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# DFO's Aquaculture Management Approach

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# Purpose

- To provide an overview of DFO efforts to modernize aquaculture regulation and management in Canada
- Provide an update on key aquaculture initiatives (science and research, fish health, licensing, public reporting)
- To engage in a dialogue with First Nations regarding DFO's aquaculture management approach and key initiatives, including:
  - First Nations priorities re: aquaculture management;
  - Opportunities to strengthen First Nations engagement; and
  - Requests for further information / follow-up.

# Table of Contents

# DFO's Aquaculture Management Approach

- The global demand for aquaculture products is growing and this trend is expected to continue.
- In general, industry is responsible for its own economic growth while the government is responsible for developing policies and law to contribute to industry sustainability and public confidence in the management of the industry.
- DFO's Sustainable Aquaculture Program, BC Business Resumption Plan, and Aquaculture Regulatory Reform all play a part in supporting a sustainable industry for the benefit of all Canadians.

# Aquaculture Management Approach cont'd

- Under the *Pacific Aquaculture Regulations* (PAR), DFO regulates four types of aquaculture in BC:
  - Marine finfish (mainly Atlantic salmon): ~120 licenced sites, primarily in the Campbell River, Port Hardy and Tofino areas
  - Shellfish (clams, oysters, mussels, scallops): ~468 licenced sites, primarily Baynes Sound, Cortes Isl. and Okeover Inlet
  - Freshwater / Land-based finfish (pond culture of Rainbow trout, private hatcheries for Sturgeon, coho, sockeye): ~108 licenced sites
  - Enhancement facilities for Pacific salmon

# A. Sustainable Aquaculture Program (SAP)

- The main program through which DFO supports industry's continued sustainable development is the Sustainable Aquaculture Program (SAP).
- SAP was established in 2008 with an initial investment of $70 million to enhance the sustainable development of Canada's aquaculture industry.
- The Government of Canada, building on the success of the first Sustainable Aquaculture Program, is providing an additional $54 million over five years the following initiatives:

  - ✓ Regulatory Science Research ($6.5M/year): increasing scientific knowledge and science-based decision-making
  - ✓ Regulatory Reform and Governance ($2.9M/year): streamlining regulations and improving regulatory management
  - ✓ Public Reporting ($1.4M/year): improving transparency through enhanced reporting.

# B. DFO Regulatory Science and Research

- Science activities under SAP II are advanced primarily through the *Program for Aquaculture Regulatory Research*
  - provides the science base needed for regulatory, policy, and program decision-making.
- Four major themes of research:
  - aquaculture interactions with wild fish populations
  - cumulative effects of aquaculture activities
  - effects and management of fish pests and pathogens
  - potential effects of organic matter released from aquaculture operations on the environment

# Regulatory Science and Research cont'd

- Examples of recent or ongoing DFO research / science advice
  - Studies of sea lice infection levels on health of juvenille salmon in the Strait of Georgia
  - Establishing zones for managing risks related to pathogen and/or pollutants originating on finfish aquaculture facilities in the Broughton Archipelago and Discovery Islands
  - Estimating the potential for waterborne transmission of IHN between salmon farms and wild sockeye in the Discovery Islands
  - Are shellfish transfers a likely vector for aquatic invasive species movement from the west to the east coast of Vancouver Island?
  - Impacts of shellfish culture on marine vegetation
  - Developing a carrying capacity framework for Baynes Sound, B.C.
  - Review of Geoduck Hatchery Protocols for the Strait of Georgia and Evaluation of Potential Application to Other Coastal Areas in B.C.
  - Interim Advice for the Development of Sea Cucumber Aquaculture B.C.

# Fish Health Risk Assessment

- DFO is undertaking a science based risk assessment regarding potential pathogen transfers from farmed to wild salmon stocks
- Pathogen transfer risk assessment process will build on aquaculture science research and advice previously provided through DFO's Aquaculture Pathways of Effects assessment (CSAS)
- Overall process will adopt the general objectives and principles of standard risk assessment methodologies including requirements to be systematic and structured; timely; and transparent and inclusive
- Risk Assessment will be conducted through CSAS process
- Opportunities for further information sessions and advice/input from interested parties will be available as process develops.

# Strategic Salmon Health Initiative

- Partnership between DFO, Pacific Salmon Foundation and Genome B.C. (also referred to as the 'Genome BC' project)
- Goal is to identify potential diseases that may undermine the productivity and performance of B.C. salmon, their evolutionary history, and the potential role of exchanges between wild and cultured salmon
- Includes collection and analysis of thousands of fish samples (farmed and wild) along the B.C. coast
- Multi-year project with four planned phases:
  - Phase 1 (Completed) – Collect sufficient samples from relevant populations.
  - Phase 2 (Underway) – When and where are potential pathogens present?
  - Phase 3 – Which microbes cause disease and mortality?
  - Phase 4 – How can these tools and information benefit fisheries?

# 2. Aquaculture Regulatory Reform

- The regulatory management of aquaculture is a shared responsibility between the federal, provincial and territorial governments.
- Through SAP renewal and the BC Business Resumption Plan, DFO is undertaking a targeted and pragmatic approach to developing new and amending current regulations under the *Fisheries Act*.
  - These efforts will continue progress in modernizing the sustainable management of the industry by creating a predictable, consistent decision-making process that also reduces cumbersome and unnecessarily costly delays.
- The Aquaculture Regulatory Reform agenda is the fulfilment of this commitment and contains several initiatives aimed at streamlining the regulatory environment for aquaculture.

# A. *Pacific Aquaculture Regulations*

- Prior to December 2010, the Province of BC was responsible for leasing and licensing in aquaculture, including collecting the appropriate fees.
- As the result of a BC Supreme Court decisions, DFO assumed authority for BC aquaculture in December 2010.
- DFO had intended to implement fees at the time, but the requirement to complete the *User Fees Act* process made it unfeasible.
- The Department is currently in the process of establishing licence fees through a two stage process:
  1. Requirements under the *User Fees Act*; and
  2. Completion of regulatory amendments.

# *Pacific Aquaculture Regulations* con'td

## 1. Fee Schedule

- The new fee schedule under the PAR is simple, fair, and easy to understand.
- Simple to administer, the fee schedule has two components that apply to all federal aquaculture licences (except enhancement facilities) in British Colombia :
  - a flat fee to partially recover ongoing administrative costs associated with licensing; and
  - a fee for resource access and the use of water space (either the ocean floor area used by shellfish producers or the tonnage produced by finfish producers).
- The fee schedule takes into account factors such as allowable production volume, size of operation, and differences between finfish and shellfish, as well as marine and freshwater sectors.
- The fee schedule balances small and large aquaculture operations' privileged access to Canada's valuable resources while remaining competitive with fees imposed by other provincial and international jurisdictions.
- Fee schedule proposal is now reviewed by Senate SCOFO.

# *Pacific Aquaculture Regulations* cont'd

## 2. Multi-Year Licensing

- In addition to PAR amendments, the Department is considering the implementation of multi-year aquaculture licences in British Columbia.
- Multi-year licences allow for more operational certainty as they support longer term planning for the aquaculture industry.
- Aquaculture owners and operators still have to meet their licence conditions for the duration of their multi-year licence.
  - DFO maintains the ability to change conditions of licence allowing for conservation and protection of the marine environment and the proper control and management of the fishery.
  - Should licence holders contravene these conditions, Fisheries and Oceans Canada has the authority to suspend or revoke the licence.
- DFO will maintain its moratorium on aquaculture expansion in the Discovery Islands and therefore multi-year licences will not be available in this area.

# *Pacific Aquaculture Regulations* cont'd

2. Multi-Year Licensing cont'd

- DFO is planning for engagement in early 2015 on the possible options for implementation.
  - Would involve all licence holders and interested First Nations through existing mechanisms.
  - Options being considered may include licence durations that would allow for multiple production cycles before renewal.

# Aquaculture Activities Regulations

- The proposed AAR regime is comprised of five elements:
  1. The proposed Aquaculture Activities Regulations, under s.35 and s.36 of the *Fisheries Act*
  2. The Aquaculture Monitoring Standard (AAR-AMS), incorporated by reference within the AAR (legally enforceable)
  3. A guidance document for regulators and licence holders
  4. An AAR reporting template for licence holders
  5. A federal interdepartmental MOU between DFO, Environment Canada, and Health Canada (HC), setting out an agreed-upon approach to implementation and coordination of regulatory activities, in relation to *Fisheries Act* s.36.

# Aquaculture Activities Regulations

- The proposed Regulations are intended to clarify conditions under which aquaculture operators may treat their fish, as well as deposit organic matter under sections 35 and 36 of the *Fisheries Act*.
- Reconciling or clarifying aquaculture-related regulations will improve coherence, simplicity and accountability. The Regulations will also increase operational certainty across Canada, improve environmental protection, and increase reporting with the intention of strengthening public confidence.
- Under the proposed AAR, only authorized aquaculture operators (i.e., operating under a valid licence) would be able to operate with additional certainty about their compliance with federal pollution prevention provisions.
- The proposed AAR is designed to align with policies and regulatory regimes that already exist in provincial and other federal jurisdictions by codifying them within the AAR existing measures, while also adding new AAR-specific provisions.

# Aquaculture Activities Regulations

Next Steps -

- Following the CG1 consultations, which ended October 22, 2014, and the ~50 technical sessions across Canada, the Department will:
  - Consider all stakeholder comments;
  - Make necessary changes to the proposed Regulations, Regulatory Impact Analysis Statement, Reporting Template, Monitoring Standard, Guidance Document and *Fisheries Act* section 36 Memorandum of Understanding;
  - Develop and execute an implementation plan respecting compliance and enforcement strategy, science review, data management and public reporting;
  - Discuss further any planned changes with First Nations and stakeholders; and
  - Submit the modified regulatory package for Departmental approvals and subsequent publication in *Canada Gazette*, Part II.

# Supporting First Nation Aquaculture

- DFO has engaged with First Nations to hear their views on aquaculture:
  - Inaugural National Aboriginal Fisheries Forum (NAFF – March 2011)
  - Aboriginal Aquaculture Engagement Initiative (AAEI – 2012)
  - Second National Aboriginal Fisheries Forum (NAFF II – October 2012)

What we heard:

- As stewards of the environment, First Nations demand that aquaculture be performed in a sustainable way (environmentally, socially and economically).
- First Nations want to have meaningful input into the management, regulation, and policy for aquaculture being practiced in their Traditional Territories.
- A number of First Nation munities have established successful and sustainable aquaculture ventures which have created jobs and enhanced economic prosperity in rural and coastal communities across Canada.
- A growing number of First Nation communities are interested in investigating economic development opportunities available in the aquaculture sector.

# Aboriginal Aquaculture in Canada Initiative

- In partnership with Aboriginal Organizations across Canada, DFO successfully obtained funding for the Aboriginal Aquaculture in Canada Initiative (AACI)
  - The AACI has been funded for 3 years through the Strategic Partnerships Initiative (SPI), an important component of the Federal Framework for Aboriginal Economic Development.
- The objective of the AACI is to support Aboriginal economic development in aquaculture.
- The AACI provides interested Aboriginal communities and entrepreneurs with business expertise support to prepare and implement aquaculture business development plans.
  - Eastern Canada Aquaculture Business Development Team – 2 Aquaculture Experts
  - Central Canada Aquaculture Business Development Team – 1 Aquaculture Expert
  - Western Canada Aquaculture Business Development Team – 1 Team Leader & 2 Aquaculture Experts
- The initiative also provides a small amount of funding for early-stage business development.

# The National Aboriginal Aquaculture Fund

- In Year 2 (2014-15), additional SPI funding was approved for early-stage business development project funding – as a result, the AACI National Aboriginal Aquaculture Fund (NAAF) was established.
- In September 2014, a Call for Proposals was issued by the regional Aquaculture Business Development Teams (ABDT's) to Aboriginal communities and organizations within their respective service areas.
  - 30 proposals were received for a total funding request of $1.01M.
  - The proposals were subjected to a competitive review process, managed by regional ABDTs and their regional Management Committee, to ensure the most viable, highest priority, and highest quality projects are funded.
- Successful proposals were then advanced to a final national review process by the AACI National Steering Committee.
- The $400K in available AACI NAAF funding was allocated to 15 of the submitted proposals: 4 in the East; 5 in Central Canada; and 6 in Western Canada.
- An additional $230K for the AACI NAAF was approved on October 17, 2014. The plan is to allocate these additional project funds by the week of November 3, 2014.

# Canadian Shellfish Sanitation Program

- The delivery of the Canadian Shellfish Sanitation Program (CSSP) will be adjusted to optimize the use of resources using a risk-based approach to support economic opportunities for Canadians while maintaining appropriate health protection.
- Stakeholders and First Nations will be engaged before any change in program delivery would be implemented.
- Food safety risks will have to be mitigated where program delivery shortfalls occur.
- It is expected that modified program delivery could commence in 2015, upon appropriate senior management approvals.

# CSSP Long Term Sustainability Activities

1. The development of a process for potentially declassifying under-utilized areas, fully exploiting existing classified areas, and classifying new areas with high potential.
   - Driven by the need to make best use of program resources, using a risk based approach, to support economic opportunities for Canadians while maintaining appropriate health protection outcomes.
   - Expected that classification of most bivalve shellfish harvesting areas will remain unchanged and only a small portion of harvest areas will be affected by these changes.
2. Explore alternate delivery options for commercial harvest, allowing the sector to maintain equivalent market access.
   - CSSP partners (DFO, EC, CFIA) are looking at increasing outsourcing and industry support of the program, and the development of better information and communication systems.

# CSSP Long Term Sustainability Activities

3. Alternate delivery options for non-commercial harvest that maintains equivalent health protection outcomes
   - Includes harvests for food, social and ceremonial purposes as well as harvest for recreational use.

4. Online mapping of harvest areas
   - Maps to communicate to the public where bivalve shellfish can safely be harvested.
   - The CSSP mapping system will provide notification to industry and interested parties on locations, boundaries and timing of harvesting closures and openings in real-time, thus reducing the risk of marketing contaminated shellfish.

# DFO Review of Siting Guidelines

- Siting guidelines are one of key management tools used to identify and mitigate potential risks related to aquaculture
  - Current guidelines have been in place since 2005-06
  - In some cases, these do not reflect our current scientific understanding or DFO's management approach (e.g. new siting considerations have been adopted into our regular review process)
- DFO is conducting a review of siting guidelines for marine finfish aquaculture
- Will be informed by science and engagement with First Nations, industry, and stakeholders.

# DFO Review of Siting Criteria cont'd

- Key themes, based on DFO's legislative and regulatory mandate (e.g. *Fisheries Act*):
  - Fisheries impacts (including Aboriginal / FSC fisheries);
  - Fish, fish habitat and environmental impacts; and
  - Fish health and wild-farmed interactions .
- First Nations engagement
  - Planned First Nations technical sessions - coordinated with FNFC
  - Additional Tier 2 / bilateral meetings - process under development, to be informed by advice from the FNFC
  - Tier 3 engagement in Aquaculture Management Advisory Committee process

# Fish Health Management in B.C.

- As the primary regulator of the aquaculture industry in B.C., DFO is committed to protecting the health of farmed and wild fish stocks
- DFO's Fish Health Program is aimed at monitoring and minimizing the potential risk of disease to both wild and farmed fish
- Includes regular fish health audits to assess each farm's compliance with their Health Management Plan (~30 sites sampled each quarter)
- DFO also conducts regular testing and surveillance for ISA, IHNv, IPN, VHS, SAV, P. rickettsia, BKD and furunculosis
- Canadian Food Inspection Agency (CFIA) is the lead federal authority responsible for monitoring issues related to the health of farmed fish and terrestrial animals
  - Includes regular testing for ISA, IPN and IHN

# Fish Health Management cont'd

- The majority of fish health concerns are easily remedied; however, the *Health of Animals Act* lists several that must be reported immediately to the CFIA
- CFIA works with the implicated authorities to develop an appropriate plan to deal with reported diseases and to prevent their spread
- Of these diseases, infectious salmon anaemia (ISA) is of particular risk to Atlantic salmon
- Both industry and government monitor extensively for its presence at aquaculture facilities and in wild salmon stocks.
- In recent years, over 5000 fresh, properly collected and stored samples have been tested and no case of ISA in British Columbia salmon has been confirmed

# Fish Health Management Plans

- Conditions of Licence require finfish licence holders to develop and implement a Health Management Plan (HMP)
  - Encompasses all aspects of farming that can affect the health of the animals within the aquaculture facility and minimize potential impact on the health of the surrounding ecosystem
- Lays out protocols to ensure aquaculture fish are monitored for signs of disease and infection
- Each aquaculture facility has designated staff to oversee and assess the health status of its fish, and is responsible to provide this information to DFO

# First Nations Consultation & Engagement

***How is DFO working to engage B.C. First Nations re: aquaculture?***

- Bilateral consultation with First Nations re: aquaculture licensing decisions (site applications, amendments)
- Tier 1 engagement led by the FNFC – under development
- Tier 2 engagement - under development
  - Technical meetings – first session to be confirmed for November
  - Broader policy / regulatory discussions - DFO ready to engage based on advice from FNFC, First Nations (e.g. review of siting criteria)
- Tier 3 engagement
  - First Nations participation in Aquaculture Management Advisory Committee (AMAC) process - ongoing

# Potential Discussion Topics

- Comments or questions on the material presented today?
- Opportunities to further strengthen First Nations engagement regarding aquaculture in B.C?
- Requests for follow-up information?

# Thank You