible to receive the rate subject to the provisions of CRD Bylaw No. 2570, which sets out how the rate applies to properties with or without a residence.

2002

$0.2860 | $0.2060

Combined increases in wholesale rate and agricultural use result in growth of the agricultural water rate subsidy from $191,000 to $460,000

CRD Water Services established a partnership with the BC Ministry of Agriculture and Lands and the Peninsula Agricultural Commission to conduct a study of agricultural water use and conservation practices in Greater Victoria.

The objective of the study was to determine the sources, quantities and uses of water in agriculture in the municipalities of North Saanich, Central Saanich, Saanich, and Metchosin. Evaluation of water use efficiency and future water needs for agriculture were also objectives.

2004

$0.3128 | $0.2060

2005

$0.3212 | $0.2060

In 2018, the CRD partnered with the Ministry of Agriculture to develop an Agriculture Water Demand Model and Agricultural Land Use Inventory for the CRD.

The objective of the study was to identify the amount of actively farmed land in the region, provide a baseline for monitoring land use change, identify land use trends for areas with historic agricultural uses, identify crop production/type and agricultural water demand and sources.

The study was also intended to provide better information to support further consideration of the agriculture water rate application and methodology.

2010

$0.5443 | $0.2105

Regional Water Supply agricultural water volume was 1,053,155 cm^3, confirming that there is some reliance on 'city' water to support agricultural water needs.

In 2020 there were 532 Agricultural/Residential (AR) and 133 Agricultural (AG) accounts that received the agricultural water rate.

2020

$0.6968 | $0.2105

Current agricultural water demand represents 2 to 3% of annual Regional Water demand.

Regional Water Supply Service budget impact:

2021 Regional Water Supply agricultural rate funding budget was $1.6 million.

The rate budget continues to be increased to keep pace with the reimbursement claims, which is primarily a result of the ever-increasing gap between the rates.

2021

$0.7148 | $0.2105

Regional Water Supply agricultural rate funding budget $1.6 million

Rates will have to increase annually to cover costs of new investments needed to continue to meet increasing demand (2022 Master Plan).

2022

$0.7332 | $0.2105

2030

$2.2400 | *$0.2105*

Regional Water Supply agricultural rate funding budget 7–11.4% of the total annual budget, depending on municipal water rate increases

Stantec

Appendix B CRD Agricultural Water Rate Review and Rate Model Options Study WAC Presentation March 28,2023

Stantec

CRD Agricultural Water Rate Review and Rate Model Options Study

WAC

March 28,2023

Breakdown of Agricultural Water Bills in 2022

1,090,000 **cubic meters of agricultural water** was provided to farmers growing trees, crops, and feed

$1.7 million cost of subsidy

25% of water was used by the **top 1% highest users**

680 accounts (80% Agricultural Residential, 20% Agricultural)

50% accounts received less than $500 in subsidized water in 2022

20% accounts received $0 in subsidy in 2022
(i.e., they did not use more than 455 cubic metres in a calendar year)

Today's Goal

Provide sufficient information and context for participants to help us answer 2 questions:

How large should the subsidy be? **How to structure rates to collect revenue?**

To do this we will present:

- Economic Framework (a cost benefit lens to guide analysis)
- Review of Potential Options
  - Administrative Changes
  - Rate Changes
- Questionnaire (to be completed later)

Today's Goal

Provide sufficient information and context for participants to help us answer 2 questions:

How large should the subsidy be? **How to structure rates to collect revenue ?**

To do this we will present:

- Economic Framework → How large should the subsidy be?
- Review of Potential Options
  - Administrative Changes → Information to support magnitude of subsidy
  - Rate Changes → How to structure the collection of rates to support agriculture, address concerns of retail utilities and incentivize conservation
- Questionnaire → **Gather WAC input**

Economic Framework: Guiding the Analysis

Economic Framework ► A cost benefit lens

COSTS

Private – Farmers' costs of production, returns on investment

Public – Rate subsidy ($1.7M in 2022 budget)

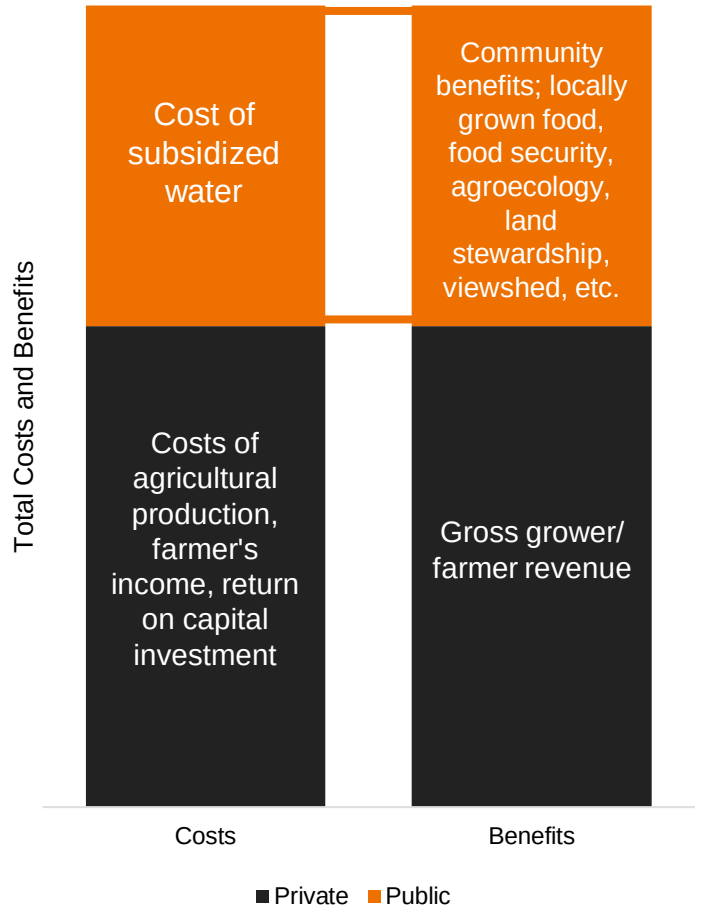
BENEFITS

Private – Returns to farmers

Public – Regional objective (more later)

Balanced Investment in Public Benefits

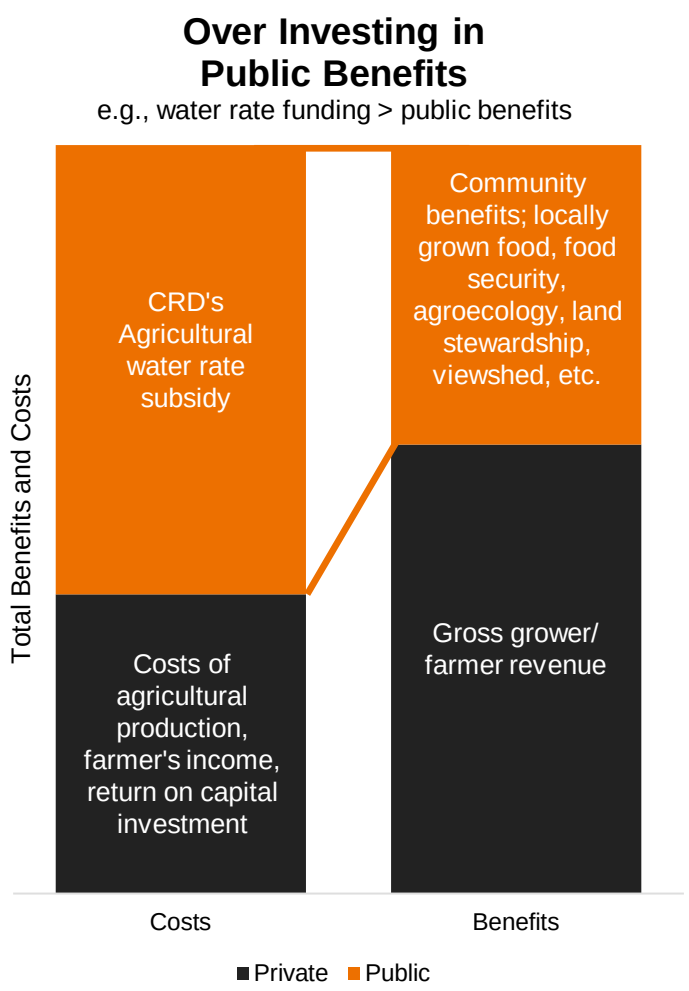
e.g., water rate funding = public benefits



Economic Framework: Guiding the Analysis

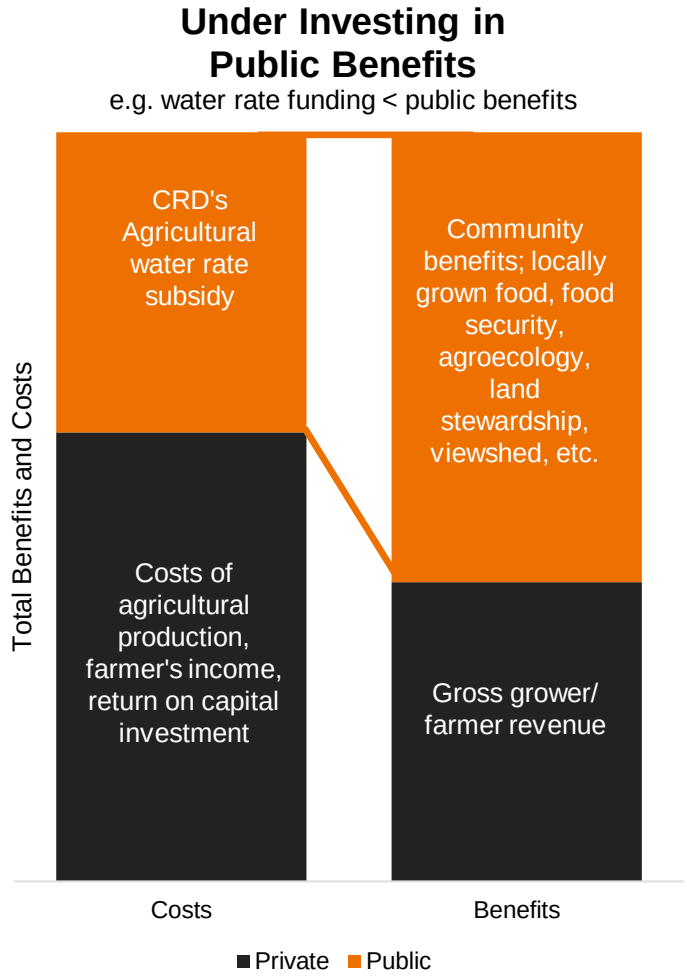
Community benefits are less than the water rate funding.

ACTION ► Reduce the agricultural rate subsidy



Community benefits are greater than the water rate funding.

ACTION ► Increase the water rate subsidy



Options to Evaluate

1. Administrative Changes
(non-mutually exclusive)

1.a Require annual reporting from recipients of the subsidy

1.b Expand eligibility and revise application

Other changes to consider:

1.c Address unequal coverage of fixed meter costs by standardizing the rebate for fixed and consumptive costs

1.d Adjust billing cycle to work better for agricultural cycles

1.e Report on usage on demand

2. Rate Changes
(mutually exclusive)

2.a No change to agricultural rate subsidies

2.b Charge the wholesale rate for current agricultural customers

2.c Cap the subsidy ($ amount or % of budget)

2.d Provide a base rate per hectare of arable land

2.e Provide a ‘discount’ % off the retail residential rate

2.f Stop the subsidy

1.a Annual Reporting Requirement Examples

(Page 5) - It was strongly felt that if agricultural users were to be charged reduced rates, those rates should only apply to bona fide farm operators. …. Those at the workshops pointed to the need for legitimate agricultural activities to be conducted in order to receive an agricultural rate. It was also noted that SEKID's system currently offers allocations to all agricultural land holders, regardless of whether agriculture is occurring or not.

EXAMPLE:

City of Kelowna Agriculture Water Rate Design Engagement Report 1

QUESTIONS:

Feasible to implement?

Helpful in determining total value of subsidy?

If so:

- How detailed?
- Include conservation questions?
- Required for renewal?

1.a Annual Reporting Requirement Examples

[Province of Saskatchewan]

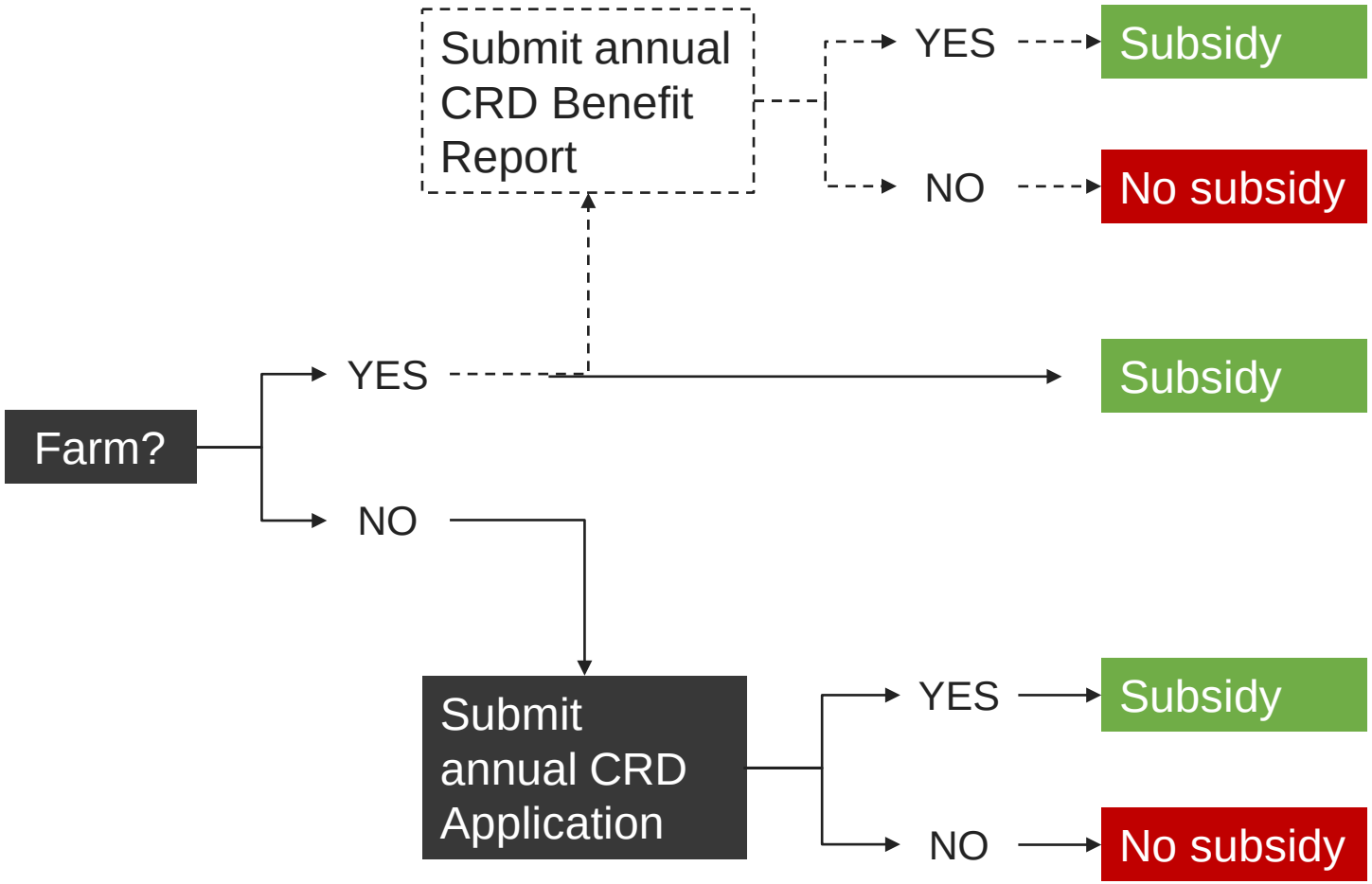
Westlands Water District

Reports on crop types and economic value
[Westlands Water District]

EST. 1920 MADERA IRRIGATION DISTRICT

Reports on crop types and irrigation methods
[Madera Irrigation District]

1.b Expand Eligibility



WHY:

Allows for inclusion of other water users that support local agriculture but do not have farm status (e.g., urban farms)

WHAT:

Introduce an alternative application for water users to still receive the subsidy

QUESTIONS:

How many more/less subscribers?

How does rate revenue/water demand change?

Rate Change Options

2.a No change to agricultural rate subsidy

2.b Charge the wholesale rate for current agricultural customers

Agricultural water rate matches the matches the wholesale rate and increases along with it.

2.c Cap the subsidy ($ amount or budget %)

Set a target for the total annual subsidy budget based on recognition of value. Work backwards to develop a rate that hits the target amount. Annual increase could be tied to the increase of cost-of-service rates.

2.d Rate per acre/ hectare arable land with increasing rates for overconsumption

Water allotment provided per acre (or hectare) based on type of agriculture & crop, charged base rate for that allotment. Increasing rates for over-allocation and/or off-season use. Consider an ability-to-pay study.

2.e Provide a “% discount” off the retail residential rate

Set the agricultural rate equal to the same “% discount” from the retail residential rate for all municipalities, i.e., 50% discount.

2.f Stop the subsidy

2.d Base Rate Per Acre/Hectare of Arable Land

Example

Regional District of North Okanagan

- $84.85 per hectare of allocation per quarter ($339/year)
- Charged increasing over-allocation consumption fee and off-season fee:
- Agricultural accounts for 55% of water demand

City of Kelowna

- Annual allotment fee of $332/ hectare of allocation
- Charged increasing over-consumption rates:

REGIONAL DISTRICT NORTH OKANAGAN

MEMBER MUNICIPALITIES:

CITY OF ARMSTRONG	VILLAGE OF LUMBY
CITY OF ENDERBY	CITY OF VERNON
DISTRICT OF COLDSTREAM	TOWNSHIP OF SPALLUMCHEEN

ELECTORAL AREAS:

"B" – SWAN LAKE	"E" – CHERRYVILLE
"C" – BX DISTRICT	"F" – ENDERBY (RURAL)
"D" – LUMBY (RURAL)	

Over Allocation Consumption Fee

Agricultural water customers pay for allocation – a volume of water for agricultural use during the irrigation season. Allocation limits help the utility manage the resources required to support irrigation water demand and encourage efficient water use, as agricultural water demand accounts for over 55% of all water used each year. Efforts to manage leaks make a big difference in helping maintain our water supplies during our drier summers.

Allocation is based on the Ministry of Agriculture's crop water demand recommendation of 5,500 cubic meters of water per hectare [m^3/ha] per year. Provincial agrologists calculated the 5,500 value using average growing conditions in Greater Vernon to ensure crops have sufficient water.

Allocation is quoted in hectares (ha) as it is based on the area being cultivated. For example, if a customer had 1.0 ha of allocation, they would multiply this number by 5,500 to get the annual volume of water allowed on that property for agricultural purposes:

2. Comparison of Rate Options

Option		IMPACT			ATTRIBUTES		
		CRD financial impact	Reduction in farm and public benefits	Administrative level of effort	Gives CRD ability to set rate to equal perceived public benefit	Promotes water conservation	Rate constant across agricultural accounts
2.a	No change						
2.b	Set Ag. rate equal to the CRD wholesale rate						
2.c	Cap subsidy						
2.d	Rate per acre/ hectare arable land with increasing rates for over-consumption						
2.e	Retail rate discount						
2.f	Stop program						

2. Comparison of Rate Options

Option		IMPACT			ATTRIBUTES		
		CRD financial impact	Reduction in farm and public benefits	Administrative level of effort	Gives CRD ability to set rate to equal perceived public benefit	Promotes water conservation	Rate constant across agricultural accounts
2.a	**No change**	$1.7M (in 2022)	Low	Low	No	No	Yes
2.b	**Set Ag. rate equal to the CRD wholesale rate**	$1.25M (in 2022)	Medium	Low	No	No	Yes
2.c	**Cap subsidy**	e.g., $1M or 2% of CRD budget	Medium	Medium	Yes	No	Maybe
2.d	**Rate per acre/ hectare arable land with increasing rates for over-consumption**	Requires rate study, i.e., $300/ hectare/yr, $0.30/m^3 over allotment	Unknown	High	Yes	Yes	Yes
2.e	**Retail rate discount**	Medium	Medium	Low	Yes	No	No
2.f	**Stop program**	$0	High	Low	No	No	No

Today's Goal

Provide sufficient information and context for participants to help us answer 2 questions:

How large should the subsidy be? **How to structure rates to collect revenue ?**

To do this we presented:

- Economic Framework → How large should the subsidy be?
- Review of Potential Options
  - Administrative Changes → Information to support magnitude of subsidy
  - Rate Changes → How to structure the collection of rates to support agriculture, address concerns of retail utilities and incentivize conservation
- Questionnaire → **Gather WAC input**

Questionnaire

The CRD will email you a link to the questionnaire after today's meeting.

The questionnaire will be open until April 11. Please note the questionnaire is intended only for WAC members at this time.

You will be asked to enter your name to monitor participation only. This information will not be shared, and responses will remain anonymous.

Next Steps: A final report outlining a recommended option will be completed in collaboration with the CRD and the outcomes will be shared.