



**for a living planet®**

**WWF-Canada**

Tel: 604-678-5152

World Wildlife Fund Canada

Fax: 604-678-5155

1588 – 409 Granville Street

pacificregion@wwfcanada.org

Vancouver, British Columbia

wwf.ca

Canada V6C 1T2

November 15, 2013

Water Sustainability Act, Ministry of Environment,  
Water Protection and Sustainability Branch  
PO Box 9362 Stn Prov Gov  
Victoria British Columbia V8W 9M2

Dear Minister Polak:

RE: WWF-Canada's Submission in Response to the B.C. Government's "Legislative Proposal for British Columbia's Water Sustainability Act" (October 2013)

We are pleased to provide this submission on the legislative proposal for the proposed new Water Sustainability Act (WSA), and commend the province for undertaking such thorough public consultation on the proposed Act.

A new BC water law can and should update century-old provisions that focus on the economic value of water. It's time to redress the balance and place equal, if not greater, weight on water's ecological value. The government's proposals to protect environmental flows and regulate groundwater are both very welcome and will help protect BC's biodiversity.

A key commitment in *Living Water Smart: British Columbia's Water Plan* is that 'legislation will recognize water flow requirements for ecosystems and species.' No habitat, no fish. And water flows are the key part of fish habitat. With over 1/3 of BC's freshwater fish now classified at risk - 36.7% of the province's freshwater fish are red-listed according to a 2007 Conservation Data Centre [report](#) (see page 300) - it's clear that the new BC Water Sustainability Act (WSA) is urgently needed.

The proposal contained in the Water Sustainability Act to license groundwater represents another long overdue change. Groundwater contributes cold water recharge to critical salmon and other fish habitat in BC. Certain fish populations are imperiled by the lack of controls on groundwater. As the Watershed Watch Salmon Society has explained in a [series of reports](#), groundwater provides refuges in water otherwise warm enough to kill. Groundwater is the likely reason that many warm BC Interior streams have had healthy fish populations, even though average water temperatures aren't always cool enough for salmon. We strongly support the WSA's proposed extension of licensing to groundwater.



*for a living planet*<sup>®</sup>

To protect and restore aquatic ecosystems the WSA should:

1. Set environmental flow thresholds that all water licence holders must respect
2. Create powers to protect water in times of extreme stress such as drought or overuse that threatens ecological integrity.
3. Extend the licencing regime to cover groundwater.

WWF-Canada applauds the intent of the new WSA legislative proposal with respect to the second two requirements. However, we submit that the Proposal falls short on the first issue: provisions to address existing water licences that jeopardize environmental flows.

The attached submission contains Recommendations to strengthen protection of environmental flows in the Act and other responses to the legislative proposal. By more fully addressing First Nations rights and title and climate adaptation, two of the biggest challenges confronting resource decision making in BC., the WSA will truly live up to the promise of its name.

WWF-Canada has been pleased to work with the province over the past five years in the development of this law, serving on MOE's Technical Advisory Group and cosponsoring a workshop on environmental flows with MOE and Ministry of FLNRO. We also publicized the WSA in a [Youtube video](#) which has received over 4000 views, held a Salmon Water Pecha Kucha event with over 100 people, and published legal analysis, Fact Sheets, blogs and media commentary and op-eds related to the Act.

We look forward to continued collaboration with you and your staff as the Act develops, and we urge the government to pass and fully implement as soon as practicable.

For a living planet,

Linda Nowlan

Director, Pacific Conservation



**for a living planet**<sup>®</sup>

November 15, 2013

WWF Canada\*<sup>1</sup> Submission

A Water Sustainability Act for BC: Legislative Proposal.

### **I Environmental Flow Needs**

WWF-Canada has actively contributed to the development of environmental flows policy with the province by convening a joint workshop with the Ministry of the Environment and Ministry of Forests, Lands and Natural Resources on “Environmental Flows for British Columbia’s Proposed Water Sustainability Act”,<sup>2</sup> and by numerous meetings and submissions such as *Flowing into the Future: WWF-Canada’s Comments on British Columbia’s Water Sustainability Act Policy Proposal*.<sup>3</sup>

The joint workshop provided insight and recommendations on four components of environmental flows assessment and implementation: (1) approving new water licences, (2) regulating during scarcity, (3) planning in areas of over-allocation, and (4) other key factors such as regulation of groundwater, funding mechanisms, and addressing existing licences. WWF’s previous submission addressed the main elements of how the WSA could protect environmental flows (the establishment and implementation of provincial/regional standards; the requirement for time-bound plans for the most water-stressed areas; the requirement for environmental flows to be considered in all new licences; and the requirement for periodic review of licences), proposed approaches to deal with existing water licences, and made suggestions for the process of environmental flows assessment.

Many of the recommendations from the joint workshop and WWF’s previous submission have been addressed in the Legislative Proposal, while others, notably clear direction and strategies to address all existing licences, are still outstanding.

---

<sup>1</sup> This submission was prepared by James Casey, Mathieu Lebel, and Linda Nowlan all of WWF-Canada with research assistance from Alanna Mackenzie, UBC law student.

<sup>2</sup> WWF-Canada, 2011. Environmental Flows for British Columbia’s Proposed Water Sustainability Act: Workshop Report. [http://awsassets.wwf.ca/downloads/environmental\\_flows\\_bc\\_water\\_sustainability\\_act\\_workshop.pdf](http://awsassets.wwf.ca/downloads/environmental_flows_bc_water_sustainability_act_workshop.pdf)

<sup>3</sup> Linda Nowlan, 2011. Flowing into the Future; WWF-Canada Comments – British Columbia’s Water Sustainability Act Policy Proposal, [http://assets.wwf.ca/downloads/wwf\\_flows\\_submission\\_march2011.pdf](http://assets.wwf.ca/downloads/wwf_flows_submission_march2011.pdf)



**for a living planet**<sup>®</sup>

**Recommendations:**

**1. The WSA should require environmental flow protection for all BC waters and water licences.** WWF-Canada recommends that the WSA clearly commits that all water licenses will be subject to environmental flow requirements. With some enhancements, the policy tools and proposals in the Legislative Proposal (e.g. licence reviews, Water Sustainability Plans, and desk-top and/or detailed environmental flow needs (EFNs) and critical environmental flow (CEF) assessments and decision-making processes) could be applied to achieve this objective.

**2. The WSA should require existing licences to be subject to EFNs by 2025.**

The WSA should specify that EFNs considerations will apply to existing licences through policy tools such as Water Sustainability Plans or as part of any required licence review by 2025. This would enhance the current policy proposal regarding the retroactive application of EFNs.<sup>4</sup> Lessons from the successful BC Hydro Water Use Planning process where licences were amended to provide more flows for fish should be incorporated.<sup>5</sup>

**3. The WSA should include an**

**environmental flow threshold and a cut-off flow component.** The simplified environmental flows assessment method(s) should include a percent-of-flow/fixed reduction from natural flow component or other specified thresholds, and a cut-off flow component. Current science advice in this area is provided by DFO's Canadian

**Box 1. Environmental Flows and Existing Water Licences in New Zealand**

Addressing existing water licences in the implementation of environmental flows is a challenge. Leading jurisdictions are demonstrating how this can be overcome by developing approaches that suit their water management context. For example, in New Zealand under the *Resource Management Act 1991*, a 30-year 'sunset clause' was placed on all existing legacy water licences issued under past legislation. These legacy water licences were granted under a prior allocation system in perpetuity and did not include any assessment of the volume of water resources available for the protection of aquatic ecosystems. As a result, in parts of New Zealand some water resources are over-allocated and the use of water licences takes precedence over maintaining sufficient flows for the aquatic ecosystem. The implementation of environmental flows was clearly constrained by these legacy licences. The introduction of a 'sunset clause' has ensured that by 2021 all of these legacy licences will be converted to modern water licences that are subject to meeting environmental flow conditions, and has provided existing legacy licence holders with time to adjust to this shift in the approach to water management.

Source: Nowlan, 2012; ORC, 2012; ORC, 2011; Le Quesne et al., 2010; NZG, 2009; ORC, 2009.

---

<sup>4</sup> Ministry of Environment, 2013. A Water Sustainability Act for B.C. Legislative Proposal

<sup>5</sup> James Mattison and Linda Nowlan. Draft Report. BC Hydro's Water Use Planning Program: A Fisheries and Collaborative Governance Success Story.



**for a living planet**<sup>®</sup>

Science Advisory Secretariat which recommends the percent-of-flow/fixed reduction limit and a cut-off flow component.<sup>6</sup> This advice aligns with international best practice (see Linnansaari et al., 2013) as well as the intent of the EFNs and CEF concepts described in the Legislative Proposal. The adherence to a dual percent flow/fixed reduction limit will ensure enough water remains in the river to maintain important functions of the river such as channel formation and sediment movement as well as leaving enough water for fish to carry out their life cycle.

**4. Define environmental flow triggers in the Act for the development of Water Sustainability Plans.** If a proposed water use application exceeds the simplified/desk-top environmental flow assessment method thresholds, this should not only be a trigger for a more-detailed assessment,<sup>7</sup> but should also be a trigger for a broader Water Sustainability Planning process. Environmental flows assessment is an inseparable social and scientific process, and a planning process provides the ideal forum for decision making.

**5. The WSA should require decision makers to publicly report the reasons for allowing water licences or short-term use approvals to exceed environmental flow thresholds.** WWF-Canada recommends that all new water licence or short-term use approval applications for both ground and surface water should be adjudicated against simplified/desk-top environmental flows assessment methods, and that discretion is provided for the decision-maker on whether to exempt applications that meet identified criteria or proceed with a more detailed environmental flow assessment. The ultimate intent of an initial simplified/desk-top method is to determine whether a water application is low-risk based on environmental flows assessment thresholds. Where applications that meet identified criteria are not required to adhere to environmental flows assessment thresholds, rationale should be publicly provided by the decision-maker.

---

<sup>6</sup> Fisheries and Oceans Canada, Canadian Science Advisory Secretariat. 2013. Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada.

<sup>7</sup> MoE Legislative Proposal



*for a living planet*<sup>®</sup>

## **II Water Objectives**

We support the concepts of water objectives and believe the province must set both province wide and more specific drainage basin objectives.

**6. The WSA should require Provincial Water Objectives (PWOs) to be binding on all decision-makers.** We agree with the Polis Project on Water Sustainability's recommendations on Provincial Water Objectives<sup>8</sup>, and emphasize that:

- Environmental Flow Needs (EFN) and Critical Environmental Flows (CEF) must be embedded in Provincial Water Objectives (WO).
- Such an objective could be to set aside or maintain a reserve of water that is only for the maintenance and preservation of the natural ecosystem.
- All decision-makers must be obligated to consider WOs that include explicit efficiency, conservation, "beneficial use," and EFN requirements.
- Explicitly allow decision-makers to refuse to issue a licence if it negatively affects an aquatic ecosystem.

**7. The PWOs should be aligned with management objectives in other BC legislation such as the Forest and Range Practices Act.** Within that act the Lieutenant Governor in Council has the power to identify sensitive watersheds and lakeshore management zone and develop land use objectives for these regions.

**8. Implementation of the WSA, and the PWOs, should be monitored by an oversight body.** Together with many commentators and other ENGOs, we recommend third party oversight of implementation of the WSA and Water Objectives. This could be achieved in the short term by allowing the Forest and Range Practices board to audit the performance of government in achieving acknowledged objectives. A longer term solution could be a Natural Resources Practices Board empowered to carry out periodic independent audits and special investigations to determine progress on achieving Provincial Water Objectives. We support the POLIS Project's recommendation that the board be empowered to develop 'state of the watershed' reports.

---

<sup>8</sup> Oliver Brandes, 2013. University of Victoria's POLIS Water Sustainability Project Submission in Response to the B.C. Government's "Legislative Proposal for British Columbia's Water Sustainability Act"



*for a living planet*<sup>®</sup>

### **III Water Sustainability Plans and Area Based Regulation**

Water Sustainability Plans have the potential to be a useful tool for addressing historical over allocation that can threaten the environmental flows of freshwater systems throughout BC. The Water Use Planning processes undertaken by BC Hydro demonstrates the value of comprehensive watershed specific processes that identify risks to community values and engage the community in structured decision making to address the risks. WWF-Canada has an upcoming report on this process that illustrates these lessons.<sup>9</sup>

**9. The WSA should include a mechanism that allows communities to proactively trigger a Water Sustainability Planning process.** Rather than limiting the application of WSA's to regions where area based tools have proven ineffective, we recommend a mechanism allowing watershed groups to proactively trigger a WSP. An example might be the Harrison Salmon Stronghold.<sup>10</sup> The local community has identified future risk to locally held values and has decided to go beyond the tools currently available under resource management legislation to develop a strategic plan for their region. Other similar efforts have taken place across the province and government should respect these efforts.

### **IV Regulate and Protect Groundwater Extraction and Use**

We fully support the inclusion of groundwater into the licensing regime. We commend the government for also proposing additional tools that will allow decision makers to determine when groundwater is connected to a surface source and to regulate groundwater use in areas covered by a Water Sustainability Plan or area based regulation. We encourage the province to make use of these new tools once the WSA is enacted.

**10. The WSA should require EFNs to be considered when granting new groundwater licences.** The same procedures for determining and considering EFNs should be applied to both new surface and new groundwater licences during the groundwater license transition period. We recommend that during the groundwater transition period, when issuing licences, the decision maker must consider any existing, potential or cumulative effects on the Environmental Flow Needs of the aquatic environment, the sustainable recharge rate of local aquifers and the enhanced risk of exceeding the Critical Environmental Flow levels.

---

<sup>9</sup> Mattison and Nowlan, forthcoming.

<sup>10</sup> Living with the Harrison Salmon Stronghold – A Strategic Plan. 2013



*for a living planet*<sup>®</sup>

#### **V Preservation of Critical Environmental Flow During Times of Drought and Scarcity**

The proposal to regulate all licences to protect CEF is a major step forward and a positive development. Experience in the implementation of environmental flows elsewhere has demonstrated that the low-flow period is often a primary challenge in water management planning and decision-making,<sup>11</sup> and so this policy proposal will be of critical assistance when moving forward with the protection of water resources and aquatic ecosystems.

**11. The WSA should set a provincial CEF threshold that can be adjusted with more detailed regional assessments.** The Canadian Science Advisory Secretariat report “Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada” recommends a cut off of 30% of Mean Annual Flow as a point below which there is expected to be “heightened risk of impacts to fisheries.” The 30% MAD threshold therefore provides a scientifically defensible province wide standard that can be adjusted based on detailed assessments that demonstrate additional withdrawals will not have significant impacts on aquatic values.

#### **VI Review of Licence Terms and Conditions and Power Purpose 40- year Terms**

The introduction of a mandatory review period is a significant improvement. The ability to review licences is an essential part of building the flexibility needed to implement an adaptive approach to resource management

**12. Shorten review period for existing water licences to 10 years.** WWF-Canada recommends a 10 year review process be implemented to ensure a licensee is meeting the licence’s conditions. The Act should provide decision makers with the power to adjust conditions to reflect emerging environmental conditions or developments in scientific understanding, and the power to adjust the review period based on the level of risk, the amount of commitment needed or the presence of Water Sustainability Plans. This discretionary power would avoid the need to create specific exemptions for hydropower within the body of the act.

---

<sup>11</sup> Dan Ohlson, G. Long, and T. Hatfield. 2010. Phase 2 Framework Committee Report. Report submitted to Alberta Environment / Fisheries and Oceans Canada, and the Cumulative Environmental Management Association.



*for a living planet*<sup>®</sup>

## **VII Measuring and Reporting**

We support requirements for reporting of water use from licensees. The major gap in knowledge in BC arises from a lack of hydrological monitoring stations in BC, the lack of a cumulative effects framework to include other impacts on our waterways and the general dearth of capacity within government to compile and analysis the complex assortment of data.

**13. Require water licencees with conditions to submit annual compliance reports to government.** As an example of how the current law is failing on this front Run of the River projects are required to perform monitoring of impacts as a condition of receiving a license but not actually require to report the results of that monitoring. This could be addressed on a sector by sector basis but is more efficiently addressed across the board.

## **VIII. Funding**

Past experience in BC water management demonstrates that planning initiatives that have sufficient funds, such as those of the Columbia Basin Trust and the Okanagan Basin Water Board, are more likely to be successful. Those planning initiatives with limited resources, such as the Township of Langley's Water Management Plan, are less likely to result in sustainable water management.

Here is evidence from two UBC Program on Water Governance reports<sup>12</sup> which canvassed the issue of funding water management and governance:

"A common problem for water governance bodies is financial sustainability. Without ongoing secure financial support, water partnerships are unlikely to survive. Unfunded mandates may result in water governance partnerships acting as "forums for inaction." The most common funding source is general government revenue, usually from provincial coffers.... The report from the Rosenberg Forum in Alberta in 2006 which reviewed Alberta's Water for Life strategy reinforced this point:

A review of world water initiatives confirms the quality and competitive advantages accruing from Alberta's Water for Life strategy but reinforces the need for robust and sufficient fiscal investment support to match the timescale of the strategy. There are numerous examples in the world of well-

---

<sup>12</sup> Linda Nowlan and Karen Bakker. 2010. Practicing Shared Water Governance in Canada: A Primer. Vancouver, BC: Program on Water Governance. Linda Nowlan and Karen Bakker, November 2007. Delegating Water Governance: Issues and Challenges in the BC Context.



**for a living planet**<sup>®</sup>

designed strategic plans that have failed because of inadequate organizational and fiscal support. Most similar state level strategies fail to deliver on all but short-term objectives due mainly to conflicts in priorities of participating agencies. Those few strategies that have succeeded have all gone beyond standard budgeting and appropriation approaches to make long cycle fiscal commitments, supported by legislative instruments to secure the funding. (Advisory Committee of the Rosenberg International Forum, 2007, emphasis original). “

We therefore recommend that implementation of the WSA be fully funded, and recommend that water rates and rentals be increased to fund the implementation of the Act.

**14. The WSA and associated policy should ensure revenue generated from water license fees and rental rates is targeted to the management of water resources.** The fees and resources rentals collected from water licences should be directed towards managing water resources, rather than placed in general revenues, and be sufficient to address the costs of a monitoring and evaluation program, the complexity cost of maintaining a monitoring and evaluation program in different priority areas of the province, as well as the technical support functions for a monitoring and evaluation program.

#### **IX. First Nations Right and Title**

**15. The Act should include explicit recognition of First Nations water rights.** The province can draw on and build on the provisions related to aboriginal water rights contained in other provincial and territorial water laws. A list of these provisions is attached as Appendix 1

While Ontario is the only province that makes reference to the treaty and aboriginal rights affirmed by s. 35 of the Constitution in its water legislation, statutes in other provinces also refer to the rights of aboriginal peoples. Manitoba’s water legislation references the right of aboriginals to be consulted with respect to a watershed management plan, and Saskatchewan’s water legislation affirms various aboriginal rights related to water including common law riparian rights. Newfoundland’s *Water Resources Act* states that the Act shall be read and applied in conjunction with the *Labrador Inuit Land Claims Agreement Act*. Water legislation in the territories contains provisions related to the compensation of aboriginal groups when licenses are issued in aboriginal territory, and stipulates that licenses shall not be issued for uses of water that substantially alters the quality, quantity, or flow of waters flowing through Inuit-owned land.



**for a living planet**<sup>®</sup>

Since most of BC's aboriginal land has not been formally ceded through land claims agreements and treaties, reference to such agreements may not have the same impact as in other provinces and territories. However, BC's new water legislation could aim to improve aboriginal water management rights and recognize constitutionally protected rights including aboriginal title. It could also incorporate provisions that enhance the participation of aboriginal peoples in the water allocation system.<sup>13</sup>

#### **X. Climate Adaptation**

The WSA proposes to provide much needed flexibility for the governance of water in an era of increasing impacts from climate change. This flexibility is important as the age of stationarity, "the idea that natural systems fluctuate within an unchanging envelope of variability," is gone.<sup>14</sup> This change was recognized in the Living Water Smart policy with the commitment that "By 2012, new approaches to water management will address the impacts from a changing water cycle, increased drought risk, and other impacts on water caused by climate change." The Province acknowledges climate change impacts on water and the WSA is an opportunity to address the issue with the depth and gravity it merits.

Given the systemic nature of climate related risks to water resources WWF-Canada recommends the government should adhere to Strategy 2 of the BC Climate Adaptation Strategy which calls on government to "identify approvals that are sensitive to climate ... and where possible, incorporate consideration of climate change impacts in to the approval process." Furthermore, Strategy 2 recommends government "integrate adaptation into B.C. Government policies, *legislation*, and regulations."<sup>15</sup>

**16. Include resilience as an objective in the new WSA.** Maintaining the resilience of aquatic resources should be included as an explicit objective of the proposed new Water Sustainability Act. Such a commitment would mean taking steps to maintain the ability of our aquatic systems to regroup and continue functioning when severely disturbed. This concept applies both to ecological systems and infrastructure and planning needs.<sup>16</sup> One example of this is the commitment by the Federal government to invest in resilient infrastructure in Canada's north.<sup>17</sup> From

---

<sup>13</sup> This section was prepared for WWF by Alanna Mackenzie, UBC law student.

<sup>14</sup> P.C.D. Milly, et al. 2008. "Stationarity is Dead: Whither Water Management?" *Science*, 319.

<sup>15</sup> Ministry of Environment. 2013. Preparing for Climate Change: British Columbia's Adaptation Strategy

<sup>16</sup> Kevin Hanna et al. 2013 Planning for adaptation in an uncertainty setting: Local government action in Canada. AESOP-ACSP Joint Congress.

<sup>17</sup> IISD Report. 2013 Climate Change Adaptation and Canadian Infrastructure: A review of the Literature. 18.



*for a living planet*<sup>®</sup>

an ecosystem perspective a fundamental step would be maintaining drainage patterns by protecting wetlands.<sup>18</sup> Maintaining natural drainage patterns preserve biodiversity and help avoid flood related risk.

**17. Empower decision makers under the Act to consider landscape level effects of climate change on aquatic resources.** To achieve this recommendation, the WSA should establish a process for conducting province wide climate impact scenarios focused on the vulnerability of aquatic resources to climate futures and the efficacy of available policy tools to address these vulnerabilities. Testing water policy against climate impacts should be an iterative requirement as climate impacts will continuously ramp-up in intensity and will require constant policy innovation.

**18. Include related climate risk to water resources as one of the triggers for the development of Water Sustainability Plans.** As an example the Ontario's Water Opportunities Act requires "an assessment of risks that may interfere with future delivery...including...the risks posed by climate change ...."<sup>19</sup> Ontario's requirement is focused on municipal government. It would be prudent for BC to focus on any regions with projects that involves a high level of capital investment. All capital intensive projects should be subject to an analysis of climate risk but so should efforts like the development of a regional waterworks or an Agricultural Water Reserve.

## **Conclusion**

All British Columbians want a new Act that truly lives up to the promise of its name- the Water Sustainability Act. We urge the government to proceed with its enactment at the earliest possible opportunity.

---

<sup>18</sup> David Schindler and Jim Bruce. 2013. Freshwater Resources. 51- 64 in Climate Change Adaptation: A Priorities Plan for Canada ed. Blair Feltmate and Jason Thistlethwaite. Climate Change Adaptation Project.

<sup>19</sup> Ontario. 2010. Water Opportunities Act, 2010. Online at [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_10w19\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_10w19_e.htm)



*for a living planet*<sup>®</sup>

## References

Annear, T., I. Chisholm, H. Beecher, A. Locke, P. Aarrestad, C. Coomer, C. Estes, J. Hunt, R. Jacobson, G. Jöbsis, J. Kauffman, J. Marshall, K. Mayes, G. Smith, R. Wentworth, and C. Stalnaker. 2004. *Instream Flows for Riverine Resource Stewardship*, Revised Edition. Cheyenne, WY: Instream Flow Council.

Baron, J. S., Poff, N. L., Angermeier, P. L., Dahm, C. N., Gleick, P. H., Hairston, N. G., Jackson, R. B., Johnston, C. A., Richter, B. G., and A. D. Steinman. 2002. Meeting ecological and societal needs for freshwater, *Ecol. Appl.*, 12, 1247 – 1260.

British Columbia Ministry of Environment. 2008 *Living Water Smart: British Columbia's Water Plan*. ISBN 978-0-7726-5981-1.

Fisheries and Oceans Canada, Canadian Science Advisory Secretariat. 2013. *Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada*.

Flannery, M. S., Peebles, E. B., and R. T. Montgomery. 2002. A percent-of-flow approach for managing reductions of freshwater inflows from unimpounded rivers to southwest Florida estuaries. *Estuaries*, 25:1318-1332.

Hanna, Kevin et al. 2013. *Planning for adaptation in an uncertainty setting: Local government action in Canada*. AESOP-ACSP Joint Congress.

Hatfield Consultants. 2013 *Review of Habitat Monitoring at Twenty-Two Independent Power Projects*. Prepared for Fisheries and Oceans Canada.

IISD Report. 2013. *Climate Change Adaptation and Canadian Infrastructure: A review of the Literature*.

Le Quesne, T., Kendy, E., and D. Weston. 2010. *The Implementation Challenge: Taking stock of government policies to protect and restore environmental flows*. WWF-Canada and The Nature Conservancy.

*Living with the Harrison Salmon Stronghold – A Strategic Plan*. 2013



**for a living planet**<sup>®</sup>

Mattison, James and Linda Nowlan. Draft Report. BC Hydro's Water Use Planning Program: A Fisheries and Collaborative Governance Success Story.

Milly, P.C.D., et al. 2008. "Stationarity is Dead: Whither Water Management?" *Science*, 319.

Ministry of Environment, 2010. Preparing for Climate Change: British Columbia's Adaptation Strategy

New Zealand Government. 2009. Resource Management Act (Reprint as at December 2009). Wellington, New Zealand.

Nowlan, L. 2012. CPR for Canadian Rivers - Law to Conserve, Protect, and Restore Environmental Flows in Canada. *Journal of Environmental Law and Practice*, 23(3): 237-286.

Ontario. 2010. Water Opportunities Act, 2010. Online at [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_10w19\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_10w19_e.htm)

Nowlan, Linda and Karen Bakker. November 2007. Delegating Water Governance: Issues and Challenges in the BC Context.

Nowlan, Linda and Karen Bakker. 2010. Practicing Shared Water Governance in Canada: A Primer. Vancouver, BC: Program on Water Governance.

Ohlson, D., G. Long, and T. Hatfield. 2010. Phase 2 Framework Committee Report. Report submitted to Alberta Environment / Fisheries and Oceans Canada, and the Cumulative Environmental Management Association.

Otago Regional Council. 2012. Regional Plan: Water for Otago (Updated to 1 March 2012). Dunedin, NZ. ISBN 978-0-478-37624-1.

Otago Regional Council. 2011. Waterlines: Rural Otago's Water Update (Issue 3, July 2011). Dunedin, NZ.

Otago Regional Council. 2009. Water Allocation and Allocation into the Future: A Strategy for Otago. Dunedin, NZ.

Schindler, David and Jim Bruce. 2013. "Freshwater Resources," 51- 64 in *Climate Change Adaptation: A Priorities Plan for Canada*, edited by Blair Feltmate and Jason Thistlethwaite. Climate Change Adaptation Project.



**for a living planet®**

## **Appendix 1**

### **Ontario**

S. 82 of Ontario's *Clean Water Act*, SO 2006, c.22 states that it does not intend to abrogate the existing aboriginal and treaty rights of aboriginal peoples as recognized by s. 35 of the *Constitution Act, 1982*.

S. 82 For greater certainty, nothing in this Act shall be construed so as to abrogate or derogate from the protection provided for the existing aboriginal and treaty rights of the aboriginal peoples of Canada as recognized and affirmed in section 35 of the Constitution Act, 1982.

### **Saskatchewan**

*The Water Security Agency Act*, SS 2005, c W-8.1 refers to various aboriginal rights related to water in s. 42. Specifically, it affirms the right of an Indian band to place a dock, wharf or pier on land forming the bed or shore of surface water at a location adjacent to a reserve, and an Indian band's common law riparian rights.

#### S. 42 Framework Agreement Implications

Notwithstanding any provision of this Act or any other Act:

- (a) the Crown may transfer to Her Majesty in right of Canada the property in and the right to the use of all water that is wholly situated within an Indian reserve that has been set apart pursuant to the terms of the Framework Agreement;
- (b) the Crown may transfer to Her Majesty in right of Canada the land or any portion of the land forming the bed or shore of any surface water that is wholly situated within or that is adjacent to an Indian reserve that has been set apart pursuant to the terms of the Framework Agreement;
- (c) an Indian band shall have the right to place a dock, wharf or pier on the land forming the bed or shore of any surface water at any location that is adjacent to an Indian reserve that has been set apart pursuant to the terms of the Framework Agreement;
- (d) subject to clause (e), an Indian band has common law riparian rights with respect to the use and occupation of any land that has been set apart as an Indian reserve pursuant to the terms of the Framework Agreement and that is adjacent to any surface water; and



**for a living planet<sup>®</sup>**

(e) common law riparian rights mentioned in clause (d) do not include the ownership of the land forming the bed or shore of any surface water that is adjacent to an Indian reserve mentioned in clause (d).

The Act defines “Framework Agreement” in s. 2 as:

(i) the Saskatchewan Treaty Land Entitlement Framework Agreement dated September 22, 1992 and entered into by Her Majesty in right of Canada, the Crown and certain Indian bands with respect to the settlement of the outstanding treaty land entitlement claims of the Indian bands; or

(ii) any agreement entered into by Her Majesty in right of Canada, the Crown and an Indian band with respect to the settlement of the outstanding treaty land entitlement claim of that Indian band on the same or substantially the same terms as the agreement mentioned in subclause (i);

**Manitoba** Manitoba’s *Water Protection Act*, CCSM c W65, s. 17 references the aboriginal right to be consulted with respect to a watershed management plan.

#### 17(1) Consultation

In preparing a watershed management plan, the water planning authority must consult with the following:

(a) if land within the watershed is in a conservation district or planning district, the board of that district;

(b) the council of any municipality located wholly or partly within the watershed;

(c) any band, as defined in the *Indian Act* (Canada), that has reserve land within the watershed; and

(d) any other person or entity specified by the minister.”

#### **Newfoundland**

Section 2.1 of Newfoundland’s *Water Resources Act*, SNL 2002, c W-4.01, which governs the control and management of the province’s water resources, affirms Inuit rights to the extent that they are enshrined in the *Labrador Inuit Land Claims Agreement Act*:

**2.1 (1)** This Act and regulations made under this Act shall be read and applied in conjunction with the *Labrador Inuit Land Claims Agreement Act* and, where a provision of this Act or regulations made



**for a living planet**<sup>®</sup>

under this Act is inconsistent or conflicts with a provision, term or condition of the *Labrador Inuit Land Claims Agreement Act*, the provision, term or condition of the *Labrador Inuit Land Claims Agreement Act* shall have precedence over the provision of this Act or a regulation made under this Act.

(2) Where, under this Act, the minister issues a permit or licence the minister may add to that permit or licence terms and conditions that the holder of the permit or licence is required to comply with in order to ensure compliance with the terms and conditions of the *Labrador Inuit Land Claims Agreement Act*.

### **Yukon**

The Yukon's *Waters Act*, SY 2003, c 19, s. 29 references aboriginal rights to participate in a public hearing in its provisions related to expropriation of "land or an interest in land".

29(10) Where the land required by an applicant or licensee is settlement land as defined in section 2 of the Yukon Surface Rights Board Act (Canada) or Tetlit Gwich'in Yukon land, the permission of the Minister granted pursuant to subsection (1) is subject to the approval of the Commissioner in Executive Council and, for the purposes of applying subsections (2) and (3) in respect of such land, the date on which the approval of the Commissioner in Executive Council is obtained shall be substituted for the date on which permission is granted by the Minister pursuant to subsection (1) and a copy of the document evidencing the approval of the Commissioner in Executive Council shall be deposited in accordance with subsection (8).

(11) Where an interest in land referred to in subsection (10) is to be affected as described in subsection (1) without the agreement of the Yukon First Nation or Gwich'in Tribal Council, as the case may be,

(a) a public hearing in respect of the location and extent of the land to be affected shall be held in accordance with the following procedure:

(i) notice of the time and place for the public hearing shall be given to the Yukon First Nation or Gwich'in Tribal Council and the public,

(ii) at the time and place fixed for the public hearing, an opportunity shall be provided for the Yukon First Nation or Gwich'in Tribal Council and the public to be heard,

(iii) costs incurred by any party in relation to the hearing are in the discretion of the person or body



**for a living planet**

holding the hearing and may be awarded on or before the final disposition of the issue, and

(iv) a report on the hearing shall be prepared and submitted to the Minister; and

(b) notice of intention to obtain the approval of the Commissioner in Executive Council shall be given to the Yukon First Nation or Gwich'in Tribal Council on completion of the public hearing and submission of a report thereon to the Minister.

(12) In this section, “Tetlit Gwich'in Yukon land” means land as described in Annex B, as amended from time to time, to Appendix C of the Comprehensive Land Claim Agreement between Her Majesty the Queen in right of Canada and the Gwich'in, as represented by the Gwich'in Tribal Council, that was approved, given effect and declared valid by the Gwich'in Land Claim Settlement Act (Canada).

These provisions, however, do not reference a positive aboriginal right to water or land submerged by water, or a right to participate in the management of watersheds as in the Manitoba *Water Protection Act*.

### **Nunavut**

The *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, SC 2002, c 10, which governs the territory's water resources, stipulates in section 13 that a “designated Inuit organization” is entitled to compensation if adversely affected by a licensed use of waters or deposit of waste:

**13.** (1) Except as otherwise provided by a compensation agreement referred to in this Part, a person, including the designated Inuit organization, who is adversely affected by a licensed use of waters or deposit of waste, or by an unlicensed use of waters or deposit of waste authorized by the regulations, is entitled to be compensated in respect of that adverse effect by the licensee or the person so authorized and to recover the compensation in any court of competent jurisdiction.

The Act defines a designated Inuit organization in s. 2 as:

(a) except in the case of the jointly owned lands referred to in section 40.2.8 of the Agreement,

(i) Tunngavik, or

(ii) in respect of a provision of this Act referred to in Schedule 1, any organization designated in the public record maintained by Tunngavik under the Agreement as being responsible for any function under the corresponding provision or provisions of the Agreement referred to in that Schedule; or



*for a living planet*<sup>®</sup>

(b) in the case of the jointly owned lands referred to in section 40.2.8 of the Agreement, Makivik acting jointly with the organization determined under paragraph (a).

It also states that the Nunavut Water Board must grant full standing to certain aboriginal groups in exercising its functions related to applications for licenses:

**50.** In the exercise of its functions in relation to applications, the Board shall accord full standing to the following:

(a) Tunngavik, or any other Organization, within the meaning of section 1.1.1 of the Agreement, designated by Tunngavik, to make representations on behalf of the Inuit of Nunavut;

(b) Makivik to make representations respecting the interests of the Inuit of northern Quebec in relation to islands and marine areas of the Nunavut Settlement Area traditionally used and occupied by those Inuit;

(c) the councils of the Fort Churchill Indian Band and Northlands Indian Band to make representations respecting their interests in relation to the areas that those bands have traditionally used and continue to use; and

(d) the councils of the Black Lake Indian Band, Hatchet Lake Indian Band and Fond du Lac Indian Band to make representations respecting their interests in relation to the areas that those bands have traditionally used and continue to use.

The Board shall take the representations into account.

S. 62 of the Act states that any existing use of waters by Inuit in Inuit-owned land – land that has the status of “Inuit-owned land” under the Nunavut Land Claims Agreement - has priority over a licensed use of water or deposit of waste by a mineral rights holder. Subsequent provisions state that the Nunavut Water Board must not issue a license that substantially affects the quality, quantity or flow of waters flowing through Inuit-owned land unless certain stipulated conditions have been satisfied.

Inuit-owned Land

Priority of use

**62.** In relation to Inuit-owned land, any existing use of waters by Inuit has priority over any licensed use or deposit of waste by any person who has a mineral right.



**for a living planet<sup>®</sup>**

#### Compensation agreements

**63.** (1) The Board shall not issue a licence in respect of a use of waters or a deposit of waste that may substantially affect the quality, quantity or flow of waters flowing through Inuit-owned land, unless

(a) the applicant has entered into an agreement with the designated Inuit organization to pay compensation for any loss or damage that may be caused by the change; or

(b) where there is no agreement referred to in paragraph (a), the Board has, on the request of the applicant or the designated Inuit organization, made a determination of the appropriate compensation.

#### Payment of compensation

(2) The payment of compensation referred to in paragraph (1)(b) shall be a condition of the licence.

#### Costs

(3) Unless otherwise determined by the Board, costs incurred by the designated Inuit organization as a result of a request referred to in paragraph (1)(b) shall be paid by the applicant.

#### Use outside Nunavut

**64.** (1) On request by the designated Inuit organization or a person who has applied to the water authority responsible for the management of waters outside Nunavut, but within the Northwest Territories, for a licence or other authorization in relation to a use of waters or a deposit of waste that may substantially affect the quality, quantity or flow of waters flowing through Inuit-owned land, the Board shall collaborate with that authority to reach a joint determination on the compensation to be paid.

#### Costs

(2) Unless determined otherwise by the Board, costs incurred by the designated Inuit organization as a result of a request referred to in subsection (1) shall be paid by the applicant.

#### Interpretation

**65.** For greater certainty, sections 63 and 64 apply where a body of water delineates a boundary between Inuit-owned land and other land and that body of water is not located entirely on Inuit-owned land.

#### Negotiation to be in good faith



**for a living planet**<sup>®</sup>

**66.** A request referred to in paragraph 63(1)(b) or subsection 64(1) shall not be considered by the Board unless the requester has negotiated in good faith and has been unable to reach an agreement.

Factors in determining compensation

**67.** (1) For the purpose of determining compensation under paragraph 63(1)(b) and subsection 64(1), the Board shall take into account the following factors:

- (a) the adverse effects of the change in the quality, quantity or flow of waters on Inuit-owned land;
- (b) the nuisance, inconvenience or disturbance, including noise, caused by the change;
- (c) the cumulative effects of the change and of any existing uses of waters and deposits of waste;
- (d) the cultural attachment of Inuit to the affected Inuit-owned land, including waters;
- (e) the peculiar and special value of the affected Inuit-owned land, including waters; and
- (f) any interference with Inuit rights derived from the Agreement or otherwise.

Periodic review and payment

(2) Unless otherwise agreed by the designated Inuit organization and the applicant, where the Board has made a determination of compensation under paragraph 63(1)(b) or subsection 64(1), the Board shall provide, where the nature and duration of the use or deposit of waste warrant it, for the periodic review and periodic payment of that compensation

### **Northwest Territories**

The *Northwest Territories Waters Act*, SC 1992, c 39, ss. 15.1-15.5 contains similar provisions as the Nunavut Act, related to water flowing through Inuit-owned land. S. 15.1 states that the Northwest Territories Water Board must not issue a license in respect of a use of waters that substantially affects the quality, quantity or flow of waters flowing through Inuit-owned land unless certain stipulated conditions have been satisfied.

Inuit-owned land

**15.1** (1) The Board shall not issue a licence in respect of a use of waters or a deposit of waste that may substantially alter the quality, quantity or flow of waters flowing through Inuit-owned land, unless

- (a) the applicant has entered into an agreement with the designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration; or



*for a living planet*<sup>®</sup>

(b) where there is no agreement referred to in paragraph (a),

(i) on the request of the applicant or the designated Inuit organization, the Board has made a joint determination of the appropriate compensation with the Nunavut Water Board, or

(ii) where the Board and the Nunavut Water Board are unable to jointly determine compensation under subparagraph (i), a judge of the Nunavut Court of Justice has determined the compensation.

Payment of compensation

(2) The payment of compensation referred to in paragraph (1)(b) shall be a condition of the licence.

Costs

(3) Unless otherwise determined by the Nunavut Water Board, costs incurred by the designated Inuit organization as a result of a request referred to in subparagraph (1)(b)(i) shall be paid by the applicant.

2002, c. 10, s. 186.

Negotiation to be in good faith

**15.2** A request referred to in subparagraph 15.1(1)(b)(i) shall not be considered by the Board unless the requester has negotiated in good faith and has been unable to reach an agreement.

2002, c. 10, s. 186.

Factors in determining compensation

**15.3** For the purpose of determining compensation under paragraph 15.1(1)(b), the following factors shall be taken into account:

(a) the adverse effects of the alteration of the quality, quantity or flow of waters on Inuit-owned land;

(b) the nuisance, inconvenience or disturbance, including noise, caused by the alteration;

(c) the cumulative adverse effects of the alteration and of any existing uses of waters and deposits of waste;

(d) the cultural attachment of Inuit to the affected Inuit-owned land, including waters;

(e) the peculiar and special value of the affected Inuit-owned land, including waters; and

(f) any interference with Inuit rights derived from the Agreement or otherwise.

2002, c. 10, s. 186.

Periodic review and payment



**for a living planet**

**15.4** Unless otherwise agreed by the designated Inuit organization and the applicant, where a determination of compensation has been made under paragraph 15.1(1)(b), that determination shall provide, having due regard to the nature and duration of the use of waters or deposit of waste, for the periodic review and periodic payment of that compensation.

2002, c. 10, s. 186.

Interpretation

**15.5 (1)** In this section and sections 15.1 to 15.4,

(a) “Agreement”, “Inuit”, “Inuit-owned land”, “Makivik” and “Tunngavik” have the meanings assigned by subsection 2(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*; and

(b) “designated Inuit organization” means

(i) except in the case of the jointly owned lands referred to in section 40.2.8 of the Agreement,

(A) Tunngavik, or

(B) any organization designated in the public record maintained by Tunngavik under the Agreement as being responsible for the functions described under sections 20.3.1 and 20.4.1 of the Agreement, or

(ii) in the case of the jointly owned lands referred to in section 40.2.8 of the Agreement, Makivik, acting jointly with the organization determined under subparagraph (i).

Interpretation

(2) For greater certainty, sections 15.1 to 15.4 apply where a body of water delineates a boundary between Inuit-owned land and other land and that body of water is not located entirely on Inuit-owned land.