

Guide for Shellfish and Plant Marine Aquaculture Development Plans

INTRODUCTION

Purpose of this guide

The Nova Scotia Department of Fisheries and Aquaculture (the Department) has prepared this guide as a reference for proponents preparing a Development Plan for a marine shellfish and/or plant aquaculture licence and/or lease application or adjudicative amendment request.

The process required for applications for marine sites that are not within an Aquaculture Development Area is different from applications for marine sites that are within an Aquaculture Development Area. The process described in this guide refers to applications for new marine sites and amendments for existing sites that are not within an Aquaculture Development Area. Aquaculture Development Areas may be created in the future but none have been established by the Province at this time.

The Development Plan fulfills part of the requirements for an application for a new marine shellfish and/or plant aquaculture licence and/or lease or an adjudicative amendment request for an existing site. A completed application must consist of a Development Plan, a Report on Public Engagement during Scoping, and an appropriate Application Form (either Licence/Lease or Amendment). Guidance for all of these requirements is available at the Department's website www.novascotia.ca/fish/aquaculture/

This guide is not a substitute for the Fisheries and Coastal Resources Act or regulations. Proponents should obtain copies of the Act and regulations for their reference (Appendix A). Where the process and time frames given in this document differ from the regulations, the regulations shall prevail.

Updated versions of this guide will be available on the Aquaculture Division website www.novascotia.ca/fish/aquaculture/

Background

The requirement for a Development Plan was included in the regulatory changes for aquaculture enacted on October 26, 2015 in Nova Scotia. Specifically, it is cited within Sections 11 and 13 of the Aquaculture Licence and Lease Regulations for Nova Scotia made under Section 64, Chapter 25 of the Acts of 1996, *the Fisheries and Coastal Resources Act*.

This Development Plan is required for the following:

- new marine shellfish and/or plant applications;
- boundary amendments if the change results in an increase in site area (for existing shellfish and/or plant sites); and
- other processes deemed necessary by the Department.

Proponents seeking renewals, assignments, amendments not listed above, or other changes to their licence and/or lease should contact the Department to determine requirements for their request.

The completed Development Plan must provide information that will demonstrate if and how the proposed development will address the eight factors to be considered in decisions related to marine aquaculture sites according to the licencing or leasing process of the Province of Nova Scotia. These are:

- (a) the optimum use of marine resources;
- (b) the contribution of the proposed operation to community and Provincial economic development;
- (c) fishery activities in the public waters surrounding the proposed aquacultural operation;
- (d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;
- (e) the other users of the public waters surrounding the proposed aquacultural operation;
- (f) the public right of navigation;
- (g) the sustainability of wild salmon;
- (h) the number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

The Development Plan will also provide information for government network partners in order for them to fulfill their jurisdictional duties in advising the Department on the application.

Information collection for the Development Plan

Information for completing the Development Plan will be acquired through the scoping process (as described in the Proponent's Guide to Public Engagement during Scoping for Aquaculture Development) as well as through whatever biological, ecological and social data collection and analysis the proponent deems necessary to acquire the requested information.

Submission format

In order to facilitate government review of submitted applications and to establish a standardized format for all applications, applicants must follow the submission format guidelines, as follows:

- All requested information, the minimum of which is the information as required in this document, is to be submitted to the Department in a durable format, such as a three-ring binder or spiral binding. An electronic copy must also be submitted.
- Each section of the Report must start on a new page and be labeled matching the sequence established in this guide.
- Each section of the Report must contain all information required for that section (including supporting information such as maps, diagrams, etc.).

Public notice and disclosure

As part of the process for deciding on an aquaculture application, the Nova Scotia Department of Fisheries and Aquaculture (“Fisheries and Aquaculture”) will disclose application information to other government bodies, including, if applicable, the Nova Scotia Aquaculture Review Board for use at an adjudicative hearing relating to the application.

In accordance with departmental policy, which seeks to promote public involvement in the process for deciding on aquaculture applications, Fisheries and Aquaculture may disclose application information – not including, however, personal or business confidential information – on the departmental website.

Privacy statement

The personal and business confidential information collected as part of an aquaculture application will only be used or disclosed by Fisheries and Aquaculture for the purpose of deciding on the application.

All application information collected is subject to the Freedom of Information and Protection of Privacy Act (“FOIPOP”) and will only be used or disclosed in accordance with FOIPOP.

For more information

If you would like further information, please contact the Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division.

Phone: 902-875-7439

Fax: 902-875-7429

Email: aquaculture@novascotia.ca

Mail: 1575 Lake Road,
Shelburne, NS
B0T 1W0

REQUIRED DEVELOPMENT PLAN CONTENT

Minimum content requirements for a Development Plan for a shellfish and/or plant marine aquaculture site application or adjudicative amendment request are as follows. (See below.)

SECTION 1: THE OPTIMUM USE OF MARINE RESOURCES

Provide a summary of the project and its proposed location. In addition, using all the information collected, describe how this development is an optimum use of marine resources.

This section should be prepared last, after all of the other sections have been completed. It should be a cohesive look at the overall picture of the development, its overall effects, impacts, and benefits. The optimum use of marine resources is the over-riding theme of all of the other factors to be considered in decisions on marine aquaculture operations.

SECTION 2: THE CONTRIBUTION OF THE PROPOSED OPERATION TO COMMUNITY AND PROVINCIAL ECONOMIC DEVELOPMENT

2.1 Production plan

For each species to be reared describe the following:

- If using suspended method (include spat or seed collection, if applicable):
 - Species;
 - Gear unit type (socks, lanterns, trays, etc.), including dimensions of individual gear units, and if using socks, whether they will be single or continuous;
 - Maximum number of gear units;
 - Maximum number and lengths of lines;
 - For shellfish: maximum shellfish introduced (number or mass) and maximum shellfish on site (number or mass);
 - For plants: maximum biomass on site (mass);
 - Seed source; and
 - Expected time to achieve maximum production.
- If bottom culture with gear:
 - Species;
 - Gear unit type (bags, trays or cages), including dimensions of individual gear units ;
 - Maximum number of gear units;
 - Type and dimensions of frames used (including length, width ,depth and height off sea bed) (if applicable); and
 - Maximum number of frames (if applicable);
 - Maximum shellfish introduced (number or mass) and maximum shellfish on site (number or mass);
 - Seed source; and
 - Expected time to achieve maximum production.
- If bottom culture without gear:
 - Species;

- Maximum shellfish to be cultivated on site (number or mass);
- Seed source; and
- Expected time to achieve maximum production.

This production plan information is understood to be based upon the information available at the time of the application. In future years, the actual amount of gear used, seed stocked and other production values may be higher or lower than the projections and will be determined by operational performance outcomes experienced at the site, including, but not limited to, environmental monitoring, shellfish health, and farm operations.

If depuration of shellfish is intended, you must obtain approval for your protocol from the Canadian Food Inspection Agency according to the Shellfish Sanitation Program (<http://www.inspection.gc.ca/food/fish-and-seafood/manuals/canadian-shellfish-sanitation-program/eng/1351609988326/1351610579883?chap=12>) . Describe the status of this approval, if applicable.

2.2 Infrastructure

Describe the infrastructure required to support operations (e.g. buildings, wharves, transportation, onsite equipment, etc.) and whether it is existing or it will be built or acquired. Include the location (s) of the existing or pending infrastructure.

2.3 Services and suppliers

Describe the services and suppliers that will be required to build and support the operation, the scale of the requirements on an annual basis, and where they will be sourced (i.e. from what region). Include seed, processing, general supplies, and other relevant requirements that may contribute to local or provincial economic activity.

2.4 Employment

Describe the expected number of direct employees on a yearly basis over the next five years – both local and Provincial. Break down the allocation according to full time, part time, and seasonal employment. Include types of positions (managerial, technical, administrative, etc.) where possible.

2.5 Other economic contributions to the local community and Province

Describe other economic spin offs and benefits, how this business can complement other economic developments in the community and in the Province, and other possible economic benefits of the operation to the community and the Province.

2.6 Financial viability

For option holders of new site developments, indicate here if there are changes to the financial information submitted for the Request for an Aquaculture Option to Lease. If there are, you must complete Appendix B.

For adjudicative amendment requests, complete Appendix B.

2.7 Adverse economic impacts

If applicable, describe possible adverse impacts on the economic development of the community and the Province and how these will be mitigated.

SECTION 3: FISHERIES ACTIVITIES IN THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURAL OPERATION

3.1 Status of fisheries activities

Provide a description of the fishing activities (commercial, recreational, food, social and ceremonial) identified in the region of the proposed development. Include a list of species fished, identify their relevant commercial or recreational fishing areas or zones (if applicable) and indicate the relative fishing effort identified per species (summarized by number of fishers, harvesters or boats, where appropriate and available). Include the source(s) of the information. (See Appendix C for possible resources for this information.)

For shellfish applications that include bottom culture with gear and/or bottom culture without gear, provide an assessment of the existing wild population of shellfish that is the same species as that to be cultured.

3.2 Impacts on fisheries activities

Describe what impacts the development may have on the fishery activities in the public waters surrounding the proposed aquacultural operation. This should include the fisheries activities described in Section 3.1. Provide a description of what measures will be taken in both the establishment and the operation of the proposed development that: reduce impacts, mitigate risks, and complement or benefit the fisheries activities listed above. All fisheries concerns raised during the scoping process (if applicable) should be addressed here.

SECTION 4: OCEANOGRAPHIC AND BIOPHYSICAL CHARACTERISTICS OF THE PUBLIC WATERS

4.1 Oceanographic environment

Describe the biophysical characteristics of the site environment by providing the information listed below, at a minimum. Provide the sources of the information.

- Annual maximum wind speed (km/hr)
- Maximum wave height (m)
- Direction of maximum wave
- Annual minimum tide (m)
- Annual maximum tide (m)
- Current speed range and averages (cm/sec)
- Annual minimum salinity (ppt)
- Annual maximum salinity (ppt)

- Annual minimum temperature (°C)
- Annual maximum temperature (°C)
- Depth of water at each corner of the site (m)
- Primary production information (if available)
- Biotxin information (if available)
- Current location classification

4.2 Baseline environmental monitoring

Include the information and results required for baseline monitoring as described within the latest version of Standard Operating Procedures for the Environmental Monitoring of Marine Aquaculture in Nova Scotia. Contact the Department for the latest version.

4.3 Site design

Describe how the oceanographic and biophysical characteristics of the waters of the location have been accounted for in the choice of the site location, the site design, the production plan, harvest method, and other relevant aspects of the development. Refer to maps, diagrams or other pertinent information described in others sections as required.

SECTION 5: THE OTHER USERS OF THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURAL OPERATION

5.1 Description of other users

Provide a description of the other users identified in the region of the proposed development. This should include those in the area who may be affected by the proposed development. Include a list of uses and the relative level of use per user group. You may use a map to indicate the location of these users relative to the proposed site.

Other users may include:

- Adjacent property owners;
- Pleasure craft and commercial boat traffic;
- Anchorages and moorings;
- Processing plants (within 10 km);
- Campgrounds;
- Communities (including cottage communities);
- Municipal, industrial and agricultural users which may be sources of effluent;
- Tourism or recreational operations;
- Private and government wharves;
- First Nations territories/reserves;
- Any known or suspected pre-contact or historic archaeological resources;
- Important habitats and conservation areas (refer to Appendix C for reference);
- Other known potential projects (confirmed or proposed) and activities;
- Other users who are relevant to the proposed development area, if applicable.

5.2 Significance of proposed area to wildlife

Provide a description of wildlife that use the proposed development area. Include migratory birds, marine mammals and other animals that inhabit or migrate through the area. (See Appendix C for possible resources for this information.)

Identify local species at risk, if applicable (http://www.registrelep-sararegistry.gc.ca/sar/index/default_e.cfm). Permits are required for activities that may affect these species. (http://www.registrelep-sararegistry.gc.ca/sar/permit/permits_e.cfm#). Describe the status of this permit(s) (if applicable).

5.3 Impacts to other users including wildlife

Describe what aspects of this development may affect other users of the public waters surrounding the proposed development; how they may affect other users; and how you will minimize these effects during both the establishment and the operation of the proposed development. Concerns raised during the scoping process (if applicable and if not previously described) should be addressed here and may include various aspects of farm establishment and production.

Describe how the development may complement the other users, where applicable.

5.4 Impacts by other users including wildlife

If applicable, describe how other users may impact the proposed development. Include how you will minimize interactions with and mitigate possible negative impacts by other users.

SECTION 6: THE PUBLIC RIGHT OF NAVIGATION

6.1 Navigation Protection Act (NPA) approval

The assurance of the public right of navigation is determined by Transport Canada through the Navigation Protection Act (NPA) (<http://www.tc.gc.ca/eng/programs-673.html>). Changes or additions of, or to, any structure, device or thing—temporary or permanent—made by humans that is in, on, over, under, through or across any navigable water may require an approval under this Act. Application for this approval is made by completing this section. Include the following within this section:

- A completed and signed “notice of works” form with all mandatory fields completed (https://www.tc.gc.ca/media/documents/marinesafety/Form-NOTICE_OF_WORKS_FORM.pdf)
- Location map (indicating the exact location of the work)
- Legal site description and work position (in latitude and longitude)
- Plan view drawings (top down) complete with all relevant dimensions
- Profile view drawings (side view) complete with all relevant dimensions
- Project description (detailing the project)
- Construction methodology (outlining how the work will be undertaken)
- Anticipated start and end dates

SECTION 7: THE SUSTAINABILITY OF WILD SALMON

7.1 Identification of local salmon populations

Identify any salmon run rivers in the proposed development region and their proximity to the proposed site. These should include designated salmon rivers within the DFO Designatable Unit. Salmon rivers and Designatable Units are to be defined based on the latest DFO Canadian Science Advisory Secretariat Science Response for the Maritimes Region: Status of Atlantic salmon in salmon fishing areas (SFAs) 19-21 and 23; and the latest DFO Canadian Science Advisory Secretariat Science Response for the Gulf Region: Update of stock status of Atlantic salmon (*Salmo salar*) in DFO Gulf Region (Salmon Fishing Areas 15 to 18) (<http://science-libraries.canada.ca/eng/fisheries-oceans/>).

7.2 Support of the sustainability of wild salmon

Describe the measures, relating to the establishment or operation of the proposed development that may have effects on the sustainability of wild salmon. This could include environmental considerations and farm operations such as waste management (ropes, buoys, bags, fuel, etc.), chemical management, gear management, and others.

Describe any salmon recovery or restoration efforts that are underway or planned in the region and how this development may interact with these efforts.

SECTION 8: THE NUMBER AND PRODUCTIVITY OF OTHER AQUACULTURE SITES IN THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURAL LOCATION

8.1 Identification of other aquaculture sites

Identify all other existing or known proposed aquaculture sites in the area. Include the species cultured and the culture method used. Include the distance of the proposed development from each of the identified aquaculture sites.

Where possible and when of significance, include modelling results of currents, tides, vessel traffic, and other factors that help to define how these sites may interact with each other.

8.2 Interactions with other aquaculture operations

Provide the measures taken in the establishment or operation of the proposed development that mitigate risk or support any benefit to the aquaculture activities identified above.

APPENDIX A

NOVA SCOTIA AQUACULTURE REGULATIONS

Fisheries and Coastal Resources Act S.N.S. 1996, c. 25:

<http://nslegislature.ca/legc/statutes/fisheries%20and%20coastal%20resources.pdf>

Aquaculture Management Regulations made under Section 64 of the *Fisheries and Coastal Resources Act*. S.N.S. 1996, c. 25 O.I.C. 2015-339 (October 26, 2015), N.S. Reg. 348/2015:

https://www.novascotia.ca/JUST/REGULATIONS/regs/fcraquamgmt.htm#TOC1_1

Aquaculture Licence and Lease Regulations made under Section 64 of the *Fisheries and Coastal Resources Act*. S.N.S. 1996, c. 25 O.I.C. 2015-338 (October 26, 2015), N.S. Reg. 347/2015:

<https://novascotia.ca/just/regulations/regs/fcraqualiclease.htm>

APPENDIX B

Attach a description of your financial ability to carry out the proposed development. This should include historical and projected financial resources for this development; historical Income Statements including revenues, expenses, and EBITDA for the past three years (if applicable) and one projected production cycle forward. This could also include strategic relationships that can assist with the viability of the proposed development; or other relevant information to demonstrate the financial ability to execute the proposed development.

APPENDIX C

Additional Resources and Contact Information

Below is a list of reference websites or sources that the proponent may find helpful in gathering information relating to fisheries and wildlife:

- Nova Scotia Provincial Coastal Resources Coordinators (CRC): <https://www.novascotia.ca/fish/documents/crc-map.pdf>
- Fishermen & Scientists Research Society: www.fsrns.ca
- Nova Scotia Fisheries Sector Council: www.nsfsc.ca
- Fisheries and Oceans Canada: www.dfo-mpo.gc.ca
- Nova Scotia Salmon Association: www.nssalmon.ca
- Atlantic Salmon Federation: www.asf.ca
- Local salmon or angling associations
- SARA Registry: www.sararegistry.gc.ca
- Committee On the Status of Endangered Wildlife in Canada: www.cosewic.gc.ca
- Atlantic Canada Conservation Data Centre: www.accdc.com
- Atlas of Breeding Birds of the Maritime Provinces (1992): www.mba-aom.ca
- Important Bird Areas of Canada: www.ibacanada.com/
- Western Hemisphere Shorebird Reserve Network: www.whsrn.org/
- Wetlands of the Maritime Provinces: Revised Documentation for the Wetlands Inventory (1996): <http://publications.gc.ca/site/eng/65538/publication.html>
- Ducks Unlimited: www.ducks.ca
- RAMSAR Sites: www.ramsar.org/
- North American Waterfowl Management Plans: <http://nawmp.wetlandnetwork.ca/>
- Federal Policy on Wetland Conservation: <http://publications.gc.ca/site/eng/100725/publication.html>
- Environment Canada's Protected Areas Network: <https://www.ec.gc.ca/ap-pa/>
- Nature Conservancy of Canada: www.natureconservancy.ca
- Federation of Nova Scotia Naturalists: [www. http://naturens.ca/](http://naturens.ca/) Nova Scotia Nature Trust: www.nsnt.ca/
- Migratory Bird Regulations in Canada – July 2014: <https://www.ec.gc.ca/rcom-mbhr/default.asp?lang=En&n=F74028E2-1>
- Local naturalist groups
- Federal Science Library: <http://science-libraries.canada.ca/eng/fisheries-oceans/>
- Transport Canada Navigation Protection Program - Forms and Guidance Material: <https://www.tc.gc.ca/eng/programs-624.html>