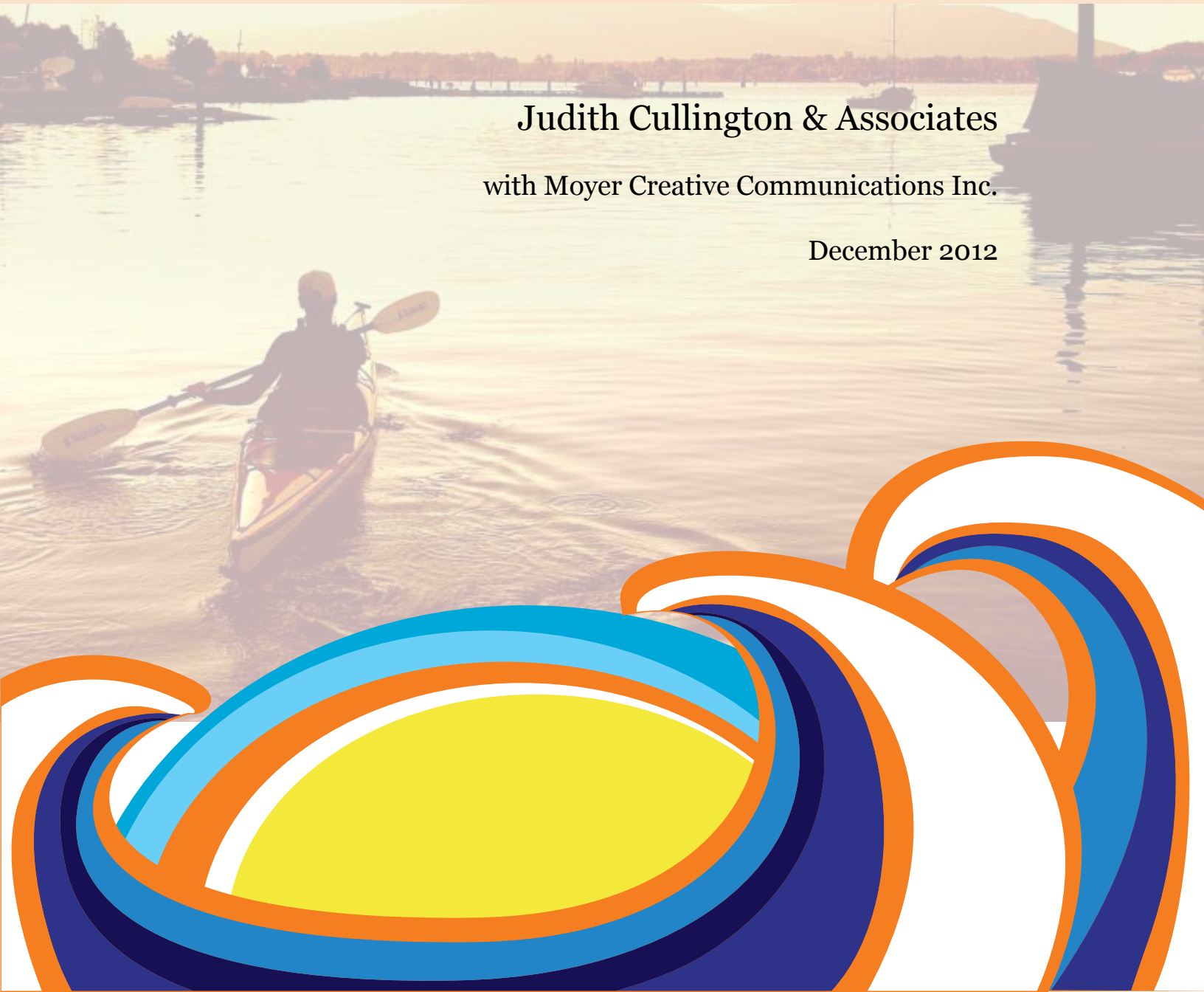
Water Matters

Report on Public Consultations on Water in South Cowichan Communities



Judith Cullington & Associates

with Moyer Creative Communications Inc.

December 2012

Acknowledgements

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The consulting team would like to thank Emily Doyle-Yamaguchi of the Cowichan Valley Regional District for her help and support throughout this project. We have also appreciated the support and input from the four Area Directors: Gerry Giles, Lori Iannidinardo, Bruce Fraser, and Mike Walker.

To all of the residents of the south Cowichan who came out (sometimes in miserable weather) to meetings, open houses and other events, and who provided their comments - THANK YOU!

Photos (c) Judith Cullington

For Further Information

Information on water issues in the south Cowichan can be found at the CVRD website http://www.cvrd.bc.ca/index.aspx?nid=1563. You will find links to the consultation documents, fact sheets, video and other background information at this site.

Executive Summary

Community consultations on water in south Cowichan communities took place during August – December 2012. This outreach provided an opportunity for residents to share their concerns about water and to provide their suggestions on actions that the Cowichan Valley Regional District (CVRD) should take to address these concerns.

More than 300 people took part in one or more aspects of the consultation—filling out surveys, attending meetings or open houses, or learning about water through the video or fact sheets.

Participants gave a clear message that they do have many concerns about water. They worry that there may not be enough water, especially for future needs, noting that we are often very wasteful of water. They expressed concerns about water quality, and a variety of human activities that may be threatening the drinkability of their water supply and the impacts on natural ecosystems. They expressed frustration about a plethora of jurisdictions involved in water management, and expressed a desire for more local control of water issues.

Although some different comments were heard in the various communities of the south Cowichan, many of the concerns were similar regardless of where participants live.

- **Shawnigan Lake**: Some residents rely on surface water (from the lake) for their drinking water, others rely on groundwater sources.[1] There is concern for surface water quality and impacts of human activities in the upper watershed, around the lake and on the lake itself; this was especially the case for those who use this source for drinking. Water supply is not a concern for those who rely on surface water. Suggested actions for the CVRD included regulating motor boats on Shawnigan Lake, preventing the dumping of toxic materials in the watershed, and regulating and replacing septic fields near the lake.

- **Mill Bay/Malahat**: Most residents rely on groundwater sources for their drinking water, either from personal wells or public/private community systems. There is concern for water quality of the aquifers and the impacts that human activities (notably agriculture and septics) have on that quality, as well as for marine water quality in the Saanich Inlet. Residents noted that groundwater from aquifers is a limited—and often hard-to-measure—resource, and there is concern that overuse from existing and potential future users will exceed the availability and may impact water quality. Suggested actions for the CVRD included providing testing for private well owners, and regulating and replacing septic fields.

- **Cobble Hill**: Most residents rely on groundwater sources for their drinking water, either from personal wells or public/private community systems. There is concern for water quality of the aquifers and the impacts that human activities (notably industrial activities) have on that quality. Residents noted that groundwater from aquifers is a limited—and often hard-to-measure—resource, and there is concern that overuse from existing and potential future users will exceed

1 Of the survey respondents, about one-third of the people living in the Shawnigan Lake watershed identified surface water as their drinking water source.

the availability and may impact water quality. Suggested actions for the CVRD included limits on development and preventing contamination of aquifers.

- **Cowichan Bay**: Most residents rely on groundwater sources for their drinking water, either from personal wells or public/private community systems. There is concern for water quality of the aquifers and impacts that human activities (notably septics) have on that quality as well as for marine water quality in Cowichan Bay. As well, many people expressed concerns about the discoloration and taste of the water. Residents noted that groundwater from aquifers is a limited—and often hard-to-measure—resource, and there is concern that overuse from existing and potential future users will exceed the availability. Suggested actions for the CVRD included limits on development and pollution prevention.

Some concerns, comments and suggested actions were heard throughout the south Cowichan.

- There is a need for a comprehensive water/watershed plan for the south Cowichan watersheds. This needs to address watershed protection, protecting surface waters and aquifers from pollution, and wastewater and drinking water management, as well as addressing improved governance through more local control of water and land management. Plans should be developed in collaboration with First Nations, senior governments, landowners (including forest companies and farmers), water purveyors, and community groups.

- New developments should be approved only where it can be proven that there is sufficient water supply.

- The CVRD should bring together all available data on south Cowichan watersheds and identify data gaps. This information should be made available to the public (as much as possible).

- The CVRD should provide more education and information on water. This includes making data on water quality publicly available, promoting water conservation, and encouraging best practices to protect water quality and quantity. There is a need to broaden the community's understanding of the potential for serious impacts, for example if aquifers were to become polluted.

- The CVRD should move to address critical issues, such as preventing watershed pollution and regulating or replacing septic fields.

Perhaps the simplest message heard was a desire for action, not delays for more studies. Residents of the south Cowichan are looking to the CVRD to play a more active role in watershed management and encouraging water stewardship in the community. Both residents and technical advisors identified the CVRD as a logical leader for encouraging behaviour change as they are well positioned to mobilize public support and undertake a more citizen-based approach to enacting change. The CVRD are also seen as the appropriate organization to lead a collaborative approach to resolving issues and preventing future water crises.

Taking action on water will not be simple, and addressing some aspects may take a significant investment of time and money. However, the cost of inaction may be far greater.

Contents

1. Background & Introduction

The south Cowichan area includes Electoral Areas A, B, C, and D in the Cowichan Valley Regional District (CVRD). This area encompasses three major watersheds: Shawnigan, Saanich Inlet and Cowichan Bay (see map), each with a diversity of land uses and ecosystems.

- The Shawnigan watershed is predominantly forested land (57% of the land area), with residential development (33%) focused around Shawnigan Lake and Cobble Hill. There is also some agricultural land (7%).

- The Saanich Inlet watershed is also heavily forested (72% of land area), with residential areas in Mill Bay, along the Malahat highway and in the Malahat Nation reserve.

- The Cowichan Bay watershed is mostly agricultural (66% of land area), and is also the most densely populated with communities in Cobble Hill, Arbutus Ridge, Cowichan Bay and four Cowichan Tribes reserves.[1]

"[Water] is a precious resource that we often take for granted – we would not live without it."

The sidebar quotes throughout this document come directly from the community surveys and comments made during the technical workshop.

1 WorleyParsons. 2009. South Cowichan Water Plan Study: A Preliminary Assessment of Water Supply and Needs within the South Cowichan Region; available from http://cvrd.bc.ca/files/books/9/index.html

"Ensure short, mid and long term planning will provide adequate, high-quality water for everyone"

"Be mindful that clean water is priceless. We must be reminded not to take it for granted."

South Cowichan communities include Mill Bay, Shawnigan Lake, Cobble Hill, and Cowichan Bay. Most of the area's 17,000 residents and businesses rely on groundwater as their water source, with the exception of the Shawnigan Lake area, where many rely on lake water. There are 13 identified aquifers in the south Cowichan. The relative proportion of current groundwater to surface water use within the area is not accurately known, however, since regional groundwater extraction rates are not monitored with the same accuracy as surface water diversion rates.[2]

The south Cowichan communities are growing, and the future population could reach 22,000–33,000 people by 2036.[3] This will place additional pressure on water supplies for human needs, with associated impacts on water availability for agriculture, industry, and ecological needs—unless very thoughtful planning and management occurs.

The CVRD is undertaking efforts to better guide future water decisions for the south Cowichan communities. As part of this work, the Regional District has commissioned and reviewed several studies to gain a more comprehensive understanding of water issues in the area, including a detailed study of the water supply[4] and information on water quality.

The Regional District also chose to seek a better understanding of the community concerns, interests and ideas regarding the future of water in these communities, as a driver for establishing priority actions in response. Judith Cullington & Associates, working with Moyer Creative Communications Inc., was hired to conduct community consultations during August – December 2012.

2 WorleyParsons 2009
3 WorleyParsons, 2009
4 WorleyParsons, 2009

2. Consultation and Outreach Process

Consultation Goals

The community consultation process sought to achieve three goals:

- Gain a better understanding of the issues and concerns considered to be most pressing according to residents, interest groups and technical professionals, especially with regard to the current and future water supply and water quality;
- Seek input and ideas as to the most important actions that the CVRD should be taking to protect water in these communities; and
- Provide information to promote a greater understanding of water and water issues in these communities.

"The public want to know how they can be part of the solution."

Consultation and Outreach Process

A number of methods were used for soliciting input from a wide-ranging audience, each of which is described below.

Survey

The consultant team worked with CVRD staff and Electoral Area Directors to develop a short survey (Appendix A). This was made available on-line (through the CVRD website home page), and hard copies were made available through community events and at CVRD locations (e.g., recreation centres and the CVRD office). In addition, many people took multiple copies of the survey and shared them with their contacts, including the Area Directors, some Improvement Districts, and at least one local school.

The survey asked about the importance of water, and sought input on concerns regarding water supply and quality, as well as the 'top three' actions the respondents would like to see taken by the CVRD.

Video and Factsheets

In order to provide some simple supporting information, a short YouTube video was produced ("Water Connects South Cowichan Communities", available from http://www.youtube.com/watch?v=-8O61U6nsWQ&feature=youtu.be). The video provided an overview of water in the south Cowichan, and encouraged participation in the community engagement process.

A series of fact sheets ("*Introduction to Watersheds*", "*Water, Water (almost) Everywhere*", "*Water Supply in South Cowichan Communities*" and "*Water Quality in South Cowichan Communities*") was prepared to provide additional background information. These are available online at http://www.cvrd.bc.ca/index.aspx?nid=1563. Hard copies of the fact sheets were made available at public meetings, and many people took copies to share with friends and colleagues. One Water Improvement District also chose to mail the Water Quality factsheet to each of their 300 clients.

Community Outreach

Community outreach sought to reach out into the community, as well as inviting residents to come out to open houses.

The consultants participated in several community events and meetings, including:

- Cowichan Bay's White Dinner
- Shawnigan Lake Street Festival
- Shawnigan - Cobble Hill Farmers Institute Meeting
- Area D town hall meeting
- South Cowichan Rotary breakfast

In addition they took information boards, surveys and handouts and talked to people going in and out of Drumroaster Coffee (Valleyview Centre) and the Mill Bay Thrifty's, each for one morning in early October.

Two open houses were held at Shawnigan Lake (October 15) and Mill Bay (October 17). These were widely advertised in local newspapers and through posters and cards. The open houses included a series of

information boards, a model of the watershed and a model showing an aquifer and how it can become contaminated. Members of the consultant team and CVRD staff were available to answer questions and provide information. About 60 people attended the open houses.

Meetings

The consultants attended meetings with various groups to gather more in-depth information. This included meetings with:

- Shawnigan Lake Stewardship Roundtable
- Cowichan Tribes
- Malahat Nation
- Water purveyors (Improvement Districts)
- Farmers

A summary of the discussion from these meetings is included in Appendices B to E.

Technical Group Meeting

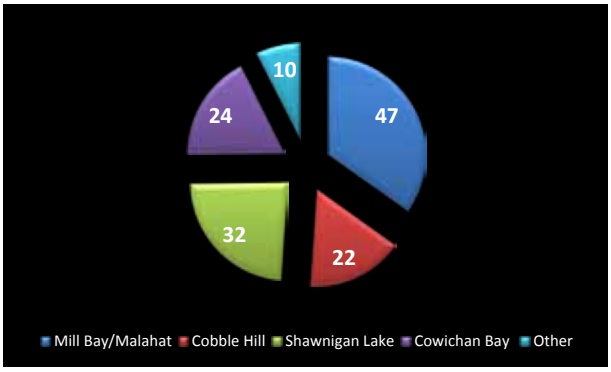
Results from the community input were presented to a group of technical professionals and others, whose work ties them closely to having a science-based understanding of historic and existing, water-related issues and concerns in these communities (see Appendix H).

3. Community Survey Responses

A total of 135 surveys were completed (either online or in hard copy). Of these, respondents were fairly evenly distributed around the south Cowichan communities (Figure 1), although the greatest number of surveys submitted came from Mill Bay/Malahat.

Figure 1: Which community do you live in?

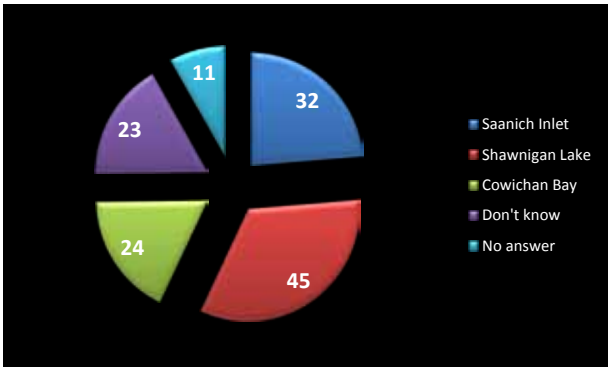
Numbers show responses received



Respondents were asked to identify which watershed they live in. For some, this was easy to answer. Others had not previously considered this question, and many checked out the map at the open houses to gain a better understanding of the south Cowichan watersheds. Results are shown in Figure 2.

Figure 2: What watershed do you live in?

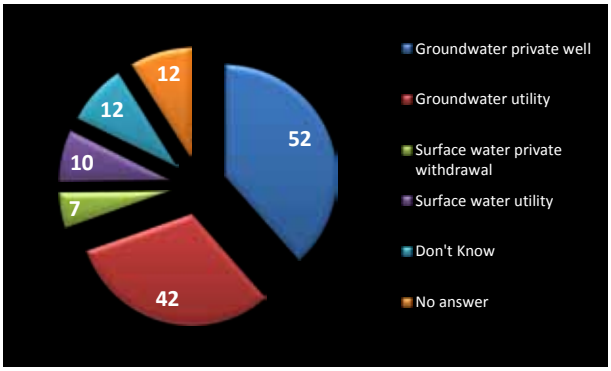
Numbers show responses received



Respondents were also asked to identify their water source. The majority of people noted that their water came from a groundwater source, either a private well or utility (Figure 3).

Figure 3: Where does your water come from?

Numbers show responses received



A full list of responses to the other survey questions is provided in Appendix F. Verbal comments received at other meetings/events, and some email comments, are included in Appendix G.

It should be noted that any survey of this type is not statistically valid. Respondents are self-selected (as opposed to a random survey), and those who have concerns are more likely to respond than people who are satisfied with the status quo. Nonetheless, the range of comments provided gives the CVRD valuable insights as to the 'top of mind' issues and suggested avenues for action.

4. Summary of Community Concerns and Ideas

There were a great many comments and suggestions arising from the consultation process, some of them repeated by many individuals, some unique. Readers are encouraged to review the complete list of comments (Appendix F) to get a full flavour of the information provided. A summary of some of the frequent comments appears below.

The Importance of Water

The survey asked "Why is water important to you?" For many, this was an overly obvious and perhaps almost insulting question. It did however provoke some thoughtful responses. Respondents talked about clean drinking water as essential to life (humans and other species), and something that we too often take for granted. It is essential for human needs, for healthy ecosystems, for agriculture, for industry. It supports our lifestyles (we play in and on it), it is sacred and a foundation for First Nations culture, and it is the foundation of our communities.

"It is a precious resource that we often take for granted – we would not live without it."

"It is a human right to have clean drinking water."

"We drink it, we swim in it."

"Sine aqua, non vita est." (there is not life without water)

Concerns about Water Supply

Participants raised a variety of concerns about the current and future water supply. Water supply is clearly a greater concern for those reliant on groundwater than for those who used surface water sources. Recurring themes are outlined below.

"Water tables seem to be diminishing and we do very little to acknowledge a finite resource."

"We are lowering the water table through excessive draining of the aquifers."

"Water conversation needs to be a fact of life, not an option."

"I worry that new developments might overtax our current water supply."

"My concerns are for the changes in our weather systems with longer periods of drought and the increasing demand on the existing water."

- **We don't know how much water is in our aquifers.** Respondents noted that we have incomplete information on our aquifers, their production rate and sources of recharge, and how much water we are using (compared to how much is available). They reiterated that water in aquifers is a finite resource.
- **Groundwater levels are declining**. There were several anecdotal stories of well water levels dropping and the need to re-drill. Others noted that groundwater levels go up and down over the years, but so far there has not been an overall reduction. However, as wells go deeper the water quality in some areas may change for the worse.
- **We waste water.** Many people noted that they go to great lengths to conserve water, but that this ethic is not shared by their neighbours (especially newcomers to the area who are used to city water systems). Purveyors noted that water is "too cheap and seemingly abundant".
- **Is there enough water to supply new developments?** A great many people raised concern that new developments continue to be approved, yet we really do not know if there is sufficient water to supply them.
- **Shared aquifers**. Most aquifers are shared by multiple users, but there is no control over how much each one uses (for example, farmers are concerned that development will deplete their water sources, while residents expressed concern that farmers are overwatering and limiting supplies to their subdivision).
- **Impacts of climate change**. As the survey took place at the end of a long dry spell, drought was on many minds. Very few respondents mentioned winter flooding (except farmers) or the impacts of heavier rainstorms in winter. Some participants noted that we need to do a better job of capturing winter rains to see us through dry summers.
- **Cost of water**. Some people complained about the cost of water (too high), while others suggested that everyone should be on a water meter and paying for what they use. Others said that water is too cheap, providing little incentive for conservation.
- **Not an issue.** Almost 15% of survey respondents indicated that they have no concerns about water supply, at least for the present.

Concerns about Water Quality

There are a great many concerns about water quality—both now and into the future.

- **Contamination of groundwater**. Water purveyors and others noted that once an aquifer is contaminated, it is all but impossible to clean up, and water treatment can be prohibitively expensive. Prevention has to be the priority.
- **Contamination of surface waters**. Surface waters (lakes, streams and the marine environment) are being affected by runoff (e.g., oils from roads and parking lots and fertilizers washing into streams). First Nations noted that the shellfish beds in Cowichan Bay and Saanich Inlet have been unusable for many years, likely because of septage flowing into the estuary. Invasive species such as *Didymosphenia geminate* ("rock snot") also change the water quality for people and stream life.
- **Water quality in Shawnigan Lake**. Unlike Sooke Lake (the Capital Regional District's drinking water reservoir), Shawnigan Lake is surrounded by residences (and their septic fields), and used for boating and swimming. Many people expressed concern that motor boats are polluting the lake water. However, it was noted that eliminating boating could impact property values around the lake. Changes to the watershed (such as logging, gravel extraction and soil deposits) were seen as negatively impacting water quality.
- **Impacts of septic fields.** People in the Shawnigan Lake watershed worry that many older (and perhaps less well-maintained) septic systems around the lake could leak into the lake and reduce its water quality (their drinking water). Others noted that septic fields could leak into aquifers and contaminate nearby wells. At the same time, it was noted that the cost of replacing septic fields is very high, and many cannot afford to do this.
- **Impacts of industrial activities**. Many respondents (more than 10%) noted concern about the dumping of soil in the watershed, and the potential for contamination from sources located on Fisher Road in Cobble Hill. There is concern that decisions to prevent contamination cannot be made locally.
- **Impacts of agricultural activities**. Some are concerned that agricultural activities (such as use of fertilizers and manure-spreading) impact water quality. Farmers noted that they abide by

"Water from a contaminated aquifer will in all likelihood will never be clean again."

"Pollution in Shawnigan Lake from old septic tanks and motor boats."

"Use the bathroom—not the lake."

"We are drinking each other's septic tanks."

"I am concerned about the dumping of contaminated soil in the Cowichan Valley watersheds."

"Under NO circumstances should any potential contamination be allowed anywhere near a watershed."

"Protecting our water must be a top priority."

"The quality is being degraded and we have no protection in place to prevent it from reaching a tipping point."

"There are many farms in the CVRD that spread manure how does this impact our water quality?"

regulations controlling these activities, and that this should not be an issue.

- **Quality of drinking water**. Respondents commented on the quality of their drinking water, citing concerns about discolouration, odour and taste. Some raised a concern about the frequency of water quality testing, wondering how they can be sure that their water is drinkable.

"Often our water is brownish in colour, most noticeable in the toilet bowl, but can also been seen in a glass. At least once a week the water is discoloured. The taste is often quite metallic."

- **Lack of local control, too many jurisdictions involved, lack of action to address water issues**. Especially with regard to issues such as dumping of soils, lack of ability to make decisions locally is a concern. The fragmented nature of jurisdictional control (and over-abundance of agencies involved) was noted. There is frustration that there seem to be many plans and studies, but still no action.
- **Not an issue.** About 10% of respondents noted that water quality is not a concern for them (most of these comments seemed to relate to their personal drinking water quality).

Priority Actions for the CVRD

There was no shortage of suggestions for action.

- **Provide water education and information**
  - Educate people about water conservation and watershed protection best practices (through the media, public forums, schools, businesses)
  - Provide more information on the results of water quality testing
  - Communicate the seriousness of the water issues
- **Promote water conservation**
  - Provide incentives for low-flow fixtures and rain barrels (available to everyone)
  - Encourage water storage and re-use (e.g., cisterns, rain barrels, reuse of grey water for irrigation and toilet flushing, 'purple pipes')
  - Meter all water use
  - Develop bylaws for watering restrictions (and enforce them)

- CVRD should walk the talk on water conservation (e.g., using drought-resistant plantings and not overwatering parks)

- **Improve wastewater management**
- Develop a long-term plan that integrates water and wastewater management
- Regulate septic fields, require that they be regularly pumped out and maintained
- Do not allow any new septic fields
- Bring in sewers, encourage homes to connect

- **Ban/limit/control new development**
- Restrict development until/unless water availability is proven
- Stop all new development
- Limit the number of new wells
- Ensure developments are sensitive to ecosystems and watersheds
- Promote on-site rainwater/stormwater management
- Maintain greenspaces and trees to encourage groundwater infiltration
- Protect riparian vegetation

- **Regulate motor boats on Shawnigan Lake**
- Ban all motor boats on the lake
- Restrict motor boat use on the lake (e.g., limits to horsepower)

- **Prevent dumping of toxic materials**
- Ban dumping of contaminated soils
- Do not allow import of soils from other regions
- Enforce penalties when illegal dumping takes place

- **Prevent pollution**
- Ban pesticides, toxins, limit use of fertilizers
- Direct industry away from vulnerable aquifers
- Enforce large fines for contamination of water supply

"Communicate with the public how serious our current situation is and what we need to do as individuals."

"Fine or charge extra anyone with a lush green lawn in a drought."

"People waste too much water. Change habits!"

"Quit approving new development."

"Mandate septic tank inspections and service."

"Stop gas boats on Shawnigan Lake."

"Ban dumping of contaminated soil."

"Ensure short, mid and long term planning will provide adequate, high-quality water for everyone."

"NOTHING, NOTHING, NOTHING! We do NOT need higher taxes!"

- **Protect watersheds**
  - Develop a watershed protection strategy
  - Manage/restrict/monitor logging
- **Seek local control of water and land management**
  - Get local input into decisions that affect water
  - Work collaboratively with other levels of government and local First Nations
- **Gather and share water information**
  - Offer free testing of wells
  - Get reliable information on aquifers
  - Monitor and publicize information on aquifers
  - Monitor and publicize information on surface water quality
  - Monitor and report on effectiveness of treatment types
  - Identify which land uses are putting aquifers at risk
- **Improve drinking water management**
  - Provide a single (region-wide) water management system
  - Ensure water quantity and quality
  - Provide more water storage

- Treat with less chemicals and more filtration
- Make sure that water is safe to drink

- **Manage costs**
- Do not increase costs
- Do not require private well owners to pay for their water
- Make sure everyone pays fairly

"Less talk more doing."

- **Do something!**
- Stop talking, start doing

5. Advice from Technical Meeting

The CVRD invited technical and scientific advisors, as well as representatives from a variety of jurisdictions and community interests, to attend a meeting (December 10, 2012) to provide input on priority issues and actions related to water in the south Cowichan. About 30 people attended (Appendix H). The purpose of the meeting was to review the input from the community, and to seek the group's advice on priority issues to address with respect to water in the south Cowichan.

Discussion focused on three key areas: data needs, improved inter-agency cooperation, and priority actions for the CVRD.

Key recommendations from this Technical Group included:

- **Bring together all available data**
- Make an effort to bring all available data, including historical, anecdotal and photographic information, together in one place. The CVRD is likely the best organization to take on this role.
- Make data available to the public (as much as possible, it was recognised that some data are subject to privacy concerns). This will also involve some interpretation. For example, a study by the University of Victoria found caffeine in Shawnigan Lake, but what are the implications of this and at what level does this have an impact on ecosystems and drinking water?
- Ensure that information collected helps to lead to action.

"Create framework of rational science (i.e., documenting water level changes, water quality changes or demand) and articulate the issues."

"Identify greatest vulnerabilities to surface water and groundwater by area."

"Learn from successes elsewhere – Cowichan, CRD, RDN."

"Inform public of plans, publicize BMPs [Best Management Practices] and make property owners part of the solution."

"Define the problem (or crisis). Compile the team. Assign responsibilities and repeat."

"Integrated governance with CVRD as lead agency; include consolidation of data and engagement of partners."

"Develop a water budget for the region to help with decision making."

- Use the assembled data to identify problem areas.
- However, don't let lack of perfect data be a reason to delay action. There are issues where we already have enough information to take action.

- **Develop a water/watershed plan for the south Cowichan watersheds**

- Establish actions and targets, building on plans and ideas from other areas.
- Engage multiple interests (perhaps similar to the Cowichan watershed group). Include First Nations, senior governments, scientists, and the forestry and agricultural communities, as well as community leaders.
- Make the plan action-oriented.

- **Educate, motivate and engage the community**

- Help residents to understand the watershed issues and concerns; what it means (or could mean) for them; help them to understand the urgency and implications of lack of proper watershed management.
- Make water data publicly available; explain it so that it is meaningful. Make it easy for people to find water information, both online and at an interpretive centre ("water house").
- Offer free well testing to those on private wells. Use this both to educate and as a means to gather data.
- Offer field trips to create better understanding of how watersheds function.
- Provide information on best practices (e.g., on-site rainwater management, septic field maintenance).

- **Take action**

- Identify one or two key actions and get started!
- Addressing septic fields around Shawnigan Lake was identified as a priority action.

6. Analysis

Residents of the south Cowichan are looking to the CVRD to play a more active role in watershed management and encourage water stewardship in the community. Both residents and technical advisors identified the CVRD as a logical leader for encouraging behaviour change as it is well positioned to mobilize public support and undertake a more citizen-based approach to enacting change. The CVRD is also seen as the appropriate organization to lead a collaborative approach to resolving issues and preventing future water crises.

The consultation process has provided insight into ways that the CVRD might address water issues in south Cowichan communities. There are three clear goals that the public want to see achieved: *ensuring ample water supply for current and future needs; protecting surface water quality;* and *protecting groundwater quality*. According to the suggestions made by the public and technical advisors alike, these goals can be achieved by four types of action:

- Developing long-term watershed-based plans that address issues such as collaborative governance and managing water needs for new and existing users;
- Gathering and sharing reliable data to support decision-making;
- Providing public education; and
- Addressing critical issues.

Suggested approaches from participants and the Technical Group are summarized in Table 1 (next page).

Table 1: Summary of Feedback

Proposed Actions	Community Input	Technical Input
Develop and implement long-term watershed-based plans		
	Develop watershed protection strategies that restrict hazardous land-use activities and protect ecosystem functions	Develop watershed plans, built on ideas and targets from other areas
	Work collaboratively with First Nations and other governments	Engage multiple interests, including First Nations, senior governments, landowners, industry and community leaders
	Plan for climate adaptation, e.g., finding ways to store winter precipitation to provide for summer use	
	Develop and implement a long-term plan for wastewater management	Address impacts of failing septic fields, especially around Shawnigan Lake
	Limit/control new development (only permit development where water supply can be assured)	
	Consider a region-wide drinking water management system, so that standards and restrictions apply throughout the area	
	Manage costs	
Gather, share and store reliable data		
	Gather and share water information	Consolidate and share water information; provide interpretation of data so that it is meaningful
	Gather and share reliable aquifer data	Gather and share reliable aquifer and surface water data
	Provide free testing of wells	Provide free testing of wells
		Provide long-term storage for data
Provide public education		

Proposed Actions	Community Input	Technical Input
	Provide education on best practices for protecting water supply and quality	Provide education on best practices for protecting water supply and quality
	Communicate the seriousness of the issues	Communicate the seriousness of the issues; convey an appropriate level of urgency
	Promote water conservation (e.g., through information, metering, incentives, watering restrictions)	
Address critical issues		
	Identify and control land uses that put aquifers at risk	Identify and address problem areas
	Regulate septic field maintenance and/or expand sewer networks	Address failing septic fields around Shawinigan Lake
	Prevent surface and groundwater pollution (e.g., regulate boats on Shawnigan Lake, prevent import of soils, mitigate hazardous industrial and agricultural activities)	Choose one or two critical issues and act (start somewhere and build on success)

It is noteworthy that many of the ideas put forward by the Technical Group were echoed by the community, and vice versa. While a great many ideas for action were suggested, there are some core concerns and approaches that give the Regional District direction to move forward.

7. Conclusion

The residents of south Cowichan communities are concerned about water: its quality and quantity, and the potential impacts on human and ecological communities if we fail to protect water.

The CVRD is well positioned to lead action to protect water and watersheds in this area, in partnership with the communities and other agencies. Residents expect and want this leadership from the Regional District.

Taking action on water will not be simple, and addressing some aspects may take a significant investment of time and money. However, the cost of inaction may be far greater. Residents of this area are looking for on-the-ground action, and a coordinated approach to ensuring the future supply and quality of water in this area.

Appendix A: Survey

Thank you for sharing your ideas! The information from this survey will be provided to the Cowichan Valley Regional District Board and staff, helping them to identify priority actions for managing our water in the future.

Please provide your response by October 22, 2012. You can also email us edy@cvrd.bc.ca or call Dyan at 250-746-2504

1. Which community do you live in?

- ☐ Mill Bay/Malahat
- ☐ Cobble Hill
- ☐ Shawnigan Lake
- ☐ Cowichan Bay
- ☐ Other (please specify)

2. Which watershed do you live in?

- ☐ Saanich Inlet
- ☐ Shawnigan Lake
- ☐ Cowichan Bay
- ☐ Don't know

3. Where does your water come from?

- ☐ Groundwater (private well)
- ☐ Groundwater (utility)
- ☐ Surface water (utility)
- ☐ Surface water (private withdrawal license)
- ☐ Don't know/other

4. Why is water important to you?

5. Do you have any concerns about water supply/quantity? If yes, what are they and why are you concerned?

CVRD Environmental Policy Division

over...

6. Do you have any concerns about water quality? If yes, what are they and why are you concerned?

7. What are the top three actions you think the Cowichan Valley Regional District should take to protect water in your area?

1.

2.

3.

8. Anything else you want to tell us?

9. Do you want to be added to an email list to receive updates on water-related events, programs and resources in your area? If yes, please provide your email

When you have completed this form, please:

- hand it to one of the consultation team staff
- drop it off or mail it to to the CVRD, 175 Ingram Street, Duncan BC V9L 1N8
- send by e-mail to edy@cvrd.bc.ca or
- fax it to CVRD, attention Emily Doyle-Yamaguchi 250-746-2543

You can also fill out the form online - see the link at **www.cvrd.bc.ca**

Thank you!

cvrd.bc.ca

Appendix B: Comments from Water Purveyors

General

- Water is the "Oil of the future" (a precious resource)
- Water not just about the people who need water, but also about wildlife.

Water Pricing

- Water is too cheap and (seemingly) abundant!
- Some metering systems are tiered (i.e., pay a higher rate once you consume more than xx amount).
- Don't create restrictions, just make people pay for what they use! (High rates make people reduce size and watering of lawns.)

Education

- Ipsos Reid survey showed water as top of mind issue in Valley.
- Need meters - good for education.
- Need for education. Noted that Europeans use less water than Canadians, have water meters for showers. Examples like Japanese toilet (where handwashing water is used to flush the toilet).
- Purveyors hear lots of opposition to meters (perhaps this reinforces the need for them?)
- Everyone is responsible for water education. It should start in schools.

Water conservation

- CVRD should be encouraging conservation
- If people use water as they should (conservation) there is plenty of water. Problem is greed and water wastage.
- If there is no metering, how do you prevent one person on a shared system having a large swimming pool? City people are used to having plentiful water.

Water capture and reuse

- Encourage cisterns – capture rain.
- Think about ways to reuse grey water (e.g., irrigation of fruit trees).

Water supply in aquifers

- We have no overall indication of health of aquifer.

- Water supply for the future, we have noticed a drop in water levels.
- There is plenty of water in the ground, but are we clever at finding it?
- Provincial monitoring well - have seen changes in aquifer. 10 ft drop, but then recovered. Not trending down overall. This dry year will see a drop in aquifer. Quality has been good over 20 years
- We are extracting about 1.5% in Mill Bay area (have been told), others disagree , not proven, how do we know, what if we are wrong
- Conservation good, but brown lawns not about overall amount but about ability to limit supply of water. Could expand and extract more water, but cost to do so

Water quality

- The water is there, but the quality may not be
- Some wells are drying up, showing a greater mineral content.
- The drinking water aquifer is contaminated in a well under a commercial operation in Cobble Hill. The contamination has been known by both the provincial and regional governments for the past 10 years. The level of contamination is 5 to 10 times the Canadian Drinking Water Standards. The Provincial Ministries are taking no action and the Regional Government's actions have failed to prevent further contamination let alone remediate the contamination
- Concern about the tire exchange on Fisher Road, gravel dumping - plus many unregistered private well - these provide access for contaminants into aquifer
- We are all drinking each other's septic tanks.
- As we draw down further into an aquifer, do we have the same recovery rate, is this sustainable? Noted that as you draw down, water quality may suffer.
- Highway a concern - lots of petroleum trucks going up and down highway - concern about potential spill like Columbia truck into Goldstream.
- Can have lots of quantity, but if the water quality is not there, then of no value.
- Where agriculture and business are using water, they may drain it and leave none for residents. How do we protect water supply in shared aquifers?
- Abandoned wells provide a conduit into aquifers. Need to provide an incentive to look for and seal them.
- When an aquifer is polluted, what then?
- Should not allow boating in Shawnigan Lake – water pollution. But if it were stopped, it would mean a dramatic loss in property values.

Development

- Housing development and subdivisions continue to be approved without any evaluation to determine if there is any additional ground water available.
- Link local knowledge to planning— do we have enough water for new development?
- Even without future growth, need to have really good idea of how much water is available. When are we reaching the tipping point?
- Improvement districts are asked if they can provide water to new subdivisions, so an Improvement District can stop a subdivision. But if you are not an Improvement District, don't have this power. Creates a struggle for very small system.
- Bamberton industrial site - 21 houses now, concern about future development above, would be major expense to dig and create new system if contaminated
- Developments should be required to manage stormwater on site.
- Paying for infrastructure - cost to taxpayer. Make sure developers are paying for pipes in the ground.
- Ministry of Transportation is responsible for approving subdivisions, but they are encouraged to follow CVRD subdivision bylaw.
- If you cut down trees, water no longer soaks into ground, more flash floods.
- Need tree cutting bylaws to prevent loss of trees and impacts on drainage.
- Rays Creek ID, 6 lots on small system, built new houses without regard for aquifer capacity

Septic systems

- Septics could impact aquifers
- Ensure community wells are well distanced from septic fields
- What happens if we get contamination? Can't filter nitrates.
- There is no policy on failing septic systems. Mill Bay water is at serious risk from pollution.
- Make it mandatory (bylaws) to have septic pump outs on a regular basis.
- Require pump outs and inspection like CRD does.
- Nova Scotia/New Brunswick have mandatory pumps out every three years.
- Use a centrifugal system that extracts solids and puts water back in the system
- Purveyors are legally responsible for stopping contamination at the source – but cannot control contamination from septic fields.

Enforcement

- Cross connection controls legislated (to prevent backflow), is this being adhered to?
- Large water systems have capacity to do testing. Hard for smaller systems. Do it and add to the cost for water.
- We are building houses without the knowledge that we have water for them.
- Braithwaite tests regularly for contaminants – nitrates found 5–7 times in last 10 years.
- Regulations e.g. no cows in creek but no enforcement, and less all the time
- Inability of any level of government to deal with proven contaminants.
- We have a new OCP, but water protection not yet enacted.
- Need to have a means for enforcement. Nothing will improve unless we can deal with infractions. An individual can create problems for many.
- Legal blocks often thrown at purveyors; legal costs can get very high.

Action Required

- Need for leadership and boldness
- Water protection is a key element of the South Cowichan Official Community Plan which has been adopted. A bylaw to address implementation of the OCP was the first piece of business after the adoption of the OCP with a Water protection bylaw promised to be the second bylaw to be drafted with a proposed start date of last winter.
- Shawnigan creek study requested 10 plus years ago, done by Province - so contaminated that not drinkable - but still no action!
- Fisher Road has been going for a long time - issue has been discussed with everyone and still no action, no one takes actions, goes in circles. Make your own decisions, no abrogation of responsibility. Make it so community wells have to be a certain distance from septic fields.
- Not enough will with nine different Electoral Areas - there is less need in some other parts of region Perhaps do a pilot in this area, e.g., Cobble Hill doing Towns for Tomorrow grant to hook sewer systems together, plan is treat to Class A, will run purple pipes for irrigating institutes and parks. Could look at doing this in other communities.
- South side Liquid Waste Management Plan - could influence.
- What can local government do? Using stewardship groups, capacity to get $$ e.g., subsidies for fencing to keep cattle out of creeks. Start somewhere.
- Make public health a priority – one loss of human life is too many.
- All lakefront users should form a single utility; encourage conservation and management.

Appendix C: Comments from First Nations

Cowichan Tribes

General Comments

- Water is second only to air in our lives. Without air and water there would be no people.
- There are important sacred places throughout the south Cowichan. Water is significant not just in one place, but as it flows and links throughout.
- There is a lot that we are now missing – e.g., used to be runs of spring Chinook. We have no information on summer runs of fish, as counting fence doesn't go up until September.
- Many elders have stopped bringing forward their knowledge and concerns as this is not being heeded.
- Not enough acknowledgement of how First Nations have used inland areas (as well as coastal) for centuries.
- Cowichan Tribes lands are unceded, the water belongs to Cowichan peoples. Tribes rights are being impacted.

Issues and Concerns

- Impact of timber harvesting and industry on water quality – more gravel in the water
- If a stream is not deemed to be salmon bearing, then no protection. BUT – most of these streams were once salmon bearing (so all should be protected). Side channels are crucial but lack protection.
- Tribes are cut off from private lands that have sacred places; they need access at all times. (This has been progressively happening over generations.)
- On the lower Koksilah, didymo (Didymosphenia geminata or rock snot) has altered the appearance of the water. Even where the water is still safe, it is perceived as polluted and no longer used for cultural practices. The didymo holds sediments and can affect fish habitat (reduced water quality because of suspended solids). It is introduced on fishermen's waders.
- If a system has been void of fish for some time, there is a need to increase the nutrients levels (e.g., by using a fertiliser) as there are no dead fish providing nutrients.
- Water temperature is increasing (and affecting fish). Streams that once were very cold now feel like a warm bath, changes happening over the past ten years and more.
- Erosion and leaching as a result of overuse of water (too much irrigation).
- Used to harvest Littleneck Clams at the mouth of the Koksilah – now no longer possible due

to impacts from erosion, pesticides from farming. Used to harvest herring by gas lamp – now the herring spawn has disappeared, seaweed is gone – pollution is a major concern. Federal government is not addressing this – how can we hold their feet to the fire?

- Need to look at Cowichan Bay in context of the upland – everything ends up in the river and ocean.
- We are experiencing death by 1000 cuts – the largest impacts are from the cumulative small impacts from individual residents, tourists, boat operators. Need to take a big picture perspective.
- Some First Nations communities don't have potable water, some have challenges with wastewater. Much of Tribes lands are unsuitable for development (e.g., in floodplain).
- Trucking of contaminated soils from CRD through their reserve, then dump this beside their aquifer. Problem is that aquifer is invisible, people don't recognize impacts of this dumping.
- Traditional knowledge is bypassed. Once families that were stewards/caretakers of specific rivers and streams; they were responsible for keeping the creeks clean and removing invasive species. Now if they try to do this they are told it is contrary to environmental policies. The caretaking is gone, the knowledge is fading.

Desired Actions

- Need to acknowledge and value First Nations perspectives and views and uses in their territory; we have lived here for thousands of years.
- Need for local control of our resources (away from Province and federal government) – we know locally what the issues and concerns are.
- Need to work together to shift power away from the Province – their actions DO impact salmon, despite what they say.
- Need to take those in power (e.g., Ministry of Environment) out on walks, show them the local knowledge. Need to walk beside them.
- Need collaboration to achieve these goals, need to involve and include First Nations (with financial support to allow that participation).
- Push for more action – e.g., why wait until 2020 to be able to eat shellfish, need to move faster.
- How do we make action faster? Cowichan Bay shellfish has been an issue for 40 years but still nothing has happened.
- Need to resolve issues of overuse (by all of us). If you have to pay, you use less!
- Need to create more water storage (to allow for drought periods)
- Need irrigation workshops for farmers, they need to change practices.
- Teach and engage youth.

Malahat Nation

General

- Malahat Nation now chlorinates water (following break of pipe)
- Malahat are preparing a plan on water security (should be completed by year end)
- Need to expand their water supply to allow for additional homes
- Future security of water for industrial and residential use is critical

Conservation and Education

- Need to make the best use of water – fit for purpose (e.g., don't use drinking water for irrigation)
- Conservation the most important goal
- Need for community education re water conservation. How to achieve a culture of conservation, especially with newcomers?
- Chlorination has provided an opportunity for education around water.
- Would like to work with CVRD to develop information packages on water for their community.

Water Quality

- Iron in the aquifer and water supply a concern. See a large iron bloom around the Mill Bay ferry ramp during summer.
- Malahat Creek has changed drastically as the area population has grown. Water levels have decreased, the path of the creek has changed. Some changes even in the last 10—12 years.
- Can no longer harvest the clam beds. How do we protect this area from septic runoff?
- What are the effects of manure spraying in Shawnigan Creek? There are no berms or other method to prevent this going into the creek.

Appendix D: Comments from Shawnigan Lake Roundtable

General

- There is no such place as “South Cowichan”. There are three distinct watersheds, each with very different characteristics, concerns and communities.
- ~4500 depend on withdrawal of water from the lake. 2 water systems – CVRD and private. Others in area depend on groundwater.
- Fish farm being planned for south end – land is licenced for agriculture, wanted to create manufactured lake but now plan to do aquaculture
- Shawnigan Lake has a public water system but no public wastewater system.
- SL roundtable set up to address problems of multiple jurisdictions, meeting planned in November with the various agencies.
- Mill Bay Conservation Society puts Coho in stream every year. (Have to carry them up over waterfall in fall, would like a fish ladder instead).
- Mill Bay and Cobble Hill will be concerned about groundwater – message is around drinking water regardless of where it comes from
- Cowichan Roundtable started ~10 years ago. Have now created Cowichan Water Board, setting targets.

Concerns

- Many many jurisdictions involved. Federal government (DFO, Inland Waters Coast Guard, RCMP), Province (Ministry of Environment, Vancouver Island Health Authority, Ministry of Transportation, Ministry of Mines, BC Parks), CVRD, large landowners (e.g., TimberWest). Creates a nightmare to get anything done.
- Challenge of too many jurisdictions – even when we can agree on the problem, put conditions on action, there is no follow up and enforcement. (Still no action on Spectacle Lake dump)
- Multiple jurisdictions make it overwhelming, impossible to know who to contact about concerns, lack of empowerment
- Have been studied to death but NO ACTION! Don’t need more plans, need something to happen.
- People are getting discouraged – why should they participate in this (or other) processes if nothing then gets done? Need to empower people to make change.
- Decision makers should listen to the advice of local people, they know their local area.

- People will get interested when things get done.
- Water quality:
  - Blue bubble trails on water surface
  - Mazumder study rated Sooke Lake at "10", Shawnigan Lake only a "6"
  - Lake water quality includes caffeine – shows that septic tanks are leaking into lake.
- If the lake is no longer usable, this will have huge impact on real estate values.
- Lake now higher in summer – concern for older septic fields close to lake, also has changed shoreline habitat. (Weir does not affect winter levels.)
- Older homes near lake – once just part time summer use, now full time homes and septics are over capacity.
- Concern that very expensive to put in proper septic system, many locals just can't afford this.
- Increasing industrialisation at south end. New sediment delta has formed from outwash from gravel pits.
- Logging around lake – once "rule of thumb" was no more than 30% logged at any one time, now exceeds that.
- Lake level has become more flashy because of logging in watershed.
- Compound effects of many changes together
- South Island Aggregates (SIA) proposal – see video at shawnigancreekprotection.ca (30 June 2012). Note that this exemplifies problem – owners are not doing anything illegal. CVRD and residents strongly against this, but Ministry of Environment feels it has no grounds to deny the application.
- How do we create a tipping point to get action – perhaps through SIA.
- Need to control loud boats on the lake.
- Some people not willing to change - "We've always done it this way." (e.g., use of boats on lake)

Education

- Educate! Make the community aware.
- Public want to know how they can be part of the solution
- Give Shawnigan a voice that the people can't ignore.
- Importance of educating children (tomorrow's decision makers) to value nature, natural beauty.
- Make it local, real. Talk to moms' groups
- Need a campaign – "It's not okay to pee in the lake." "What have you done for your lake today?"

Messages:

- Do one thing, e.g., pick up a piece of garbage
- Use the bathroom, not the lake
- Use non-toxic cleaning products, what goes down the drain goes into the lake
- Could have products labelled “Shawnigan Lake approved” (work with local Thrifty’s)

- Patrick Lucey has been leading tours around watershed.
- Group has watershed models that can be used at public events. Drillwell has an aquifer model.
- Local paper is The Focus

Ideas, wishes

- Saskatchewan requires annual pumping of septic tanks close to water, we should too. Perhaps get local pump-out companies to offer a group rate?
- Need to create ways to slow and cleanse surface runoff before it reaches the lake (from residential and industrial areas).
- Potential for Shawnigan Lake to be a study site – with Sooke Lake as the model, show how a residential lake can be as clean as one with no development.
- Could get students doing research projects on the lake
- Need for an integrated response to the watershed issues.
- Need to take waste and make it useful.
- Need bylaws and enforcement – ecologically based, flexible to be realistic. Enforceable regulations.

Appendix E: Comments from Farmers

General

- Farmers are stewards of the land, they are looking after it, don't want to destroy it!
- One farm gets water mostly from Dougan Lake and well water. Good quality, supply not an issue.
- At one point took turns with others in valley irrigating from their creek, but have not had to do this recently. Water flows have not been affected by highway.
- Dougan Lake is stocked with fish, but fish tend to die because late summer inversion leads to lack of oxygen in water.
- Another farm has wells and ponds in Hillbank Valley. Water quality and supply good, springs sometimes run dry in summer but then recharge. Both are part of Koksilah watershed

Flooding

- Greatest concern is winter flooding. Water from Cobble Hill now flows more overland (more subdivisions and fewer trees), goes downhill and floods Balme farm.
- Winter flooding not controlled well, can cause flooding. Subdivisions direct water into valley but no drainage system that can deal with it.
- Need to do a better job of directing overland flow, instead of just sending to lowest point.

Development

- Subdivisions are being built and water is being directed into culverts and creeks, not allowed to soak into ground. Creates more overland flow and flooding and less groundwater recharge.
- Concern that water from one aquifer being transferred to supply subdivisions outside that area. Inter-basin transfer that will reduce the water available to aquifer of origin. Should not develop if that development is not sustainable.
- Subdivisions should provide onsite rainwater management, encourage groundwater recharge.
- Need to have an overall plan for development rather than piecemeal.
- If water is taken out of the ground, need to make sure it is getting back into the ground.

Irrigation

- Use surface water for much of irrigation so that it doesn't impact the aquifer. When farmers irrigate, any excess goes back into ground so recharges groundwater.
- If people want local food, need to accept that irrigation is essential!

Use of fertilizers

- Farmers have to follow regulations re application of fertilizers, this makes sure that they are not using an excess.

Appendix F: Survey Responses

Why is Water Important to You?

Essential to life

- Life sustaining!
- Need to exist of course
- Water is life. Pure and simple.
- We cannot live without it
- Main source of our lives
- Water is the stuff of life, nothing can live without water. There isn't a lot of potable water on Vancouver Island. I am adamantly against taking any chances that may threaten the quality/safety of water.
- Sustains all life
- Since we cannot live without water why would water not be important to everyone?
- Our bodies need it to survive.
- Necessary for life. It can be a source of environmental toxins and contaminants.
- Important to everyone - Basis for life.
- We need clean water to live.
- I need it to live.
- It sustains us. Our bodies are mostly made up of water. My family drinks it, cleans with it, and recreates in it - so do all families. It is an essential element in the survival of the planet.
- Without uncontaminated water, there is no life.
- Good clean abundant water is critical to quality of life.
- Health, it is necessary for life
- Next to air... we can't live without clean water...
- We all need water to live. People, plants and animals.
- Potable water is a necessity of life...no water....everything else is redundant
- Need it to sustain ourselves and nature
- Water is important to everyone, without water humans will be extinct.
- Clean water is the basis for all life.
- You need water to exist
- Clean available water is essential to life. Ours and our environment. It is all interconnected.
- To sustain life, as well as for recreational purposes, environmental protection, conservation, bird/wildlife habitat.
- Essential to life and good health. It must be protected at source.

- Water is important to the whole world – we cannot live without it
- Potable water is our most important resource!
- Because we all need water, we pay for it, and we are entitled to clean, fresh, good quality water.
- It keeps us alive - we are made up of approx. 70% water and need to 'refill' our System daily- for cooking, cleaning - to keep OUR Earth Healthy
- Clean water is vital to survival: we need it for ourselves, our crops, our animals.
- Water is essential for all life
- Without it we die.
- Is the source of all life without it we would perish.
- Requirement of life
- Water gives life. I've lived in countries with very little water and life is short and harsh for people. Women walk 5 miles to fetch a pail for all family needs – drinking, cooking, washing, growing food!
- Because we need it to live!
- Water is life! 90% of the body is water.
- It is necessary for life, our community is built on it
- Because it's good for you.
- It is necessary for life to exist and we are allowing continuing development without regard to the depletion of our water supply
- My body is mostly water, plants need it, trees...it is the basis of life on earth. It needs to be clean and free of impurities for a healthy environment and healthy body.
- This is self-explanatory is it not
- Living
- It is the basis of all living things. Without water all of humanity would cease to exist. The abundance of water in Canada has been taken for granted for generations, it is about time we step up and protect it. Without the vast bodies of water Canada would not stand out among the other countries in the world.
- It is vital to life and luxury to have clean water.
- Basic need for life.
- We cannot live without it!
- It is a precious resource that we often take for granted – we would not live without it.
- It is essential to life.
- Need it to stay alive
- Sine aqua non vita est
- Water is life!
- What? Everyone needs water to live
- This is self-evident.
- Bit of a silly question, however it is one of the crucial components for life it is part of everything

including me!

- Are you kidding? This is a stupid question....without the GUARANTEE of clean uncontaminated water supply, we can die within days!
- No brainer – water is life
- Duh
- Seriously?
- That's a very silly question
- Are you kidding? To live... For wildlife to live... To grow plants for food & beauty... To keep our environment/ecology in balance.
- You have not thought much about this survey to ask a question like this.

Necessary for daily needs

- For home use
- Cannot function as a household without it
- Without fresh clean water we have nothing to found our communities on
- I use it for cooking, drinking, cleaning
- We can't live without it - need it to drink, cook with, water our gardens.
- I like to drink it
- Because I am a well driller, and I need water to make my tea.
- Need to meet personal needs (food, hygiene)
- Our home would be worthless without good water supply.
- Shower every day, gardens, washing the car, drink.
- To drink of course, to bath, water gardens and laundry
- Plentiful easily accessed water makes modern life feasible and convenient.
- As a utility, as part of national security. as part of ecology
- In addition to all the domestic uses, we have a vegetable garden. We are also keeping our native plants alive until we can plant them and won't need watering at all after a while.
- For drinking, cooking, personal cleaning, household cleaning, pets. Because I want to do what is necessary to make sure my children and grandchildren have clean water for the future.
- Lifeblood of population, reason for Shawnigan settlement.
- Daily use – drinking, bathing. Garden – veg, fruit, flowers.
- Daily living for us and the wildlife
- To keep my motorcycle and truck clean. To drink, bath, laundry, garden.
- It is part of our daily lives with everything that we do. We drink it, cook and clean with it and play in it
- Drinking, watering livestock, cooking, maintaining my garden, making coffee. Without water life expectancy is measured in days. Water is life. Quality of life. Value of property essential for life.

Drinking, bathing, cooking etc. - life in all forms! Need it to grow plants, especially in dry summer. Washing.

- Its life sustaining purity – to be able to continue drinking it. To be able to have enough to nourish a garden
- Supply vital to our well
- Wastewater control vital to the health of Shawnigan Lake and its residents— sewer shower and drink. Developer - determines the carrying capacity of the land with respect to housing and business support agriculture (growing and animals)

Clean Drinking Water, Human health

- Health and safety related issues
- Health.....
- Quantity and safe
- Having poor or no water at all is a big problem.
- We need water to drink and cleanse our blood, for health and wellbeing.
- I am very interested in healthy, pure drinking water and water for local agriculture.
- It is important to me that I have clean and healthy water to drink and for my family to drink. Also, the wildlife around here needs clean water. I also need water for my garden and for washing/ bathing.
- Water is important to me as it is the most important resource on the planet. We need clean water to drink, to water crops and bathe. I want my water to be clean, pure and taste great.
- Fresh pure drinking water is essential. I hope to always have unpolluted water in our aquifer.
- We drink it!
- We need to know water is clean; we need to know how to protect it.
- Drinking water is vital...we need to protect the abundance and quality of our water both for our generation and future generations.
- We get our drinking water from the lake, so we want good quality water
- It is a human right to have clean drinking water.
- At the rate of pollution of the lake it won't be long before we will be bring in in water.
- We operate a martial arts school at Valley view Centre. The water tastes as smells terrible. I brought in water filtration system.

Necessary for Ecological Health

- Sufficient water is necessary for our fisheries.
- Our frogs and newts need it.
- Preservation of rain forest, ecological needs, ecosystems
- 7% of the Earth's water comes from Canada – 50% of our wetlands have been destroyed since 1900. We can only survive 5-7 days without water. Water is a valuable and necessary commodity

and not a renewable resource, we must protect it.

- Without it we die. Careful water husbandry will ensure those dependent on it will continue to flourish. Fish, animals, plants and we would be in serious trouble if we continue to pollute our watershed.

Necessary for agriculture

- Irrigation and personal consumption.
- We have livestock and a hobby farm/garden and fruit trees. Water is very important to us and we are very careful with usage so that we don't tax our well.
- Livestock, vegetables, fruit. Sanitation – food safe, animal health
- We use water for crop irrigation. Uncontrolled development has seriously impacted our operation as we have redrilled our well twice.
- Drinking gardening, for farmers to grow our food.

Recreation uses

- We drink it, we swim in it
- No recreation if sources of water disappear or become unfit to use.

Other comments

- I grew up on a farm close to the equator. Our only water supply (when the rains ended) was a moderate size dam – pumped to the house for dairy and communal use. If rains (2x pa) failed, and they did every so often it was at least 5 months until the next rain season. It was a constant matter of non-waste, restricted use, etc. Today, climate change will alter rainfall.
- Awareness of conservation is essential. Changes to watershed treatments, enabling us to recycle water on our properties to gardens or trees.

Do you have any concerns about water SUPPLY/QUANTITY? If yes, what are they are why are you concerned?

Overuse of water

- Concerned about the waste of water rather than supply
- Yes - corporate pollution and overuse from inefficient production/manufacturing processes. Ridiculously inefficient local and provincial government and corporate usage e.g., no standard low flow toilets, motion sensor taps etc.
- Yes, the day has come when water conversation needs to be a fact of life, not an option.

- I worry that water is not being used equally by everyone. Business/industrial use... Even farm extreme farm irrigation. I have neighbors that water lawns & gardens to excess. Some day, the water may not be there.
- Over-irrigation of farm fields
- Over use of available water becomes increasingly a concern as growth continues. Water is often taken for granted by people moving to rural areas from urban environments.
- How people use water carelessly.
- My biggest concern is lack of awareness by youth (especially in cities and towns) as to the sources, supply and responsible management of water at home, in public places and so on. A week without water on tap would be educational! Even as BC experiences more and more hot weather, lower rainfalls, lower levels of major rivers (Fraser, Cowichan, Koksilah and others), drying up of streams (that were 'always there') – there is still insufficient public awareness and CVRD/CRD notifications about not wasting, not taking the rains for granted and good information on different ways to recycle and save.
- There is a perception with some that there is plenty of water in this area and therefore conservation isn't an issue. Education required starting at school level as well as with adults. Kids affect behaviours in the home.
- There was a 2 month drought this year. Water restrictions should have gone to stage 3, but they remained at stage 1. Residents watered their lawns as the drought persisted! We are concerned about future supply. Overdevelopment will have a retrograde effect on the water supply.
- Water usage should be metered to restrain use. Seasonal control of creek water flows should be community driven.
- We run a small water utility (28 families) and restrict during the summer any sprinkling of lawns or gardens during the day. Objective is to conserve water in our well and aquifer.
- Is there enough, and is it managed correctly for quality and quantity?
- Have a well – concerns about people who area watering their dark green lawn around the lake
- Should be educating the public to support less use...or monitoring it
- Quantity on – install meters to discourage overuse

Development and industry

- Demands on our water supply are increasing exponentially due to growth and development at the same time supply could be threatened by climate change. Growth needs to be slowed because it is going to take a very long time before the province wakes up to the fact this might be a problem
- Yes ... too much new construction sucking away at our current supply.
- We live on the oceanfront, at the bottom of a steep hill. There is a parcel of land immediately uphill from our property that could well affect our water supply if the CVRD allows wells.
- We have enough for what we use it for, but with development in the area it could strain the ground water in the area.
- Yes. With widespread development and huge density population increases, the draw on our water

is seemingly uncontrolled. There is only so much the earth can provide.

- Stop any further residential developments if you want local agricultural products.
- Will we have enough water for the growing population in this area?
- With more residents arriving, will there be enough?
- If new developments go in will there be enough water?
- I worry that new developments might overtax our current water supply and or contaminate existing underground water sources.
- Both supply and quality depend on development in our area, I do think they are overdeveloping our area which will lead to our downfall.
- I am concerned the building of too many subdivisions.
- I worry that new developments might overtax our current water supply and or contaminate existing underground water sources.
- Does the rate of development keep up with the water supply? How much water do we have?
- I am concerned about the rezoning of the Bamberton land west of the highway from forestry to industry. This is on top of the aquifer and has now been clearcut allowing water to run off instead of slowly soaking into the ground. Industry locating there will pave over the ground and create the potential of chemical runoff into the aquifer. If the quantity/quality of our well is affected we have no recourse.
- Yes, logging and heavy industry have taken a toll on our water supplies. The talk of a waste dump in Shawnigan just confirms that our society has put money ahead of all other concerns.

Agricultural use of water

- Perhaps farm irrigation for hay might , in the future reduce our water quantity
- Being on Cherry Point water we have restrictions on watering, specific day and time however those property owners on wells and the farmers have no restriction. We are all getting our water from the same source I would guess.
- Farms are irrigating more and more and would be interesting to know what this is doing to the water table.
- Access groundwater /surface water for agriculture

Impacts of climate change

- My concerns are for the changes in our weather systems with longer periods of drought and the increasing demand on the existing water
- Because of climate change we are having drier summers – so less water.
- I worry about quantity because of global warming, droughts, and people using toxic products for homes, gardens, farms, cars etc.
- What is being done to protect groundwater — climate change adaptation re droughts and more severe storms?
- Yes, especially after a dry season like this one. The levels are low. The turbidity is high.

Flooding

- Yes, I think sometimes in the rainy season, there is an oversupply and problems with drainage. This is a concern because it causes flooding and resultant leaching from aging and ineffective septic systems on the lakefront. We have also experienced water restrictions in the past which some residents and businesses have ignored.

Cost

- Cowichan Bay water is metered and we pay a lot for the amount we use. The rates are continually going up and we are billed an additional tax as well a few times a year.
- As I look at the river I see our main water source if it is, becoming very depleted and nearly gone
- Cost

Groundwater supply

- Absolutely about quantity and supply, water tables seem to be diminishing and we do very little to acknowledge a finite resource
- Lack of local control of all the influences on water quantity/supply
- I have a surface well, which will run dry, although it fills up again, within a day. Therefore we collect rainwater and reuse laundry water for watering our vegetable garden and orchard
- Yes: None of our water supplies are limitless. Ground water and surface water have both show signs of depletion in some places at some times of year
- Declining water level. Our well = 405 ft Water level 1976: 100 feet Water level 2004: 182 feet Not static, of course, but will fluctuate somewhat due to pumping.
- Yes, our improvement district is run by volunteers with limited knowledge as to how to protect the source. They cannot be expected to keep providing their time and risk liability going forward into the future. We are near to the Bamberton lands and any disruption to Johns Creek watershed could potentially affect us.
- My well was 10 GPM 25 years ago. Now its 5 GPM. I do not overuse the well either.
- We are lowering the water table through excessive draining of the aquifers
- Our well has never run dry but our neighbours well went dry when a test well was drilled (some distance away) for people building a house. They had water treated for some time. I am hopeful that won't happen to our well.
- Recharge of aquifers. Disconnecting downspouts and rain gardens. Cowichan River almost dried up. Increasing demand from increasing population we need to plan for supply and waste water so there are no surprises in the future. Better to plan for the expense of facilities than need to do it immediately. I worry about my water table dropping to a level where my well is of no use soil dumping in watershed. Drain fields around the lake. Our well is deep and draws from the Braithwaite aquifer. Water quality continuing to remain high is a concern.
- Protection of groundwater
- I am very curious about the aquifer that most of the Cowichan Valley draws its (beautiful) water

from. Is it emptying? Is it refilling itself? Is it being contaminated?

Future supply

- Worry about overbuilding the water supply in the Cowichan Valley - with too much development, there will not be enough water for everyone's needs: agricultural, residential, industrial. Look at what happened to the salmon run this year on the Cowichan: we almost didn't get any successfully making it upstream because of the extremely limited water available in the rivers. We now live in a less predictable climate, so being flexible with supply and usage, having built-in redundancies, and educating users on wasteful practices (and encouraging successful examples of appropriate water management), are all necessary to ensure a sustainable supply.
- Not in the near future, but I see clean water becoming a global concern in the not-too-distant future.
- Not at present time. But may in future.
- No immediate concerns. A future concern would be that the quantity/supply is sufficient to meet the needs of the community. I do appreciate how our neighbours conserve water as much as possible.
- Are we going to run out of water?
- Will there be enough for all?
- Will we have enough water for the growing population in this area?
- So far we have not had problems, but the community is growing very rapidly and we need to begin by putting systems in place so that water consumption can be monitored in the future and people can be aware of their own consumption.
- I am slightly concerned about population growth, climate change and the impact that those will have on fresh water supply.

No, not for now

- No (x6)
- No because our water comes from Shawnigan Lake
- Not at this time
- None that I am aware of.
- Not at this time.
- I'm not concerned about the supply.
- No, as long as not too many new houses are built.
- Not yet
- No, although our water pressure is low.
- No. Practicing proper water conservation will allow us to have a continued supply of water.
- No problems with supply
- Not really.

- Mill Bay Water is very well-run, so not at this time.
- No Drillwell says we have excellent water

Other comments

- Very important to everyone
- Valuable resource! Most of Canada's water is underground. Freshwater lakes, streams etc. make up the greater part of our country. 70% of the Earth in water and yet only 2.5% is drinkable.
- Yes, I am concerned about both the abundance and quality. I don't believe the governing agencies are prepared or adequately mandated to protect our water from misuse.
- Watersheds becoming smaller, less effective.

Do you have any concerns about water QUALITY? If yes, what are they and why are you concerned?

Lack of action

- Stop planning and act.
- Less talk more doing.
- VERY concerned about the regulatory inability of the local government to control potential contamination.
- See above. I am also concerned by the lack of CVRD control over septic systems that are no longer working and are leaking into the ground water and Saanich Inlet.
- What action has been taken in response to the 2005 report that revealed contamination of Shawnigan Creek? There is no game plan to protect the aquifer from failing septic systems nor is there a policy to prevent installation of more septic systems in favour of sewage treatment
- We do not have a plan apparently to deal with contamination and potential contamination of existing water sources. Studies have been done by engineering forms with attendant recommendations. To date little has been done!
- Short term plans – what are they? SIA impacts on watershed, what is being done? Postpone.
- There isn't that much potable water on the Island. We need to be actively engaged in its preservation. We need to fight against anyone/thing that would destroy it. The people responsible for protecting water (i.e., Minister of Environment) are not doing it properly - they are destroying the environment and not listening to the people.
- Same as above but for quality, jurisdictional fragmentations
- I am concerned because the Minister of Environment doesn't seem to care about water in our Valley - they seem pre-occupied with whatever their agenda is.
- Find out what happened to the Provincial Government water management branch and who is on the ground responsible for water management.
- Chemtrails polluting our environment - Unsafe for Water & Soil Supply. Sewage Treatment Plant on the Cowichan River- s/be land based with proper treatment producing Reusable Treated Water

& Sewage Sludge can be treated for Industrial Fuel Chips (I have a sample!). Somenos Lake/ Creek, Richards Creek- Cowichan River have sewage back up & Flood ruined 540 Acres of what once was Fertile, Productive Farmland as well as Killing Thousands of Fish Fry decimating the Fishing in the Cowichan- North Cowichan Engineering, Duncan Mayor & CVRD Directors, Hutchinson & Giles are aware of the problems, & lack of response to Correct the problem as far back as 1980's as are Agriculture Ministry, Haddow, & DFO , who have tried to get the problem Fixed long before the Flooding of 2009 ruined homes and more Lands

Groundwater contamination

- Water from a contaminated aquifer will in all likelihood will never be clean again. The lure of short-term tax revenues must not trump long term availability of clean water.
- Water quality is good now but lack of policy to address aquifer vulnerability is a threat to our water supply
- Ground water sources are in constant jeopardy by many sources of pollution…growth, industry, recreation, needs to be carefully monitored. People coming into communities need to be educated. (Rural water sources especially critical)
- Yes, I'm constantly concerned: in particular with groundwater contamination from surface spills, sanctioned or not.
- There are no water rights on wells. Deep aquifers can be polluted.
- Yes, a well at FRR shows contamination of our ground water
- If my water is polluted I want to know who is doing it and how I can stop it.
- I am concerned that any pollutants on the ground will end up in the aquifer.
- I have to treat my water from my well for drinking, so it is already degraded. The ditch through my property gets all of the paint, soap, etc. from people dumping things in the runoff - I also don't know what commercial contaminants reach here.
- Contamination of groundwater from pollutants, oils, chemicals and runoff. \soil dumping. Lack of municipal rules on cleanup of private septic systems. Dumping of toxic soil near any water source. Reserve land, First Nations – include First Nations Cowichan Tribes fully on water quality, supply and usage – invite their input and cooperation.

Surface water contamination

- Yes.....I am concerned about contamination of the areas which drain into Shawnigan lake
- Aquatic foods at risk; riparian zones at risk – environmental degradation
- Yes I have concerns, toxic soils in watershed, gas boats on Shawnigan lake, septic system flowing into lake, and toxic house chemicals being used flowing into septic system.
- Yes. Drinkable? and runoff from subdivisions near glassblowing business way too many houses being built, cars washing, fertilizing all coming down to lake
- Yes, the amount of effluent and drainage and plain garbage that is put into the river.
- To protect Greater Victoria's water at source, the Sooke Lake watershed is protected by prohibiting

trespass, logging and developments. Can the residents of Shawnigan Lake enjoy good water in perpetuity if we continue to allow growth, resource extraction and development in the lakes watershed?

- There are many pollutants, contaminants going into Shawnigan Lake. There needs to be stronger rules and laws as in Sooke Lake. I am concerned for health of people and especially children's health.
- Absolutely. Our water comes from surface sources, and we're constantly worried about a spill or contamination coming uphill (e.g. if there were an accident or a leak from a transport vehicle on Thane Road or the E&N above our property, our water supply would be threatened). Not enough people are cognizant about the hazards of dumping anything down storm drains (even just washing cars can be hazardous, depending on the chemicals used). I'm concerned about the depletion and degradation of the groundwater resources through overpopulation, agricultural and industrial misuse and mistreatment.
- Pollution in Shawnigan Lake from old septic tanks and motor boats. Will trout farm on south Shawnigan lake road affect lake water quality?
- Yes, the quality of our water supply is on an obvious decline. The watersheds that we depend on have polluting boat traffic in them. The hills that surround our lake get stripped of the vegetation that purifies the water that flow into our lake. These are only two sources that we can see just by stepping out the front door.
- Today there were white foam suds lapping Mason's Beach in a thick layer. If people knew they would change to less polluting cleaning products, perhaps they would. I would love to change our home supply to an aquifer well, currently we use from the lake.
- People are uneducated and ignorant about polluting the lake. Just look at those green lawns at the end of summer. We know who you are!! Also the use of fertilizer.
- Contamination or potential contamination is a major concern for waterways. All businesses and home projects need to be aware of hazards.
- If water levels decrease in creeks/lakes etc., does quality change in sources?
- Future contamination or dwindling of supply
- Yes, I am concerned that the water quality as per the pollutants in Shawnigan Lake is not as good as it could be.

Drinking water

- Just safe to drink
- Yes. Is there anyone not drinking water?
- Contamination of water supply
- We enjoy designer quality water for our current system and I want to ensure it stays that way!
- If my water is polluted I want to know who is doing it
- Water – is it suitable for drinking? Is it monitored on a regular basis?
- We have a no cooking or drinking order for our neighborhood and it's been in effect for years, will

our well ever be the way it used it to be, clean and fresh?

- Don't know enough about the current quality of water. Need more public information and regular updates.
- At this time our water is heavily chlorinated – this must be for a good reason?
- Quality varies considerably throughout the valley – we need to desalinate/store the good quality water and find appropriate
- Waste water and clean water supply.
- Water should be the last resource to be contaminated.
- Yes. I have never lived in an area where the water quality is so poor. The water tastes bad and my toilet bowls are frequently brown in colour. This can last for several days and then clear up by itself.
- In our area, Cherry Point Estates, we used to have some of the best water quality in the country. Now, our water has a strong taste of chlorine and we can't, (prefer not to) drink it without taking it out of our water filter.
- We recently moved from Prince George to Mill Bay, and are disappointed that our water now is of inferior quality to what we had in Prince George. We were on city water there. Our water has a distinct slightly poor taste.
- The taste and colour. Often our water is brownish in colour, most noticeable in the toilet bowl, but can also been seen in a glass. At least once a week the water is discoloured. The taste is often quite metallic,
- Very awful, and soon to be just like Nanaimo and Victoria's water, awful.....discolored in many areas and our toilet bowl is cleaned on a regular basis and becomes very brown and black very quickly.
- The water quality smell and taste is terrible especially when they mix in the Kidd Rd well. I know many people buy water and we go to Duncan to fill water jugs as the water was so bad this last August/September. I would like to know the actual values of Chlorine or whatever they are using to make our water safe to drink because whatever chemical it was it was bad water in August. Their response will be it was safe to drink and passed all lab tests.
- We have never tested our water but it is hard and if we stress the system, which did happen this summer there is an odor which is not usually there.
- I want to know how often the water is tested. We live in Kerry Village and our water often comes out of the taps running and muddy, quite concerning.
- Our water in Kerry Village is very much improved over the previous water supply, but it still frequently has a funny smell and contains particulate matter (old existing pipes?)
- We live in Kerry Village and water is frequently brown and not up to drinking standards. Toilets are stained and hot water tanks have sludge sediments.
- I would prefer less/no chlorine, but understand its function. Filtering seems to allow it to dissipate.
- High Mn content in Lambourn water. Ongoing discolouration and solid deposits despite extensive flushing of system. Problems as solids deposit in teapots, brown water in clothes washer.
- Yes, the water where I am at is high in sulphur, undrinkable. The water where I work in Shawnigan

is toxic due to septic and gas boat pollution.

- Yes. Draw water directly from Shawnigan Lake and have been having issues with taste in summer the past 5 years. See more boat traffic and larger vessels which are unregulated, cannot but help to wonder if there is a relationship?
- unsure as to our ability to be sure of water quality
- Cow Bay water (ours) recently had an algae outbreak in our tap water and the water quality is very poor.
- Yes – minerals
- Yes – our water has more sulphur in than it used to
- We have our well water tested every two years while rich in minerals it is absolutely pure and that is the way we want it to remain no regulation of activities that may impact water quality in wells. My water taste has changed for the worse after Valleyview and Douglas hill joined and our system switched. Pricing - I have conserved water for 20 years and feel prices have ?? A lot Sometimes it tastes awful, mainly when the source is from the well near south Cowichan tennis courts dumping of waste from Victoria in CVRD near watersheds
- Concerned about quality. Taste leads me to believe there are many impurities resulting in a higher than normal chlorine control. Water is bitter, cloudy and leaves a film in mouth. Taste lingers and permeates my nose.

Septic fields

- Yes. There are too many failing septic systems sitting on top of the aquifer and the CVRD is all too willing to add more septic systems rather than put a moratorium on more housing that cannot be connected to a proper sewer system.
- Most definitely. I am concerned about aging and ineffective septic systems on the lakefront, I am concerned about flooding due to improper drainage, I am concerned about bringing contaminated, or even mildly dirty soil, into our watershed. All of the above concern me because it impacts my family's health and the health of our community.
- There is much run off from the septic systems of the lake homes as well that is why we need to chlorine the water. I want clean water free of all additives the way nature intended.
- Septic systems need to be inspected and corrected as we work towards consolidating into a viable sewage system. Surface runoff should be directed through filtering rain gardens.
- Sewage leaking into Shawnigan lake
- Water quality is declining. Septic fields malfunction and agriculture runoff reducing water oxygen.
- Why not sewer instead of septic systems? Concerned about seepage of septic's that are old and leaking. Who controls this? Contaminants, pesticides.
- I am concerned about all the septic runoff and if it will eventually seep down to the aquifer, we need septic on Butterfield Rd.
- We live in overcrowded house and have a septic tank and get our water from the well, what would happen if the septic tank broke. Will it harm our water?

- Only the septic run off seeping down.
- Yes, failing septic fields and shoreline erosion from wakeboard boating too close to shore.
- Yes: Human activity and waste are contaminating our groundwater and surface water in South Cowichan (in some places).
- Too much contamination or toxic material being just poured out or flushed down... Fish can be affected as well as humans.
- Septic disposal and toxic runoff from roadways are areas to be dealt with. Septic fields/systems should be controlled in the near future via sewer system circumnavigating lake along Renfrew, West and East Shawnigan Roads for securing lake front lots. Our governance and tax direction should be geared towards this improvement soon, more than recreation etc.
- Toxicity levels of things that are and are not tested for – for the health of us and flora and fauna. State of septics on lakefront first, and all of the watershed.

Agricultural activities

- My concern is the farmer's field above us. The farmer is constantly spreading manure over the fields and this is draining into the ground contaminating our water.
- Being on Cherry Point Water - it is monitored by CVRD staff however many times we have pink water or residue remaining in our fixtures and shower. What are they adding to our water and why? At times dirty too. How is the manure spreading on the farmland above affecting our water or what the CVRD staff have to add to correct our water quality. There are many farms in the CVRD that spread manure how does this impact our water quality?
- I am curious and concerned about the lake on the dairy farm next to the highway, near Cobble Hill. I was told by the owners of that farm that dye was put into that lake and it surfaced, I believe, near Courtney. In other words, it's connected to a very deep and extensive system of groundwater that covers much of the island. What are the effects of having a dairy farm (and new barn) right next to that lake? Are measures being taken to ensure there is no contamination of the water?

Industrial activities

- I am concerned about the dumping of contaminated soil in the Cowichan Valley watersheds
- The unbridled continuous dumping of contaminated soil in the Cowichan Valley with the active blessing and support of the provincial Ministry of Environment. And some board members of the CVRD too.
- My main concern at the moment is the issue of contaminated soil from Victoria being trucked to the Cowichan Valley
- Concerned about the quality because it is just wrong to allow people (Victorians) to come to the valley and dump whatever they want to.
- How people dump contaminated soil near our watersheds
- Contaminated soil dumping
- Yes. The huge dumping of toxic waste from outside our CVRD could leach into our water

- I am concerned about the dumping of contaminated soil coming from other towns.
- Absolutely. Under NO circumstances should any potential contamination be allowed anywhere near a watershed. Protecting our water must be a top priority. The current plans to allow a private company to have contaminated fill dumped in the watershed is a complete failure of our government to do their job - protect the needs/wellbeing of their people and our environment.
- Concerns about being mindful of what we do impacts on the quality of water around us Shawnigan watershed is a dumping ground for Victoria developers. Need to stop that immediately I worry about the quality for my daughters sake. I worry about my well water receiving tainted runoff cross contamination
- Don't have concerns about my personal water supply. However, I have heard of places where industry or agricultural activities may produce contaminants in the water supply. I am concerned about that.
- With continued blasting, dumping of toxins, contaminants, we are destroying our aquifers and our ecosystems
- Prevention of contamination from outside sources (farms, industry, carelessness, accidents). Do we have sufficient checks and inspections (personnel, technical). Are quality levels checked sufficiently (inspections and quality control)
- Industrial areas should not be located near community wells.
- There is a lack of transparency around the test results from the test wells in the vicinity of the recycle plant on Fisher Road. It seems to me that the whole truth is being obscured.
- Yes. Draw water directly from Shawnigan Lake and have been having issues with turbidity within past 5 years due to logging practices in the watershed.
- There has been a lot of logging near Bamberton on the west side of TCH. We will likely see a deterioration in the quality of water that we get from our well.
- I have a concern about the possible long term impact of the Fisher Road Recycling facility and run-off from their operation. I don't want anything getting into our aquifer!
- Quality in Cowichan Bay is sometimes questionable. Concerns about industry and chemicals polluting the supply.

Impact of development

- In relation to the density increases mentioned above, the runoff from the many, many subdivisions being built is introducing all manner of pollutants into the local rivers/creeks/environments which will affect water quality in the long term.
- As the area grows and more housing developments come into being, water quality may be compromised

Recreation on Shawnigan Lake

- I am concerned that there are boats allowed to go on the water I drink. This year a boat even exploded on the lake, who knows how much gas, oil and other toxic petroleum based chemicals went into the lake that fateful day.

- Ridiculous to have as many boats and skis on the lake as we do given that it is our drinking water.
- Engine exhaust from motorboats passes through our drinking water.
- Yes. I think it's crazy that power boats are permitted in a drinking-watershed. Most water reservoirs are protected.
- Motorised boat traffic i.e., 2 stroke engines wake leads to shoreline damage.

No, not for now

- No (x6)
- None at present
- Not right now, but in time with all the building going on it will be a concern.
- No immediate concerns. It is very important to us that additives such as fluoride and chlorine are not added to our water.
- No. Ours is still excellent
- Not yet
- No. Chlorination is used, thinking of going UV. Why concerned? Don't want to get sick. Another silly one.
- No – our water s excellent (except for the occasional chlorine taste)
- So far it's been good. Hope we can continue

Management

- Yes. I would like to have more objective thinking about water quality and management and more evidence-based planning.
- The regulations for operating community water systems, big and small are getting so complicated and the insurance so expensive. CVRD should be helping these smaller systems with grant monies (for hiring professionals) or at least offering personnel and resources to come out and meet some of these volunteers. There shouldn't be an assumption that improvement districts are run by paid qualified employees.
- Yes, the quality is being degraded and we have no protection in place to prevent it from reaching the tipping point. The community is unable to control and manage the resource that is vital to the survival of our community. We are at risk of becoming a toxic waste storage facility, which even if this is a well thought out and planned system, will still be on top of our drinking water. The Shawnigan area depends on surface water as well as ground water, unlike other areas and we need to take extra precautions to ensure that we will still be able to drink this water in the future. Without setting the guidelines and boundaries now for protection it will be too late.

What are the top three actions the Cowichan Valley Regional District should take to protect water in your area?

Provide water education/information

- Educate and show what we are doing to contaminate our surface and groundwater
- Educate the public
- Educate on proper conservation
- Educate people on water management
- Educate on water conservation and watershed protection
- Education, education, education.
- More education: newspapers, Valley Voice, newsletters (local), events
- Provide regular updates on water quality and issues that will affect water quality.
- Educational program on water use/conservation in elementary and high schools. Find the $$ for this.
- Educate people that contaminants should not end up in either surface or ground water. Have someone actually respond when someone telephones to report problems.
- Let people know levels of water supply.
- Communicate with the public how serious our current situation is and what we need to do as individuals to preserve what we do have.
- Motivate people to take action to preserve our water. E.g. key issues like contaminated soils, excessive water use need to be more clearly and directly communicated to residents that their action is needed
- Hold regular water conservation and education meetings and do regular mail outs to keep this issue at the forefront of our minds
- Continue educating people on the importance of water conservation.
- Educate residents regarding water quality
- Education of residents and businesses towards better water management practices.
- Educate Cowichan Region residents and businesses about what they should do to keep the water supply safe,
- Have regular public forums on water issues for discussion, input and resolution
- Embrace our natural outdoor resources for recreation, transportation etc. to give our lake water supply more notoriety
- Get prepared for more drought scares like 2012 and warn the community about its responsibility in the event of…

Encourage water conservation and re-use

- Year round water conservation plan.

- More water conservation
- Support conservation
- Conserve
- Encourage conservation
- Introduce a 'save your water' days a few times a year.
- Educate farmers re irrigation
- Push the public and families a bit harder on how to stop wasting fresh water, ground and surface.
- Pay extra attention to public usage/waste every summer.
- I could write a list of different and novel ways to save water at home – do you want to see it?
- Check out the water conservation model and the water balance model. There is also a new landowner's guide for water conservation.

Infrastructure

- Collecting water, catchment tank options and information.
- Encourage treated water reuse systems i.e., purple pipes monitoring quality
- Encourage water storage with water barrels (private owners).
- Retention/storage facilities for high run-off periods, residential and agricultural
- How may roof runoff in wet season be collected and stored for garden irrigation?

CVRD practices

- Stop putting plants into CVRD parks that need constant watering - bad example for the community and generally a bad choice overall - use native, drought resistant plants (the park by the railroad line in Cobble Hill is the blatant example that jumps out at me).
- STOP PLANTING excessive Public Flowers, Trees, Bushes in boulevards and roundabouts that require water and cost to Plant & Maintain!! Ridiculous numbers in each spot - COSTLY to supply & plant at Public sector wages + irrigation systems
- Stop the fire department from visiting our neighbourhood and opening the fire hydrant for 15 or 20 minutes at a time.

Incentives

- Provide incentives for things like rain barrels, non-water lawns, low-flow appliances.
- Rebates for water conservation toilets, showers etc.
- Provide incentives for low consumption toilets, showerheads, etc. Mill Bay doesn't quality for these rebates.
- Incentives and programs for water conservation
- Incentives/rewards for individuals and businesses reflecting successful implementation of improving water use and reducing waste and eliminating contamination.
- CVRD sponsored composters, they should do the same with rain barrels.

- Provide incentives for conservation - rebates for low flow, reduced usage
- Water conservation through education, metering, and pricing incentives.
- Farmers could perhaps develop winter water storage on their farms for use during the summer. -from reading I understand Pasture, Hay, Corn Silage are the highest water consumption, perhaps encourage farms to grow crops that use less water - by giving reduced taxes.

Bylaws and regulation

- Wastewater programs. Bylaws allowing us to recycle our tap water.
- Fine or charge extra anyone with a lush green lawn in a drought - like summer 2012. Lawns should not be a priority when water is scarce.
- There should be a bylaw forcing farmers and golf courses to do sprinkling not during the day when most of the water evaporates anyhow.
- Deal with farmers that are affecting the aquifer.

Watering restrictions

- Water restrictions on well users for specific days and times just like the Cherry Point Water Users. Works very well. I see people on wells just letting their sprinklers go (running down the road) and at the warmest time of the day.
- Advertise and enforce yearly water restrictions
- Advertise/push for reduction of lawn sprinkling. In December the lawns are green again anyway.
- Put out guidelines for reasonable water use. Maybe golf courses, for example, should be restricted in how much water they can use... When there are water restrictions for households/ small land owners... All should have water restrictions.
- Place water restrictions on farms. It is not necessary to have water cannons spewing 100 gal/min all day rain or shine.

Water metering

- All users should have water meters
- Put in water meters
- We need water meters.
- Monitor usage (meters) so that water is not wasted
- Careful stewardship is essential. We should have water meters and at the very least water restriction should go beyond stage 1, up to 2 and 3 considering our continuing dry summers. Climate change (breakdown) is a fact and we must plan carefully.
- I don’t know what the answer is but I am not interested in a meter on our system or paying for using the water in our well. It costs a lot to maintain the well with purchasing pumps and filtration systems. We have lived here for over 25 years and have always been very careful with our water supply and it has always been there for us.

Wastewater management

Wastewater planning

- Have a plan for taking over the smaller systems including waste management and septic systems
- Long term plan for all water systems in the region whether they're private or public
- Enforce replacement and updating of ALL lakefront septic systems or allow all residents to tie into the sewage system.
- Management of septic tanks and agricultural runoff to protect quality and quantity.
- Moratorium on new septic systems over the watershed until game plan developed to protect aquifer
- Waste water management over aquifers
- Do not proceed with the plans to pump sewage into a deep water reservoir as proposed in the south Cowichan OCP
- Develop and implement a management program for onsite sewage systems to prevent the public health risks and environmental degradation associated with poorly maintained systems
- Address aging and aged septic systems urgently and create an action plan to be introduced and initiated over an achievable time frame.
- Start a plan so that after 10 years, every dwelling on Shawnigan Lake will be tied up to a sewer system.
- Cradle-to-grave mentality when constructing any new subdivision or industrial area: any waste water must be recycled and treated on site so that contaminants do not flow downstream or into the ground water supply.

No new septics

- Stop permitting more septic systems.
- Stop allowing old family cabins to be turned into full time family residences without requiring the landowner to upgrade to a level 3 septic system.
- Zone areas wisely, prevent pollution, encourage disuse of septic fields where possible.
- Phase out septic tanks and fields and replace with class A treatment

Bring in sewers

- More communal water systems – could have community sewage facilities and collection of rainwater
- Sewage - explain more innovative ways to dispose protect groundwater around wells protect aquifers,
- Sewage systems should be able to be designed for the reuse of gray water.
- Septic replacements or sewer developments
- Require high quality sewage treatment (tertiary) for all community systems.

- I would welcome sewer in our area but please leave our water alone
- Allow the our community to be hooked up to the water and sewer system
- Connect more homes to a sewer system.
- Sewage treatment for all of area
- Can't stress the importance enough of gearing towards sewer services to control our liquid waste/ runoff, especially considering the growth happening/expected in our community.
- Individual septic systems replaced by a community sewer/grey water system for lakefront properties - restrict chemicals used on gardens, lawns and pest control resulting in contaminated runoff into the lake - limit the type of boating activity permitted on the lake.
- Set the table for a sewer system around the lake, shift taxation focus towards spending/saving for this improvement (away from recreation etc.)
- Create a community-wide sewage treatment system within village containment boundary (Shawnigan)
- Get sewage on Butterfield
- Mill Bay needs a sewer treatment system and more control over pollution going into the ground water and into Saanich Inlet.

Regulate and enforce septic maintenance

- Create tighter regulations on septic system which could contaminate the lake water
- Get serious about protecting our aquifers from septic contamination.
- Enforce in place regulations and bylaws related to septic fields
- Shawnigan Lake needs sewer and/or septic inspection, replacement and regular clean-outs. I don't like swimming in Shawnigan Lake, let alone drinking their water.
- Requires pump out and regular maintenance of septic tanks and fields
- Require annual pump outs of existing septic systems.
- Mandate sewer and/or septic inspection, replacement and regular clean-outs.
- Mandate septic tank inspections and service
- Monitor private septic systems
- Review all lakeside septic systems
- Check for failed septic fields
- Fine people for old, leaking septic fields
- Monitor dumping of sewage in the inlet
- Monitor septic systems more effectively
- Address septic system- encourage compostable toilets and mandate ecofriendly cleaners.

Ban/limit/control new development

- Careful planning and limit expansion
- Cautiously limit commercial and residential expansion
- Limit expansion to areas that have a sustainable water supply
- Keep the building to a minimal
- Development restrictions
- Restrict development in the Shawnigan lake watershed.
- Limit the number of new wells.
- Reduce development of water-hungry businesses and new, high density residential areas
- Greatly restrict population growth in the lake's watershed
- Control development and logging, also domestic pesticide use.
- Slow down development until we know if there is enough water
- Restriction on development and growth based on water supply forecasts and climate change consequences.
- Limit land development
- Make sure there is enough to supply the development
- Developments to be sensitive to the watersheds.
- Developers need to pay for infrastructure make sure pesticides/oil from vehicles are being monitored to make sure they are not leaching into the system
- The CVRD needs to implement a rule that any new development proposal must contain proof through water and environmental studies that they will not affect the surrounding wells and water systems. The CVRD needs to demand they post a financial bond that would be used to fix any damage done to surrounding private wells and water systems.
- Less building
- Even less building.
- Quit approving new development Get good base line data on water supply
- Stop or drastically reduce approving the development of new subdivisions. We are fast approaching sustainable limits.
- Stop selling building permits is all that is really needed to protect the water.
- Stop building new houses and buildings soon our beautiful British Columbia will be deplenished
- Stop development in Cowichan Bay if there are concerns about capacity.
- Stop the uncontrolled development of our rural areas - demanding more environmentally appropriate buildings and plans.
- Do not allow developments where the risk impacts thousands and the benefits go to a handful.
- Keep the watershed areas pristine and undeveloped.
- Identify water aquifer's limit growth in areas of concern, move growth into already developed areas, leave more forested and natural areas for wildlife, we as humans are not entitled to it all.

Ban/limit power boats on Shawnigan Lake

- Perhaps stop power boats at Shawnigan
- Not allow motor boats on lake.
- Stop gas boats on Shawnigan lake- only allow paddle boats.
- Limit power-boat use on the Lake.
- HP restrictions on Shawnigan Lake.
- Restrict power boats on Shawnigan Lake
- Ban motor boats
- Monitoring…limit the number of boats if any and have them register to be on the lake or launch if they must allow boats at all...restrict chemical spray from the rail tracks especially near the lake sides.
- Make it illegal to wash your boat at the lake...I see people who come from the ocean and rinse it off in the lake before driving home.
- Do not allow ANY motorized vehicles on the lake

Prevent dumping of toxic materials

- Prevent dumping and contaminated fill etc.
- No dumping of contaminated soil
- Ban dumping of contaminated soil etc.
- Ban dumping of contaminated soil
- Not allow dumping around lake.
- Stop toxic soils from being dumped in watershed
- Stop toxic waste dumping in our watershed
- Stop imports of contaminated soil.
- Stop the proposed dumping of toxic soil from GVRD
- Find acceptable contaminated soil dump sites as this issue is not going to disappear
- Do not let anyone dump contaminated waste in the Shawnigan Lake watershed
- What is the aquifer capacity to supply sustainable water do not allow dumping of contaminated or unknown origin soils or fill. Just say no!
- Challenge to Ministry of Environment to stop dumping in the region
- Everything that is in their power to ensure the BC ministry responsible for approval of the above noted plans does NOT allow our watershed to come under any potential contamination threat.
- Stop dumping of waste material trucked in from Victoria
- The SIA fill proposal is not a good idea
- Ban dumpling of toxic waste
- Provide/encourage alternatives to disposal of waste, toxins; alternative transportation in an effort to help our environment

- More enforcing of penalties when illegal dumping is or has taken place
- Do not allow dumping of contaminated or toxic soil or waste.
- Prevent storage of toxic waste in drinking watersheds educate residents and visitors on water use
- Stop the contamination of aquifer 197

Pollution prevention and control

- Pollution prevention. No tolerance for pollution or contamination from any source.
- Pollution control
- No pollution around watersheds
- No contamination or pollution
- Limit amount of pollutants
- Ban toxins
- Ban pesticides
- Do not allow pesticides/herbicides to be sprayed in the area.
- Limit use of fertilizers
- Stop spraying side roads with the corrosive salt solution. Crystal salt and more sand or crushed gravel is a better alternative.
- Stop farmers from spreading manure just before it rains. Improve the pumps at Valleyview.
- Start working with Agricultural Farms to lessen the contaminates that their farms produce
- Insist on biodegradable/green cleaning products
- Do not introduce any pollutants that entered the aquifer.
- Direct industry away from vulnerable aquifers and surface water bodies.
- Protection of sources from contamination
- Require commercial sites to treat their runoff before releasing it.
- Effluent discharge, garbage and agricultural runoff in or near the Native Reserve.
- Aquifers, rivers/streams, well water…CVRD needs to be more proactive with regions beyond their jurisdiction to protect water supplies.
- Keep an eye on polluters, doing ok so far.
- Have stiff penalties for people who contaminate the water supply.
- Extensive by-law protection to stop businesses or organizations from contaminating ground water
- Protect from contamination (golf courses) high chemical usage
- Regulate small and larger businesses to make sure they are not polluting. Have a clear plan in place that will secure water supply and quality in the future.

Watershed protection

- We need to establish a strategy and to protect quantity and quality of water in our watershed.
- Protect our watersheds, promote green standards, and be the change we need in the world. Be responsible for your actions, put people and healthy communities first and be open minded to new ideas.
- Protect the areas around our watersheds
- Protect obvious water sources (lakes and streams)
- Protect source - Shawnigan Lake
- Establish and maintain a workable plan that balances water protection and inhabitation by humans.
- Stop all the tree cutting in our mountain tops to all the streams and creeks to flow to our rivers,
- Stop clear cutting our trees!!!!!
- Free up the creeks and streams to allow proper flow to the rivers
- Manage logging in the watershed to retain water, avoid erosion and runoff.
- Monitor logging industry
- A SERIOUS and review and revamping of the logging practices in our area. It boggles my mind that Vancouver Island is considered a “green minded” society when it is impossible to escape the devastating clearcuts that surround us.
- Manage more efficiently the level of forestry activity in watersheds. Sustainable forestry compulsory?
- Restrict logging in the Shawnigan watershed to eco-forestry as in the Elkington Woods area.
- Protect aquifers (no industrial sites located near these).
- Re-mediate the aquifer 197

Riparian area management, encourage groundwater infiltration

- Encourage landscaping and land use to encourage groundwater replenishment land use needs to encompass the storage of soil
- Restrictions for lake-front owners with regards to riparian development, herbicides or pesticides, etc.
- Ensure trees are planted and marshes are protected and native plants such as bulrushes are planted and mandated within home ownership and within lake for filtering of waters.
- Keep green spaces to help filter water entering the watershed save current water supply
- Strictly enforce bylaws regarding lake and shoreline

Local control

- Get local control of our water and land
- Be an advocate for local decision making and empowerment, especially when decision making is at the provincial/ federal levels
- Delegate priority for allocation

- Continue to work collaboratively with local governments and first nations to ensure adequate water supply for all and industry, residents, fish, etc.
- Make it happen! (which will probably mean putting more pressure on the provincial and federal governments to allow the local government the autonomy it needs to manage its own resources)
- Input into water licensing in the area, right now it is provincial
- Ministry of Environment supposedly has been caring for this area since 1970 and the waters are polluted and the forests have been mismanaged. Time it is put into local hands to care for the lands.

Information gathering and sharing

- Continue to collect information
- Water testing
- Offer testing to wells free of charge
- Free water testing for well owners, or charge it to the farmer!
- Can a reliable mapping of well water sources be established?
- Monitor the groundwater (if that is possible) to maintain an awareness of the quality of the water supply,
- Aquifer level monitoring - recording public availability. Do we know how the aquifer is getting replenished and its role of replenishment? I wonder how much yearly replenishment "dilutes" the original 10,000 year old aquifer water (relates to contamination and gradual and progressive deterioration of quality and how long it would take to de-contaminate
- We need to have records available for groundwater as well as surface water use
- Have qualified professionals review the studies that outline the aquifer to determine what local land uses may be putting the aquifer at risk. Determine what actions could eliminate (or at least mitigate) the risk
- Published test results from monitoring water quality in areas surrounding the Fisher Road Recycle plant
- Monitor industrial activity in the area to ensure that groundwater does not become polluted.
- Test incoming streams weekly
- Test lake year round
- Provide grant monies for hiring professionals, or supply CVRD staff to help volunteer operators of small water systems.
- Identify and report on effectiveness of various treatment types – do any of them remove pharmaceuticals or are they left to leach into the aquifer
- Waste water around the lake needs to be monitored
- Develop numbers on septic system and well counts with eventual control/limits to maintain levels/ quantity/capacity.
- Review all take-drain licenses

- Long term detailed aquifer mapping and maximum capacity evaluation

Drinking water management

- Provide one management system for the district
- Provide leadership to communities and other jurisdictions re importance of water,
- Ensure short, mid and long term planning will provide adequate, high-quality water for everyone.
- We need a comprehensive water management strategy, particularly for those who draw water from the lake.
- I would like to have more objective thinking about water quality and management and more evidence based planning.
- Provide sufficient water storage
- Increase relative priority of water as compared to other resource pressures,
- Enough water (domestic and fire protection)
- Maintain supply quantities.
- Ensure adequate supply. This is British Columbia and we have very plentiful water if managed correctly.
- Adequate water distribution system.
- Ensure that it is safe to drink.
- Ensure the supply is safe to drink in terms of bacteria, and toxins. I don't mind the chlorine if necessary. Help us as water consumers understand what is in our water that makes it taste metallic and provide options for things we can do if the CVRD is unable to.
- Treat it with less chemicals and more filtration.
- Please get greensand filter installed ASAP – no more delays! (Lambourn)
- High standards on private water systems
- Allow no one to use it.

Other

- NOTHING, NOTHING, NOTHING! We do NOT need higher taxes! Leave this to the "Mill Bay Waterworks District"
- Nothing nothing nothing
- Focus on internal policy improvement, potential laws mandating corporate/business use. education
- Bylaw should be applicable to all residents of Area B, as we all recreate on/in the lake, whether we use it for drinking purposes or not.
- Stop reacting to the political push regarding storage at Lake Cowichan
- Lobby provincial government about issues such as SIA
- Regulate lakes and spillage

Anything else?

Concerns about costs/taxes

- Rampant growth and opening up areas outside of developed areas does nothing but increase all our costs, infrastructure costs everyone every miles of pipe, road works costs all of us be it in in climate change, or dollars, need to do better
- DO NOT consider raising water prices to discourage use! We have neighbours that are on private property wells, and they don't pay the outrageous prices we have to pay, even though I'm sure they are drawing from the same aquifer.
- Don't let the prospect of more tax revenue drive development of every square meter of land. When all the seats in a concert hall are occupied, the SOLD OUT sign goes up.
- Spend our dollars on protecting our water and stop wasting it on waste management schemes that while highlighting political profiles, achieve little.
- If someone wants to use it we should be paid.
- We will not pay for the water we use from our private well.
- Why are you sticking your nose into the "Mill Bay Waterworks District" business? This whole thing appears to be a 'make work' project. How about sunsetting some of the CVRD government to downsize it so our taxes go DOWN for once??
- Stop wasting our money.
- Have a rebate system to reimburse users that had to buy water because of bad water in August September in Cowichan Bay or credit our bills.
- We were astonished and flabbergasted when we received our first water bill of $1,100 for two months. We did not use excessive water but wanted to have a nice looking lawn and garden. The billing rates appear to be very punitive to anyone trying to keep an aesthetically pleasing yard. We pay more than double here in Mill Bay for water than we do at our home in Arizona where water is clearly much more scarce. We now understand why our relatively new subdivision has mostly parched brown lawns which detract from both appearances and property values. I may be incorrect in assuming that not all users in the Mill Bay area are on water meters, but if so billing practises are inequitable as those of us on water meters are clearly subsidizing those who are not.
- Do not force private well owners to install CVRD water meters or force us to pay some sort of water tax. In 1999 I paid $5-8,000 to put in a new pump and upgrade my system. I also pay $300-500 for a filter and UV light. Each year, I cannot afford to pay more for water.
- We will not pay for our own water that we have to pay for to pump up to our house.
- The Diking Project at Beverly/ Lakes is a costly poorly planned reaction to a preventable, predictable flooding - the River & Creeks are the Water Courses - they should be dredged, cleared and kept clear rather than dirt piles running thru the fields to keep water on which side? $ 8.+ MILLION project that looks like a Moat - ALL Taxpayer Dollars - and some borrowed.

Need for action

- Stop talking about things and start doing!
- I really hope this change happens before it is too late as it already maybe
- Just to emphasise the importance of these issues
- What can I personally do? I am willing to do whatever it takes to get this done.
- Save our water we don't have much time…rules need to be enforced immediately before it is too late for our children to have clean drinking water from our lake
- Please do not take so long to do something. We are studied to death!

Comments on the survey

- I would like to know why it took so long for me to find out about the public meetings and the survey online. This survey was almost impossible to find. It should be on the home page listed as water management survey or something along that line.
- This survey seems oriented towards political issues and public communications issues and not objective thinking. Who has objective information about what the problems are? Real evidence on what the problems are should educate me before providing feedback to you. I hope you are very careful about how you use this survey.

Appreciation

- I appreciate the spirit of the Cowichan Valley in buying local and enjoying the environment. I'm glad the CVRD is looking at this issue and soliciting input.
- Thanks for advocating to the Province for the Shawnigan Lake Watershed protection.
- I like the label/signs on the various creeks – it connects you to the location in real ways
- I am very grateful to Patrick Lucey and Aqua-Tex experience, knowledge. He comes to do a PFC (proper functioning condition) workshop with Shaw TV repeats. Urgent to begin PFC for kids workshops in schools.
- Keep up the good work
- The study is a good first step. Judith did a really great presentation, excellent community input!
- Thanks for putting on this information presentation

Site-specific comments

- Oceanview Improvement District water system is in Mill Bay and should be included in any CVRD water district mail outs regarding this south Cowichan study. Thank you
- I am living on Lones Road – waterfront – and my well is on the outer limit of the aquifer. Will the CVRD allow me to hook on if my well goes dry? There is a waterline at the roadside in front of my property.

Other

- Please think of ways to protect the water our grandchildren will drink. We are caring for the planet for the generations to come.
- Growth will ultimately undermine any and all efforts at sustainability. Our goal needs to be prosperity that is locally based, and not growth dependent. Why not have sustainability start here. Smart change since smart growth is an oxymoron.
- Water is precious, and we take it for granted here on the west coast, as it's usually in plentiful, inexpensive (or free), top-quality supply. People need to be made aware of the consequences of their simple daily actions on our water sources, both input and outflow. We're not the only ones who both benefit from a clean, readily available source, and are threatened when that resource is unavailable or unusable.
- No problem with using Shawnigan Lake for motorized recreation so far... got to make sure that the motors don't pollute the water.
- People waste too much water. Change habits!
- When we bought our home on Butterfield Road 12 years ago, we were told we had the best water in Mill Bay up our road. We would like to keep it that way. We do not waste our water. I wish other people would learn not to waste it also.
- To stop the companies to cut wood around the lake – over time, we have seen more ??? in peoples home basement in the street which one ferry toward the lake. See west side on the lake – to be green belt!
- I have worked with the Mill Bay and District Conservation Society to improve and enhance salmon and trout populations for over 30 years. The volunteers and I want to be involved as long as water quality in Shawnigan Creek permit.
- The CVRD is part of the problem, not the solution. Their insistence on being the owner/operator of systems means that innovation happens at the pace of CVRD
- There are a number of farm fields in my area, does the cattle manure affect the aquifer? I got this survey so you do have my email address - could you provide more ongoing communication about what is going on with the water.
- The CVRD has expended more time recently on the risk to Shawnigan Lake and appear to have abandoned the contamination to aquifer 197
- All contaminated soil or sewage residue dumping should be stopped. The quarry behind Cobble Hill Mountain should be a park (no development)
- The train is headed down the track. We have done very little to stop it. Why is it that we are powerless to logging, and mining companies that exploit our environment time and time again? The government and industry in BC need to be held accountable for what I believe is the unavoidable crash of our ecosystem. The best we can do now is soften the blow by changing how handle our water, forests, and ocean environment in the future.

Comments regarding other parts of the Cowichan Valley Regional District

- Yes, concerned that a few people who live at Lake Cowichan can dictate the level/amount of water stored. Which as lead to the extremely low levels of the Cowichan River.
- Not properly using Lake Cowichan as the Water Supply Reservoir - High Density Infill over Rural lifestyle with its 'lighter footprint' and living off the land approach rather than ridiculously planned road obstacle courses where Water is not allowed to run off naturally - Cowichan Commons appears to have created drainage problems with all its pavement the water needed to all be 'relocated'
- More information from the CVRD and Directors on all the Area's within the CVRD. Area H seems to never have information passed along in a timely fashion about any issues..
- Remove the Sewage lagoons - JUB from the River - replace to a Land Based small footprint - Modern Technology Sewage Tmt System producing Treated water that could be recycled to Reclaim and Restore i.e., Quamichan Lake.
- To properly maintain the Cowichan River by effectively dredging the buildup of gravel where it causes flooding- keep the Streams i.e., Somenos, Richards etc. Clean & Clear.

Appendix G: Other Comments Received

Comments from public events

- Stop peeing in the lake!
- Improvements to water systems also increase water pressure, this is good for fire flows.
- Should be moving to a 'water fit for purpose' approach. Find ways to use reclaimed and grey water, e.g., for flushing toilets, irrigation.
- Look at ways to reclaim water from treatment plants.
- Concern about contamination in Dugan Lake.
- Concern about water tasting terrible.
- Concern that farmers are not injecting the slurry into fields (as they do in Europe), creates more runoff from fertilizers).
- Noticed a change (drop) in water flow once a nearby development went in.
- Don't put up the price of water!
- Capture more winter rainfall to use in summer.
- Switch over to a CVRD water system was 'bumpy' but now good.
- The problem with aquifers is that you don't know they are low until they run dry.
- Stop people moving here!
- Cobble Hill water tastes pretty good, Cowichan Bay water tastes awful.
- Heard that some people around Shawnigan Lake pump their sewage directly into the lake. True?
- We pay too much to switch to the CVRD system. Why such a big bills for the Douglas subdivision – overbuilt.
- Will the CVRD just keep raising our rates?

Comments received by email

Email 1:

- Now that I have researched a fairly large body of literature and attended several conferences on water and watersheds over the past decade or so, I have come to fear that the Shawnigan Lake Reservoir's watershed will not survive the unceasing degradation of its ecosystems and the water retention and purification services that they provide (free of charge) that is being caused by increased population growth and concomitant development within watershed boundaries unless we devise a drastically different and better way of managing it than is being addressed up to this point. The watershed roundtable and the watershed basin society are positive steps toward getting a handle on watershed management, but time is not on our side and these processes seem to work, when they work at all, much too slowly to save Shawnigan Lake as a source of good domestic water.

- A couple of days ago I interviewed the acting General Manager of the CRD's water system, during which he told me about the serious problems confronting those on Saltspring Island who rely on St. Mary's Lake for water. It looks like they will soon have to put out great amounts of money to build and operate a water treatment facility as the point of no return to ecosystem services doing the job now seems to be history. He suggested that St. Mary's Lake and Shawnigan Lake probably have much in common in this regard as they are both small multi-use watersheds and lakes with population pressures.

Email 2:

- In area D we have Cowichan Golf Course. I have had questions about how my much water do they use, herbicide, pesticide etc.

Appendix H: Input from Technical Advisory Meeting

Attendees:

Tom Rutherford	Department of Fisheries and Oceans
Gethsemane Luttrell	Health Canada
Pat Lapcevic	BC Ministry of Forests, Lands and Natural Resource Operations
Deb Epps	BC Ministry of Environment
Baljeet Mann	BC Ministry of Environment
Randy Alexander	BC Ministry of Environment
Lynne Magee	Vancouver Island Health Authority
Tim Kulchyski	Cowichan Tribes biologist
George Harry	Malahat Nation
Asit Mazumder	University of Victoria
Alan Gilchrist	Vancouver Island University
Patrick Lucey	Aqua-Tex Consulting
Chad Petersmeyer	Thurber Engineering
Jay Jaundrew	BC Aquifer
Calvin Slade	Well driller
Ken Epps	Island Timberlands
Dominico Iannidinardo	TimberWest
Ken Gray	Mill Bay and District Conservation Society
Bill Wikkerink	Farmer
Ken Horton	Farmer/Engineer
Grant Price	Shawnigan Resident Association
Mellissa Nottingham	Shawnigan Basin Watershed Roundtable
Graham Ross-Smith	Area B APC and Shawnigan Resident Association
Director Gerry Giles	Cowichan Valley Regional District
Director Bruce Fraser	Cowichan Valley Regional District
Kate Miller	Cowichan Valley Regional District
Emily Doyle-Yamaguchi	Cowichan Valley Regional District
Brian Dennison	Cowichan Valley Regional District
Louise Knodel-Joy	Cowichan Valley Regional District
Dyan Freer, Recording Secretary	Cowichan Valley Regional District
Judith Cullington, Facilitator	Judith Cullington & Associates

Comments and Suggestions

Data Needs

- Gather the information we have into one place
- House it somewhere for the long term
- Include photos, anecdotal information
- Conduct water quality testing every few years
- Note there will be privacy of data challenges for some
- Need to do quality control/quality assurance on data – is it reliable, valid?
- Who has the resources to take this on?
- If it's important, we (CVRD) should be doing this
- Concern for loss of information and historical data if we do not do this
- Need for a coherent long term view
- Do long term testing on wells, not just 72 hour test
- Need information on impacts from activities upstream
- Dr. Mazumder has a 150 year profile of Shawnigan Lake
- Drillwell has good groundwater data
- Forest companies have data
- First Nations well water testing done by VIHA
- First Nations have long history and knowledge
- We have the 'big picture' information, but are missing detail level
- Good to start with watershed level information and work down
- Need regular, ongoing and reliable water quality testing
- Get the information we do have out to the public – e.g., drinking water quality
- Easier to know about and communicate about surface water issues. Groundwater is hidden, and because of long recharge rates, we may not know the impacts of today's actions until many years into future
- Need to ensure that the information you collect will help to lead to action
- No point in collecting data if you do not have authority to do something about it
- Lack of data is not always the main concern
- Need to act where we already have enough information; e.g., we know that septics around Shawnigan Lake are having an impact on water quality (challenge is how to fund action to change this)
- Challenge of fragmented authority, lack of unified governance – CVRD could play role in coordinating
- Look to good examples available from other regions:
- RDN prepared a plan, collected tax funds to support, now involved in water balance studies and

public information. Have created development zones where a hydro-geological study is required (to show water availability) before development will be approved.

- CRD secured watershed, have expanded area to allow for future growth
- (note that CVRD also have specific funding–$100,000 per year—for south Cowichan water plans)

Improved Collaboration

- Create a multi-sector group
- Need for leadership (and followers). CVRD with First Nations positioned to lead.
- Example of Cowichan Watershed group – can we do something similar for south Cowichan
- Solutions must support shared interests
- Senior government resources are limited, but can be made available if there is interest and action happening
- Need a group in each watershed
- Get community support
- Engagement will happen if enough people making enough noise!
- Take small actions to show people that something is happening, that will encourage them to jump on board and support additional actions
- RDN developed a ten-year plan with data, community education, and then went to referendum – this built excitement.
- Make the information public – helps community buy-in.
- Offer free testing to well owners.
- Cowichan Watershed process driven by a crisis. Need the community to be aware of what could happen here (potential for crisis).
- There is a cost of inaction – we need to start somewhere. Fear that we will reach a tipping point before we realise it.
- Have a clear plan
- Plan needs to be a process for sound management decisions based on rationale advice
- Need funding for development of plan. Staff need long term information.

Priority actions

Develop a Plan

- Work with and build on the Liquid Waste Management Plan, include this work as part of its terms of reference
- Build on targets in Cowichan Watershed (don't reinvent the wheel)
- Set clear goals – water for (how much?) growth. What are priorities – e.g., agriculture. Take a long term, conservative approach.
- Manage the scope

- Salmon are a 'canary', focus on prevention
- Align jurisdictions with watersheds
- Create a full balance sheet that values natural capital.
- Get community support
- Provide water education
- Take people out on field trips
- Make people aware of water best practices
- Provide free water testing (and interpretation of the results)
- Note that lake is different from aquifers
- Educate people – what does this mean for me, my family? Don't scare people but help them
- Provide data in a meaningful format (e.g., what are the implications of caffeine in the lake?)
- Report on outcome of actions
- Work with landowners including forest companies
- Explain the ecosystem services provided by watersheds, what we stand to lose
- Do something – create action and excitement!
- Create a sense of urgency, we have a problem, need action
- Message that 'something bad can happen to your water'
- SIA is one 'crisis' that is getting attention – what's needed is the leadership to address it
- Septic fields around lake another 'crisis'
- Explain how what happens elsewhere could happen here – note lessons from Hurricane Sandy (and huge implications from this one storm)
- Note the ongoing changes in Saanich Inlet
- Public want to know something is happening –not just data collection and pretty brochures
- Pick one-two actions and do something!
- Provide local leadership, show what can happen

Top three actions for CVRD (from survey sheets):

Data

- Compile a comprehensive library of ALL data, information, and anecdotal history (e.g., photos, maps, stories, etc.). House in the Nature "Water" House – this would be first community to have both its history under local control and a single individual whose responsibility is the aquatic health of the watershed.
- Create framework of rational science (i.e., documenting water level changes, water quality changes or demand) and articulate the issues.
- Make data collection a first priority and work through the list

- Collect the information/data and figure out the problem areas
- Collate and house collected data – identify gaps and vulnerabilities (trends)
- Compile/consolidate data from local sources e.g., BC Aquifer/Drillwell/local farmers/water districts
- Gather up-to-date data on all private wells
- Identify greatest vulnerabilities to surface water and groundwater by area
- Encourage/assist/facilitate monitoring the water quality and quantity in south end area wells
- Monitoring of lake, rivers – feedback mechanism of adaptive management framework
- Review existing water monitoring in CVRD/south Cowichan and develop new monitoring plan for the future
- Develop database/website to incorporate information, info sheets and summaries
- Complete a Proper Functioning Condition assessment for all riparian and wetlands – put on CVRD website

Partnerships

- Make inroads with agricultural community
- Continue to develop and improve communications with First Nations

Plan

- Commit to development of water plan for the area
- Develop robust watershed governance model, work towards developing an overarching watershed plan
- Initiate a planning process that will focus effort, set priorities, bring the resources for agencies and stakeholders to bear on the problem
- Look at all of this from a watershed perspective – watersheds crossing political boundaries – area based planning
- Explore how south sector LWMP can address the issues of concern, put into terms of reference, add funding
- Establish committees and plans that have legal authority, i.e., LWMP and committees have authority
- Learn from successes elsewhere – Cowichan, CRD, RDN
- Integrate, identify common goals, find the issue that will ignite passion and action
- Make plans to address and support actions i.e., land use decisions – septic to sewer, development bylaws
- Establish action priorities: Water use/conservation, septic field treatment, source protection/ watershed security, etc. Identify those to pursue specific programs of action with earmarked funds from south Cowichan water study function and agency partners.
- Identify actions/targets – I think these will be similar to Cowichan, but the means to reach the

targets may vary.

- Look at bridging current and future planning initiatives to start some implementation NOW

Education

- Public education
- Engage, educate and motivate community in respect to watershed issues and their importance
- Inform public of plans, publicize BMPs and make property owners part of the solution.
- Create a Shawnigan Lake Watershed Municipal Ecologist – with a nature house to be the landscape focus – the opposite of the firehouse – the 'waterhouse'.
- Move to support groups like Lake Cowichan Stewardship Society, all stewardship groups initiatives, "Wally the Otter" program
- Help create a motivational message to residents that with inspire them to action. E.g., help interpret parts of Dr. Mazumder's data that says if we don't do something, the lake will turn green from algae in 10-15 years. Create a sense of urgency.

Governance

- Provide leadership/committed participation for community watershed management /governance
- Integrated governance with CVRD as lead agency; include consolidation of data and engagement of partners

Action

- Define the problem (or crisis). Compile the team. Assign responsibilities and repeat.
- Engage in an operational project on the ground, e.g., individual septic tank testing and upgrade
- Centralized WWTP – shut down all septic fields.
- Implement a program for septic field refurbishing on Shawnigan Lake
- More public awareness of water test results on monthly basis of the Shawnigan watershed and history of the decline of water quality in the watershed, both surface and aquifers
- Continue working on addressing land use issues, developing environmental strategies and environmental policy as a regional district
- Develop a water budget for the region to help with decision making.
- Ensure that growth is managed in a conservative way, especially in rural areas.
- Take on issues like Hawes Bay to try and reduce or mitigate examples of 'poorest practices'
- Free testing for well owners

Other suggestions

- Develop and promote eco-friendly logging and development activities in the Shawnigan Lake watershed.
- Abandon the idea of south Cowichan as a community or administrative entity and adopt a

watershed by watershed model.

- Create new zones to replace F-1 and F-2 zones in the Shawnigan Lake watershed to force property owners to log according to eco-forestry principles and practices. This will go a long way to protecting lake water at it source.
- Work with the Province with the goal of handing over to the CVRD all Crown lands in the Shawnigan watershed so that the CVRD can protect those parts of the watershed by keeping them in forest cover forever.
- Investigate policy tools to facilitate the implementation of BMPs.
- Establish Shawnigan Lake Basin as a "special demonstration management zone" within which to accelerate the adoption of innovative watershed management under an ecological governance model – this requires all agencies to sit at the table as non-regulators – information on how to present notes apply – now short term model to follow – "rule intent met by alternate means". Needs to have metrics that are scientifically defensible, reliable, affordable and that the public sees as simple, effective and understandable. Regenerate proper functioning condition.
- Create stronger regulations around septic fields
- Control land use, waste disposal, water use, as required in the afflicted portions of the areas.
- Enforce existing regulations, as well as new ones, to protect for everyone. No avoiding enforcement to avoid possible legal disputes.