

**Comments on British Columbia's Water Act Modernization
Discussion Paper**

Submitted by:

The Cowichan Watershed Board

Introduction

The Cowichan Watershed Board

The Cowichan Watershed Board (CWB) was established in early 2010 by the Cowichan Valley Regional District (CVRD) and Cowichan Tribes in collaboration with the British Columbia Ministry of Environment (MOE) and the Department of Fisheries and Oceans (DFO) and with the support of the Living Rivers Trust Fund, and Catalyst Paper. The CWB is accountable to the government partners. Board members are listed in Attachment 1.

Establishment of the CWB was a recommendation of the Cowichan Water Basin Management Plan (the Plan) that was completed in 2007. We are grateful to the support that MOE provided in the development of that Plan.

The CWB's mandate is to provide leadership for sustainable water management to protect and enhance environmental quality and the quality of life in the Cowichan watershed and adjoining areas.

The Board does not have regulatory authority but is charged with the responsibility of promoting wise water management practices throughout the watershed by:

- advocating for the well-being of the watershed;
- guiding and coordinating the implementation of the Water Management Plan;
- providing timely, balanced and thoughtful advice to senior and local government authorities including First Nations;
- securing stable funding sources to support water management activities;
- engaging local stakeholders in water management decisions;
- gathering information on and monitoring the health of the watershed;
- providing and accessing specialized expertise and knowledge for sustainable water management in the Cowichan watershed; and
- developing public outreach and extension tools to enhance watershed thinking and to increase residents' understanding of water science, stewardship and management activities.

The CWB is in its early days. However members of the Board have significant and diverse experience involving a number of aspects of water management. The CWB is highly supportive of MOE's Water Act Modernization initiative and applaud the Ministry for undertaking it. Board members are grateful for having the opportunity to comment on the Discussion Paper and for the efforts of MOE staff as they pursue this initiative.

We have tried to keep our comments within the context of the Discussion Paper. Because we may be able to offer a different perspective regarding governance, we have placed some emphasis on that issue.

Principles:

WAM is an opportunity **to ensure the principles underlying the *Water Act*** respond to modern expectations, as well as promote stream health and water security.

Your views are welcome on the following proposed principles.

1. BC's water resources are used within sustainable limits.
2. First Nations social and cultural practices associated with water are respected and accommodated.
3. Science informs water resource management and decision making.
4. Water resource legislation, policy and decision making processes as well as management tools are integrated across all levels of government.
5. Rules and standards for water management are clearly defined, providing a predictable investment climate across the province.
6. Flexibility is provided to adapt to extreme conditions or unexpected events on a provincial, regional or issue-specific level.
7. Incentives are created for water conservation that consider the needs of users and investors.
8. Rights to use water come with responsibilities to be efficient and help protect stream health.

Indicate your level of support for the proposed principles to underpin a new *Water Act*.

<input type="checkbox"/> Strongly Support	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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The CWB believes that the Ministry was wise to include a section on the principles that underlie the modernization of the *Water Act*. The principles provide valuable context for the discussion paper and will be valuable in the actual policy development process. Water Smart was a good start. We had hoped that the principles would do more to address its weaknesses and build on its strengths.

Below we offer some general suggestions regarding the principles. Then we provide specific comments on each principle.

General Comments

- We felt that the paper and policy development would benefit from inclusion of a statement of strategic directions, activities necessary to achieve them,

constraining and enabling variables, outputs, and the short term, intermediate and long term outcomes that are desired.

- If the Ministry had proceeded that way then we believe that protection/enhancement/restoration of healthy natural ecosystems that provide necessary ecological/environmental services would have been imbedded in the principles. We believe that healthy, resilient watershed ecosystems and related ecosystem services should be a fundamental outcome of water related legislation. The cumulative health of a watershed results from healthy streams and aquatic ecosystems.
- We believe that First Nations would agree with the above.
- With regard to First Nations, we believe that their engagement will be a key ingredient to achieving a successful legislative package that is sustainable. The view in the Cowichan is that First Nations must be full partners in watershed management.
- We applaud the province for its leadership in climate change. However it is not clear to us that the likely consequences of climate change and their impacts on aquatic and riparian ecosystems and surface and ground water, and demand for those waters, have been fully considered in the principles of the discussion paper as a whole. As noted in the discussion paper flexibility will be important for addressing future issues. So too will be unallocated water that serves as a buffer for climate change. Once water is allocated and investments made clawing it back is extremely problematic politically and practically. This is a challenging but critical issue.
- The CWB also believes that a fundamental principle in developing legislation and policy should involve shifting from the current situation that is characterized by diverse and diffuse responsibilities and accountability for water to simpler, clearer responsibilities and accountabilities in relation to healthy water supplies as well as allocation and use of water. Achieving this will be a major gain.
- Specific reference to human health and safety which is linked to water quality and drinking water source protection would also have been valuable.

Specific Comments

Principle 1 –It is unclear why the first principle is about water ‘use’ as opposed to the sustainability of ecosystems and water resources which have value on their own independent of human use. As noted above the CWB views sustainable ecosystems and ecosystem services as having primacy. Principle 1 also raises the issue of what sustainable really means. We believe that this should be made clear i.e. that it means ‘in perpetuity’.

Principle 2 –Spiritual and ceremonial are important uses/practices for First Nations and warrant being mentioned separately rather than being rolled into social. For First Nations ‘recognition’ as opposed to accommodation is a huge issue. We feel that the principle should be reworded accordingly.

Principle 3 –At a different level this is another very important principle. The CWB highly values the MOE’s science staff. We suggest that ‘best available’ or ‘up to date’ science should inform policy, management and decision making. Unfortunately when it comes to budgeting science/information are often casualties. With climate change the old static view of the world where water parameters were assumed to be essentially repetitive year by year is obsolete. The Ministry must commit to more and better inventory, monitoring and science. In addition, recognition and incorporation of Traditional Ecological Knowledge is essential.

Principle 4 – We believe that the ideas expressed in this principle represent a shift from ‘poorly linked up’ to ‘linked up or integrated’ legislation, policy and decision making. This is an extremely important shift. At the core of this issue are the themes of responsibility and accountability that we raised in our general comments. We believe that clear, logical responsibilities and accountabilities must be fundamental components of policy and policy development. This would represent an extremely positive shift.

Principle 5 –Simple, clear rules and standards should result in clear, predictable decisions for all stakeholders not just investors. Others besides those with water licences make important water dependent investments e.g. home buyers or people who buy fishing vessels. We recommend revision to reflect this point.

Principle 6 –The CWB views flexibility as a very important principle given the looming reality of climate change. We recommend bare bones legislation that enables more easily amended regulations and enforceable codes of practice to support flexibility. We further recommend delegation of powers to local Watershed Boards within the province’s legislative framework as local bodies are much more attuned to local needs and context than senior governments and can be much nimbler than senior governments.

Principle 7 –The CWB strongly supports this principle. Incentives must be carefully considered so as to avoid unintended consequences. This is a critical factor for flexibility. Incentives incorporate pricing. Pricing of water is essential for any serious system of allocation. Pricing does not necessarily mean that the water goes to the deepest pockets, but it does mean that there are benchmarks to encourage conservation and protection of quantity, quality and temperature.

Principle 8 –The CWB strongly supports this principle but believes that rather than refer to protection of stream health the principle should refer to the health of aquatic and

riparian ecosystems including aquifers. We also believe that rehabilitation of ecosystem health should be built in the principles. This seems to have been overlooked. In addition, ‘conservation’ is a more appropriate term than ‘efficiency’.

Goal 1: Protecting stream health and aquatic environments

In order to better protect stream health and aquatic environments the following objectives are proposed for a modernized *Water Act*:

1. Environmental flow needs are considered in all water allocation decisions to protect stream health
2. Watershed or aquifer-based water allocation plans include environmental flows and the water available for consumptive use
3. Habitat and riparian area protection provisions are enhanced

Indicate your level of support for the objectives proposed.

<input checked="" type="checkbox"/> Strongly Support	<input type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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The CWB strongly supports the above statements but only as a minimum.

The CWB believes that this section would have been better if it had addressed protection and restoration of riparian and aquatic ecosystems and the ecosystems that they depend upon to ensure their long term resilience and sustainability as well as the sustainability of the environmental services that they provide.

As the Discussion Paper notes, the *Water Act* is only one of many laws that ‘protect stream health’ therefore the Board felt that the discussion lacked adequate context. Some context is provided by Living Water Smart but background information regarding the following would have helped to guide discussions. E.g. what are the strengths and weaknesses of the current Act as part of the current tapestry of legislation? What are the challenges and opportunities that we face?

With the above as context we have tried to address the questions posed in this section of the Discussion Paper.

Options for how environmental flow is to be considered in decisions

- A. **Environmental Flow Guidelines** – In this option the environmental flow recommendations are guidelines, from which the decision maker may deviate in certain circumstances.

OR

- B. Environmental Flow Standards** – In this option the environmental flow recommendations become standards that the decision maker must adhere to with no exceptions.

Which options do you prefer, and why? Are there others?

As a general comment the CWB believes that environmental flow needs should be considered not just for ‘stream health’ health but for watershed health including groundwater health. Environmental flows should be based on detailed assessments wherever possible and those assessments should be based on the best predictive climate change information that is currently available and updated for watershed as localized predictive climate change modelling becomes available. Furthermore, flow models should include a significant buffer to address risk of drought and protection of habitat as well as drinking water source protection.

The CWB generally prefers Option B. Standards should be set so that they include a buffer that exceeds projected climate change impacts and provides certainty of long term sustainable future flows. Those standards should be reviewed and updated based on up to date detailed assessments or in light of new science. Statutory decision makers should be given discretion but that discretion should be limited to erring on the side of water conservation.

Options for including water allocation plans in the Water Act

- A.** The development of water allocation plans is **optional** – Developed at the discretion of the Regional Water Manager and could be based on increasing water demands and decreasing water supplies, changing environmental conditions, conflicts among users, or at the request of a water user community.

OR

- B.** The development of water allocation plans is **required** – Plans may be developed province-wide, or criteria to determine priority areas may be developed, with priority areas requiring a plan, or plans may be ordered by the Comptroller of Water Rights.

AND

- C.** The decision maker **must consider** the water allocation plan – Once adopted, decision makers must consider plans. Although the decision maker is not bound by the plan they would be required to explain reasons for any decisions that do not follow the plan’s recommendations.

OR

- D.** The decision maker **must follow** the water allocation plan – Once adopted, the plan must be followed with no exceptions by the decision maker.

Which options do you prefer, and why? Are there others?

Water Allocation Plans should be required under the *Water Act* and implemented on a prioritized basis or as ordered by the Comptroller of Water Rights. Decision makers should be required to consider the Plan and be required to explain reasons for deviating from them. Decision makers' discretion should be limited to erring on the side of conservation. A provision should be included that allows for appeal to the Environmental Appeals Board and their decisions should be guided by the precautionary principle.

The linkage of the above to Principle 3 is important since plans depend on some sort of forecast of the future. With climate change it is no longer a simple matter of looking at the past hundred years of records. More inventory, monitoring, science and analyses will be needed for future plans, and people must be made aware that these plans cannot be set in stone.

Under what conditions should a water allocation plan be developed and how should it be applied?

Water allocation plans should be a component of watershed management plans, include local input and link up to and possibly guide other local planning initiatives.

Options for protecting habitat and riparian areas

A. Maintain the requirement for an engineer's order to prohibit dumping of material into streams (reflects current situation).

OR

B. Amend the *Water Act* to include a prohibition against dumping of a wider range of debris and materials into streams, with a requirement for the person responsible for dumping to restore stream health.

Which option do you prefer, and why? Are there others?

The CWB prefers Option B.

The Ministry should collaborate with the Ministry of Healthy Living and Sport other economic development ministries and the Department and Fisheries and Oceans to developed harmonized legislation.

The CWB believes the legislation, regulations, codes etc. associated with WAM should be directed at achieving a significant cultural change regarding the way we consider, manage and value water in British Columbia. Unless significant

incremental resources are devoted to a fulsome compliance initiative from education to enforcement it is unlikely that the WAM initiative will be successful.

Goal 2: Improve water governance arrangements

Objectives for improving water governance

In order to improve BC's water governance arrangements the following objectives are proposed for a modernized *Water Act*:

1. Governance roles and accountabilities are clarified in relation to the allocation of water and the protection of stream health. *This includes roles for First Nations, industry, local communities and non-government organizations in planning and decision making*
2. Governance arrangements are flexible and responsive to future needs and values
3. Management is coordinated with neighbouring jurisdictions across all levels of government and those with a major interest in the watershed

Indicate your level of support for the objectives proposed.

<input checked="" type="checkbox"/> Strongly Support	<input type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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Again the CWB strongly supports the objectives presented by the Ministry but as a minimum. In addition to the purposes cited above, we believe that clarification of roles and responsibilities is critical for ecosystem protection, inventory and monitoring, public education, watershed reporting, flood management, public health etc.

Effective water management in the Cowichan Basin has been hampered by the fact that legislative authority and responsibility for water and water resources is complex and spread among federal, provincial and local governments and agencies. In addition to those governance issues the critical issue of Cowichan Tribes' role, rights and title continue to be unresolved.

In the Cowichan the need to address a watershed crisis associated with summer drought in 2003 helped to overcome numerous barriers associated with watershed governance and resulted in a major collaborative effort and the development of the Cowichan Water Basin Management Plan.

The fact that it took almost three years to establish the CWB (a primary recommendation of the Plan) is symptomatic of the governance problem. A further symptom is the fact that very little progress was made in implementing the Plan's other 88 recommendations during those three years.

Based on our experience in the Cowichan and observations of other watersheds, water governance in BC needs a major and immediate overhaul. Currently vision for the

province's watersheds appears to be blurred, accountabilities weak, responsibilities unclear and inadequately fulfilled (sometimes ignored) and the entire area appears to be both undervalued and under-resourced. Furthermore, the current legislative framework combined with inadequate funding leads to challenges and problems regarding information and information management, systems thinking and holistic planning, conservation, supply and allocation, integration and accountability, professional and public understanding and public confidence.

We believe that Brandes and Curran's 2009 water governance options and opportunities report serves as a valuable resource for policy development around water governance, although, we found the discussion around First Nation's involvement in governance somewhat limited. Below we comment on specific questions included in the discussion paper. We would also welcome a fulsome discussion with the Ministry regarding the topic of governance.

Options for improving water governance

- A. Centralized** Approach – provincial planning and decision making, few delegated responsibilities
- B. Shared** Approach – Provincial government and partner-led planning and decision making within a provincial framework
- C. Delegated** Approach – Watershed Agency planning and most decision making within a provincial framework

Which approach do you prefer, and why? Are there others?

Not surprisingly most Board members prefer the shared or delegated approaches outlined in the discussion paper. We believe that the model that is being piloted here in the Cowichan has the important advantage of Cowichan Tribes and the CVRD being a true partner with the support of the federal government and the province. We view Cowichan Tribes role as being pivotal. There is much to work out between the senior governments and First Nations but sustainability and prosperity at the watershed level can only be achieved through full and open partnerships.

Senior governments are and will continue to be somewhat remote from local issues, needs and nuances. In addition a number of issues including political will and fiscal priorities seem to interfere with ecosystem protection, water basin thinking, adequate inventory, information and monitoring, creation of effective incentives, effective compliance and enforcement, reasonable pricing etc. Some of these functions are best performed by the Province

however some delegation would lead to significant improvements along with more focus and adequate funding responsibilities retained by senior governments. No delegation should occur without resources to do an adequate job over the long term.

The CWB views the primary roles and responsibilities in a new model of water governance as the following:

- a. collaboratively establishing an integrated resource management framework with associated legislation, regulation, protocols, including harmonization etc.;
- b. establishing and adequately resourcing inter-jurisdictional agreements, protocols and initiatives as well as large scale projects;
- c. establishing and supporting a comprehensive monitoring networks and inventory programs as well as research, analysis, specialized expertise and advisory functions;
- d. developing, maintaining and providing access to standardized water related databases;
- e. developing and maintaining well designed and resource compliance and enforcement functions including strong educational, information management and deterrence (on the ground presence combined with strong sanctions) components;
- f. adequate access to revenue sources and infrastructure funding.

Delegated authority can always be recovered if it is misused. Full delegation would mean that all factors are considered by the same body. That doesn't mean the body can ignore any aspect it undervalues; instead, it must take everything into account.

What scale of watershed is most appropriate for water planning and management?

The CWB does not believe that there is one best scale of watershed or area for planning and management. In addition to size, discreteness, complexity, political boundaries etc. may dictate manageability. In some areas it may be most appropriate for a cluster of watersheds to be considered in a plan. Other watersheds may require an overarching plan with compatible planning and management at the sub watershed level. The existence, extent and interactions of any aquifers should also be considered regarding scale. .

An important principle may be that of self design/organization.

Specifically local processes should be able to organize themselves so that they best suit the local conditions.

What funding solutions might help to implement the approaches?

The \$345 million in annual provincial water revenues dwarfs the Ministry's \$15 million water management budget however we view neither as being adequate. An analysis of water license fees should be completed and based on that analysis fee increases should be phased in to provide an enhanced source of revenue for provincial and local water management and serve as incentives for conservation and management of water.

We also recommend that a surcharge should be placed on water licenses and that a trust fund be established with adequate funding to support initiatives like those indicated in comment 'c' of our answer to the first question addressed in this section of the discussion paper. Innovative local initiatives such as the CWB pilot could be funded through that special fund as well. Where local people benefit and where the province is not offloading what it historically should have been paying to maintain an adequate standard of water management then legislation should empower access to local sources of funds to support local governance agencies. New legislation should also remove any barriers to accessing other appropriate sources of funding that could support local water governance bodies.

Economic analyses should be based on full cost and benefit accounting including valuation of ecological services.

What are the important considerations for accountability, transparency and dispute resolution processes in any delegated or shared approach?

As noted above given diffuse responsibilities regarding water management little progress was made on implementation of the Cowichan Basin Water Management Plan. Legislation needs to enable delegation of authority. Those authorities must be spelt out clearly to avoid confusion and possible disputes. Delegation may be specifically linked to the existence of and agreed upon watershed management plan or at least require that one be developed to a certain standard. Legislation should also enable revenue mechanisms for those that opt to pursue delegated authority. Access to information, management tools and specialized expertise are other requirements for success.

Transparency is essential for building trust and legitimacy. It also allows persons and organizations to judge whether the ministry or an agency is acting responsibly and fairly. Summarizing and publishing legislation, regulations, policies, revenues/prices and their rationale, accomplishments, compliance activities and enforcement results, and 'state of' reports, all support trust and legitimacy.

It is very important that partners and members of the public know and understand what the Ministry or any governing body does and what to expect of it. If there is confusion about expectations then reputation is diminished. This is currently a major issue for the Ministry. The ministry should strive to be more transparent including through this process. For example it would be valuable for the Ministry to summarize the policy that will guide its water legislation initiative this autumn and seek feedback on it before proceeding further.

Adequately funded local operations are normally transparent at the local level. However, without good processes in place they can drift away from central governing bodies that have delegated authority to them and their original mandate. If delegation of authority is considered as an option, requirements for reporting and transparency should be clearly specified in the enabling regulation.

Finally the CWB believes that dispute resolution processes should be simple, low cost, timely and transparent. Where decisions are discretionary provision should be made to encourage decisions that err on the side of conservation

What are the benefits and implications of sharing roles for water stewardship?

- More meaningful and successful partnerships (including opportunities for fulsome partnerships with First Nations).
- Better, more relevant watershed plans (which may have spill-over effects into other local planning).
- Clearer more relevant sense of purpose and increased likelihood of watershed vs in stream or surface water focus (system approach).
- Increased local understanding of water issues (a precursor to conservation initiatives).

- Opportunities for increased integration of management activities (e.g. flood management which has been problematic in a number of jurisdictions)
- Those who are affected by water related decision have a voice in decisions.
- Enhanced local accountability

Goal 3: Introducing more flexibility and efficiency in the water allocation system

Objectives for introducing more flexibility and efficiency in the water allocation system

In order to introduce more flexibility and efficiency in the water allocation system the following objectives are proposed for a modernized *Water Act*:

1. The water allocation system emphasizes and encourages efficiencies in both water use and the administration of water as a natural resource.
2. Water users and decision makers have flexibility to quickly adapt to changing environmental, economic and social conditions
3. The water allocation system integrates the management of groundwater and surface water resources where required in problem areas
4. Water users conserve water during drought or when stream health is threatened

Indicate your level of support for the objectives proposed.

<input type="checkbox"/> Strongly Support	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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The CWB supports the above statements but finds them to be somewhat narrow. We strongly support efficient administration particularly clear policies, legislation and regulation and timely decisions. As noted in the introductions however, we prefer the term conservation than efficiency. Again the Board favours watershed and ecosystem based thinking as opposed to water as a resource. The third objective is somewhat problematic as the CWB believes that the allocation system should integrate the management of groundwater and surface water 'resources' long before there are 'problem areas'. Similarly regarding the fourth objective we do not believe that water users should wait until there is a drought or threats to stream health before they conserve water.

Options to encourage water use efficiency:

A. Government determines actual needs in relation to a proposed undertaking on the basis of efficient practices and works.

OR

B. Codes for efficient infrastructure and practices in different sectors are developed, in partnership with the sector, and the modernized *Water Act* requires compliance with these codes.

AND

C. The use of incentives and economic instruments is enabled in a modernized Water Act to encourage water efficiency.

OR

D. Review rules for the transfer and apportionments of existing water rights. This includes improving the ability for users to transfer from one appurtenance to another, and for the extension of rights to other purposes.

Which options do you prefer, and why? Are there others?

The CWB prefers option B assuming that:

- the codes with enforceable standards are based on up to date assessments of efficient practices; and,
- upon implementation the codes are supported by a well resourced compliance strategy including education, a strong field presence, strong penalties and follow-up, and monitoring.

The Board also strongly supports Option C. We have commented on this previously

Options to encourage administrative efficiency

E. Permitted uses would be defined and allowed under the *Act* in accordance with regulations applied in a **consistent** manner throughout the province.

OR

F. Permitted uses would be defined and allowed under the *Act* in accordance with regulations. Regulations might apply **differently** throughout the province based on risk or, if considered acceptable, defined and applied through a water allocation plan.

AND

G. Voluntary self registration of the permitted use withdrawal.

OR

H. Required self registration of the permitted use withdrawal.

Which options do you prefer, and why? Are there others?

The CWB supports Option F and H. It seems reasonable that permitted use could occur in parts of the province or some during some seasons where and when water is plentiful. Therefore regulations should apply differently throughout the province. It also seems reasonable that in situations where use would be minor and water abundant some form of self registration would be appropriate.

As per Option H the CWB agrees that the withdrawal should be registered. Furthermore the Ministry should determine a mechanism for pricing the water that will encourage conservation and no rights should be conveyed.

What considerations would help determine which water uses and extraction rates could qualify as a permitted use (no water licence required)? What controls are needed? How should permitted use status be protected?

Uses should be specified in the water allocation plan component of overall watershed management plans. As per Option F regulations should apply differently based on risk and so to should any certainty provisions that are offered to the licensee. In some cases e.g., temporary uses or in watersheds that are currently challenged or for which climate change may potentially result in environmental flow issues, no protection should be conferred or it should be restricted seasonally.

Options to encourage administrative and water use efficiencies

- I.** Providing more detailed information about the proposed use and efficiency measures for licence applications or changes;
- J.** Documenting potential environmental impacts and effects on other users in licence applications or changes;
- K.** Seeking consent from, or undertaking consultation with, affected parties for licence applications or changes;
- L.** Measuring and reporting actual water use when demonstrating compliance with licence conditions;
- M.** Reporting well levels for regulated groundwater users;

- N. Self-registering wells, especially where groundwater is in direct hydraulic connection with surface water or in areas of known quantity concern; or
- O. **ANY** combination of the above.

Which options do you prefer, and why? Are there others?

The CWB is generally supportive of the measures outlined above recognizing that the primary goal of regulation is to ensure vibrant, resilient watershed ecosystems and associated services that are sustained. For the most part our reasons have been provided in earlier sections.

With regard to measure N, the Board believes that there should be mandatory registration of all wells. Relevant (local government and Ministry of Transportation and Infrastructure) legislation should be amended to ensure that permitted land uses and population densities included in zoning and permitting processes do not exceed the future carrying capacity of a given areas water availability. In some areas this will require adjustment to levels that can be expected under climate change.

Option to provide water users and decision makers the flexibility to adapt:

- A. Provide decision makers and licence holders with the ability to seek amendment of water licence terms and conditions based on:
 - New information about watershed issues, priorities or changes in supply (watershed, aquifer based) including addressing over-allocation and climate change impacts;
 - The ability to use water differently e.g. bring more land into productivity, change land appurtenance or use, or to use water for a higher economic purpose;
 - Incentives to consolidate licences within a community/ watershed to inspire collaborative or shared management of resource;
 - Adverse impacts on aquifers or groundwater recharge zones; and
 - Monitoring information that shows stream health is deteriorating because of lack of water.

Indicate your level of support for seeking amendment of licence terms and conditions.

<input checked="" type="checkbox"/> Strongly Support	<input type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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The CWB supports wide ranging flexibility to address the variety of situations that currently exist and can be anticipated to exist in the province. In the Cowichan watershed the watershed planning process was extremely valuable for assembling information and creating an environment for discussions about

the watershed. Plans can serve as a valuable framework for discussing watershed needs and priorities.

It may be prudent for the ministry to mandate watershed planning initiatives including options for priority use in times of low water. In order to support planning initiatives we recommend that the ministry take measures to address obvious gaps in inventory and monitoring information because it is essential for:

- Defining threats and challenges;
- Dispelling watershed myths;
- Underpinning objective discussions;
- Creating a shared understanding and developing consensus

Here in the Cowichan watershed we are still hampered by inadequate monitoring and data gaps particularly with regard to climate and groundwater. Both information and flexibility are needed. We also need the ability to use pricing to influence water use decisions.

Options for the water allocation system:

- A. First-in-time first-in-right (FITFIR)** – New surface water and groundwater, where it is regulated, are allocated based on a modified FITFIR approach.
- B. Priority of use** –New surface water in streams and groundwater, where it is regulated, is allocated based on priority of use determined either in the *Water Act* or with community involvement in the water allocation plan process.

Which option do you prefer, and why? Are there others?

The CWB prefers Option B with strong local input. A number of Board members found the precedence list indicating that conservation was the 10th highest priority use for licenses issued on the same date worrying. The legacy of FITFIR based allocation is problematic. That said we fully realize that investors require some form of security and as a result we believe that the issue requires further analysis.

It would have been helpful if the discussion paper had included a section summarizing practices in other jurisdictions and the resultant impacts on water resources. Inclusion of case studies from jurisdictions that have successfully dealt with the issues associated with the FITFIR approach would have been helpful as well.

Options to address temporary water scarcity

- A. **Discretionary** – The decision-maker determines the approach on a case-by-case basis, balancing the effects on water users with the required environmental outcome.
- B. **Sharing** - All water users would reduce use on a proportional basis depending on the water supply.
- C. **Hierarchy of uses** - A hierarchy of uses guide how water use is reduced.
- D. **Priority date** - This approach follows FITFIR, as contemplated by the current requirements of the *Water Act* but would be potentially expanded to include the protection of ecosystem values.

Which options do you prefer, and why? Are there others?

We believe that the ideal option would be to develop a consensus based community plan worked out in advance. All of the above options should be discussed as part of that process within an ecosystems/conservation first model.

Options to address long-term scarcity

- E. **Through a mandatory Water Management Planning process**, such as a Water Management Plan provided for in Part 4 of the *Water Act*.
- F. **At the request of water users or communities** - Water licensees and other interested parties may develop a plan that addresses long term water scarcity on a watershed basis and provides recommendations for supply and demand side changes to be made.

Which option do you prefer, and why? Are there others?

If there is no will in a community to pursue Option F then Option E appears to be a practical solution. Inclusion of the demand side including reuse and recycling or water is an important issue here.

Goal 4: Regulate groundwater extraction and use

Objective for regulating groundwater extraction and use

As a general comment we believe that the Council of Canadian Academies' goals for groundwater sustainability that are cited in the Discussion Paper are fundamentally sound.

1. Groundwater extraction and use is regulated in priority (critical) areas and for all large withdrawals.

Indicate your level of support for the objective proposed.

<input type="checkbox"/> Strongly Support	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Neutral	<input type="checkbox"/> Disagree	<input type="checkbox"/> Strongly Disagree
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While the CWB agrees with the above statement, we feel that the Ministry's proposed approaches do not adequately address future risks.

Options for determining the thresholds for large groundwater withdrawals

A. The threshold for large could be:

- 500 m³/day for wells drilled in unconsolidated, sand and gravel aquifers or if otherwise determined to be large by a Water Management Plan.
- 100 m³/day for wells drilled into consolidated bedrock aquifers or if otherwise determined to be large by a Water Management Plan.

OR

B. The threshold for large could be:

- 250 m³/day for wells drilled in unconsolidated, sand and gravel aquifers or if otherwise determined to be large by a Water Management Plan.
- 100 m³/day for wells drilled into consolidated bedrock aquifers or if otherwise determined by a Water Management Plan.

Which thresholds do you prefer, and why?

Given developmental pressures, agricultural expansion/intensification and the expected impacts of climate change, the rationale for identifying 500 m³/day or even 250 m³/day as thresholds for regulation in the Discussion Paper is unclear.

The CWB believes that all who use 4 or more m³ of ground water per day should be regulated and the degree of regulation should progressively increase based on incremental volumes used. In priority areas all users including those using <4 m³/day should be regulated to some degree even if the requirement is simply registration/reporting for small users.

Monitoring and reporting are critical for conservation. Even enormous aquifers are vulnerable.e.g. the Ogallala aquifer on the eastern slope of the Rockies has dropped over a hundred feet in the past seventy years.

Options for determining priority areas to regulate groundwater extraction and use

- A. Heavy groundwater extraction and use** (rely on BC Aquifer Classification System).
- B. Area of known quantity concern** e.g., declining groundwater level, conflicts with other groundwater users, aquifers or water resources impacted by salt water intrusion.
- C. Groundwater in direct hydraulic connection** with surface water in areas of known quantity concern.
- D. Significant population that is reliant on groundwater** for drinking water or fire fighting.
- E. Trans-boundary aquifers.**
- F. Basins where surface water is at or near the allocation limit.**
- G. ANY** combination of the above.

Which options do you prefer, and why? Are there others?

We support all of the above as criteria for establishing priority areas. Science and good inventory and understanding of recharge rates are of fundamental importance. We believe that it would be useful for the Ministry, as part of the WAM process, to consider legislative or regulatory mechanisms for encouraging or enabling inventory, analysis, mapping and monitoring of groundwater resources perhaps as part of mandatory plans such as water management or water allocation plans. As the Council of Canadian Academies recently noted “If decisions for additional allocations from a basin are to be in the best interest of the basin’s socio-economy and ecosystems, there should be no uncertainty about the volumes that permitted users are already removing, how the water is being used and the extent and location of return flows.”

[http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20releases/groundwater/\(2009-05-11\)%20gw%20report.pdf](http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20releases/groundwater/(2009-05-11)%20gw%20report.pdf)
page 8.

The CWB believes that groundwater conservation/demand management issues should be addressed in the modernized Act. The Ministry should pursue policy work in this area and it would be advisable to mandate mechanisms for providing incentives for conservation. Although based on history it may be a thorny issue, the Ministry should explore the use of pricing of ground water (either direct or indirect) as a demand management tool.

To address a current weakness in the legislative framework, the CWB believes that strict regulations need to be in place to ensure that any surface water, storm water or waste water that is injected into ground water aquifers is of drinking water quality, and mandatory monitoring is in place to ensure that such water injection does not degrade the groundwater resource. Other policy areas

regarding land use over aquifers including distances of certain types of land use from a well should be carefully reviewed and revised in light of contemporary science. Policy regarding linkages to surface water should also be reviewed.

Additional input requested:

How will these proposals specifically affect you or your community?

We anticipate that well resourced delegation of authority could have significant positive implications for the Cowichan watershed and those who are affected by it

How can we improve the proposals so your interests are taken into account?

Enhanced discussion of local governance including responsibilities that may and may not be delegated and discussions of funding mechanisms.

Enhanced discussion of First Nations related issues.

Enhanced discussion of harmonization.

Further engagement and opportunities to comment on draft policies

What kinds of collaborative processes would you like to see for future water stewardship?

As noted above we believe that it is important the policies developed over the summer be presented for public comment prior to initiating the process of drafting legislation and regulations.

Will the possible solutions adequately equip future generations to manage water sustainably?

Revised policy and legislation will be unsuccessful unless it is accompanied by a well thought out strategy to drive cultural change inside and outside government and adequate financial and human resources to support it over the long term

What have we missed?

Issues that need to be addressed include:

- Watershed and stream rehabilitation;

- Policy around a fair compensation including clarity around:
 - what would trigger compensation and what would not (an unproclaimed section of the Fish Protection Act speaks to part a small part of this);
 - compensation related to beneficial use of property;
 - transparent, expedient and fair processes for determining compensation;
 - creative mechanisms to address compensation that will reduce the impact of government's bottom line;
- Policy related to consultation regarding issuing or amending licenses to ensure that consultation is:
 - timely,
 - inclusive of those who could potentially be harmed,
 - inclusive of those who would potentially benefit;
- Harmonization opportunities. Based on discussions it appears that there is need for more work in this area;
- Potential sources of funds to support local governance initiatives including revenue sharing or transfers.
- Discussion of water pricing and thresholds required to change behaviours;
- Discussion of linkages to programs such as Environmental Farm Plans;
- Detailed assessment of the practicality of current legislation, regulations and policies based on current scientific merit, manageability etc. and what's missing. (We assume this is happening but there is no indication of it.);
- Inclusion of cross jurisdictional analyses of ground and surface water regulation including for example allocation duration and terms of licenses, prioritization and approaches to restrictions, provisions for conservation, land use and protection policies and water pricing. Inclusion of such material would have allowed for much more informed and meaningful commentary.
- Costs and benefits of the legislation and policy including human resources.

Thank you for the opportunity to comment!

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