



# Environmental Sector Expectations for an Environmental Flow Needs Regulation

The inclusion of environmental flow needs (“EFNs”) in the *Water Sustainability Act* (“WSA”) is a significant step forward in the management of our water resources in British Columbia. EFNs are a key determinant of riverine and aquatic ecosystem health, and can be thought of as the answer to the question: “How much water does a river need?”<sup>1</sup> The importance of regulating EFNs was recently summarized in a report from the DFO - Canadian Science Advisory Secretariat: “[T]he scientific literature supports natural flow regimes as essential to sustaining the health of riverine ecosystems and the fisheries dependant on them. Riverine ecosystems and the fisheries they sustain are placed at increasing risk with increasing alteration of natural flow regimes...[T]he assessment of alterations to the flow regime should be considered in a cumulative sense, and not only on a project-by-project basis.”<sup>2</sup>

The WSA recognized EFNs in s. 15, which includes that a decision maker “must consider the environmental flow needs of a stream” when making a decision in relation to a stream or an aquifer that is hydraulically connected to that stream. There are also important provisions for the protection of critical environmental flows (“CEF”) thresholds in s. 86-87. In addition to the legislation, there is an Environmental Flow Needs Policy, dated June 15, 2015.<sup>3</sup> However, the policy as it currently stands includes permissive language such as “may” rather than binding language.

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**EFNs need to be addressed via regulation, as this core element of the WSA cannot be sufficiently addressed in a binding and enforceable way through policy alone.**

In our general Statement of Expectation for WSA regulations we set out high level expectations for a regulation on EFNs in the context of meeting one of the provincial government's 7 key areas of improvement: protect stream health and aquatic environments.<sup>4</sup> Those high level expectations are:

- I. The definition, management, monitoring and enforcement of EFNs will be set out in regulation (not merely policy).**
- II. Detailed criteria that protect EFNs and consider cumulative effects will be used to *assess whether groundwater and surface water licences should be issued*. We expect new licences will not be issued unless there is sufficient evidence that the extraction will be sustainable.**

This Statement of Expectations provides a set of more detailed expectations for the implementation of an environmental flows regulation.

## **I. EFNs must be addressed in binding regulations**

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The permissive language and non-binding nature of a policy is not appropriate as it can only provide guidelines. The current Environmental Flow Needs Policy is not sufficient to ensure the protection of B.C.'s aquatic ecosystems. A specific regulation is needed to ensure that this critical issue is managed in a transparent, enforceable and effective way. In order to have an effective environmental flows program, we need clear legal authorities set out.<sup>5</sup> A regulation is required to set out the rules, procedures, and standards as to how to define, set and manage EFNs and CEF thresholds. A regulation is also required to set out how EFNs will be included in water licencing decisions.

## **II. First Nations rights and title must be included as part of EFNs management**

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The WSA regulations generally, and the EFNs regulation specifically, need to consider and include First Nations rights and title to water, water resources and water for fish. In order to address this pressing need fulsome consultation and engagement is required. Co-management initiatives through Water Sustainability Plans are among the variety options that need to be explored in the process of drafting regulations.

## **III. Regulations must require that EFNs be protected when issuing new licences**

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This expectation builds on the expectation that the entire EFNs regime be done through regulation. It is not sufficient to simply consider EFNs, rather the language needs to be that licences shall not be issued in

circumstances where it has the potential to put flow levels below CEF thresholds or significantly impair EFNs. In other words, a licence application should be refused if it would have significant negative impact on an aquatic system.<sup>6</sup>

#### **IV. Regulations must be clear as to the standards and rules for restricting water withdrawals to maintain CEF**

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Setting EFNs is of no value if the CEF thresholds are not enforced. Given the First in Time First in Right policy that has been maintained in the WSA, regulations in place must limit, restrict and prohibit water withdrawals, even by licence holders, in order to comply with overall aims of environmental flow management. In times of extreme stress or drought decision makers must have both the authority and the capacity to regulate surface and groundwater withdrawals to maintain CEF thresholds.

The new WSA tools for dealing with water in times of scarcity will be valuable if buttressed by effective EFNs regulation. For example, when the CEF threshold is breached the statutory decision-maker must be able to require, through an area-based regulation, or otherwise, that the thresholds be protected including by restricting withdrawals by licence holders.<sup>7</sup>

#### **V. Licences will be reviewed to address compatibility with EFNs and CEF thresholds**

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In order to implement the commitment to EFNs management, water licences must be reviewed regularly to ensure the EFNs objectives are being met.<sup>8</sup> The key outcomes of licence review should be that all licences are modified as necessary to be compatible with EFNs generally and are subject to CEF thresholds.

For all new licences a review term of approximately 10 years should be specified in the regulation and in the terms and conditions of the licence. This system of putting a 10-year renewal period on new water licences is drawn from the existing practice in Alberta.<sup>9</sup>

Review is also required of existing licences and should be completed on a strategic basis.<sup>10</sup> One option is to review licenses in priority areas through Water Sustainability Plans. Another option is to place a “sunset clause” on existing licences to trigger notice of a review within 30 years.<sup>11</sup>

#### **VI. Monitoring and enforcement mechanisms are necessary and must be supported financially**

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As set out in our general Statement of Expectations, monitoring and reporting requirements are essential. Without reliable technical data the government will not be in a position to enforce licences and ensure EFNs are protected.<sup>12</sup>

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Due to the limitations of any EFNs methodology, the impacts must be monitored to ensure the objectives are being achieved.<sup>13</sup> Another key reason that monitoring is necessary is because it is required for adaptive management. The aquatic systems need to be monitored in order to assess the effectiveness of the EFNs regime in achieving the desired objectives.<sup>14</sup> This information should be made publically available as part of achieving an effective governance regime. Monitoring and public reporting requirements should be set out in the terms and conditions of a water licence.

## **VII. EFNs regulation must recognize the connectivity of surface and groundwater systems**

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As set out in the general Statement of Expectations, the connectivity between groundwater and surface water must be considered in all regulations. Groundwater plays an important role in sustaining aquatic ecosystems and fish habitat.<sup>15</sup> Therefore, EFNs must also be a factor in assessing groundwater licences, and the EFNs regulation should include both surface and groundwater sources.

## **VIII. The choice of methodology to determine EFNs must be evidence based and scientifically appropriate for the different watersheds of B.C.**

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The choice of methodology or framework to use in determining EFNs is not simply a scientific one, but involves making a policy decision. In making that decision the government should conduct public engagement and consult with experts, and in so doing recognize the nature of the decision involves making trade-offs and balancing policy objectives. A recent study from a well-known British Columbian expert concludes that there is no one “right” answer because different methods emphasize different values in making decisions amongst trade-offs.<sup>16</sup>

If a simplified / desktop model is used for EFNs assessment, there should be triggers for a more detailed and holistic assessment set out in regulation.<sup>17</sup> Desktop models have limitations and cannot always achieve all ecological aims.<sup>18</sup> Desktop models are most appropriate at a “reconnaissance level, and in cases where negotiation among competing interests is not a substantial part of the decision making-process.”<sup>19</sup> There should be consideration for the varied geography and hydrology across different regions of B.C.

There are a number of components beyond just annual flows that should be included in the management EFNs.<sup>20</sup> Developing the EFNs methodology and determining thresholds must be scientifically based and include a peer review or independent expert process.<sup>21</sup> Throughout the process, decision making and reporting should be transparent and accessible to the public.



## IX. A precautionary approach is needed in situations of limited data or uncertainty

Even the most simplified desktop hydrological methodology requires some historical data of discharge. In many parts of the province data gauges are limited, and there is a particularly severe lack of data on groundwater. Given that context, an approach based on the precautionary principle is appropriate for setting EFNs.<sup>22</sup>

*This statement of expectations was written by Anne Muter, Barrister and Solicitor and Linda Nonlan of West Coast Environmental Law (WCEL). Thanks very much to Oliver Brandes, POLIS Project on Ecological Governance; James Casey, WWF-Canada; Randy Christensen, Ecojustice; Jessica Clogg, WCEL; Deborah Curran, University of Victoria Environmental Law Clinic; and Lisa Matthaus, Organizing for Change, for their review and comments. This Statement of Expectations is a collaboration between many groups who worked together on a similar Statement for the BC Water Sustainability Act.*

<sup>1</sup> Richter, Brian D., et al. "How much water does a river need?." *Freshwater biology* 37.1 (1997): 231-249.

<sup>2</sup> DFO, "Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada", DFO Canadian Science Advisory Secretariat, Rep. 2013 / 017.

<sup>3</sup> MOE & FLNRO, "Environmental Flow Needs Policy" June 15, 2015. Available at: [http://www.env.gov.bc.ca/wsd/water\\_rights/policies/cabinet/EFN\\_policy\\_amendment\\_june-2015.pdf](http://www.env.gov.bc.ca/wsd/water_rights/policies/cabinet/EFN_policy_amendment_june-2015.pdf)

<sup>4</sup> British Columbia Government, Ministry of Environment, "A Water Sustainability Act for British Columbia: Legislative Proposal" October 2013. Available at: [http://engage.gov.bc.ca/watersustainabilityact/files/2013/10/WSA\\_legislative-proposal\\_web-doc.pdf](http://engage.gov.bc.ca/watersustainabilityact/files/2013/10/WSA_legislative-proposal_web-doc.pdf)

<sup>5</sup> Annear, T., D. Lobb, C. Coomer, M. Woythal, C. Hendry, C. Estes, and K. Williams. 2009. International Instream Flow Program Initiative, A Status Report of State and Provincial Fish and Wildlife Agency Instream Flow Activities and Strategies for the Future, Final Report for Multi-State Conservation Grant Project WY M-7-T. Instream Flow Council, Cheyenne, WY. Available at: <http://www.instreamflowcouncil.org/docs/IIFPI-final-report-with-covers.pdf>

<sup>6</sup> Brandes, Oliver, POLIS Project on Ecological Governance, "Project Submission in Response to the B.C. Government's "Legislative Proposal for British Columbia's Water Sustainability Act", November 12, 2013. Available at: <http://engage.gov.bc.ca/watersustainabilityact/files/2013/11/UVIC-Polis-Project.pdf>; See also WWF, "Flowing into the Future: WWF Submissions on BC Water Sustainability Act", March 2011. Available at: [http://awsassets.wwf.ca/downloads/wwf\\_flows\\_submission\\_march2011.pdf](http://awsassets.wwf.ca/downloads/wwf_flows_submission_march2011.pdf)

<sup>7</sup> Brandes, see note 6 above.

<sup>8</sup> Gage, Andrew, "Water Sustainability Act Submissions to Ministry of Environment – Water Protection & Sustainability Branch", November 15, 2013. Available at: <http://engage.gov.bc.ca/watersustainabilityact/files/2013/11/West-Coast-Environmental-Law.pdf>

<sup>9</sup> WWF, see note 6 above

<sup>10</sup> Brandes, see note 6 above.

<sup>11</sup> WWF, see note 6 above

<sup>12</sup> Environmental Law Centre, University of Victoria, "Water Sustainability: ELC Associates Program Report" December 2011. Available at: <http://www.elc.uvic.ca/category/environment/sustainability/page/2/>

<sup>13</sup> Hatfield, T., Paul, A.J., A comparison of desktop hydrological methods for determining environmental flows, *Canada Water Resources Journal*. 2015, DOI: 10.1080/07011784.2015.1050459. Available at: <http://www.tandfonline.com/doi/full/10.1080/07011784.2015.1050459#.VaAThV9VhBc>

<sup>14</sup> WWF Canada, "Submission: A Water Sustainability Act for BC: Legislative Proposal", November 15, 2013. Available at: <http://engage.gov.bc.ca/watersustainabilityact/files/2013/11/World-Wildlife-Fund-Canada.pdf>

<sup>15</sup> Watershed Watch Salmon Society, Groundwater Conservation Website, citing a series of reports. Available at <http://www.watershed-watch.org/issues/water/groundwater-conservation/>

<sup>16</sup> Hatfield and Paul, see note 13 above.

<sup>17</sup> WWF, see note 14 above

<sup>18</sup> Hatfield and Paul, see note 13 above; see also DFO, “Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada”

<sup>19</sup> Hatfield and Paul, see note 13 above.

<sup>20</sup> The Instream Flow Council has eight ecosystem components for instream flow quantification and water stewardship including river and societal elements: hydrology, geomorphology, biology, water quality, connectivity, legal, institutional and public involvement. See Locke, A., C. Stalnaker, S. Zellmer, K. Williams, H. Beecher, T. Richards, C. Robertson, A. Walk, A. Paul and A. Annear. 2008. Integrated Approaches to Riverine Resource Management: Case Studies, Science, Law, People and Policy. Instream Flow Council, Cheyenne, WY. 430 pp.

<sup>21</sup> WWF, “Environmental Flows for British Columbia’s Proposed Water Sustainability Act: Workshop Report”, November 2011. Available at [http://www.watershed-watch.org/WWF\\_Environmental\\_Flows-2011.pdf](http://www.watershed-watch.org/WWF_Environmental_Flows-2011.pdf)

<sup>22</sup> WWF, see note 14 above.