



DFO Aquaculture Transition Consultation Questions Unpacked!

This guide reproduces the [Fisheries and Oceans Canada \(DFO\) questionnaire](#), with suggested answers and rationale. It is intended to assist you to answer the questionnaire, in order that once it's tabulated, it does not disproportionately represent the opinions of the salmon farming industry and its supporters.

We found this guide necessary because the survey is extremely leading, based as it is on the presumption that ocean-based salmon farms will continue, with some regulatory and technological tweaks. Living Oceans has studied these issues in depth and our position is that it is impossible to regulate open-net pen salmon farms to be compatible with healthy, wild salmon; and that there is no commercially viable in-ocean technology that will save our wild salmon.

You are also invited to use our [online tool](#) to express yourself more fully, to your MP/the Fisheries Minister and to the DFO engagement email.

[Our commentary, suggested answers and rationale are identified by the red font in this document.](#)

Objective 1: Transition from open-net pen aquaculture.

The first questions focus on potential management options for the future of marine-based salmon aquaculture, the timeline for a transition, and measures of success.

(You will find nothing here about timelines; and a lot about the “future” of marine-based aquaculture. The government’s promise was to transition open-net pens “from BC waters” by 2025. Current licences extend to 2024. There is no need—and no time to implement—new regulatory measures. Further, there are no regulations that could stop the harm that net pens are doing.)

How effective or ineffective do you think each of the following policy and management tools could be in reducing or eliminating interactions between cultured and wild salmon in the ocean?

1-Very ineffective 2-Ineffective 3-Neutral 4-Effective 5-Very effective 6-Unsure

Question	Suggested Answer	Rationale
Require that salmon aquaculture companies adopt technologies that show promise in reducing interactions with wild salmon.	1-Very ineffective	Eliminating interactions is needed, not reducing. We need net pen removal by 2025; the 'promise' is too little, too late for wild salmon.

Institute a licensing approach that incentivizes salmon aquaculture companies who can meet higher performance standards.	1 - Very ineffective	The highest-performing net pen will still spew parasites, pathogens and pollution.
Require salmon aquaculture companies to secure local First Nations partnership from those within whose territories the licensed facility is located to guide allowable interactions.	1 - Very ineffective	Partnerships won't "reduce or eliminate interactions".
Manage licenses through an area-based aquaculture approach that reflects the incorporation of broader ecosystem factors into management and decision-making.	1 - Very ineffective	Too late, again, to make a difference to wild salmon.
Reduce the time that farmed salmon spend in the ocean.	1 - Very ineffective	This just means they can put more cohorts of fish through the existing tenures.
Use third party observers or guardians to monitor aquaculture activity and performance.	4 - Effective	If begun immediately!

Do you have other suggestions? Click one of the circles to the right to open the comment box. (You will have only 140 CHARACTERS to express your suggestion. Below are a few ideas you might use/edit)

- Open-net pen effluent can't be controlled by regulation. Get open-net pens out of the water by 2025, as the Prime Minister has directed.
- Too little, too late. Wild salmon numbers are so severely depressed that tinkering with governance and regulation will no longer save them.
- First Nations' partnerships can't reduce or eliminate interactions with wild salmon and wild salmon don't recognize territorial bounds.
- Adopt proven, land-based systems that eliminate interactions. Wild salmon don't have time for experimenting with 'reducing' impacts.
- Get observers out there immediately, to supervise lice counts, disease events and the decommissioning/remediation of farm sites.

How important do you think each of the following approaches could be to coastal communities in the transition from open-net pen salmon aquaculture?

1-Not at all important 2-Slightly important 3-Neutral 4-Important 5-Very important Unsure

Question	Suggested Answer	Rationale
Focus on a transition which supports and maintains the capacity for an aquaculture economy in B.C.	4 - Important	Shellfish, seaweed and other regenerative forms of aquaculture can be an important part of the BC coastal economy; and land-based aquaculture will need many of the same support services that the open-net pens industry now uses.
Support for advancing investment in alternative production technologies for salmon aquaculture (for example: semi-closed, land-based, floating, hybrid, offshore).	2 - Slightly important	Land-based aquaculture would benefit from investment support. We suggest that if you answer this question with any level of importance from 2-5, that you also comment that you object to public support for any form of in-ocean salmon aquaculture.
Support for advancing investment in growing other marine species of aquaculture (for example: shellfish, kelp, or other types of finfish).	4 - Important	Regulations are required to protect native species of seaweed and shellfish and to protect the marine environment from the impacts of debris generated by these operations. Other types of finfish are ideally suited to land-based closed containment and are grown profitably all over the world.
Support workforce training and upskilling, for example, for alternative aquaculture technologies or species.	5- Very Important	While many currently employed in the industry will have transferrable skills and little trouble finding work, there are specialized jobs that simply won't exist any longer, like net cleaning. Skills training will also be needed for land-based facility operators
Support economic development related to a transition away from the aquaculture sector, into other sectors not related to aquaculture (for example: tourism) for communities or workers currently involved in aquaculture.	5-Very important	This transition need not be about replacing aquaculture jobs with aquaculture jobs. Habitat restoration and tourism will be very important employers in a new, blue economy.

Do you have other suggestions? Click one of the circles to the right to open the comment box.
(Our suggested comments below)

- No public money should be spent on experimental in-ocean salmon farming. Industry has spent billions and has no answers.



- Support regenerative forms of aquaculture by developing regulations and incentives, assisting Nations and communities to invest.
- Transition to a new, blue economy and think broadly about re-employment of coastal community residents in new roles.
- Regulations to protect biodiversity are urgently required, to help establish sustainable, regenerative aquaculture.

In the development of the Open-Net Pen Transition Plan there are a range of outcomes. We want to understand what you would consider a successful Open-Net Pen Transition Plan.

Which of the following statements would best describe what a successful Open-Net Pen Transition Plan for B.C. looks like to you? Choose one option.

- A transition away from any marine salmon aquaculture to a sustainable land-based sector, accompanied by marine plants.
- A sustainable and economically viable salmon aquaculture industry in coastal B.C. which drives innovation and supports the use of new technology which could include marine components, provided that they reduce or eliminate interactions with wild salmon.
- A reduced aquaculture sector that transitions coastal economies to other sectors, such as tourism.

Objective 2: Trust and transparency

We have heard that trust and transparency represents a key area of concern in our current management of salmon aquaculture. We want to understand what you think could help build this trust among Canadians.

In your view, how important do you feel the following approaches should be to improve trust and transparency in salmon aquaculture management?

1-Not at all important 2-Slightly important 3-Neutral 4-Important 5-Very important Unsure

Question	Suggested Answer	Rationale
Enhanced transparency of the scientific review processes within Fisheries and Oceans Canada to confirm that robust information and assessment informs management decisions.	5 - Very important	For ongoing fisheries management, this is critical!

Clear metrics which can assess interaction between farmed and wild salmon, to create enhanced confidence in management and decision-making.	1 - Not at all important	This question assumes farms will remain in the ocean. Once open-net pens are gone, this won't be needed.
Improved reporting at the facility, area and coastwide scale that is linked to the assessment and possible impacts of farmed/wild salmon interactions.	1 - Not at all important	This question assumes farms will remain in the ocean. Once open-net pens are gone, this won't be needed.
Enhanced roles for First Nations and coastal communities in aquaculture management.	5 - Very important	There are many other forms of aquaculture that would suit community-scale operation and in which the Nations and communities should have a management role.
Regular public accountability related to transition plan implementation.	5 - Very important	

Do you have other suggestions? Click one of the circles to the right to open the comment box. (Our suggested comments below)

- Clear metrics to assess interactions between wild and farmed salmon and improved reporting would've been good two decades ago, but won't be needed after 2025. Doubt you could put them in place quickly enough!
- First Nations should be able to manage regenerative aquaculture in their territories; and communities need a role in siting decisions.
- Science process at DFO needs more than transparency: it needs integrity. End decision-informed evidence-making!

Objective 3: Reconciliation and Indigenous partnerships

The Government of Canada is committed to advancing reconciliation with Indigenous Peoples. We will be engaging directly with First Nations throughout the development of an Open-Net Pen Transition Plan. We want to know what First Nations and British Columbians' think are priorities for advancing reconciliation in an Open-Net Pen Transition Plan.

How high or low of a priority should each of the following proposals for an Open-Net Pen Transition Plan be to support reconciliation with First Nations in B.C.?

1-Very low priority 2-Low priority 3-Neutral 4-High priority 5-Very high priority Unsure

NOTE: Living Oceans fully supports the rights of First Nations to steward their territories and to be engaged in their co-management. In the case of open net pen salmon farms, the damage they do extends beyond the territory, affecting fish to which other First Nations have rights. We

cannot support the continued impacts on wild salmon—the first and most important duty of the Fisheries Minister is the conservation of wild stocks. We believe the government should assist Nations currently hosting salmon farms to develop alternate economic development opportunities as a focus of the Transition Plan.

Question	Suggested Answer	Rationale
A requirement for salmon aquaculture companies to secure coastal First Nations partnership from those within whose territories the licensed facility is located.	1 - Very low priority	We say this because the licences are already renewed until 2024 with or without partnerships; and end in 2025, according to the PM. A land-based facility should definitely secure a partnership before operating, but this questionnaire is designed to speak to continuing ocean tenures. Explain your views in the comments section
Create aquaculture management areas that reflect the input and interest of Indigenous Peoples.	1 - Very low priority	We say this because the licences are already renewed until 2024 without management areas; and end in 2025, according to the PM. Area management for regenerative aquaculture (<i>i.e.</i> , shellfish, seaweed) should be created along territorial boundaries to enhance Indigenous participation in management. Again, explain views in comments.
Enhance opportunities for First Nations partnerships for monitoring, stewardship/guardianship programs and research and development.	1 - Very low priority	While we fully support this in principle, the current farms should be ceasing operations by 2025, so there is little time to engage Indigenous guardianship. It should not be a focus of a plan to remove farms by 2025.
Supporting enhanced Indigenous knowledge and science contributions to aquaculture management.	1 - Very low priority	While we fully support this in principle, the current farms should be ceasing operations by 2025, so there is little time to engage Indigenous knowledge and science. It should not be a focus of a plan to remove farms by 2025.

Do you have other suggestions? Click one of the circles to the right to open the comment box. (Our suggested comments below)

- High priority to all these questions for land-based or regenerative aquaculture, but this questionnaire doesn't allow such distinctions to be made.
- Should have had Indigenous consent from day one, now should focus on the removal of farms by 2025.

- Support Indigenous business to engage in their own regenerative aquaculture operations and have Nations co-manage that.

Objective 4: Growth in B.C. sustainable aquaculture innovation

In the coming decades, growth of the global salmon aquaculture industry is expected to come from production using hybrid systems (a combination of land and marine-based net pen production), closed containment (marine and land-based), and offshore systems. Independent studies have assessed the feasibility of alternative technologies and suggest that land-based recirculating aquaculture systems (RAS) and hybrid systems are the most advanced and most ready for adoption in B.C.

We would like to understand your perspectives on the potential use of alternative production systems and technologies in B.C. Which alternative production system do you think should be a priority in advancing innovation in the Open-net Pen Transition in B.C.?

1-Very low priority 2-Low priority 3-Neutral 4-High priority 5-Very high priority Unsure

Question	Suggested Answer	Rationale
Land-based systems, such as Recirculating Aquaculture Systems (RAS).	5 - Very high priority	These are the only systems that fully protect wild salmon.
Hybrid systems, where the initial hatchery/land-based stage of development is longer and the in-ocean grow-out stage is shortened.	1 - Very low priority	Hybrid production systems are NOT a transition away from open-nets: they rely on open net pens for at least a year of the grow-out cycle. They increase the biomass on farms over time, taking production to 1.4 to 1.6 x the current production levels.
Closed or semi-closed containment systems instead of open-net pens.	1 - Very low priority	There are no closed or semi-closed ocean-based systems capable of raising fish to market size; semi-closed systems are open systems that still impact wild salmon
Ocean-based offshore systems (open-net pens located farther out to sea).	1 - Very low priority	Located on the continental shelf, where adult fish and marine mammals forage? Feasibility and impacts have not been studied.
Enhancements to current open-net pens through technologies which minimize interactions between net pens and wild salmon.	1 - Very low priority	There are no enhancements that eliminate interactions; and it's too late for merely minimizing them.

Supporting technologies that have the potential to improve efficiencies and reduce possible impacts of marine-based salmon aquaculture.	1 - Very low priority	As above.
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Do you have other suggestions? Click one of the circles to the right to open the comment box.
(Our suggested comments below)

- Wild salmon are in crisis and reduction of harm will not save them. Open-net pens have to be removed.
- Net pens must be removed to eliminate risks to wild salmon. Land-based RAS is the only acceptable way to farm salmon.

We have heard feedback from Canadians that investment in alternative aquaculture production technologies, including land-based facilities, needs to be encouraged.

Which of these potential incentives do you think should be a priority to attract investment to support innovation in the aquaculture industry in B.C.?

1-Very low priority 2-Low priority 3-Neutral 4-High priority 5-Very high priority Unsure

Question	Suggested Answer	Rationale
Develop an aquaculture research hub (such as a Centre of Expertise or Living Lab), where industry, scientists, government, and others could collaborate on the trial of new technologies and solutions.	1 - Very low priority	The time for this has long passed; and industry should fund this itself if it's to be done.
Promote collaboration amongst industry through an aquaculture "supercluster" (an area of concentrated business and research activity).	1 - Very low priority	The time for this has long passed and industry should fund this itself if it's to be done.
Reduce administrative burdens and facilitate services and programs for potential land-based system investors and licence applicants.	5 - Very high priority	Land-based aquaculture takes a very long time to clear regulatory controls right now; reducing the burden and facilitating it will attract investors.
Facilitate a licensing regime that encourages development and adoption of alternative production technologies.	1 - Very low priority	This means letting industry stay in the ocean while experimenting with systems that continue to pollute wild fish habitat.
Reduce regulatory barriers for applicants investing in new sustainable technologies, which	1 - Very low priority	This should definitely be done for land-based and regenerative aquaculture, but the questionnaire



could include land-based aquaculture.		does not permit distinguishing this from ocean-based systems.
Enable training and employment supports related to adoption of new technologies.	5 - Very high priority	Retraining of some salmon farm workers to adopt land-based technology will be required.

Do you have other suggestions? Click one of the circles to the right to open the comment box.
 (Our suggested comments below)

- Reduce regulatory barriers for land-based and regenerative aquaculture; but begin with creating the regulatory framework for them.
- Create a questionnaire in which questions related to open-net pens are not combined with those related to land-based/regenerative aquaculture.