

# Appendix A

## TAKING THE PULSE: B.C. FRESHWATER POLICY MONITOR

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### LIVING WATER SMART: DOING BUSINESS DIFFERENTLY

STATED COMMITMENT	STATUS	PROVINCE'S ROLE & WHO IS LEADING	PROGRESS	IDENTIFIED GAPS/LIMITATIONS
<p><b>1. By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits.</b></p>		<p>As the statutory decision-makers for Crown land and water, this commitment falls largely on the Province</p> <p><b>Who:</b> FLNRORD; ENV; AG; EMPR; Health; OGC</p>	<p>Several WSA provisions are now in effect that provide rules/guidelines to help land and water managers make decisions to protect stream health (e.g.: a requirement to consider environmental flows in non-domestic licensing decisions (s.15); mitigation measures (s.16-18); sensitive streams (s. 128)). A 2018 Environmental Appeal Board decision shows that s. 15 can effectively give the Province an ability to say “no” to issuing further groundwater licences when a hydraulically-connected stream is already fully allocated and experiences low flows.<sup>1</sup></p> <p>Water objectives (s. 43) have the potential to drive further progress as the regulations that create objectives can require land- and resource-use decision-makers to consider water in their individual decisions.<sup>2</sup></p>	<p>Outstanding gaps persist in water knowledge (e.g. stream flow, groundwater-surface water connectivity).</p> <p>An acknowledged lack of capacity exists among provincial staff and decision-makers in implementing the new environmental flows regime.<sup>3</sup> (Note: various efforts are underway to build government staff operational capacity, including courses on hydrology and hydrogeology for new FLNRORD staff).</p> <p>The WSA itself does not define ‘sustainability’ or specify the ecological outcomes the Act intends to achieve. Similarly, the current environmental flows policy does not define the desirable state/ overarching objective for ecosystem health that decision-makers should be trying to meet.</p> <p>To-date, no environmental flows regulation exists to provide clear criteria and transparency in what decision-makers must consider, and what methods they must use, in fulfilling their s. 15 obligations.</p>

 KEY COMMITMENTS ACHIEVED

 COMMITMENTS IN PROGRESS

 MINIMAL PROGRESS: PRIORITIES NEEDING URGENT ATTENTION

 UNKNOWN: IMPORTANT PRIORITIES NOT POSSIBLE TO ASSESS DUE TO LACK OF INFORMATION OR COMMITMENTS ARE NO LONGER RELEVANT

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STATED COMMITMENT	STATUS	PROVINCE'S ROLE & WHO IS LEADING	PROGRESS	IDENTIFIED GAPS/LIMITATIONS
<p><b>2. By 2012 water laws will improve the protection of ecological values, provide for more community involvement, and provide incentives to be water efficient.</b></p>		<p>ENV responsible for drafting legislation and water policy; FLNRORD responsible for implementation</p>	<p>Ecological values receive enhanced protection in the WSA in variety of places, e.g.: environmental flows and critical environmental flow provisions, water objectives, water sustainability plans, sensitive streams, and water reserves.</p> <p>The WSA provides various opportunities for more community involvement, e.g.: water sustainability plans, advisory boards, and potential for delegated/shared decision-making. The Nicola watershed governance pilot is one promising step towards realizing the WSA's "tools" for greater Indigenous partnership and community involvement.<sup>4</sup></p> <p>The WSA provides new incentives to be water efficient, e.g.:</p> <ul style="list-style-type: none"> <li>• Non-domestic groundwater users now require an authorization and pay fees and rentals</li> <li>• "Beneficial use" is defined as using water as efficiently as practicable.</li> <li>• Government has the authority to review the terms and conditions of a licence and this may include a water conservation audit (s.23(3)(a).</li> </ul>	<p>The WSA's potential to improve ecological protections and enhance community involvement will depend on supporting regulations and meaningful on-the-ground implementation.</p> <p>Many First Nations have expressed that consultation for the WSA and its regulations has not met their expectations—this was a central concern outlined in First Nations' submissions during the Water Act modernization process.<sup>5</sup></p> <p>While the WSA does provides some opportunities to appeal "orders" to the Environmental Appeal Board, those options are limited to a "person subject to an order", "owner of land...affected by the order", an "owner of works", and riparian owners or applicants (s. 105, WSA). Those explicitly granted rights of appeal excludes members of the public.</p> <p>The provincial water pricing regime—while updated in 2016—does not send a strong signal to promote water efficiency as rentals remain very low (at a maximum of \$2.25/million L of water used).<sup>6</sup></p>
<p><b>3. Legislation will recognize water flow requirements for ecosystems and species.</b></p>		<p>ENV responsible for drafting WSA and regulations on environmental flows; FLNRORD and OGC statutory decision-makers responsible for licensing decisions</p>	<p>Multiple new environmental flows protections exist in the WSA, including the requirement for decision-makers to consider environmental flows in non-domestic licensing decisions (s.15) and temporary measures to protect aquatic ecosystems during water scarcity including drought (ss. 86-88).</p>	<p>Concerns persist in the existing approach to environmental flows consideration, e.g.:</p> <ul style="list-style-type: none"> <li>• Exemption to the requirement to consider environmental flows on existing groundwater licences during the 3-year transition period;</li> <li>• Limited opportunities to address existing rights on over-allocated sources.</li> <li>• What/how decision-makers must consider is not clear or transparent.<sup>7</sup></li> </ul>

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<p><b>4. Government will require all users to cut back their water use in times of drought or where stream health is threatened.</b></p>		<p>Province is responsible for issuing and enforcing both critical environmental flow orders and fish population protection orders.</p> <p><b>Who:</b> ENV; FLNRORD; water licence holders</p>	<p>The WSA delivers on this commitment through s. 86-88: temporary protection orders. The Minister or Cabinet may make a declaration of significant water shortage; when this declaration is made, the Comptroller may make a critical environmental flow order that takes precedence, once essential household needs are accounted for, over other water rights, regardless of seniority. The Minister may also issue a fish population protection order to allow for the restriction of water use regardless of precedence when low flows threaten the survival of a population of fish.</p>	<p>Lack of clarity around what triggers declarations of scarcity or shortage—for example, if they are linked to the drought stages in the provincial drought plan.</p>
<p><b>5. Government will limit all new licences to 40-year terms in areas where there is high demand and pressure on water.</b></p>		<p>Issuing water licences with specific terms and conditions falls in the Province's jurisdiction.</p> <p><b>Who:</b> FLNRORD; ENV</p>	<p>WSA s.19(3) states that licences for power purposes issued after 2003 must not have operation terms longer than 40 years.</p>	<p>Generally, licences do not have fixed end dates and are issued in perpetuity.</p> <p>A 30-year review process allows Ministry staff to give notice and review licence terms and conditions. These reviews are intended to compel a water user to improve the efficiency of their water use or to make greater efforts at conservation. They are not intended to be a mechanism by which rights are reduced.</p> <p>Time-limited licences are far superior to deal with changing hydrology and social priorities.</p>
<p><b>6. The Ground Water Protection Regulation will protect the quality and quantity of our groundwater.</b></p>		<p>Province responsible for developing and enforcing regulation</p> <p><b>Who:</b> ENV; FLNRORD</p>	<p>The Groundwater Protection Regulation, in effect in 2016:</p> <ul style="list-style-type: none"> <li>• Regulates minimum standards for well construction, maintenance, deactivation and decommissioning</li> <li>• Recognizes the types of qualified people certified to drill wells, install well pumps, and perform related services.<sup>8</sup></li> </ul>	
<p><b>7. By 2012, government will regulate groundwater use in priority areas and large groundwater withdrawals.</b></p>		<p>Regulating groundwater use falls within Provincial jurisdiction</p> <p><b>Who:</b> ENV; FLNRORD; OGC</p>	<p>As of February 2016, government is regulating all non-domestic groundwater use. The Province also has the ability to regulate domestic groundwater use through area-based regulations and/or water sustainability plans.</p>	<p>Implementation of groundwater licensing is ongoing, with more to be done to encourage licensing through better provincial communication to groundwater users.</p> <p>Aquifer mapping to reveal sustainability of past and current groundwater use is required to effectively regulate.</p>

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<p><b>8. Government will support communities to do watershed management planning in priority areas.</b></p>		<p>Province has a critical role, e.g.: providing resourcing, oversight, developing the necessary regulations, etc.</p> <p><b>Who:</b> (ENV, FLNRORD, Health (for Drinking Water Protection Plans), First Nations, community/watershed groups, local government</p>	<p>The WSA introduces an enhanced planning regime through water sustainability plans. None have been completed to-date.</p>	<p>To-date, the Province has used few of its planning tools (e.g.: no Drinking Water Protection Plans (<i>Drinking Water Protection Act</i>) have been created; no Water Management plans were completed under the former <i>Water Act</i><sup>9</sup>).</p> <p>Community groups and local governments have developed several watershed plans. However, since these are not legislated plans, they generally lack legal “teeth” and enforceability.</p> <p>In the lead up to the release of the WSA, emphasis was placed on the importance of good water planning—starting in priority places—as the foundation to an effective provincial approach. At this stage, the promising Nicola pilot is underway (which may include a planning process), but ultimately many regions and sufficient resources must be committed to demonstrate a new approach that puts water at the centre of regional decision-making.</p>
<p><b>9. By 2020, water use in B.C. will be 33 percent more efficient.</b></p>		<p>Province responsible for developing water use efficiency requirements under the WSA</p> <p><b>Who:</b> ENV, OGC, Municipal governments, water licence holders</p>	<p><b>Municipal water use:</b> A 2016 <i>Municipal Water Survey</i> by UBC’s School of Community and Regional Planning found an 18% drop in total litres per capita per day since 2009, concluding that: “If these results are accurate, and trends continue, the Province is on track to meet its target of a 33% efficiency improvement by 2020 for municipal water use.”<sup>10</sup> This same study found a metering coverage rate of 26% percent of water connections in the province.</p> <p>As of 2013, 40% of B.C. communities have water conservation plans.<sup>11</sup></p>	<p><b>Licensed use:</b></p> <ul style="list-style-type: none"> <li>• It is not possible to assess efficiency gains for licenced users because to-date, no requirements exist for measuring and reporting water use (other than for oil and gas licences). Measuring and reporting can be a condition of a licence (and indeed is for some), but it is not a universal requirement.</li> <li>• Little incentive exists for licence holders to improve efficiency. Key starting points include: comprehensive and ongoing beneficial use reviews, and prices set at levels to drive innovation and reduce water use.<sup>12</sup></li> </ul>

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<p><b>10. By 2012, government will require all large water users to measure and report their water use.</b></p>		<p>Province will be responsible for developing and enforcing measuring and reporting regulation.</p> <p><b>Who:</b> ENV, FLNRORD, OGC.</p>	<p>Oil and Gas Commission as of 2014 requires mandatory water use reporting for water licences for oil and gas use in the Northeast.<sup>13</sup></p> <p>Other progress/tools include:</p> <ul style="list-style-type: none"> <li>• B.C. Water Use Reporting: a partnership between BC, the Okanagan Basin Water Board, and Environment Canada that has developed an online voluntary water management and reporting system.</li> <li>• An initiative from the B.C. Water Funders Collaborative Working Group on Water Monitoring &amp; Reporting is underway to catalyze information sharing around water monitoring and reporting in BC.</li> </ul>	<p><i>WSA</i> measuring and reporting regulations are not yet in place.</p> <p>The Act itself does not explicitly require metering for water licence holders.</p> <p>Some individual licences require installation of flow meters or other measuring devices as a condition of the licence, but this is not universally required, nor is there a requirement to regularly (and publicly) report water use.</p>
<p><b>11. Government will secure access to water for agricultural lands.</b></p>		<p>Issuing licences or reserving water for agricultural uses is in the Province's purview.</p> <p><b>Who:</b> ENV, FLNRORD</p>	<p>Some new tools exist, such as the Okanagan Agricultural Water Demand Model, which calculates water use on a property-by-property basis and sums each property to obtain a total for the entire basin or sub-basins. It was developed to provide current and future agriculture water demands for the Okanagan Basin, and was intended to help fulfill this LWS commitment.<sup>14</sup> The model has been applied to several regions.</p>	<p>Securing water for agricultural lands is only enabled in a limited scenario in the <i>WSA</i> that has not yet been acted on (dedicated agricultural water in a water sustainability plan (s. 82)</p> <p>All priority areas, including South Eastern Vancouver Island and the Okanagan, should set aside an explicit water reserve for agriculture to avoid future conflicts.</p>
<p><b>12. Government will require more efficient water use in the agricultural sector.</b></p>		<p>Province responsible for developing regulations on water use; enforcement; conducting beneficial use reviews, 30-year licence reviews, etc.</p> <p><b>Who:</b> ENV, FLNRORD</p>	<p>Groundwater for agricultural use is now regulated and subject to beneficial use declarations, fees &amp; rentals, etc.</p>	<p>No specifications appear to exist for efficiency in agricultural sector beyond the beneficial use requirement and the potential for conservation audits and 30-year licence reviews.</p>

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<p><b>13. Government will work with the private sector and support communities to conserve and restore stream function.</b></p>		<p><b>Who:</b> Province &amp; partners (e.g. community, private sector, First Nations, etc.)</p>	<p>B.C. Living Rivers Trust Fund: This fund was created in 2002 to invest in watershed sustainability. Between 2006-12, \$21 million was invested in priority watershed projects, with an additional \$1 million in 2012-2013.<sup>15</sup> The Fraser Salmon and Watersheds Program,<sup>16</sup> co-managed by the FBC and the Pacific Salmon Foundation, was one of the initiatives delivered with Living Rivers Trust Fund funding.</p>	<p>No provincial funding of this nature has been created since the Living Rivers Trust Fund ended in 2013.</p> <p>Further investment in a Water Sustainability Fund is identified as a key need.<sup>17</sup></p>
<p><b>14. Government and partners will restore ecological health to 30 km of stream between Vaseux and Osoyoos Lakes.</b></p>		<p><b>Who:</b> Province &amp; partners</p>	<p>Several initiatives have helped meet this commitment, e.g.:</p> <ul style="list-style-type: none"> <li>• 2008: initiative to improve water quality in the Okanagan River by diverting water back into oxbows adjacent to the river.<sup>18</sup></li> <li>• 2009: major renovation to the McIntyre Dam to allow salmon to migrate past the dam.<sup>19</sup></li> <li>• 2013: Okanagan River Restoration Initiative restored portions of the river providing salmon spawning and rearing habitat.<sup>20</sup></li> </ul>	<p>No information available on the “final picture” of ecological health after these initiatives.</p>
<p><b>15. Government will fund the Mount Washington mine remediation project with \$4.5 million, restoring the health of the Tsolum River.</b></p>		<p><b>Who:</b> Province &amp; partners</p>	<p>The water quality in the Tsolum River improved significantly in 2009 at the completion of Phase 1 of the remediation project. Water quality goals for the river were met for the first time in 2010. 40,000 pink salmon returned to the Tsolum River in 2009. An estimated 1,000 coho also returned in 2010.<sup>21</sup></p>	
<p><b>16. To enhance some watersheds, government will examine the potential of decommissioning dams.</b></p>		<p><b>Who:</b> Province, BC Hydro, environmental assessment/engineering firms</p>	<p>A few dams have been decommissioned including the Heber Dam,<sup>22</sup> Providence Dam,<sup>23</sup> and some small dams on Britannia Creek.<sup>24</sup></p>	<p>At the same time as small dams are being decommissioned, the major Site C dam was approved in fall 2017.</p>

**LIVING WATER SMART: PREPARING COMMUNITIES FOR CHANGE**

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<p><b>17. 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.</b></p>		<p>Province plays a central role in drought and flood planning and response (including through WSA mechanisms)</p> <p><b>Who:</b> ENV, FLNRORD, local governments, partners</p>	<p>WSA introduces some new approaches to increase flexibility and adaptive management, e.g.:</p> <ul style="list-style-type: none"> <li>• Mechanisms to modify FITFIR;</li> <li>• An ability to change existing water licences via water sustainability plans;</li> <li>• A requirement for environmental flows considerations in licensing decisions, and temporary protection orders to curb water use in extreme droughts.</li> <li>• British Columbia Drought Response Plan that sets out drought indicators and recommends actions to reduce drought impacts;<sup>25</sup></li> <li>• Local governments are also demonstrating leadership in this area; for example, through the natural asset management approach (Gibsons<sup>26</sup>); and improved stormwater management (e.g. Victoria<sup>27</sup>).</li> </ul>	<p>WSA presents opportunities for flexibility, but barriers to adaptive management still exist, e.g.:</p> <ul style="list-style-type: none"> <li>• Generally, licences do not have fixed end-dates and are issued in perpetuity.</li> <li>• Limited opportunities exist to address existing over-allocation.</li> <li>• 30-year licence reviews can require a licence holder to improve the efficiency of their water use or to make greater efforts at conservation, but are not intended to reduce rights, which can only be done through a water sustainability plan.</li> </ul>
<p><b>18. Government will work with other provinces to share ideas and resources to improve water conservation and collectively help communities adapt to climate change.</b></p>		<p>Province as partner</p>	<p>B.C. has now signed two bilateral transboundary water agreements for the Mackenzie River Basin with the Northwest Territories (2015) and the Yukon (2017).<sup>28</sup> These agreements set out how the two jurisdictions will cooperatively manage shared waters. B.C. is also working with Alberta to finalize a bilateral agreement.</p> <p>B.C. is also working with Canada and Indigenous nations to advance the renegotiation of the Columbia River Treaty.<sup>29</sup></p>	<p>A Western Water Stewardship Council was formed in 2008 but was discontinued.<sup>30</sup></p> <p>Between 2011 to 2014, the Council of the Federation had a Water Stewardship Council that provided information and strategic advice to Premiers on key trends, issues and opportunities related to Canada's water resources. The WSC also promoted, and where appropriate, implemented the commitments of the Water Charter.<sup>31</sup></p>

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<p><b>19. Community development strategies will be created to recognize the importance of riparian zones in adapting to climate change.</b></p>		<p>Province responsible for enacting RAR, compliance and enforcement</p> <p><b>Who:</b> Local, provincial, and federal governments.</p>	<p>In 2018, Government completed a <i>Review of Professional Reliance in Natural Resource Decision-Making</i>.<sup>32</sup> Government has committed to moving forward with the first two major recommendations:</p> <ul style="list-style-type: none"> <li>• Establishing an Office of Professional Reliance and Oversight; and</li> <li>• Legislating best practices and professional governance.</li> </ul> <p><i>Riparian Areas Regulation (2004)</i> requires specified local governments to protect riparian areas during residential, commercial, and industrial development. It requires use of prescribed riparian assessment methods by a Qualified Environmental Professional.</p>	<p>A 2014 review of the Riparian Areas Regulation by the B.C. Office of the Ombudsperson found several weaknesses in the implementation of RAR. In particular, the review highlighted that the Province did not adequately follow up on assessments undertaken by registered professionals to protect riparian areas.<sup>33</sup></p>
<p><b>20. Adapting to climate change and reducing our impact on the environment will be a condition for receiving provincial infrastructure funding.</b></p>		<p>Province is responsible for setting parameters/ requirements for infrastructure funding</p>	<p>Water conservation plans are a requirement for local governments who receive capital grants from the Province for drinking water and wastewater infrastructure. Having a plan or actively conserving water is also considered in the evaluation of provincial grant applications.<sup>34</sup></p>	<p>This requirement is not being consistently followed.<sup>35</sup></p>
<p><b>21. Where new development on floodplains is unavoidable, it will be flood-proofed to high provincial standards.</b></p>		<p>Province responsible for providing information and guidelines for flood proofing.</p> <p><b>Who:</b> FLNRORD; Ministry of Transportation and Infrastructure; local government</p>	<p>Following legislative changes in 2003 and 2004, the Province delegated authority to local governments to incorporate flood-proofing measures into bylaws and development permit decisions.</p> <p>Local governments are required to consider Provincial Flood Hazard Area Land Use Guidelines when making bylaws under section 910 of the <i>Local Government Act</i>, and provincial land officers also are required to consider the guidelines when selling or leasing Crown land. Provincial approving officers must consider flood hazards when approving subdivision development in regional districts. The guidelines have been updated to include sea level rise for coastal communities.</p>	<p>The Flood Hazard Land Use Guidelines date back to 2004, and have been amended twice. They are not best practice and are not enforceable through existing legislation.</p>

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<p><b>22. Government will provide \$100 million for flood protection over 10 years to help communities manage flood losses.</b></p>		<p>Province provides funding.</p>	<p>Since 2008, the Province has committed \$182.7 million towards flood mitigation projects in over 200 communities in B.C.<sup>36</sup></p>	<p>Funding should support community climate change adaptation policies that include risk assessment—analysis of current vulnerability to floods and the risks posed by climate change—and set out priority actions based on these risks; and investment in flood resilient infrastructure.<sup>37</sup></p>
<p><b>23. Wetland and waterway function will be protected and rehabilitated.</b></p>		<p><b>Who:</b> Province &amp; partners</p>	<p>“Wetlands” are better defined under the definition of “stream” in the WSA. Since a stream can be defined as a wetland, any regulations related to protecting streams can apply to wetlands.<sup>38</sup></p>	<p>B.C. does not have a wetland policy or overarching wetland targets or objectives.</p> <p>Few tools exist to measure wetland function or provincial trends. Regional wetland plans/strategies are being developed (e.g. in the Okanagan), but these have not been compiled into a comprehensive, province-wide ‘state of wetland’ assessment.<sup>39</sup></p>
<p><b>24. Government will provide incentives for the restoration of streams or wetlands.</b></p>		<p><b>Who:</b> Province &amp; partners</p>	<p>Some incentives potentially exist at the local government level. According to the Green Bylaws Toolkit (2016): “Provincial legislation gives local governments legal options for providing landowners and developers with incentives to meet community goals such as protecting green infrastructure. Local governments can offer a property tax exemption for riparian property secured with a conservation covenant on the title.”</p>	<p>No explicit stream/wetland restoration incentives programs exist provincially.</p>
<p><b>25. Green developments waiting for provincial environmental approvals will be fast-tracked and given priority.</b></p>		<p>No information found.</p>		
<p><b>26. Government will develop new protocols for capital planning that will look at the lifecycle costs and benefits of buildings, goods and services.</b></p>		<p>No information found.</p>		

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<p><b>27. Government will improve the quality and protection of drinking water sources.</b></p>		<p>Province's role is in triggering, developing, funding plans; and using other regulatory tools</p> <p><b>Who:</b> ENV Ministry of Health; FLNRORD</p>	<p>In 2018 the Province commissioned an independent review of the Hullcar drinking water situation and committed to acting on the recommendations.<sup>40</sup></p> <p>In 2017 ENV updated the B.C. water quality guidelines for drinking water sources and recreational waters.<sup>41</sup></p> <p>Water objectives have the potential to protect drinking water sources by better incorporating water issues into land-based decisions</p> <p>Water sustainability plans can also be developed to address water quality issues.</p>	<p>The majority of B.C.'s drinking water sources are in mixed-use watersheds; major issues are evident in places like the Hullcar aquifer; Comox; Shawnigan Lake, etc.</p> <p>To date, no drinking water protection plans have been completed under the <i>Drinking Water Protection Act</i>.</p> <p>A Forest Practices Board investigation<sup>42</sup> also identified several weaknesses in how well the Community Watersheds designation is protecting drinking water, e.g.:</p> <ul style="list-style-type: none"> <li>• The requirements to protect drinking water are not clear or well understood;</li> <li>• Commitments made in forestry plans to protect drinking water are not always enforceable.</li> </ul>
<p><b>28. Government will cooperate with Canada to ensure the quality of drinking water in all Aboriginal communities will meet the same provincial standards applied across B.C. by 2015.</b></p>		<p><b>Who:</b> Federal government, First Nations Health Authority</p>	<p>Since 2015, 11 long-term (lasting longer than a year) boil water advisories in B.C. First Nations communities have been lifted.</p> <p>The First Nations Health Authority Drinking Water Safety Program is active in this area, e.g. working in partnership with communities to inspect drinking water quality and test that it meets the <i>Guidelines for Canadian Drinking Water Quality</i>; providing advice/recommendations to communities about drinking water safety issues.<sup>43</sup></p>	<p>As of May 21, 2018, there were 11 advisories and 4 do not consume advisories in 12 B.C. First Nation communities.</p> <p>Bill S-8, the <i>Safe Drinking Water for First Nations Act</i> came into force in 2013.<sup>44</sup> Under Bill S-8, regulations could be made on a province-by-province basis to mirror existing provincial regulatory regimes, with adaptations. No such regulations have yet been made for B.C.; this Bill has no funding attached and other issues with the approach have been identified.<sup>45</sup></p>

**LIVING WATER SMART: CHOOSING TO BE WATER SMART**

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<b>29. Fifty percent of new municipal water needs will be acquired through conservation by 2020.</b>		<b>Who:</b> Local governments, supported by the Province	No enough information to assess.	No way to measure progress;  Lack of water efficiency incentives (e.g. via infrastructure grants, comprehensive water metering, and conservation-oriented water pricing).
<b>30. Government will look at new ways to help promising water conservation technology succeed.</b>		Province listed as leader	Not enough information to assess.	Relative to other provinces <sup>46</sup> B.C. has not been a champion of innovative water conservation technology;  More can always be done, but further support needed from communities, NGOs and the private sector to emphasize the importance of water and the possible solutions.
<b>31. Government will fund household evaluations of water, energy, and transportation use.</b>		Province listed as funder	The LiveSmart BC Efficiency Incentive Program ended in 2014. <sup>47</sup> This program provided energy audits and rebates for energy efficient appliances (the focus was on energy not water).	No program specific to water use.
<b>32. The Green Building Code will require water-conserving plumbing fixtures such as low flush toilets.</b>		Province to develop and enforce building code  <b>Who:</b> Ministry of Municipal Affairs and Housing (Building and Safety Standards Branch)	The September 2012 Building Code includes water efficiency requirements (flow rates must not exceed maximum flow rates for shower heads, kitchen faucets, lavatory faucets; fixture efficiency requirements are set for toilets at 6-litre flush volume <sup>48</sup> (ss. 10.3.1.1-2)  Further efforts around plumbing fixture water efficiency are currently underway. <sup>49</sup>	
<b>33. By 2010, government will mandate purple pipes in new construction for water collection and reuse.</b>		Province to develop regulations	The Building Code was changed to <i>allow</i> the installation of purple pipes. However, the challenge is that recycled wastewater must be of high enough quality that it is not causing public health risk.	Government did not mandate purple pipes. However, the commitment as originally worded is considered unrealistic. <sup>50</sup>

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<p><b>34. In partnership with industry, government will develop a water efficiency labelling system for water consuming products.</b></p>		<p>B.C. along with the federal government and other provinces, initially engaged with industry to look at options.<sup>51</sup> Both B.C. and Environment Canada decided to align with the US EPA 'Water Sense' program to streamline. The Water Sense program/partnership with EPA promotes labeling so that consumers can easily identify water efficient products.<sup>52</sup> Partners include B.C. ENV; City of Victoria; CRD; Regional District North Okanagan.<sup>53</sup></p>		
<p><b>35. By 2012, all students in B.C. will have completed at least one stream-health assessment.</b></p>		<p>Not achieved.</p>		
<p><b>36. Government will award a youth water-science prize or scholarship for excellence in water stewardship.</b></p>		<p>Not achieved.</p>		
<p><b>37. Government will provide summer jobs for youth between the ages of 16-22 to undertake 20 stream restoration projects across the province.</b></p>		<p>Not achieved.</p>		
<p><b>38. Government and First Nations' treaty water negotiations and other related agreements support providing a clean and safe domestic, agricultural and industrial water supply for First Nation communities.</b></p>		<p>Who: Province, First Nations</p>	<p>In general, treaties set out a specific water reservation for domestic, agricultural and industrial uses. These water reservations have priority date from the date of the treaty.</p>	<p>It has been suggested that the water volumes allocated in modern treaties may not be adequate to meet the full suite of community needs including ecological flows.<sup>54</sup></p> <p>Most government-to-government agreements do not explicitly address water.</p>

STATED COMMITMENT	STATUS	PROVINCE'S ROLE & WHO IS LEADING	PROGRESS	IDENTIFIED GAPS/LIMITATIONS
<p><b>39. Tools to incorporate traditional ecological knowledge into information and decision-making will be developed by 2015.</b></p>		<p><b>Who:</b> ENV, First Nations, Ministry of Indigenous Relations and Reconciliation, FLNRORD, local partnerships</p>	<p>Some specific partnerships are showing leadership in this area, e.g.:</p> <ul style="list-style-type: none"> <li>• Cowichan Watershed Board targets and working groups;<sup>55</sup></li> <li>• Kootenay Lake Partnership shoreline mapping/inventory, which includes cultural and archaeological values.</li> <li>• Indigenous-led initiatives like Gitanyow and Yinka Dene Surface Water Policy are driving progress in this area.</li> <li>• Nicola watershed governance MoU makes a commitment for any planning and decision-making to be based on Indigenous knowledge and Western Science</li> </ul> <p>Bilateral water management agreements between B.C. &amp; Yukon and between B.C. &amp; NWT include commitments to consider traditional and local knowledge in setting and assessment of transboundary objectives.</p> <p>Opportunities to include traditional ecological knowledge in WSA water objectives are also being explored.</p>	<p>Significant work is still needed to understand how water decisions can be made in an appropriate and respectful way based on a foundation of both Indigenous knowledge and western science.</p>
<p><b>40. Government will work toward preserving First Nations' social and cultural practices associated with water.</b></p>		<p><b>Who:</b> ENV, First Nations, MIRR, FLNRORD</p>	<p>First Nations are leading this work on their own terms based on inherent Indigenous authority, through approaches including revitalizing Indigenous water laws, developing water declarations, policies, and strategies, etc.</p> <p>This work is expected to come to the fore with government's commitment to implement UNDRIP.</p>	<p>First Nations are consulted on water licences and impacts on rights/practices through the consultation/accommodation pathway &amp; referrals process.</p> <p>First Nations consistently voiced that the WSA consultation process was inadequate.</p> <p>The lack of explicit acknowledgement and definition of Indigenous water rights in the WSA is likely to violate rights and title claims in the future. It also directly undermines the security and certainty of rights held by other water users.</p>

STATED COMMITMENT	STATUS	PROVINCE'S ROLE & WHO IS LEADING	PROGRESS	IDENTIFIED GAPS/LIMITATIONS
<p><b>41. By 2010, a strategy to set the direction for water science in B.C. will be implemented.</b></p>		<p>ENV responsible for developing strategy</p> <p><b>Who:</b> ENV</p>	<p>A water science symposium was held in August 2010 with the intention to generate a framework for the strategy.</p> <p>An overarching Water Science Strategy framework is currently under development. This framework will describe the elements that should be included in regional-specific strategies for water science and monitoring and will include Traditional Knowledge and community-based monitoring, building on ongoing collaborative projects.</p> <p>The framework will provide flexibility across the province to tailor strategies that address regional and/or watershed-specific needs.</p>	<p>No overarching science strategy is publicly available at this point.</p>
<p><b>42. Government is expanding B.C.'s hydrometric and other climate-related networks.</b></p>		<p><b>Who:</b> ENV, FLNRORD</p>	<p>Under the Canada-BC Hydrometric Agreement, renewed in 2013, the Province has increased the number of sites monitoring temperature from 22 to 126 to assist with low flow monitoring; and increased the number of sites with telemetry from 194 to 383 to improve real-time access to hydrometric information</p> <p>The Province is expanding the provincial hydrometric monitoring network at regional priority sites.</p> <p>The Province is working on a web portal to enable public access to Aquarius, the Province's database for hydrometric, snow and groundwater data. Work is underway to enable access to third party data through Aquarius. A pilot involving data sharing agreements with 5 local governments has been initiated.</p> <p>The Province has increased the number of Automated Snow Weather Stations, and weather monitoring networks.</p>	<p>The 2018 B.C. Auditor General report <i>Managing Climate Change Risks</i> points to existing gaps: "Geographically, climate networks do not meet international standards for station density, and gaps exist in the northern regions of the province and at high elevations. In addition, there are gaps in hydrometric and groundwater monitoring in the province."<sup>56</sup></p>
<p><b>43. Government will publish a report on the state of our water by 2012 and every five years after that.</b></p>		<p>Working with partners to develop state of water indicators, collect the data, report out.</p> <p><b>Who:</b> ENV/FLNRORD</p>	<p>In November 2012, ENV launched Environmental Reporting BC, the refreshed delivery model for the B.C. State of Environment report. Select water indicators are being rolled into general state of environment reporting.<sup>57</sup></p>	<p>No comprehensive state of water reports have been completed to date.</p>

STATED COMMITMENT	STATUS	PROVINCE'S ROLE & WHO IS LEADING	PROGRESS	IDENTIFIED GAPS/LIMITATIONS
<b>44. Government will celebrate examples of successful water stewardship by awarding annual water awards to individuals or groups.</b>		No evidence of ongoing provincial leadership or awards (this work existed for a few years only through the Water Stewardship Council). Other organizations such as Water Canada <sup>58</sup> and the Real Estate Foundation of British Columbia <sup>59</sup> have begun new programs for awards.		
<b>45. Government will work with our Olympic partners to use sports and the Olympic Games spotlight to engage British Columbians and support smarter water choices.</b>		Not achieved.		

# Appendix B

## OTHER SOURCES OF COMMITMENTS & RECOMMENDATIONS

### WITHIN GOVERNMENT

#### 2017 Election platform

- Throne speeches
- Mandate letters (MoECC/FLNRORD/MIRR)
- Service Plans
- Climate Leadership Plan
- Jobs Plan
- Agrifood and Seafood Strategic Growth Plan
- Natural Gas Strategy

### INDEPENDENT BODIES & EXPERT REPORTS

#### B.C. Auditor General

- *Managing Climate Change Risks: An Independent Audit* (February 2018). <http://www.bcauditor.com/pubs/2018/managing-climate-change-risks-independent-audit>
- *Audit of Compliance and Enforcement of the Mining Sector* (May 2016). <http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>
- *Managing the Cumulative Effects of Natural Resource Development in B.C.* (May 2015). <http://www.bcauditor.com/pubs/2015/managing-cumulative-effects-natural-resource-development-bc>
- *Audit of the Management of Groundwater Resources in British Columbia.* (December 2010). <http://www.bcauditor.com/pubs/2010/report8/audit-management-groundwater-resources-british-columbia>
- The B.C. Auditor General also has several future reports that will focus on water including: wetlands management; drinking water; Site C dam; Environmental Impacts of Upstream Oil and Natural Gas Development.

### **Auditor General of Local Government**

- *Local Government's Role in Ensuring Clean Drinking Water, Regional District of Okanagan Similkameen* (May 2017). <https://www.aglg.ca/app/uploads/sites/26/2017/06/RDOS-Performance-Audit-Report.pdf> – which found that: “The Regional District had a governance structure that supported the provision of clean and safe drinking water, but it lacked a systematic, proactive approach to providing drinking water and—in several key areas—was operating with outdated guidance.”
- *Local Government's Role in Ensuring Clean Drinking Water, City of Kelowna* (March 2018). <https://www.aglg.ca/app/uploads/sites/26/2017/06/RDOS-Performance-Audit-Report.pdf>

### **Forest Practices Board**

- *Community Watersheds: From Objectives to Results on the Ground* (April 2014). <https://www.bcfpb.ca/wp-content/uploads/2016/04/SIR40-Community-Watersheds-From-Objectives-to-Results-on-the-Ground.pdf> – found several weaknesses in how drinking water is protected in community watersheds.
- *Evaluating Government's Approach to the Management of Fish Habitats*. (forthcoming). See Terms of Reference: <https://www.bcfpb.ca/wp-content/uploads/2017/01/ToR-Management-of-Fish-Habitats.pdf>

### **Ombudsperson**

- *Striking A Balance – The Challenges of Using a Professional Reliance Model in Environmental Protection - British Columbia's Riparian Areas Regulation* (March 2014). <http://bcombudsperson.ca/sites/default/files/Public%20Report%20No%20-%2050%20Striking%20a%20Balance.pdf> – which found that: “environmental protection programs such as the RAR must strike an appropriate balance between professional reliance and effective governmental oversight to work effectively.”

### **Cohen Commission**

- Final Report: *The Uncertain Future of Fraser River Sockeye* (2012). <http://publications.gc.ca/site/eng/9.696128/publication.html>; Fisheries and Oceans Canada status update (2017). <http://www.dfo-mpo.gc.ca/cohen/summary-summaire-eng.htm>

## NOTES TO APPENDIX A

- 1 *Doug Halstead and Donna Halstead v. British Columbia (Water Manager)*, BC EAB Decision, 2017-WAT-007(a), December 18, 2017.
- 2 As James Mattison wrote in his Discussion Paper prepared for WWF-Canada and POLIS' Forum on Environmental Flow Needs in B.C.: "There is nothing like an objective ordered by Cabinet through a regulation to help land and water managers know, and land and water users understand, what is required of their proposed activity to ensure stream health."
- 3 WWF-Canada and POLIS Water Sustainability Project (2018, August). *Forum on Environmental Flow needs in British Columbia: Hosts' Statement and Summary*. Retrieved from <https://poliswaterproject.org/polis-event-webinar/forum-environmental-flow-needs-british-columbia/>
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