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Watershed Watch Salmon Society (www.watershed-watch.org)

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Brief on BC Water Act Reform

Introduction

Watershed Watch Salmon Society's mission is to catalyze efforts to protect and restore BC's wild salmon and salmon habitat through scientific expertise, strategic alliances, outreach programs and innovative projects.

WWSS strives to raise public awareness about water law and policy and to improve the protection of fish and aquatic habitat. We have been involved for 11 years in providing advice on instream flows for fish (water use planning, etc.), and recently collaborated on a "Statement of Expectations of BC NGOs for Reform of the Water Act" endorsed by 29 NGOs, which contains key actions for improvement.¹

WWSS also produced an election questionnaire on water issues for the provincial political parties, published an opinion piece in the Vancouver Sun highlighting water as a key election issue, hosted a series of public forums on independent power production in communities across the province, helped organize and moderate a panel on Living Water Smart (LWS) as part of the Fraser Assembly Meeting, met with representatives from the BC Ministry of Environment, First Nations and stakeholders to discuss LWS implementation, and released a well-received legal guide for First Nations on groundwater, salmon habitat, and aboriginal legal rights – "Fish out of Water – Tools to Protect British Columbia's Groundwater and Wild Salmon," and a companion document on salmon and groundwater. We are also active in groundwater research.

Living Water Smart promises to protect BC's vital water resources. Yet it lacks clear regulatory authority, backed by a strong implementation plan, needed to achieve its goals. Watershed Watch believes that BC's main water law is long overdue for a major overhaul and welcomes the province's proposals.

¹ http://www.watershed-watch.org/publications/files/NGO_SoE-WaterActReform-Jan2010.pdf

Reforming BC's Water Act

Thinking Big

Before addressing the government's priorities, the first section of this brief lays out a more visionary proposal for a new *Water Act*. We then comment on strengthening the province's proposed principles and four priorities for a modern *Water Act* in section 2 of this brief.

The chance to reform such a vital statute for one of BC's most precious resources is rare. Since many provinces have recently completed similar law reforms, BC has a wealth of experience to draw on to make its reforms as comprehensive and forward thinking as possible.

Protecting ALL the water and the environment

The province should follow the lead of other recent provincial water laws which emphasize ecological protection.²

One of the messages of "Living Water Smart" is that all citizens will know what makes a stream healthy. A good way to achieve this goal is to require grading rivers with 'good' or 'poor' status.

If a region as diverse as Europe can pass a comprehensive law to protect all water, so can BC. The EU *Water Framework Directive* mandates the creation of local watershed councils for all rivers within the European Union. The Directive applies to all water – groundwater, inland surface waters, transitional waters and coastal waters. The overall objective of the Directive is to achieve "good status" of all water bodies in the EU member states and associated states by 2015. 'Good status' means both 'good ecological status' and 'good chemical status'. Detailed

² Ontario: "The purpose of this Act is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use, in order to promote Ontario's long-term environmental, social and economic well-being." *Water Resources Act*.

Manitoba: "The purpose of this Act is to provide for the protection and stewardship of Manitoba's water resources and aquatic ecosystems, recognizing

- (a) that Manitoba's social and economic well-being is dependent upon the sustained existence of a sufficient supply of high quality water;
- (b) the importance of comprehensive planning for watersheds, with respect to water, land and ecosystems, on a basis that acknowledges and considers their interdependence;
- (c) that water resources and aquatic ecosystems require protection to ensure the high quality of drinking water sources;
- (d) the importance of applying scientific information in decision-making processes about water, including the establishment of standards, objectives and guidelines;
- (e) the need to protect riparian areas and wetlands; and
- (f) the benefits of providing financial incentives for activities that protect or enhance water, aquatic ecosystems or drinking water sources."

Water Protection Act, S.M. 2005, c. 262, s. 1.

reports are required on these objectives. The end result is that a citizen can easily learn if a nearby river is healthy.

Recommendation 1: The purpose of the Water Act should be to provide comprehensive stewardship of all of BC's water. The Act must emphasize the critical role of water in sustaining ecosystems, including riparian areas and wetlands, and provide a simple status report for all water bodies.

Protecting Water at the Source

A comprehensive reform package would improve drinking water source protection, implementing Living Water Smart Action 27: "Government will improve the quality and protection of drinking water sources." The province should review how well the source protection regulation regime now works, and make a commitment to fill the gaps in this area.

Recommendation 2: The Act must improve drinking water source protection.

Getting More from Water – Efficiency

Water efficiency and conservation need action, and LWS contains promises on these topics. As with source protection, it would be administratively efficient to legislate on these topics at the same time as the other parts of the modern *Water Act* are legislated.

The easiest way to immediately boost water efficiency in BC is to ban the sale of toilets that use 13 litres per flush as Ontario has just done. BC's Building Code now requires low flow toilets to be used in new construction, but people are unlikely to switch to a more efficient model if they can still buy the old models when a replacement is needed.

Ban the Sale of Water Guzzling Toilets

"Most people don't realize a third of water consumption in an average household is just from flushing the toilets," said [Ontario Environment Minister] Gerretsen. "If you can reduce that you can save about \$90 a year."³

Recommendation 3: The Act needs more actions directed at water conservation and improving water efficiency, such as a ban on the sale of inefficient toilets.

³ Tanya Talaga, "Ontario to ban toilets that waste water", Toronto Star, April 22, 2010.

Let the People Speak – Public Participation

Public participation rights in the *Water Act* are woefully inadequate.

*Effective collaborative public participation improves the quality and legitimacy of a decision and builds the capacity of all involved to engage in the policy process. It can lead to better results in terms of environmental quality and other social objectives. It also can enhance trust and understanding among parties.*⁴

The proposed *Water Act* reforms lack sufficient emphasis on the need for greater transparency and public participation rights in BC's main water law. Two years ago, *Smarter Water Laws – the Key to Living Water Smart*, a report from the UBC Program on Water Governance, which was a quick first reaction to the LWS Plan, noted:

“Serious gaps in public participation exist in BC's water management framework:

- BC's current water licensing framework lacks public participation opportunities available elsewhere across the country.
- Participation in appeal processes is similarly limited.
- As groundwater is not licensed, there are only very minimal opportunities for public participation in the rarely used environmental assessments of major projects.”

The reform process should remedy these key gaps.

Recommendation 4: The Water Act reform process should significantly strengthen public participation rights in water allocation and use decisions.

Other provinces and states regularly seek and respond to advice from the public on water issues. For all environmental matters, Ontario's Environmental Bill of Rights and Environmental Registry provide citizens with the opportunity to comment on most regulatory proposals, and require regulators to respond to the input. Both Alberta and Manitoba have formed provincial Water Councils, Ontario has a Drinking Water Advisory Council, Quebec supports basin organizations through the Regroupement des organisations de bassin versant du Québec, and PEI has an Environmental Advisory Council which recently carried out public consultations on managing land and water on a watershed basis.

BC, a former leader in the area of shared decision-making and multi-stakeholder dialogue, has fallen behind the best practice in this area.

Recommendation 5: The government should form a multi-stakeholder advisory group on water issues such as a provincial Water Council.

⁴ Thomas Dietz and Paul C. Stern, Eds., Panel on Public Participation in Environmental Assessment and Decision Making, *Public Participation in Environmental Assessment and Decision Making*, National Research Council, 2008.

Aboriginal Water Rights

Aboriginal water rights and treaty rights continue to evolve. Failing to recognize aboriginal rights related to water and failure to meet the duty to meaningfully consult and accommodate aboriginal rights can lead to litigation,⁵ and can also make shared governance initiatives difficult to implement. The response of the Union of BC Indian Chiefs to the BC Water Act Modernization Discussion Paper illustrates the pitfalls of inadequate consultation.⁶

Recommendation 6: Policy makers need to be cognizant of the changing legal landscape and engage Aboriginal leaders in water law reform at the earliest possible stage.

Province-Wide or “Priority Areas”? The Need for Regional Equity

The Discussion Paper refers to ‘priority areas’ where, for example, groundwater regulation or more in depth watershed management planning might take place.

WWSS recommends instead that the Act apply throughout the province. Rather than have each community attempt to resolve similar water issues in isolation, a province-wide approach makes water protection easier, more certain, fairer, and more likely to result in higher overall levels of protection.

A regional approach may also heighten regional tensions as those communities who do not qualify as “priority areas” may question this decision. For example, northern communities may not qualify as priority areas due to low population densities, and relative abundance of water, but the Outdoor Recreation Council of BC says otherwise: “What’s unfolding in the Sacred Headwaters [tied for top place as BC’s most endangered river for 2010] also highlights the need for governments to be more proactive in protecting productive northern rivers. This is particularly important given that BC’s more southerly salmon rivers are under increasing pressure from impacts relating to climate-change.”⁷

Currently, only those areas with greater financial resources, such as the Okanagan (as its Water Board has property taxation powers), have the ability to engage in proactive water management planning. Regional equity with financing would also improve water protection.

Recommendation 7: The Water Act should apply to all regions of the province.

⁵ Tsuu T’ina First Nation v. Alberta, 2008 ABQB 547. The Tsuu’ Tina First Nation and the Samson Cree First Nation sued the Alberta government alleging failure to consult and accommodate their Aboriginal and treaty rights on the South Saskatchewan River Basin Water Management Plan.

⁶ A March 2010 BCUIIC resolution “strongly demands that the prior, superior, and un-extinguished water rights of the First Nations of British Columbia must be addressed and given priority before the Province proceeds with legislative and policy change such as in WAM. Further, the UBCIC Chiefs Council firmly asserts that WAM does not constitute consultation with First Nations, and the engagement which is contemplated in WAM has an impossibly short timeframe for meaningful input and legal standards.”

⁷ <http://www.orcbc.ca/pdf/ER/2010/Backgrounder2010.pdf>

WAM Proposals for Change – Principles and 4 Priority Areas

The proposed principles for the Act should inspire citizens to care about their water.

On the government's four priority areas, WWSS submits that:

1. *Environmental flows* are the key to stream health and require the strongest form of protection through legally binding standards (guidelines don't work);
2. *Water governance* is now confusing and piecemeal and BC can learn from the experiences of other provinces with shared water governance systems, and adopt provincially applicable standards for new shared governance bodies;
3. Reform of the water *allocation* system requires mechanisms to deal with efficiency, over-allocation, reallocation, existing licences, and climate change;
4. A province-wide requirement for groundwater extraction licences is a key part of long overdue *groundwater regulation*.

Principles

The principles now set out in the Discussion Paper are generally sound (except for the references to investors and the investment climate which are inappropriate and should be deleted), and could be further strengthened so that BC meets the government's vision to have the best water protection and management infrastructure in the world, bar none.

Adding principles that confirm the value of water, the ecological importance of water, and the key role the public plays to ensure protection (and conservation) of water can reinforce the province's vision. BC can look to other provinces as well as the Okanagan Sustainable Water Strategy (OSWS) for this type of visionary principle.

WWSS suggests adding principles for a new *Water Act*, such as the following:

1. The people of British Columbia have as a common goal the protection, conservation and restoration of the natural environment for the benefit of present and future generations. Ontario Environmental Bill of Rights.⁸
2. The people of British Columbia recognize the value of water. (OSWS)
3. The people of British Columbia protect critical ecological processes and biodiversity. (OSWS)
4. "Water resources are part of British Columbia's shared heritage, and it is important to preserve water and improve water management to meet the needs of present and future generations."⁹
5. "Water is indispensable to life and is a vulnerable and finite resource." (Quebec water law)
6. "Within the limits defined by law, every person has a right of access to any information

⁸ Environmental Bill of Rights, 1993, S.O. 1993, CHAPTER 28.

⁹ Bill 27, (2009, chapter 21), An Act to affirm the collective nature of water resources and provide for increased water resource protection, Assented to 12 June 2009

- on water resources that is held by public authorities and a right to participate in public decision-making that affects those resources.” (Quebec water law)
7. British Columbians must become leaders at using water more effectively and efficiently, Alberta’s Water for Life. (WFL) ¹⁰
 8. British Columbians will use and reuse water wisely and responsibly. (WFL)
 9. Healthy, resilient ecosystems are vital to a high quality of life and must be preserved. (WFL)
 10. Groundwater and surface water quality must be preserved equitably in the pursuit of economic and community development. (WFL)
 11. ... an abundant supply of high quality water is essential to sustain all ecological processes, life-support systems and food production, and is paramount to the environmental, economic and social well-being now and in the future. (Manitoba Water Protection Act (WPA))¹¹
 12. ... access to sufficient, safe, acceptable, and affordable water for personal and domestic uses is internationally recognized as a fundamental right of citizens; (WPA)

Recommendation 8: Strengthen the Guiding Principles for Water Act reform.

Government Goal 1 – Protect Stream Health and Aquatic Environments

Quantity AND Quality

The government’s proposals related to achieving this goal all focus on protection of water quantity, rather than quality. Although there are other laws that guard against pollution, the *Water Act* should take a comprehensive approach to protection of the aquatic environment. For example, watershed management plans (which we recommend should be required as part of the governance reforms, discussed in the next section of this brief) should contain a variety of measures to protect both water quantity and quality.

Recommendation 9: The Act needs strong specific commitments on protection of water quality and protection of the overall aquatic environment.

Legislated Environmental Flow Standards

Box 1 - Low Flows Threaten Fish in Coldwater River

“While the drought conditions that helped propel the Coldwater closer to the top of this list in recent years eased somewhat in 2008, they returned with a vengeance last year and, in late July, flows surpassed the all-time low for an extended period. The extremely low flows resulted in highly stressed fish stocks and resulted in at least one major fish kill over several kilometers that impacted juvenile steelhead, coho, Chinook, whitefish and rainbow trout.”

¹⁰ These are select principles. The full list is at: http://www.waterforlife.alberta.ca/documents/wfl-strategy_Nov2003.pdf

¹¹ S.M. 2005, c. 26

ORC BC Endangered Rivers 2010, #3 Coldwater River

The commitment to legislate environmental flow needs is a vital part of the *Water Act* reform, and needs to be carefully designed, based on best practices and lessons learned from around the world.

We advise the province to use and build on the "instream flow needs" approach developed for the successful BC Hydro water use planning (WUP) process. In particular, ecologically-based flow allocations for different life history stages of fish (spawning, passage, juvenile rearing, etc.) were developed based on each river's "mean annual discharge." This robust approach relied on the best science, adaptive management (including long-term productivity monitoring), and is robust across watersheds and streams of all sizes (see also Annear, T. et al. 2009.).

The Discussion Paper proposes in s. 5.1 that "Environmental flow needs are considered in all water allocation decisions to protect stream health." Watershed Watch strongly agrees with this objective.

Watershed Watch strongly favours legally binding standards for environmental flows because they:

- are enforceable,
- lead to better results,
- provide certainty,
- avoid the need for self-policing, and
- provide a higher level of protection for water and ecosystems.

Moreover, standards may help resolve some of the undesirable "bargaining" that currently takes place between proponents of projects of industrial water extraction and overworked ministry employees over "acceptable" flows for aquatic systems. Legally binding standards would end the practice of negotiating acceptable flows.

The province should also strongly consider a simple but long overdue principle that fish have rights to water.

Guidelines in many areas of environmental policy in Canada have proven to be ineffective:

- Voluntary agricultural best management practices have not reduced nitrate contamination of groundwater, which is worsening: "In the long run, there is little doubt that programmes of this nature cannot be a substitute for legislative or regulatory action."¹²

¹² David Percy, "Approaches to the Protection of Water Sources" for the UBC Watersheds and Source Protection: Governments, Science and Health, an Exploratory Workshop, Nov. 24-25, 2006. Also see "Can Water Quality Trading Help to Address Agricultural Sources of Pollution in Canada?" Project Report Ottawa: Policy Research Initiative, 2005, at 9: "there is little evidence to suggest that voluntary approaches [to control nonpoint agricultural source pollution] deliver the expected environmental benefits and much that they do not." www.policyresearch.gc.ca/page.asp?pagenm=pub_index

- An analysis of 24 assessments of how well the “No Net Loss” (NNL) policy contained in the DFO Guidelines for the Protection Of Aquatic Habitat had worked concluded that “Despite improvements in habitat protection over the past 20 years, present losses are unacceptable and NNL is not being achieved.”¹³
- Canada's greenhouse gas emissions per capita, governed by voluntary reductions, have increased by 32 per cent in 15 years, making them among the highest in the world. (Conference Board 2009)

Recommendation 10: Environmental flows should be legislated in the Water Act as legally binding standards.

In some parts of the province, where populations and water use is growing, rivers already have no excess water to allocate for environmental flows. The Okanagan Instream Flow Needs report (ESSA 2009) documents this problem. A potential solution identified by this report was to make greater use of the WUP process to resolve conflicts over environmental flows: “Depending on who is at the table and the terms of reference, WUPs can be formal agreements for how water will be shared between licensees while still providing adequate flows for fish and wildlife.” To explore how the WUP process could be used to set environmental flows in different parts of the province, an expert advisory council might provide advice. This is another example of how the province could benefit from greater public involvement from outside government.

Environmental flows should consider not only the needs of fish but also of aquatic ecosystem protection. Again this is an area that could benefit from expert informed opinion, and a review of best practices from other jurisdictions.

Box 2 - Colorado Water Conservation Board - Environmental Flow Protection

Colorado’s Instream Flow Program is not limited to protecting coldwater fisheries. The CWCB has appropriated and acquired water for non-fishery purposes. On Gageby Creek in southeastern Colorado, the CWCB’s appropriation was based upon maintaining wetlands for waterfowl habitat. On the Arikaree River in northeastern Colorado and the Mexican Cut Ponds near Crested Butte, water was appropriated to protect unique species of frogs and salamanders. The CWCB has also appropriated water to protect unique hydrologic and geologic features (Hanging Lake) and acquired water to maintain critical habitat for endangered native, warm water fish (Yampa and Colorado River). The challenge in securing water for non-fishery purposes is identifying a scientifically reproducible and acceptable method for quantifying flow needs.¹⁴

Recommendation 11: The government should form an expert, independent panel to advise and monitor progress on environmental flows and aquatic health aspects of

¹³ Otto E. Langer Review of DFO and Other Studies Examining the Achievement of a No Net Loss of Habitat, (Vancouver: Rivershed Society) 2008
http://www.rivershed.com/documents/external_reports/Summary_of_DFO_and_Others_No_Net_Loss_of_Habitat_2008.pdf

¹⁴ Dan Merriman, Anne Janicki, Colorado Water Conservation Board, Colorado’s Instream Flow Program- How It Works and Why it’s Good for Colorado, (Riparian Association - October, 2005) at <http://cwcb.state.co.us/NR/rdonlyres/6333F3FC-E2F8-4E7E-9BD3-690FCC4285D1/0/FinalRiparianAssocPaper.pdf>

Water Act modernization.

Government Goal 2 – Improve water governance arrangements

Set provincial standards for watershed councils to prepare watershed management plans

Since 1993, the province has been considering a new *Water Act* that would “enable a systematic approach to watershed planning.”¹⁵ Now in 2010 that goal can be achieved.

The WAM Discussion Paper lists three options for reforming governance. WWSS favours the shared or delegated approach. (Though the province distinguishes between these options, they are substantially similar, as in each case the province retains the ultimate accountability for managing the water resource on behalf of the public, while sharing decision making powers with others.)

The benefits of shared governance are considerable, and can include:

- access to ‘local’ expertise which can improve the quality of decision-making;
- the ability to adapt regulatory programs to meet local conditions;
- empowerment of stakeholders (particularly those traditionally marginalized);
- reinforcement of ‘social trust’ between stakeholders, and reduction of conflict over competing uses;
- greater cooperation in information-sharing;
- greater political legitimacy (and thus enforceability) of water management planning outcomes; and
- more positive outcomes that have the ‘buy-in’ and support of influential interests. (Nowlan and Bakker, 2007)

Another key benefit of shared water governance is the potential to reduce conflicts. Conflicts over water use are most likely to occur at the community level, and are usually development disputes, related to conflict over water allocation.¹⁶

The current *Water Act* now contains the necessary authority for shared governance with the water management planning provisions in Part IV. However, this provision has so far only been used once, with somewhat disappointing results, as discussed in Box 3 below. Any reform of the *Water Act* to enhance governance will need to evaluate how well the pilot has worked, consider why this legal authority has not been used more often, and address reforms to answer the questions posed below.

¹⁵ British Columbia Ministry of Environment, Lands and Parks, “Stewardship of the water of British Columbia: a review of British Columbia’s water management policy and legislation: a vision for new water management policy and legislation”

¹⁶ Peter Gleick, 49th International Studies Association (ISA) Annual Convention, which took place March 26-29, 2008, in San Francisco, California roundtable entitled “Conflict and Cooperation over Shared Water Resources II”

Box 3 – Langley Water Management Plan – Implications Ground Water Protection.

Langley and particularly the Salmon River area was selected by the province as a test case for Groundwater Legislation. A stakeholder group was launched 3 years ago to develop a plan. Like many stakeholder groups the user groups sat at the table and were able to slow progress.

The plan does not contain enough action measures to be effective in remedying water quantity and quality problems. For political reasons the plan no longer contains water metering, does not address agricultural and other big users effectively and talks about grandfathering existing users. Since the water table is dropping rapidly existing uses must be addressed to stabilize the water level and to avoid major negative consequences to the river.

Phase 3 of the Groundwater Act (should it ever come forward) suggests developing the same sort of stakeholder groups for other areas with water problems. Since this process has not worked well in Langley one has to question the thrust of Phase 3. The province will need to be pro-active and will need to address some of the critical issues with less fear of entrenched user groups if water issues are going to be solved in BC.

Source: Salmon River Enhancement Society's 2010 Nomination of the Salmon River for the ORCBC's Endangered Rivers List, at <http://www.salmonriver.org/endangeredrivers%202010.htm>

Governance Reforms Should Answer Basic Questions

Assuming the government does decide to adopt the shared governance approach, as have many provinces in Canada,¹⁷ reform of the BC *Water Act* governance process should answer these basic questions:

Is a province-wide approach to shared governance more efficient and predictable than the current piecemeal approach? Where will new bodies be formed?

BC now has a patchwork of shared governance approaches. Many communities have some form of multi-stakeholder body and have prepared watershed management plans. Some, like the Okanagan Basin Water Board and the Columbia Basin Trust, are established by a law. Others, like the Nicola Valley Water Use Management Plan, are voluntary. Most are struggling with the same issues: how to address over-allocation, low flows, efficiency and conservation, aquatic ecosystem protection, agricultural water use, non-point source pollution, groundwater overuse and unregulated extraction, riparian protection, burgeoning populations, and more.

Rather than have each community re-invent the wheel, why not have the province establish a common framework for action? Many other provinces have taken a more systematic province-wide approach as Table 1 below shows.

¹⁷ The UBC program on Water Governance will soon publish a Primer titled *Practising Shared Water Governance in Canada*, www.watergovernance.ca. Some of the material in this section is drawn from that Primer.

Table 1: Legislative Authority for Four Examples of Water Governance Bodies in BC, Alberta, Ontario and Quebec

Name of Water Governance Body	Law	Policy	Number of governance bodies established by province-wide law or policy
BC Water Management Planning Committees	<i>Water Act</i> , RSBC 1996, c. 483	Living Water Smart, 2008	1
Alberta Watershed and Planning Advisory Council	<i>No legislative basis.</i> ¹⁸	Water for Life, 2003	10
Ontario Source Protection Committees	<i>Clean Water Act, S.O. 2006, c.22</i>	No overall provincial policy	19
Quebec Watershed Organizations	<i>An Act to affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection</i> , 2009 R.S.Q. c. C-6.2	Water Policy, 2002	33, to grow to 40 by the end of 2011.

Will new governance bodies be formed on watershed boundaries – like the Okanagan Basin Water Board? The watershed scale is increasingly accepted as the proper scale of governance. The Water Sustainability Project at the POLIS Project on Ecological Governance has a number of publications exploring the growth of this concept.

Who?

Who will participate in water decisions if shared governance is adopted? The questions of who participates, how participants are recruited, and how they make decisions are central to the topic of shared governance.

The BC *Water Act* currently sets out an open-ended process whereby the minister may, by order, establish the process for developing a water management plan for a designated area. There are no specific requirements for the process in BC, and no multi-stakeholder body needs to be formed. The terms of reference for a proposed water management plan must include a process for public and stakeholder consultation. In contrast, other provinces define the categories of participants for watershed planning, as Table 2 illustrates.

¹⁸ The Alberta Water Act, RSA 2000, c. W-3 does not refer to WPACs but does require the adoption of a water management planning framework.

Table 2: Categories of participants defined by statute or policy

Quebec's Basin Organizations	balanced representation ... government, Native, municipal, economic, environmental, agricultural and community sectors ¹⁹
Ontario's Source Protection Committees	1/3 municipalities, 1/3 agricultural, commercial or industrial sectors, 1/3 environmental, health and other interests of the general public. ²⁰ In addition, the regulation requires Indian Band council members to be appointed if a source protection area or source protection region includes any part of a band's reserve, under the conditions set out in the regulation. ²¹
Alberta's Watershed and Planning Advisory Councils	Not specified in the <i>Water Act</i> . <i>Water for Life</i> policy identifies three types of partnerships: » Provincial Water Advisory Council » Watershed Planning and Advisory Councils » Watershed Stewardship Groups First two are described as multi-stakeholder, third is 'community-based'. ²²
BC's Water Management Planning Committees	Not specified in the <i>Water Act</i> .

The Committee for the pilot water management plan project for the Township of Langley consisted of representatives from two provincial agencies, Environment and Agriculture, and from the local government. Other groups also participated in an advisory capacity but were not part of the core Committee. Including representatives from agricultural and environmental groups at an early stage may have helped this Committee prepare a stronger plan with greater buy-in from the public.

Public participation can legitimize policy, minimize or avoid conflicts, and help overcome administrative and legal challenges. There are a number of methods to maximize the value of participation to all participants. For example, to overcome the imbalance between paid government representatives and volunteers from stewardship groups, Ontario's *Clean Water Act* provides for payment for those who participate in multi-stakeholder committees who do not receive payment from their employer to attend.

What?

If new shared governance bodies are created, what will they do – prepare water or watershed management plans with prescribed content?

Some provinces have detailed rules on the tasks to be performed by multi-stakeholder water governance bodies. Quebec's law provides that the content of a Master Plan for Water will be

¹⁹ Section 13 (3) (a).

²⁰ Source Protection Committees, O. Reg. 288/07, (Clean Water Act, 2006), s. 2.

²¹ Source Protection Committees, O. Reg. 288/07, (Clean Water Act, 2006), s. 6.

²² The government's web site describes WPACs as multi-stakeholder non-profit organizations that bring public and private sector stakeholders and individuals in a watershed together to assess the conditions of their watershed and to develop a plan and activities to address watershed issues.

prescribed by rules, and will include:

- the state of waters and water-dependent natural resources;
- the identification of water uses and an assessment of their effects;
- an inventory of zones of ecological interest and of ecologically fragile or degraded zones;
- measures to protect and restore the qualitative or quantitative status of waters;
- an evaluation of the economic and financial means required to implement the plan; and
- determine conditions for developing, updating and monitoring the implementation of the plan.

In Ontario, the *Clean Water Act* requires source protection committees to first map surface water intake protection zones and wellhead protection areas for existing and planned municipal drinking water systems, and then examine existing and potential threats to these sources. Next, the committees develop science-based assessment reports, whose mandatory content is prescribed by law, regulation, and technical rules, and then finally they will set out the actions necessary to reduce or eliminate the threats in source protection plans.

The BC *Water Act* is silent on this issue. Reforms can fill this gap.

How?

How is a watershed management plan implemented?

The current procedure under the BC *Water Act* is that the Minister and Cabinet can approve all or part of the WMP by a two step approval process: first, the water management plan is submitted to the Minister of the Environment who reviews it and then sends it to Cabinet (the Lieutenant Governor in Council), who has the authority to approve all or part of the plan. The reform process should consider other less onerous implementation procedures.

When?

Timelines for the preparation of water or watershed management plans should be included in the Act.

Recommendation 12: The Water Act should adopt shared water governance reforms that answer questions about who, what, where, when and how reforms will apply.

The WUP process is a good example of shared governance. The Consultative Committees involved the province and the federal government, aboriginal groups, the major industrial user, in this case BC Hydro, and other key stakeholders. The plans that these Committees prepared resulted in many cases in improvements in environmental flows (WWSS, 2004). Detailed guidelines, prepared by both levels of government, set rules of procedure. The WUPs focused on an outcome, which was then recommended to Comptroller, who approved a change in the applicable licence conditions for Hydro.

Recommendation 13: The Water Act reforms should consider using the WUP process as a model for shared governance reforms.

Government Goal 3 – Introduce more flexibility and efficiency in the water allocation system

Box 4 - Kettle River Symptomatic of Over Allocated Rivers in BC

The Kettle River tied for top place as the most endangered river in BC on this year's Endangered Rivers List from the Outdoor Recreation Council of BC.

“The Kettle River is confronted by an array of threats, the most note-worthy centering around excessive water withdrawal. Just as worrisome, the events unfolding on the Kettle may well foreshadow what other streams in the region might be confronted with in the face of ongoing climate change. The fact that the Kettle is so prominent of this year's list also, once again, highlights the importance of updating the provincial Water Act so that the needs of fish are adequately considered when making decisions around water extraction.”²³

Like many aspects of the *Water Act*, the allocation system is ripe for reform. A number of the examples in the ORC's "Endangered Rivers" report are over-allocated rivers. The Okanagan Basin Water Board reports that about 90% of all streams in the Okanagan are at or beyond their licensed capacity (OWSC, 2008) yet the applications for new water licences and new water uses continue to rise.

River basin closures worldwide are on the rise and experts warn that these closures can be unplanned and disruptive or the effects of closures can be mitigated to some degree with advance planning (Falkenmark and Molden, 2008). BC has the opportunity to take a proactive approach to the issue of allocation.

Allocation Must Protect Environmental Flows

A prime concern of over-allocated rivers is the lack of protection for environmental flows. BC is in the fortunate position of being now able to set environmental or instream flows for many major rivers that are not over-allocated through a consultative deliberative science based process.

If flows are not set now, then it will be difficult or impossible to establish them later after full allocation occurs. This is already a problem in areas like the Okanagan. There must be a process in place to retire existing licences, impose efficiency or conservation requirements on large users, and otherwise address historic water uses which may not represent today's priorities. In other words, if the province is truly concerned about improving and protecting aquatic ecosystem health, it must be prepared to "claw back" some portion of water that is

²³ The list represents the views of those who use and recreate on rivers, as well as those who manage them. <http://www.orcbc.ca/pdf/ER/2010/Backgrounder2010.pdf>

currently not available for this ecosystem function.

Reform FITFIR

BC's system of water allocation is very rigid. When comparing it to the principles, it does not fit with Principle 6 on flexibility or the suggested principle of protecting ecosystem integrity.

“First in time, first in right” – Fitfir – is generally recognized as an outmoded concept that reflects development priorities of the past. It is time to completely reform this priority system. As Professor Percy notes in his discussion of the water laws of the three prairie provinces, “...the basic model of water law had frozen water use in a pattern – dictated only by historical accident – that could not adapt to either economic or environmental changes.”²⁴

Most provinces consider a number of criteria for issuing water licences other than historical precedence such as putting water to its highest and best use. BC's 1993 water law reform proposal recommended that licensing criteria could include: availability of water, maintenance of stream flows, water quality and temperature conditions considered necessary to sustain and protect aquatic ecosystems; compliance with an approved water management plan, where one exists; compatibility with neighbouring existing uses; water quality requirements of the proposed use; whether sustenance and spiritual water uses of aboriginal people are affected; other site-specific public uses; and best available conservation technology.²⁵

Options to address temporary water scarcity.

Rather than the discretionary approach found in the *Fish Protection Act*, which has been used only once to date, the other options proposed by the government to deal with scarcity are preferable – sharing between water users on a proportional basis, coupled with use of water efficient practices, and also considering a hierarchy of uses where human needs, animal needs, basic and environmental flows are all taken into account. Another problem with the *Fish Protection Act* approach is that it only applies to licensed uses. Since groundwater is not currently licensed, this type of provision is not helpful for areas, like Langley for example, where the unlicensed groundwater users are contributing to water scarcity problems.

Other Options for Allocation Reform

Allocation could also be improved by:

- Harmonizing surface and groundwater licensing
- Adding term limits for existing licences.

²⁴ Percy, D. “Responding to Water Scarcity in Western Canada”, *Texas Law Review* Vol. 83, No. 7, pp. 2091-2107, June 2005.

²⁵ “Water Allocation” British Columbia Ministry of Environment, Lands and Parks. 1993. *Stewardship of the Water of British Columbia*, Victoria BC: Queen's Printer.

Recommendation 14: The BC water allocation system should:

- **protect environmental flows;**
- **reform FITFIR and add criteria for licensing such as those the province proposed in 1993;**
- **establish easy to use mechanisms to address water scarcity; and**
- **harmonize surface and groundwater licensing.**

Government Goal 4 – Regulate groundwater extraction and use

BC's regulatory system for water applies to surface but not groundwater. This anomaly causes problems for managers at all levels of government as noted by many commentators (Provincial Health Officer of BC, 2007; Nowlan 2005; Douglas, 2007; Christensen 2007). In 1993, the government noted that: "It is becoming increasingly apparent that British Columbia needs some form of licensing of groundwater use."²⁶ In 1999, the Auditor General of BC found that: "The absence of groundwater management has resulted in increasing problems" and that "British Columbia is unique in Canada in having no licensing or regulation of groundwater use. There is little legal protection of groundwater from "non-point source" pollution, and little control over how much any well draws down its aquifer, or over land uses that interfere with the natural replenishment of aquifers." (Auditor General of BC, 1999).

Excessive groundwater extraction and dropping water tables are causing problems in many areas of the province. Examples abound in aquifers and rivers.

The Water Management Plan for the Township of Langley notes that declining water levels in the more intensively used aquifers have been a trend for close to 40 years, and that analysis of data indicates that dropping water levels are the result of groundwater overuse. The WMP targets a 30% reduction in groundwater use by 2020. Many question how this can be achieved in the absence of licensing for new and existing groundwater extractions, metering, and establishing a fee system to charge penalties for groundwater overuse and waste. The Town Council rejected all these options.

Box 5 - BC's Rivers Show Problems with Unregulated Groundwater

Nicola River

The Chinook run in the Nicola River may be jeopardized as groundwater extraction increases. Large amounts of surface water extraction are also a problem, as the less water there is instream, the less time it takes for the sun to heat it up. The more surface water and cooling groundwater is taken, the poorer the prospects that the Nicola River will sustain a Chinook run into the future (Douglas, 2009).

²⁶ "Groundwater Management" British Columbia Ministry of Environment, Lands and Parks. 1993. *Stewardship of the Water of British Columbia*, Victoria BC: Queen's Printer.

Coldwater River

The situation on the Coldwater however remains grave. There has only been mixed success in voluntary water conservation. There are also increasing concerns about excessive groundwater extraction and the increasingly apparent interaction between groundwater and surface water in the lower Coldwater. This once again highlights the need for groundwater legislation in BC, the only province in Canada not to have it (ORCBC, Endangered Rivers 2010).

Groundwater Licensing System Applied Throughout the Province

The major question for the government is why limit proposed regulations to 'priority areas' and 'large withdrawals', rather than extend the provincial water licensing system to groundwater?

The BC Water Act was amended in 1960, allowing all its controls, including water licensing, to be applicable to groundwater on a day to be named by the provincial government, but the date was never proclaimed. Fifty years later, it's time to fix this glaring gap in BC's water law, and create a provincial licensing requirement for groundwater.

Rather than having the MOE staff make each determination about whether an area meets one or more of the nine listed criteria for a 'priority' area²⁷, a simpler approach would be to apply a licensing system for groundwater extractions that applies province-wide. This would also avoid complaints or requests for action from those areas not designated as priority areas for groundwater protection. To cite just one example, oil and gas development in the northeast corner of BC is affecting groundwater, yet this area is not proposed as a 'priority area' for regulation.

The advantages of a province wide system are that it is relatively straightforward to administer, can be easily integrated with the surface water licensing system, and follows the principles for water law reform set out by the province.

²⁷ From the Technical Backgrounder: "A priority area could be a geographic area or an aquifer:

- that is subjected to heavy extraction and use relative to the supply available;
- where there is known or suspected quantity concerns;
- that is at risk from salt water intrusion or natural depletion (e.g. due to insufficient recharge resulting from climate variability);
- that is believed to be in direct hydraulic connection with surface water and where over pumping may negatively impact either source;
- where the supply is used by many and groundwater is a sole or primary source of supply for drinking water;
- that extends into another province or crosses an international boundary (i.e. a transboundary aquifer);
- that is in a basin where surface water is at or near the allocation limit;
- where ecosystem health is considered to be vulnerable to additional groundwater extraction; or, any combination of the above."

Effective Groundwater Regulation

Professor Robert Glennon, a noted American groundwater law expert, advises governments to keep groundwater regulation simple. In both his 2002 book and in a 2007 speech to a University of Toronto workshop on groundwater permitting, he advocated for groundwater law to be based on a set list of criteria to make regulators' work easier. It would be simple to operate – regulators will make decisions based on a variety of clear publicly accessible standards, such as, for example, the minimum stream flows required for each stream in Washington State. He suggested that any ideal permitting system should have clear reporting requirements. Groundwater is a public resource so it is legitimate for the state to insist on reporting. Glennon noted that if the permitting system denies only 1% of applications (as he finds, on average, and confirmed to be the case in Saskatchewan) then the resource is still being treated as a commons (Walter and Duncan Gordon Foundation, 2006).

Watershed Watch recommends that the thresholds for groundwater withdrawals be based on ecological principles and also be sensitive to density dependent effects like human population size and limited water resources.

Integrated Management of Groundwater and Surface Water

Groundwater and surface water are one resource and licensing and allocation systems should recognize their interconnectedness.²⁸ Experts increasingly recommend integrated ground and surface water management.²⁹ This is the approach recommended by the Council of Canadian Academies report on Groundwater Sustainability in Canada: "Sustainability requires that groundwater and surface water be characterized and managed as an integrated system within the hydrological cycle in a watershed or ground watershed." (CCA, 2009, at 185). To manage water as an integrated resource, the Ministry of the Environment should be doing more to assess and measure the flows and volumes of available water.

Groundwater protection will become more critical as increasing climate change effects are felt, since groundwater not only provides essential base flows for streams, but moderates water temperature. The predominant coldwater fisheries of BC are threatened by excessive extraction, and regulators appear to have ineffective tools to respond to this threat. As Watershed Watch Salmon Society has previously identified, substantial improvement is needed in how BC manages groundwater for salmon and healthy aquatic ecosystems.

Recommendation 15: The BC Water Act should create an effective province-wide licensing system for groundwater extraction with reporting requirements, integration with the surface water licensing system, and consideration for the contribution of groundwater to environmental flows.

²⁸ T.C. Winter, J.W. Harvey, O.L. Franke, and W.M. Alley, Ground water and surface water : a single resource , (U.S. Geological Survey circular : 1139) 1998

²⁹ See, e.g., Report of the Rosenberg International Forum on Water Policy to the Ministry of Environment, province of Alberta, 2007, p. 14.

List of Recommendations

Recommendation 1: The purpose of the Water Act should be to provide comprehensive stewardship of all of BC's water resources. The Act must emphasize the critical role of water in sustaining ecosystems, including riparian areas and wetlands, and provide a simple status report for all water bodies.

Recommendation 2: The Act must improve drinking water source protection.

Recommendation 3: The Act needs more actions directed at water conservation and improving water efficiency, such as a ban on the sale of inefficient toilets.

Recommendation 4: The Water Act reform process should significantly strengthen public participation rights in water allocation and use decisions.

Recommendation 5: The government should form a multi-stakeholder advisory group on water such as a provincial Water Council.

Recommendation 6: Policy makers need to be cognizant of the changing legal landscape and engage Aboriginal leaders in water law reform at the earliest possible stage.

Recommendation 7: The Water Act should apply to all regions of the province.

Recommendation 8: Strengthen the Guiding Principles for Water Act reform.

Recommendation 9: The Act needs more specific commitments on protection of water quality and protection of the overall aquatic environment.

Recommendation 10: Environmental flows should be legislated in the Water Act as legally binding standards.

Recommendation 11: The government should form an expert and independent panel to advise and monitor progress on environmental flows and aquatic health aspects of Water Act modernization.

Recommendation 12: The Water Act reforms should adopt shared water governance reforms that answer questions about who, what, where, when and how reforms will apply.

Recommendation 13: The Water Act reforms should consider using the WUP process as a model for shared governance reforms.

Recommendation 14: The BC water allocation system should:

- protect environmental flows,
- reform FITFIR and add criteria for licensing such as those the province proposed in 1993,
- establish easy to use mechanisms to address water scarcity, and
- harmonize surface and groundwater licensing.

Recommendation 15: The BC Water Act should create an effective province-wide licensing system for groundwater extraction with reporting requirements, integration with the surface water licensing system, and consideration for the contribution of groundwater to environmental flows.

References

- Annear, T. et al. 2009. International Instream Flow Program Initiative: A Status Report of State and Provincial Fish and Wildlife Agency Instream Flow Activities and Strategies for the Future. Instream Flow Council. <http://www.instreamflowcouncil.org/docs/IIFPI-final-report-with-covers.pdf>
- Auditor General of BC. 1999. *Protecting Drinking-water Sources*. Victoria: Office of the Auditor General.
- Brandes, O. and D. Curran. 2009. *Setting a New Course in BC – Water Governance Reform Options and Opportunities*. Prepared for the British Columbia Ministry of the Environment Water Stewardship Division. Victoria, BC: POLIS Project on Ecological Governance, University of Victoria.
- British Columbia Ministry of Environment. 2007. *Environmental Trends in British Columbia: 2007*. Victoria BC.
- British Columbia Ministry of Environment, Lands and Parks. 1993. *Stewardship of the Water of British Columbia*, Victoria BC: Queen's Printer.
- Bruce, J.P. et al. 2009. *The Sustainable Management of Groundwater in Canada*. Ottawa, Canada: The Canadian Council of Canadian Academies.
- Christensen, R. 2007. *Review of British Columbia's Groundwater Regulatory Regime: Current Practices and Options*. Vancouver: Sierra Legal Defence Fund.
- Conference Board of Canada. 2009. *How Well Canada Performs: A Report Card on Canada* (Ottawa: Conference Board) at <http://www.conferenceboard.ca/HCP/Details/Environment/greenhouse-gas-emissions.aspx>
- Douglas, T. 2009. *Groundwater & Healthy Streams: it's all connected*. Vancouver: Watershed Watch Salmon Society. <http://www.watershed-watch.org/publications/files/Groundwater-WWSS-Nov2009.pdf>
- ESSA Technologies Ltd. 2009. *Instream Flow Needs Analysis for the Okanagan Water Supply and Demand Project*. Vancouver.
- Falkenmark, M. and D. Molden. 2008. *Wake Up to the Realities of River Basin Closure*. International Journal of Water Resources Development, 24:2.
- Glennon, R. 2002. *Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters*. Islands Press.

- Leach, W. and N. Pelkey. 2001. *Making Watershed Partnerships Work: A Review of the Empirical Literature*. J. Water Resour. Plng. and Mgmt. 127, 378.
- Merriman, D. and A. Janicki. 2005. *Colorado Water Conservation Board, Colorado's Instream Flow Program- How It Works and Why it's Good for Colorado*. Riparian Association. <http://cwcb.state.co.us/NR/rdonlyres/6333F3FC-E2F8-4E7E-9BD3-690FCC4285D1/0/FinalRiparianAssocPaper.pdf>
- Nelitz, M., T. Douglas, and M. Rutherford. 2009. *2009 Freshwater for Fish and People: Moving Towards Living Water Smart*. Prepared for Pacific Fisheries Resource Conservation Council.
- Nowlan, L. 2005. *Buried Treasure: Groundwater Permitting and Pricing in Canada*. Toronto: Walter and Duncan Gordon Foundation.
- Nowlan, L. 2007. *Out of Sight, Out of Mind? Taking Canada's Groundwater for Granted*. In K. Bakker. ed. *Eau Canada: The Future of Canada's Water*. Vancouver BC: UBC Press, p. 55 – 83.
- Nowlan, L. and K. Bakker. 2007. *Delegating Water Governance: Issues and Challenges in the BC Context. Report for BC Water Governance Project*. Vancouver, BC: Program on Water Governance, University British Columbia. Available at: www.watergovernance.ca/PDF/Delegating_Water_Governance_in_BC_for_FBC_by_LN_KB.pdf. Orr, Craig.
- Okanagan Water Stewardship Council. 2008. *Okanagan Sustainable Water Strategy- Action Plan 1.0*. Okanagan Basin Water Board.
- Outdoor Recreation Council of BC. 2010. *BC's Most Endangered Rivers of 2010*, http://www.orcbc.ca/pro_endangered.htm
- Provincial Health Officer. 2007. *Progress on the Action Plan for Safe Drinking Water in British Columbia for the years 2003/2004 and 2004/2005*. (Victoria: PHO).
- Ptolemy, R. and A. Lewis. 2002. *Rationale for Multiple British Columbia Instream Flow Standards to Maintain Ecosystem Function and Biodiversity*. Draft for Agency Review. Prepared for Ministry of Water, Land and Air Protection and Ministry of Sustainable Resource Management
- Rosenau, M. and M. Angelo. 2003. *Conflicts Between People and Fish for Water: Two British Columbia Salmon And Steelhead Rearing Streams In Need Of Flows*. Vancouver, BC: Pacific Fisheries Resource Conservation Council.
- Walter and Duncan Gordon Foundation. 2006. *Proceedings of Groundwater Permitting Workshop*, University of Toronto.

Watershed Watch Salmon Society. 2004. *Preliminary Review of Fisheries Conservation Gains within BC Hydro's Water Use Planning Process*. Vancouver: Watershed Watch Salmon Society.

Watershed Watch Salmon Society, Secwepemc Fisheries Commission, Okanagan Nation Alliance Fisheries Department, Northern Shuswap Tribal Council, Nicola Tribal Association. 2009. *Fish Out of Water: Tools to Protect British Columbia's Groundwater and Wild Salmon*. Vancouver: Watershed Watch Salmon Society.