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Attn: Ed Porter, Manager  
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**Re: Proposed Aquaculture Activities Regulations published in the *Canada Gazette*, Part I, Vol. 148, No. 34 (the Regulations)**

Dear Mr. Porter:

We write on behalf of West Coast Environmental Law (West Coast) to provide comments on the above-referenced Regulations. An advocate for strong environmental laws for the past 40 years, WCEL has serious concerns that in their current form, the proposed Regulations would permit an unacceptable degree of risk and harm to Canadians and the environment.

As West Coast stated in its letter “[Proposed Regulations Establishing Conditions for Making Regulations under Subsection 36\(5.2\) of the Fisheries Act, published in the Canada Gazette, Part I, February 15, 2014 \(the Regulations\)](#)”, submitted March 14, 2014, decisions to approve the deposit of drugs, pesticides and other deleterious substances into aquatic ecosystems should be made on a case-by-case basis, based on the best available scientific and Indigenous knowledge. Responsible decision-making should take into consideration site, species- and system-specific factors and the potential cumulative impacts of the deposits along with other activities, require monitoring and regular reconsideration of whether to continue to permit the deposits, and involve both First Nations consultation and/or co-management and public participation.

On the contrary, the proposed Regulations:

1. Disregard site-specific conditions that have direct bearing on the impact of the substances they prescribe may be deposited into fish-bearing waters;
2. Ignore the precautionary principle, federal laws and policies by not requiring the adoption of the least environmentally harmful practices feasible;
3. Lack sufficient assessment and monitoring requirements to enable an adequate understanding of the potential and actual impacts of the substances they permit to be deposited;
4. Fail to require assessments of the cumulative impacts of multiple aquaculture facilities and other human activities, which is essential for ensuring the present and future health of Canada’s fish populations and the sustainability of Canada’s fisheries;

5. Preclude First Nations' and public participation in decision-making; and
6. Amount to a further divesting of DFO's responsibility over protection of fish and fish habitat.

In addition to the above, West Coast has identified an error in DFO's description of the costs of the proposed Regulations to Canadians in the Regulatory Impact Analysis Statement (RIAS). Specifically, the RIAS fails to account for the potential significant cost to Canadians and wild fish consumers of impacts to wild fish populations and habitat as a result of poorly understood and under-monitored deposits of the prescribed substances into fish-bearing waters.

Each of these concerns, as well as West Coast's recommendations, is discussed below. First is a description of some of the pertinent laws and policies on which its recommendations are based.

## **REGULATORY AND POLICY CONTEXT**

The precautionary principle and sustainable development objectives are cornerstones of the applicable regulatory framework and the proposed Regulations should accord with the spirit and intent of those policies.

The proposed Regulations are made pursuant to sections 35(3) and 36(5.2) of the *Fisheries Act*. Section 6 of that Act sets out the factors that the Minister must consider when recommending regulations to Cabinet under section 35(3). Section 6.1 states that the purpose of the section 6 factors is to provide for the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries.

Section 5 of the Federal Sustainable Development Act (S.C. 2008, c. 33) requires the Minister of Environment to develop periodic Federal Sustainable Development Strategies based on the precautionary principle (section 9(1)). The Federal Sustainable Development Strategy 2013-2016 defines the precautionary principle as holding that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."<sup>1</sup> It also sets as targets to support the sustainable use of biological resources sustainable fisheries and sustainable aquaculture.<sup>2</sup>

Furthermore, the preamble to the Pest Control Products Act (S.C. 2002, c. 28) states: "*the primary objective of the federal regulatory system be to prevent unacceptable risks to people and the environment from the use of pest control products.*" It states that is in the national interest that:

[P]est control products be regulated in a manner that supports sustainable development, being development that meets the needs of the present *without compromising the ability of future generations to meet their own needs...*

[T]he *federal regulatory system be designed to minimize health and environmental risks* posed by pest control products and to encourage the development and implementation of innovative, sustainable pest management strategies, for example by facilitating access to pest control products that pose lower risks, and *encouraging the*

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<sup>1</sup> Environment Canada Sustainable Development Office, *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013-2016* (November 2013) at 6, online: [https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339\\_FSDS2013-2016\\_e\\_v10.pdf](https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339_FSDS2013-2016_e_v10.pdf).

<sup>2</sup> Environment Canada Sustainable Development Office, *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013-2016* (November 2013) at 57 and 69, online: [https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339\\_FSDS2013-2016\\_e\\_v10.pdf](https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339_FSDS2013-2016_e_v10.pdf).

*development and use of alternative, non-toxic, ecological pest control approaches, strategies and products...*

[A]pplicable policies of the Government of Canada that are consistent with the objectives of this Act *be duly reflected in decisions respecting the regulation of pest control products...* [and]

[T]here be cooperation among federal departments in *the development of policies to pursue the attainment of the objectives of this Act*, and that those policies take into account advice from diverse sources throughout the country.

For the reasons set out below, West Coast is concerned that the Regulations as proposed do not comply with these governing policies, strategies and objectives, as they do not ensure the sustainability of aquaculture practices or adequately safeguard the health and abundance of Canada's wild fish and their habitat, or the health and livelihoods of Canadians who rely on those fish.

### **1. Consideration of site-, species- and system-specific factors**

As recommended in our March 14, 2014 letter, decisions to approve the deposit of deleterious substances, and in particular substances deposited for the purposes of aquaculture, aquatic pests and aquatic invasive species, should be made on a case-by-case basis, be based on the best-available, watershed-based scientific and Indigenous knowledge, and take into consideration site-, species- and system-specific factors.

A recent DFO report on the potential effects of anti-sea lice pesticides confirms the importance of a site-specific approach to substance deposit regulation. The report found that environmental conditions like water quality, temperature, amount of organic matter in the water column, the physiology of organisms and the proximity and nature of nearby fish farms influences the life-cycle and toxicity of pesticides in marine environments.<sup>3</sup> Accordingly, understanding the movement and dispersal of pesticides involves consideration of local oceanographic and environmental data, and characterizing the effects of exposure concentrations of pesticides to non-target organisms "requires local knowledge of the biology, ecology, and population dynamics of non-target species."<sup>4</sup>

Despite this understanding, the blanket-authorization approach that the proposed Regulations employs would impede accounting for site-specific considerations in permitting deleterious substance deposits.

In the United States, a preferred approach in many states and among producers to mitigate potential environmental risks is the implementation of best management practices into facility-specific plans that are based on system-, species- and site-specific factors and targeted to

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<sup>3</sup> Department of Fisheries and Oceans, "Potential Exposure and Associated Biological Effects from Aquaculture Anti-Sea Lice Pesticides: Canadian Science Advisory Secretariat Science Advisory Report 1013/049" (October 2013) at 9, 11-12, 17, online: [http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013\\_049-eng.pdf](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_049-eng.pdf).

<sup>4</sup> Department of Fisheries and Oceans, "Potential Exposure and Associated Biological Effects from Aquaculture Anti-Sea Lice Pesticides: Canadian Science Advisory Secretariat Science Advisory Report 1013/049" (October 2013) at 3, online: [http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013\\_049-eng.pdf](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_049-eng.pdf).

achieve a desired environmental outcome.<sup>5</sup> While best management practices should not replace mandatory, binding requirements for environmental protection, they can provide a nimble means of obtaining prescribed sustainability objectives.

In accordance with DFO's report and best practices, West Coast recommends that the proposed Regulations require the consideration of site and region-specific information, including Indigenous knowledge and public input, as well as the ability for DFO to adjust the type and amount of permitted substances in order to ensure that deposits do not compromise receiving environments.

## **2. Least environmentally harmful practices**

The proposed Regulations contain vague and difficult to enforce conditions that will create uncertainty for industry, regulatory bodies and the public and leave room for inconsistent applications of the Regulations. Moreover, the vague and permissive language used regarding minimizing impacts fails to comply with federal law and policy regarding the application of precaution in environmental management and the regulation of drugs and pesticides.

For example, the proposed Regulations require facility owners and operators to consider alternatives to deposits of pest control drugs and other products (sections 5(c) and 6(c)). Consideration of alternatives is not an obligation to utilize the safest and least impactful alternative; indeed, the provision contains no clear, measurable or enforceable objective.

The proposed Regulations also require taking "reasonable measures to minimize" detriment to fish that do not pose a harm to cultivated fish or equipment, and the deposit of feces, food and other waste (sections 7(1)-(2)). The subjectivity and lack of definition of reasonability creates uncertainty as to the nature and extent of owners and operators' obligations.

Canada's Sustainable Development Strategy commits to "an efficient federal-provincial aquaculture regulatory management regime that is developed consistent with regulatory best practices."<sup>6</sup> Rather than "reasonable measures" and "consideration of alternatives," the Regulations should specify best environmental management practices, as well as the selection of the most minimally-impairing option available.

## **3. Assessment and monitoring**

It is generally accepted that the complexity of coastal marine environments makes assessing the risks of net pen aquaculture difficult.<sup>7</sup> Any deleterious substance deposits into aquatic ecosystems should be monitored and any effects reported in order to understand and avoid adverse impacts. As Environment Canada notes, environmental effects monitoring is a science-

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<sup>5</sup> Bary L. Jensen and Paul W. Zajicek, "Best Management Practice Programs and Initiatives in the United States," in *Environmental Best Management Practices for Aquaculture*, Craig S. Tucker and John A. Hargreaves (eds) (2008: Blackwell Publishing, Iowa, USA), 91 at 99-100.

<sup>6</sup> Environment Canada Sustainable Development Office, *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013-2016* (November 2013), strategy 5.2.1 at 70 online: [https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339\\_FSDS2013-2016\\_e\\_v10.pdf](https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339_FSDS2013-2016_e_v10.pdf).

<sup>7</sup> Sebastian M. Belle and Colin E. Nash, "Better Management Practices for Net-Pen Aquaculture," in *Environmental Best Management Practices for Aquaculture*, Craig S. Tucker and John A. Hargreaves (eds) (2008: Blackwell Publishing, Iowa, USA), 261 at 263.

based performance measurement that enables the identification of effects on fish, fish habitat and the use of fish that may be caused by the deposit of deleterious substances.<sup>8</sup>

Further, to achieve sustainable aquaculture, Canada's Sustainable Development Strategy requires "increase[ing] the science knowledge base needed to support informed ecosystem-based environmental regulation and decision making, especially that of regulatory-based programs such as Aquaculture Management."<sup>9</sup>

Despite this understanding, the proposed Regulations do not impose adequate monitoring requirements as conditions of deposits of the prescribed substances. For example, section 9 prescribes actions to be taken if unusual fish morbidity or mortality is observed outside the aquaculture facility, but do not require monitoring for fish morbidity or mortality.

Also, with the exception of finfish farms that either commence operations after the Regulations come into force or that have increased their maximum quantity of fish cultivated by more than 10% in the past five years, aquaculture facilities would not be required to include a description of the impacts of their operations in their annual reports.

To help enable an understanding of the effects of the prescribed deposits, all farms should be subject to monitoring requirements, including description of baseline conditions, and monitoring of the footprint of deposits, water quality, any impacts to or bioaccumulation in wild fish and plant species, and outside fish morbidity and mortality.

#### **4. Cumulative impacts**

As we stated in last year's submission on DFO's April 2013 discussion paper on implementation of the 2012 *Fisheries Act* amendments,<sup>10</sup> and our March 14, 2014 letter, federal fisheries regulations must provide for a robust approach to cumulative impacts management. Among other things, such an approach must be watershed-based and consistent with objectives and targets identified in assessments of fish habitat needs that are based on best available scientific and Indigenous knowledge.<sup>11</sup> Accordingly, authorizations of deposits of deleterious substances should incorporate consideration and management of their cumulative impacts of those deposits and other activities with which they may interact.

DFO reports support the use of this approach to the application of aquatic biocides and other activities. A report on the potential effects of aquaculture anti-sea lice pesticides states that characterizing the risk to non-target species "will require local knowledge of the non-target

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<sup>8</sup> Environment Canada, "Environmental Effects Monitoring", webpage: <http://www.ec.gc.ca/eseem/?CFID=2644836&CFTOKEN=39286280>.

<sup>9</sup> Environment Canada Sustainable Development Office, *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013-2016* (November 2013) at 71, online: [https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339\\_FSDS2013-2016\\_e\\_v10.pdf](https://www.ec.gc.ca/dd-sd/A22718BA-0107-4B32-BE17-A438616C4F7A/1339_FSDS2013-2016_e_v10.pdf).

<sup>10</sup> Department of Fisheries and Oceans, "Implementing the New Fisheries Protection Provisions under the *Fisheries Act*", Discussion Paper (April 2013), online: <http://www.ubcm.ca/assets/Resolutions~and~Policy/Policy/Community~Economic~Development/DFO-%20April%202013%20Discussion%20Paper%20.pdf>.

<sup>11</sup> Jessica Clogg, "Implementing the New Fisheries Protection Provisions Under the *Fisheries Act*: April 2013 DFO Discussion Paper" (June 2013) at 2, online: [http://wcel.org/sites/default/files/publications/West\\_Coast\\_Environmental\\_Law\\_Submission\\_DFO\\_April\\_2013\\_discussion\\_paper.pdf](http://wcel.org/sites/default/files/publications/West_Coast_Environmental_Law_Submission_DFO_April_2013_discussion_paper.pdf).

species (e.g., presence/abundance and population structure)” and should consider risks from other activities.<sup>12</sup>

By not requiring monitoring and testing, the proposed Regulations risk allowing the cumulative effects of prescribed deposits to go unassessed, contrary to DFO’s and our recommendation. Moreover, by allowing the effects of deposits to go unreported and poorly understood, they actually pose a barrier to effective cumulative impacts management in other sectors.

To meet DFO’s obligations and comply with federal policy, deposits should require approvals based on an assessment of the potential cumulative effects of deposits with those of other facilities and other activities.

### ***5. First Nations’ and public participation in decision-making***

The formal involvement of First Nations in decisions that will affect fish, fish habitat and thus fishing rights, including decision-making with respect to authorizations and other exercises of ministerial discretion, is constitutionally required. By removing the approval process for prescribed classes of substances, through the proposed Regulations the federal Crown appears to be attempting to legislate itself out of its constitutional obligations to First Nations, and to preclude the ability of the public to have a say in whether, where and how deposits of such substances should occur.

To ensure that the government complies with its constitutional obligations to First Nations and allow for decision-making that is based on traditional knowledge and public input, West Coast strongly urges that DFO provide opportunities for meaningful consultation in all aspects of the aquaculture approval process. Furthermore, as the Supreme Court of Canada has recently emphasized, obtaining the consent of affected Aboriginal peoples is the best way to avoid a charge of infringement of First Nations’ section 35(1) rights or a failure to adequately consult.<sup>13</sup>

### ***6. DFO’s responsibility for fish and fish habitat***

As we submitted in our letter of March 14, 2014, it is important to distinguish between duplication of process and complementary overlap, which can improve certainty and environmental outcomes. Systems to protect fisheries are strengthened when different government agencies work together towards the fulfilment of their independent obligations.

DFO has a mandate to coordinate federal policies and programs respecting oceans.<sup>14</sup> To make greater progress towards the twin goals of sustainable fisheries and aquaculture, West Coast submits that DFO should take a leadership role in the coordination of federal policies and actions related to sustainable aquaculture management, particularly as they affect wild salmon. Instead, DFO is shirking its obligations related to sea coast and inland fisheries by deregulating the deposit of classes of deleterious substances into water frequented by fish and relying on other regulatory frameworks and agencies to fulfil its obligations.

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<sup>12</sup> Department of Fisheries and Oceans, “Potential Exposure and Associated Biological Effects from Aquaculture Anti-Sea Lice Pesticides: Canadian Science Advisory Secretariat Science Advisory Report 1013/049” (October 2013) at 18-19, online: [http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013\\_049-eng.pdf](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_049-eng.pdf).

<sup>13</sup> *Tsilhqot’in Nation v British Columbia*, 2014 SCC 44 at para 97.

<sup>14</sup> *Department of Fisheries and Oceans Act*, RSC, 1985, c. F-15, s 4(1)(d).

We strongly urge that, rather than the deregulatory approach taken in the proposed Regulations, DFO uphold its responsibilities to protect fish and fish habitat and ensure the sustainability of fisheries.

## **7. Cost to Canadians**

The RIAS states that the proposed Regulations would not impose any incremental costs to Canadians. With respect, West Coast submits that this conclusion ignores the potential significant risks and costs of aquaculture on wild fish populations and their habitat, especially as a result of the poorly understood and under-monitored deposit of the prescribed substances into fish-bearing waters. Removing DFO and Environment Canada's oversight over facilities' depositing of aquatic drugs, pesticides and waste into marine environments as these Regulations propose to do enhances the risks of harm by such deposits.

Fishing makes significant a contribution to local, regional and national economies. In 2010, recreational fishing contributed \$8.3 billion to local economies. Commercial fisheries were valued at over \$11 billion and generated 82,646 jobs.<sup>15</sup> Fish also play central economic, cultural, spiritual and recreational roles across the country. From sockeye salmon, cultural cornerstone of British Columbia, to the iconic steelhead, fish are woven into the culture and wellbeing of many Canadians. In 2010, almost 3.3 million adult anglers fished recreationally in Canada, the majority of whom were Canadian residents fishing in their home province or territory. Over 400,000 British Columbians sport fished in their home province.<sup>16</sup> Fish are important sources of food, a staple part of many Canadians' diet, and many species have cultural and spiritual significance for both Aboriginal and non-Aboriginal communities.

The removal of DFO and Environment Canada oversight of deposits of prescribed classes of substances poses a serious risk to these values, and the cost-benefit analysis should reflect those potential costs.

## **CONCLUSIONS AND RECOMMENDATIONS**

The proposed Regulations authorize the deposit of prescribed substances without consideration of site-specific conditions and variables or potential environmental or cumulative effects, requirements for monitoring or the imposition of time limits to allow a response to changes in the receiving environment, or First Nations consultation and public participation in decisions to allow pollution in wild fish habitats. This approach risks making an already untenable situation surrounding net-cage aquaculture worse.

As the Coastal Alliance for Aquaculture Reform notes:

The conservation movement is in wide agreement that the production system of raising salmon in net-cages is fundamentally flawed and unsustainable. Farmed salmon will not be able to meet sustainability criteria until the industry moves away from net-cages into closed containment.

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<sup>15</sup> Fisheries and Oceans Canada, Survey of Recreational Fishing in Canada 2010, s 1.1 at 1, online: [http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010\\_ENG.pdf](http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010_ENG.pdf); Fisheries and Oceans Canada, "National Overview", *Canada's Fisheries Fast Facts 2012*, online: <http://www.dfo-mpo.gc.ca/stats/facts-Info-12-eng.htm>; Fisheries and Oceans Canada, *Survey of Recreational Fishing in Canada 2010*, section 1.2, online: [http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010\\_ENG.pdf](http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010_ENG.pdf).

<sup>16</sup> Fisheries and Oceans Canada, Survey of Recreational Fishing in Canada 2010 at 4, online: [http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010\\_ENG.pdf](http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010_ENG.pdf).

However, as an interim measure as Canada works toward long-term goals, West Coast acknowledges the need to implement mechanisms for achieving sustainability criteria within the existing system.

We thus recommend that to minimize the adverse impacts of net-pen aquaculture, at a minimum the Regulations should require that: 1) any deposits be in accordance to substance or other applicable environmental management plans approved by DFO as conditions of aquaculture licenses; 2) such plans include frequent, ongoing environmental monitoring and reporting on environmental and cumulative effects; 3) the plans be required to be designed to achieve no discernable direct or cumulative impacts on wild fish or fish habitat; 4) the design and approval of the plans be transparent, involve consultation with First Nations and include opportunities for meaningful public participation; and 5) DFO be empowered to impose penalties and suspend or revoke the ability of facilities to deposit the prescribed substances should they fail to follow approved such plans or achieve the goal of no environmental harm.

Respectfully submitted by

A handwritten signature in blue ink, appearing to read 'Anna Johnston', is positioned above the typed name.

Anna Johnston  
Staff Counsel  
West Coast Environmental Law