New Brunswick Salmon Council
P.O. Box 533, Fredericton, NB E3B 5A6

Conseil du Saumon Nouveau Brunswick
C.P 533, Fredericton, NB, E3B 5A6

Subject: Open-Pen Aquaculture Policy

Policy number: Final Version

Effective Date: March 15th 2014

Approved: **March 15th 2014**

Policy Statement: It is the position of the New Brunswick Salmon Council (NBSC) that the **Precautionary Approach** be applied to the rearing of Atlantic salmon in **O**pen-**P**en **F**infish **A**quaculture. The NBSC also wants to see an end to **OPFA** on the Atlantic coast of Canada by the year 2020 which is within one life cycle of the Atlantic salmon. During the interim, the NBSC wants a moratorium placed on new, or expansion of existing, finfish aquaculture operations. The NBSC also advocates banning genetically modified salmon from being raised in existing **OPFA** operations. All fish grown during interim period to remain exclusively, local strains to mitigate any potential genetic effects by escapees on wild stocks.

The NBSC supports land-based, closed-contained aquaculture operations until other closed technologies such as floating, closed confinement systems with either rigid or flexible walls have proven effective in **eliminating** risks to wild Atlantic salmon I.E. Disease, Parasites, Escapes. This position is in alignment with the policies of many other government and conservation agencies concerned with the state of the ecosystem in the North Atlantic Ocean.

During the interim period between adoption of the policy and 2020, the NBSC supports the requirement for the **OPFA** industry to adopt best practices such as those that have been implemented in Maine and Norway. Examples of best practices are: Enhanced escape detection by marking all fish at each site. Mandatory, public reporting of sea lice loads and escapes by site. Development of third party audits through consulting Government and Conservation organizations. Lower fish densities at each site. Strategic fallowing periods after disease and sea-lice infestation to allow safe out-migration by wild smolts.

The NBSC also encourages government to cease compensation to industry for loss by disease or any other cause related to current practice in OPFA. We encourage these funds to be directed to programs and or incentives encouraging industry to move to land based production. Land-based closed-containment aquaculture provides a disease-free alternative to open-pen aquaculture environments where diseases are difficult to manage. Land-based operations would therefore reduce the high compensation costs paid by the public. In that regard, ongoing compensation payments to industry should be made from a 100% industry funded insurance program. Under the current CFIA program, industry has no incentive to make positive change and adopt best-practice during the interim period.

Policy Objective: The objective of this policy is to minimize and then eliminate the risks and impacts of open-pen finfish aquaculture on wild Atlantic salmon stocks.

Definitions:

Aquaculture: the active cultivation (maintenance or production) of marine and freshwater aquatic organisms (plants and animals) under controlled conditions. Five types of production systems include: (a) conventional net pen; (b) floating, closed-confinement systems with rigid walls; (c) floating, closed-confinement systems with flexible walls; (d) land-based flow-through system; and, (e) a land-based reuse system.

Closed-containment finfish aquaculture: a rather complex and broad term used to describe a range of technologies that attempt to restrict and control interactions between farmed fish and the external aquatic environment with the goal of minimizing impacts and creating greater control over factors in aquaculture production. Waste, escapes, and spread of disease and parasites are much better controlled in these systems

Land-based aquaculture: Tank or pond aquaculture systems located on the upland using estuarine, marine, saline groundwater or fresh water for growing species.

Open-pen finfish aquaculture: Farming of fish species in net pens or cages that are open to the marine or freshwater natural environments.

Precautionary Approach: In resource management, the Precautionary Approach is, in general, about being cautious when scientific information is uncertain, unreliable or inadequate and not using the absence of adequate scientific information as a reason to postpone or fail to take action to avoid serious harm to the resource.

Wild Atlantic salmon: Any Atlantic salmon (*Salmo salar*) occurring, growing, or living in a natural state that has not been artificially reared or domesticated.

In Scope:

- All finfish aquaculture operations along the Atlantic coast of Canada and in freshwater and estuarine environments of New Brunswick
- Applies to previously approved and new finfish aquaculture operations

Background

The NBSC recognizes the importance and economic benefits of the aquaculture industry.

The Council also recognizes the need for the industry to implement new technologies that will reduce or eliminate the impacts on the ecosystem including the risks to the future of wild Atlantic salmon populations.

The science on the devastating impacts of open-pen aquaculture on wild Atlantic salmon has grown considerably over the past few years and leaves little doubt of its harmful effects.

Noteworthy is the fact that, of the 75 recommendations made by Justice Cohen in the federally appointed Cohen Commission of Inquiry into the Decline of Sockeye Salmon, 11 of the recommendations deal specifically with salmon farming and the constraints that need to be placed on this industry if wild salmon are to prosper.

It would appear that a segment of the Aquaculture industry denies the plethora of sound science that describes the impact and risks associated with open-pen finfish aquaculture. Regardless, based on the Precautionary Approach, the onus of proving no harm is placed on the shoulders of the Aquaculture industry.

Open-pen finfish aquaculture:

- Affects native populations of wild salmon
- Significantly threatens coastal ecosystems and biodiversity by altering marine aquatic habitats that directly or indirectly support wild Atlantic salmon. The ecological carrying capacities where salmon are presently being cultured are unknown.
- Raises high-density numbers of cultivated fish, which encourages the release of diseases and parasites including sea lice and Infectious Salmon Anemia (ISA).
- Releases large amounts of waste products, feces and unconsumed food to the environment, where they cover the sea floor substrate and over-enrich nutrients in the water column.
- Releases chemicals into the natural environment
- Leads to escaped fish, whose genetic characteristics have been altered in controlled genetic programs, breeding with wild fish. The result is adverse genetic consequences and reduction in genetic integrity for wild Atlantic salmon.
- Leads to escaped fish and their offspring competing for food and space with wild fish in freshwater environments

- Attracts predators to the farm sites where they form a gauntlet for wild fish including salmon in the vicinity of the sites (the bird-feeder effect).
- Proliferates sea-lice which attach themselves to adult and smolt sized Atlantic salmon feasting on their skin, flesh and mucous. The opening of these wounds and eating away of skin, expose these fish to secondary infections, making them more vulnerable to predation, disease and death.
- Supports sea lice populations that also serve as a vector in passing disease between caged fish to wild fish.

Actions Required:

It is increasingly apparent through peer-reviewed scientific research conducted by the Atlantic Salmon Federation (ASF) and others, that salmon farming harms the environment and wild Atlantic salmon.

In addition to adopting the position of seeing an end to open-pen aquaculture, the NBSC needs to assist ASF in developing positions in support of the following strategies:

- Encourage affiliates to join the NBSC & ASF in serving land raised, closed-containment salmon at fundraising events. This topic has been an invaluable catalyst for bringing groups up-to-speed as to the negative impacts of OPFA on wild Atlantic Salmon stocks.
- Expanded research into methods to attain environmentally sustainable aquaculture.
- Continued development of equipment and procedures to provide secure containment of fish for all freshwater and marine aquaculture operations.
- Adoption of regulatory measures that, at a minimum, are consistent with resolutions and protocols adopted by NASCO and its Regional Commissions.
- The exclusive use of local strains of native species in culture facilities.
- A moratorium on the use of genetically modified salmonids, until such time as a full evaluation of potential impacts of escapees has been conducted and appropriate safeguards developed before they are used in the industry.
- ASF and its Regional Councils to work with the aquaculture industry and government regulatory agencies to achieve environmentally sustainable aquaculture including the development of a Best Practices, Procedures and Standards Manual.
- Begin discussion on removing the Aquaculture portfolio from DFO and placing it under a more appropriate governing body such as Agriculture.