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November 20, 2011

Julie Dupuis
Environmental Officer
Environmental Services
Canadian Environmental Assessment Agency
95, rue Foundry
Moncton NB E1C 5H7

Dear Ms. Dupuis:

Re: Proposed Aquaculture Sites at Middle Head, Jordan Bay and Blue Island, Nova Scotia,
CEAA Registry reference number 11-01-61095

The David Suzuki Foundation submits these comments in response to the above noted tenure applications from Kelly Cove Salmon Ltd. (KCS - a division of Cooke Aquaculture) for the purpose of developing new marine aquaculture sites in Nova Scotia using open-netpen salmon farms (the "Tenure Application").

The David Suzuki Foundation is a non-profit public interest organization. One of our mandates is to promote safe aquaculture farming practices and to protect wild salmon, coastal ecosystems, coastal communities and human health from destructive fish farming practices. We are also a member of the Coastal Alliance for Aquaculture Reform (CAAR). CAAR and its member organizations (DSF, Living Oceans Society, T. Buck Suzuki Environmental Foundation and the Georgia Strait Alliance) employ highly respected scientists, biologists and researchers; some have been studying salmon farming and its impacts for decades. We are quite familiar with this industry and how it operates.

Kelly Cove Salmon Ltd claims they want to **increase production of their Nova Scotia operations** so that it will be feasible to move into a production system of single year-classes separated into three distinct Bay Management Areas (BMAs). They claim this will ensure predictable production and fallowing periods, reduce the risk of cross contamination between sites, ensure greater environmental sustainability, and allow production to reach economical sustainability at a level which will support Nova Scotia based infrastructure requirements (i.e. processing facilities).

While we agree that expansion of production capacity on the scale proposed will be of benefit to the industry as a whole, we disagree with their claims that doing so will enable the industry to become more environmentally sustainable.

It is clear from data that have been made publicly available for some of KCS's other sites (i.e. in Shelburne Harbour) that their existing, smaller operations were/are having significant negative impacts on the benthic environment around some of their farms. Expansion on the scale proposed will only lead even greater environmental impact because it quite simply means more fish, eating more food (leading to a greater demand for fish meal and oil) and, in the case of the

Shelburne Harbour sites, excreting more waste into the same areas that are already impacted and, in the case of the current proposal for Jordan Bay, causing even greater environmental degradation by impacting relatively pristine benthic habitats in areas where there currently are no farms. Additionally, with such expansion there will be a greater need to use more chemicals to treat more pens and more fish to protect the farms from net fouling and the fish from pathogens like sea lice and viruses. How is this environmentally sustainable?

We have reviewed the document submitted by KCS's consultants (Sweeney International Management Corp and SIMCorp Marine Environmental Inc.) in support of this application and have the following comments.

That document is entitled "*Environmental Impact Assessment Proposed Aquaculture Sites at Middle Head, Jordan Bay & Blue Island.*"

This document is NOT an environmental assessment of the proposed operations. It is merely a re-stating of known facts pertinent to aquaculture operations as we know them (including facility operating procedures and best management practices) and information on known activities and resources (e.g. commercial and recreation and aboriginal fisheries, fish and wildlife species known to Nova Scotia and their ranges, boating), climate and basic oceanography. Nowhere in this document is there any assessment of the potential impacts of the proposed operations on these resources or the environment (including cumulative impacts of expansion of the overall operations at multiple sites), although there is some discussion of potential impacts of the environment on the proposed farms.

In brief the "EA" prepared by Sweeney and SIMcorp fails to examine:

- the potential impacts of nutrient input to local waters (to do this one would need to actually calculate a nutrient budget and regional carrying capacity estimate);
- the potential impact of pathogens like sea lice, viruses and bacteria that may be prevalent on the farms to wild fish stocks, including benthic dwelling flatfish like halibut and flounder ;
- the potential impact of pesticides other than SLICE (e.g. Alphamax) that may be used to control sea lice outbreaks on farms on non-target organisms like lobster (The "EA" states that the most active commercial fishery in the general study area is lobster ... but no data are provided that would enable one to assess the impacts of the proposed projects on these resources);
- the fact that sea lice on the Atlantic Coast are exhibiting resistance to the anti-louse pesticide SLICE and that other, more toxic, pesticides are being used or may be used in greater amounts and the potential impacts doing so may have on non-target species.
- the potential impact of waste feed and chemical changes of the benthos and the organisms that inhabit it (and considering the depths at these sites are only around 15 metres, the impacts are potentially substantial);
- the potential impacts of antifouling compounds used on nets on marine organisms and the substrate in the vicinity of the farms (e.g. according to the "EA", the product being used - Flexguard - is designed to allow controlled leach-out of toxic copper over extended

periods, at concentrations above those that can be highly toxic to the larval stages of marine invertebrates¹);

- potential impacts on threatened and endangered species in the region, and,
- it fails to look at alternatives to the project, such as closed-containment.

We would also like to point out that the scale of the maps included in this document showing the various fisheries activities (finfish and shellfish) off the coast of Nova Scotia is not at all related or relevant to the level of activity in the possible areas of impact. In the EA it states that there are active commercial and recreational fisheries for groundfish and shellfish in the vicinity of the proposed sites but the maps provided only show groundfish and shellfish landings for the entire coast of the Province. Therefore it is impossible to determine the actual scale and scope of impact on these resources in the vicinity of the proposed farms.

With regards to potential impacts on Lobster fisheries, in the EA it is stated that lobsters tend to be abundant in rocky (i.e. ledge, boulder, cobble, and gravel) areas that are less than 15 m deep. While this may be true for adult lobsters, young lobsters that have just settled on the bottom may not be able to find gravelly material so they tend to burrow in pebble, sand or clay. These are precisely the type of habitat characteristics identified in the EA for all three proposed sites, yet no attempt was made to assess the use of those habitats by juvenile lobster or the possible impacts these farms may have on that resource. Studies suggest that inshore areas comprised of gravelly areas and/or sand or clay may be critical nursery grounds (post-larvae, juveniles, adolescents) for the American lobster and should be given a high priority for protection, particularly given the location of these beds and the impact that near shore human activities can have on them².

In summary, we feel that the proposed expansion of open-netpen salmon farming operations by KCS and Cooke Aquaculture is likely to be detrimental to the environment in the long term and is not in the best interests of Canada or Canadians. We are frustrated that the EA does not offer the data necessary to evaluate this concern adequately and we do not support approval of any expansion unless and until a comprehensive environmental assessment of expansion of this industry in Atlantic Canada (and other jurisdictions in Canada as well) is completed and mitigation measures designed and implemented to ensure that impacts of this industry on the marine and cultural environment of Canadians in Atlantic Canada are minimized.

In support of this, we note that in Norway, which is a leading global producer of farmed salmon, the head of the Directorate for Nature Management recently called for salmon production in that country **to be halved** to save wild salmon stocks³ (such drastic action was needed to bring lice under control, he said). We believe this illustrates just one example of the need to look comprehensively at industry expansion or re-configuration in Atlantic Canada where sea lice are

¹ Brooks, K. 2000. Determination of copper loss rates from Flexgard XI™ treated nets in marine environments and evaluation of the resulting environmental risks. Prepared for: British Columbia Salmon Farmers' Association Number 408 – 1200 West Pender Street Vancouver, British Columbia Canada V6E 2S9

² Steneck, R.S., R.A. Wahle and K.L. Lavalli, 1998. Essential Habitats for Lobster. An essay for management considerations. [In] Lobsters in the Edge – Essential Lobster Habitats in New England, by David Lincoln, Greenlite Consultants 136 Dickerman Rd. Newton Highlands, MA 02161

³ <http://www.nytimes.com/2011/03/22/business/energy-environment/22iht-rbog-fish-22.html?pagewanted=all>

developing resistance to anti-lice pesticide treatments, putting local wild salmon and ecosystems at risk as well as causing massive losses to the industry (in terms of lost production).

We believe that the best, and least environmentally and socio-economically destructive, way forward with expansion in this industry in the long term is for governments to promote and encourage, and industry to develop, technologies for raising fish in land- or sea-based closed containment facilities.

In closing, we ask that, at a minimum, the proposed project not be approved and the government of Canada undertake a strategic environmental assessment, which would allow for an in-depth examination of the long-term and cumulative environmental impacts and socio-economic impacts, particularly on other marine resource user groups, of expansion of the open netpen finfish farming industry in Atlantic Canada before any more projects are considered for approval.

I look forward to your response.

Sincerely

A handwritten signature in blue ink, appearing to read 'John Werring', with a stylized flourish at the end.

John Werring, M.Sc., R.P.Bio.
Aquatic Habitat Specialist
Marine and Freshwater Conservation Program
David Suzuki Foundation