

September 23 2015 – draft for review

DFO Siting Guidelines for Marine Finfish Aquaculture in Pacific Region

1.0 Introduction

The following guidance provides updated information from Fisheries and Oceans Canada (DFO) on how applications for new marine finfish aquaculture facilities are assessed in British Columbia. Appropriate siting of marine finfish aquaculture facilities forms a key part of DFO's broader strategy to support an environmentally sustainable and economically prosperous aquaculture sector in Canada. Applied in concert with the range of other management tools (e.g. conditions of licence, management plans, environmental monitoring), siting guidelines are a key component of the strong regulatory and management framework for aquaculture in British Columbia.

The previous siting guidelines used by DFO were developed jointly with the Province of British Columbia following the Salmon Aquaculture Review in 1997. Our understanding of the potential impacts related to aquaculture, as well as the efficacy of various management tools and approaches, has evolved since the previous guidelines were developed. Where possible, DFO has already incorporated this knowledge and the use of various management tools into its application review processes.

This guidance is based on currently available information as of 2015. The Department recognizes that knowledge gaps continue to exist and that significant science work is underway to improve our understanding of the relationships between the location of aquaculture facilities and potential impacts on the surrounding aquatic ecosystem, in particular wild fish stocks that support commercial, recreational and aboriginal (CRA) fisheries. As a result, the Department is committed to review and revise these DFO Siting Guidelines for Marine Finfish Aquaculture in Pacific Region as new information and scientific research becomes available.

Considerations

In establishing these guidelines, the following key considerations were applied:

- Consistency with DFO's legislative and regulatory mandate;
- Ensuring that aquaculture development respects constitutionally protected Aboriginal, and treaty rights and that the priorities of Aboriginal users of aquatic resources are taken into consideration;
- Alignment with DFO's Strategic Outcomes;
- Consistency with current scientific understanding regarding aquaculture and interactions with the environment;
- Whether management objectives are most effectively met through the use of siting guidelines relative to other measures (e.g. Conditions of Licence).

Aquaculture Regulatory Regime in British Columbia

As the lead federal agency responsible for regulating, licensing and monitoring aquaculture in British Columbia, DFO has a key role to play with respect to reviewing new applications for marine finfish aquaculture. The Province of British Columbia has legislative responsibilities for issuing tenures under the Provincial *Land Act* for marine finfish aquaculture facilities. Transport Canada is responsible for issuing

exist they will be considered during the application review process and engagement will be undertaken as appropriate.

- **Where required, aquaculture facilities will have a Provincial land tenure and/or Navigable Waters permit.**

Given their respective roles and responsibilities, the federal and provincial agencies involved in the licencing and management of aquaculture activities in British Columbia have developed a “harmonized” application and review process for new aquaculture licence applications and amendments. Through the harmonized application process, applications for Federal licences, Provincial land tenures and Navigable Waters permits are submitted at the same time.

- **The proposed aquaculture facility should not be sited within a National Marine Protected Area unless identified as an exception within the regulation.**

This guideline mitigates potential risks to marine protected areas that have been designated by a Federal Agency. This includes Marine Protected Areas (MPAs), National Marine Conservation Areas (NMCAs) and National Wildlife Areas (NWAs). Allowable activities may include specific fishery activities, including aquaculture, which are listed as exceptions to the regulations and managed under the *Fisheries Act*. Potential risks to relevant MPAs will be evaluated during the application review process and should be considered by the proponent during the siting assessment and application development process.

3.2 Potential Fish, Fish Habitat and Environmental Impacts

Management objective: to minimize potential impacts to the environment (e.g. seabed) that may result in a negative impact on existing commercial, recreational or aboriginal (CRA) fisheries or important/valued ecosystem components.

The primary mechanisms through which marine finfish aquaculture activities may impact fish, fish habitat and valued benthic ecosystem components are through (i) the release and deposit of waste material and unconsumed feed; (ii) the drop-off of biofouling organisms which sink to the seafloor; (iii) the effects of shading as a result of placement of farm infrastructure; and (iv) the placement of farm infrastructure on the seafloor (e.g. anchor blocks).

The Department requires that the proponent of each application for a marine finfish aquaculture facility conducts surveys, undertakes analyses and submits a set of comprehensive reports detailing the physical and biological characteristics of the benthic ecosystem beneath and around the proposed site location. These include reports on biological information such as seafloor habitat, species inventory, and ecological community structure; physical parameters such as current flow measurements, bathymetry and seabed typology; and modeling assessments estimating the spatial extent and degree of impact to the seafloor resulting from the operation of the proposed facility.

The submitted reports are assessed by the Department during the application review process. Further detailed guidance on survey, analyses and reporting requirements are described in the harmonized Pacific Region Marine Finfish Aquaculture Application guidebook:

< <http://www2.gov.bc.ca/gov/content/employment-business/natural-resource-use/land-use/crown-land/crown-land-uses/aquaculture> >

assessment and application development process.

3.3 Potential Impacts to Existing Fishery Activities

Management objective: to minimize and/or mitigate potential impacts on other existing fisheries. Within this objective, Aboriginal rights to fish for Food, Social and Ceremonial (FSC) purposes have priority, after conservation, over other uses of the aquatic resource.

The primary mechanisms through which aquaculture activities have the potential to impact existing fishery activities are through (i) physical displacement as a result of the siting of farm infrastructure including anchor lines; (ii) alterations in the suitability of seafloor conditions to support existing fisheries (considered under section 3.2 above); and (iii) the requirement to establish Canadian Shellfish Sanitation Program (CSSP) “prohibited areas” around the aquaculture facility (as per the CSSP Manual of Operations).

The guidelines set out under this theme identify specific assessments that the Department carries out to evaluate the potential impact of new aquaculture facilities on existing commercial, recreational and/or Aboriginal fisheries.

Guidelines

- **Placement and operation of the proposed facility in relation to First Nations’ ability to access fish for Food, Social and Ceremonial (FSC) purposes will be evaluated.**

Impacts to First Nations’ ability to fish for FSC purposes may arise as a consequence of the removal of access to a specific location/area following the placement of farm infrastructure and/or alterations in the suitability of the seafloor conditions to support fishery activities. Additionally, the requirement to establish a CSSP “prohibited area” around the proposed farm structure may impact bivalve shellfish harvest that forms part of an FSC fishery.

Consistent with its federal consultation requirements, the Department will engage with potentially impacted First Nations to determine the impacts to opportunities to fish for FSC purposes as a result of the operation of the proposed marine finfish aquaculture facility.

- **Placement and operation of the proposed aquaculture facility in relation to existing commercial, recreational or aboriginal (CRA) fisheries will be evaluated.**

Impacts to existing CRA fisheries may arise as a consequence of the removal of access to a specific location/area following the placement of farm infrastructure and/or alterations in the suitability of the seafloor conditions to support fishery activities. Additionally, the requirement to establish a Canadian Shellfish Sanitation Program “prohibited area” around the proposed farm structure may impact bivalve shellfish harvest.

Information regarding existing fisheries and potential impacts comes from a variety of sources, for example, DFO’s Resource Management Branch; input from local First Nations through consultative processes; review of survey data (e.g. stream surveys, ROV seafloor surveys) provided to the Department in support of applications; commercial and/or recreational harvesters; and other sources available to the Department.

3.4 Fish Health and Wild-Farmed Interactions

- **Aquaculture facilities should be located at least three kilometres from an existing marine finfish facility or operate under co-ordinated Health Management Plans.**

This guideline further reduces potential disease transfer risks between aquaculture facilities. The three kilometre distance is based on historical usage of this buffer zone.

Where the proposed aquaculture facility is located within three kilometres of an existing facility or facilities, the mandatory Health Management Plans for each facility should include detailed plans that will be implemented should a fish health event occur. These should specify response, co-ordination and communication plans between the facilities to mitigate potential risks to wild and farmed stocks.

4.0 Science advice supporting siting guidelines development

Where applicable, these guidelines were developed to be consistent with current science knowledge and advice regarding aquaculture and potential interactions with the environment. Some of the guidelines do not have a science-based linkage (i.e. they are policy based or legal requirements), whereas others are directly connected to science advice that has been provided through the Department's Canadian Science Advisory Secretariat (CSAS; www.dfo-mpo.gc.ca/csas). For example, the primary mechanisms of interaction described for the following sections: 4.2 - Potential fish, fish habitat, and environmental impacts; 4.3 - Potential impacts to existing fishery activities; and 4.4 - Fish health and wild-farmed interactions; were assessed and described as part of the CSAS review on Pathways of Effects for Finfish and Shellfish Aquaculture (CSAS Science Advisory Report 2009/071).

With regard to the fish health and wild farmed interactions theme, it is noted that the mandatory Health Management Plan (HMP) is the primary management measure used to mitigate potential risks to all fish stocks and has been developed over many years by Fish Health professionals. These siting guidelines further reduce the likelihood of disease outbreaks at aquaculture facilities and thereby potential risks to wild and farmed stocks.

5.0 Review of These Guidelines

As noted in the introduction, the Department is committed to review and revise the Siting Guidelines to incorporate new science knowledge and advice that becomes available. At a maximum, these guidelines will be reviewed on a 5-year basis.

6.0 For More Information

For more information, please consult DFO's website (www.dfo-mpo.gc.ca)



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JAN 15 2016

Your file *Votre référence*

Our file *Notre référence*
2015-502-00311

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Dear Mr. Proboszcz:

Re: Comments on DFO's Siting Guidelines for Marine Finfish Aquaculture

Thank you for your letter of September 15, 2015 providing Fisheries and Oceans Canada (DFO) with comments on the draft "Siting Guidelines for Marine Finfish Aquaculture in Pacific Region". We received numerous comments over a 2-3 month review period, and have taken the time necessary to respond to ensure all comments have been reviewed and considered.

In response to your written comments we offer the following.

It is important to note that the siting guidelines are only one part of the application review process leading to the issuance or rejection of an aquaculture licence. Other management tools such as conditions of licence, specific management plans, site specific considerations, monitoring, etc., are important steps and elements in the application review and decision-making process where various sources of information are considered.

Through the overall licence application review process, DFO considers all information to determine if a licence should be approved. The draft siting guidelines state in section 4.4 that known salmon migratory routes, locations where migratory salmon congregate, etc., are considered in the review of new applications. DFO relies upon the best available scientific and field information, and ensures that the decision-making process is updated as new information becomes available.

As stated in section 5.0 of the draft, where applicable, the guidelines were developed to be consistent with current science knowledge and advice regarding aquaculture and potential interactions with the environment. Some of the siting guidelines do not have a

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science-based linkage (i.e., they are policy based or legal requirements), whereas others are directly connected to science advice that has been provided through the Department's Canadian Science Advisory Secretariat (CSAS; www.dfo-mpo.gc.ca/csas). For example, the primary mechanisms of interaction described for the following sections: 4.2 - Potential fish, fish habitat, and environmental impacts; 4.3 - Potential impacts to existing fishery activities; and 4.4 - Fish health and wild-farmed interactions; were assessed and described as part of the CSAS review on Pathways of Effects for Finfish and Shellfish Aquaculture (CSAS Science Advisory Report 2009/071).

The Department recognizes that knowledge gaps continue to exist and that significant science work is underway to improve our understanding of the relationships between the locations of aquaculture facilities and potential impacts on the surrounding aquatic ecosystem, in particular wild fish stocks that support commercial, recreational or aboriginal fisheries. Examples of this work include DFO's Aquaculture Environmental Science Risk Assessment Initiative and the Strategic Salmon Health Initiative.

The Department views risks to wild fish stocks from aquaculture facilities to be well-managed, and the collection of baseline data on wild fish in proximity to proposed aquaculture sites as not necessary as a general requirement. As stated in the draft siting guidelines, the Department's management approach (including both siting guidelines and other management measures) is designed to mitigate potential risks to the health of all fish stocks – both farmed and wild. Siting aquaculture facilities in areas that provide conditions to support good fish health will reduce the likelihood of disease outbreaks at aquaculture facilities and thereby potential risks to wild and farmed stocks. Maintaining the health of farmed fish and mitigating potential risks from interactions between farmed and wild fish stocks are integral components of the mandatory Fish Health Management Plan.

With respect to evaluating the potential impacts to existing commercial, recreational and Aboriginal fisheries, DFO recognizes that information on existing fishery activities is not widely available to prospective applications and the Department has committed to undertaking pre-application consultation to share information on this issue.

With respect to monitoring initiatives to manage conflicts and minimize impacts, DFO has many requirements for industry to monitor environmental impacts that are listed within licence conditions, as well as in the *Aquaculture Activities Regulations*. Prior to new farms being approved, companies must conduct video surveys of the seabed and identify species and habitats in the area under and around the proposed farm. They may additionally conduct monitoring for sensitive or threatened species such as abalone, lingcod, eelgrass, or glass sponges. They may conduct wild salmonid monitoring and assess baseline levels of sea lice. The companies must use models to predict likely seabed impacts, and they must submit all this information to DFO for review.

If licensed, marine finfish companies must: ensure their sites are anchored appropriately to withstand weather and environmental conditions; create mitigation plans to prevent escaped fish and exclude predators such as marine mammals; regularly remove and appropriately store dead fish; contain chemicals; locate their containment pens in a way which minimizes impact to high value habitats; and mitigate and record incidental fish caught during aquaculture activities. The companies are also required to conduct operational monitoring at their sites which includes fish health assessments, lab analysis and diagnostics of disease symptoms, sea lice monitoring, and seabed assessment for impacts. Their licences and regulations describe protocols and procedures to carry out these requirements, and how and when to report them to DFO. If thresholds are exceeded for sea lice numbers, companies must harvest or treat their fish to reduce overall lice loads during the months of March-June, in order to help reduce potential risk to juvenile salmonids. If thresholds are exceeded for seabed impacts, sites are not able to re-stock fish at that facility until they can show adequate recovery has occurred. These tools are all in place to ensure that approved locations are appropriate for fish farming, and the intensity and extent of aquaculture impacts are managed and limited to a sustainable level.

Additionally, the Department has an auditing and monitoring program administered by DFO veterinarians, fish health staff, and biologists. This group conducts site visits to do their own fish health surveillance, sea lice counts, and seabed monitoring to ensure industry is following proper procedures and that reported information is accurate. Fishery Officers also conduct site visits to assess compliance with licences and other Acts and Regulations. Information from industry generated information, site audits, and compliance inspections can be found on the Department's website (<http://w.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/health-sante/audit-verification-eng.html>).

The proposed siting guidelines identify that the following factors will be considered during the review process:

- the location of known salmon migratory routes;
- the location of areas where migratory salmon are known to congregate and/or use as a temporary holding or rearing/resting area;
- the status of the local Pacific salmon Conservation Units; and
- the location of anadromous salmonid spawning habitat

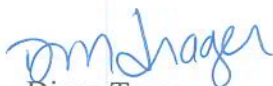
Given the variable annual migration routes of salmon, explicitly defining and/or limiting siting based on this one criterion is problematic. Therefore, the siting guidelines work in concert with other management tools included in the conditions of licence and monitoring programs to maximize protection to both wild and farmed fish and environments.

In summary, the siting guidelines forms a key component of the strong regulatory and management framework established by DFO in BC, and are based on the best currently available scientific information, as well as consistency with policy and legal requirements

While siting guidelines will outline the factors that DFO considers during the review of applications, every application for a new marine finfish aquaculture facility is subject to a rigorous review process which includes consultation with local First Nations, assessment of the potential environmental impacts of the proposed facility, and potential impacts to existing CRA fisheries.

I hope that the foregoing addresses the concerns you raised in your letter. I understand that the draft siting guidelines were also discussed at a recent meeting between the ENGO caucus and DFO staff. In response to a request that you made during that meeting, I am enclosing a copy of the final draft of the siting guidelines, which have been revised taking into consideration comments we have received to-date. The draft guidelines will be reviewed further internally, to determine next steps. We will keep you informed on progress.

Yours sincerely



Diana Trager

Director

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Enclosure

DFO Siting Guidelines for Marine Finfish Aquaculture in Pacific Region