Government of Canada Gouvernement du Canada

Guide to the Harmonized Aquaculture Application for the Culture of Shellfish, Aquatic Plant, or Co-Culture

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British Columbia

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INTRODUCTION

Multiple agencies participate in the harmonized application review process.

Fisheries and Oceans Canada (DFO) is the agency responsible for regulating, monitoring and licensing all marine finfish, shellfish, freshwater and land-based aquaculture operations in the province. DFO's responsibility includes most aspects of the finfish and shellfish aquaculture industry including, but not limited to: species cultured, production practices and volumes, fish containment, fish health, marine mammal interactions and fish habitat protection measures.

Transport Canada (TC) is the federal department responsible for reviewing and approving applications for the placement of aquaculture containment and/or structures within the navigable waters of Canada.

The Ministry of Water, Land and Resource Stewardship (BC WLRS) is the provincial Ministry responsible for managing Crown land, including the issuance of land tenures. This includes tenures for aquaculture facilities and ancillary uses on land covered by water, upland and foreshore. The Ministry is also responsible for the management and licensing of wild harvest and culture of aquatic plants.

The Guide to the Harmonized Aquaculture Application for the Culture of Shellfish, Aquatic Plant, and Co-culture ("the guide") describes the information required by the federal and provincial agencies to review an application for a marine-based shellfish, aquatic plant, or co-culture aquaculture facility in British Columbia.

An application must be submitted for any of the following:

- A new shellfish only, aquatic plant only, or co-culture of shellfish aquaculture and aquatic plant facility;
- The replacement of shellfish only, aquatic plant only, or aquatic plant and co-culture aquaculture facility.
- An amendment to an existing federal aquaculture licence, provincial aquatic plant culture licence or provincial Crown land tenure, such as:
    - Change in tenure area
    - Change in species
    - Change in infrastructure
- The renewal of a provincial aquatic plant culture licence to an existing aquatic plant or co-culture aquaculture facility.
- A rebuild or alteration of an existing aquaculture facility that has a *Canadian Navigable Waters Act* (CNWA) authorization.

As applicable, the federal and provincial agencies will coordinate the review and assessment of applications. This including government agency referrals, First Nation consultation, and public comments, and work to synchronize decision making.

At the completion of the review process each agency will make its independent decision under the relevant legislation.

Please note, in addition to the harmonized application form, there may be additional provincial authorizations required for a facility that need to be submitted on separate applications.

Note: For a land based shellfish hatchery operation or aquatic plant culture nursery operations where the culture activity is proposed to be located on land, please use the **PACIFIC FRESHWATER/LAND-BASED AQUACULTURE APPLICATION located on the BC website**.

PRE-APPLICATION CONSIDERATIONS

It is in the best interest of the applicant to follow the recommendations below as this information may affect the feasibility of the proposal.

- Use the provincial **Natural Resource Online Services** or the **iMapBC** mapping tool to identify interests or conflicts overlapping or in the vicinity of the proposed area.
- Consult the **Introductions and Transfers Committee** (ITC) for advice on applicability of proposed species.
- Check the **Water Classification and status of biotoxin monitoring** on the DFO website.
- Ensure the area is zoned for the intended use by contacting **local government** and reviewing **land use plans** or coastal and marine plans.
- Consider information sharing with First Nations:
  - **Consulting with First Nations**
  - **Consultative Area Database**

APPLICATIONS UNDER REVIEW BY THE PROJECT REVIEW TEAM (PRT)

When an application is submitted for review by the harmonized Project Review Team (PRT) comprised of all three agencies, it is expected they meet the posted application requirements, both in quality and completeness. Poor quality or incomplete applications can result in substantial delays. To improve review times, applicants are required to provide missing information to the PRT secretariat within 30 days of receiving a written request (email).

The PRT secretariat may ask applicants for information up to a maximum of three times. Applications not meeting information requests within the timeframe will be rejected.

If rejected, new site applications are eligible for a 20% refund of the application fee. Refunds are not available for replacement, amendment, or assignment application fees.

If an application is rejected by PRT due to deficiencies, applicants may reapply, however a new application fee will be required.

CHANGE IN OWNERSHIP INCLUDING ESTATES

All agencies harmonize the name listed on aquaculture authorizations.

BC WLRS:

For a change in tenure holder (Assignment) contact **Aquaculture.Program@gov.bc.ca** and provide your contact information and tenure file number.

DFO:

To update contact information or change the licence holder name on the DFO Aquaculture licence, contact the Pacific Fishery Licence Unit (PFLU) **DFO.AQLicensing-AQPermis.MPO@dfo-mpo.gc.ca** in order to complete a DFO Licensee Amendment.

If you are a representative of a deceased aquaculture licence holder, please contact **DFO.AQLicensing-AQPermis.MPO@dfo-mpo.gc.ca**. The PFLU will provide guidance and outline the documents required to confirm the responsibility over the licence(s) as the Executor of the Estate. Once the required documentation is verified, the Executor of the Estate may then request a licensee amendment or termination of a licence.

TC:

For any changes in ownerships of infrastructure or works, contact NPP at **NPPPAC-PPNPAC@tc.gc.ca**. Provide your name, contact information, and TC file number.

When there is a transfer of ownership the owner must contact Transport Canada to receive a *Canadian Navigable Waters Act* (CNWA) Transfer of Ownership form. The completed form must be submitted to Transport Canada. If the new owner provides proof of purchasing the facility, a signature from the previous owner may not be necessary.

CONSIDERATIONS FOR APPLICATIONS

Under the *Pacific Aquaculture Regulations,* DFO considers species as well as water classification during the review of licence applications.

SPECIES AT RISK

Olympia Oyster

The Olympia Oyster (*Ostrea conchaphila*) is listed as a species of special concern under the *Species at Risk Act* (SARA). The SARA Management Plan for Olympia Oyster, developed in 2009, recommends maintaining restrictions on wild commercial and recreational harvest. Further work must be undertaken to assess Olympia Oyster populations and genetic stocks, including potential impacts of Olympia Oyster aquaculture.

In keeping with the intent of the SARA Management Plan, DFO will not consider any applications for Olympia Oyster aquaculture at this time.

Northern Abalone

The Northern Abalone (*Haliotis kamtschatkana*) is listed as an endangered species under SARA. In order to cultivate this species, an exemption under Section 73 of SARA would be required and the cultivation would need to relate to the recovery of Northern Abalone.

The existing Recovery Plan does not include cultivation as a strategy for recovery, therefore DFO will not consider any applications for Northern Abalone aquaculture.

Any questions or concerns regarding shellfish species, or the IGMF please contact:
DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca.

SPECIES CONSIDERATIONS

Sea Cucumber, Spot Prawn, Sea Urchin, Dungeness Crab

DFO is committed to developing a management approach that provides aquaculture opportunities while supporting the conservation and long-term sustainability of wild fisheries and ecosystems. DFO is working to develop phased, integrated approaches for the development of aquaculture involving new and emerging species. In developing these approaches, DFO will consider the following: science advice, existing policy, socio-economic factors and the risk associated with potential genetic, ecological and disease impacts.

Until these phased approaches are in place, DFO will not be considering applications for sea cucumber, spot prawn or sea urchin aquaculture under the *Pacific Aquaculture Regulations.*

Varnish Clam

Varnish Clams (*Nuttallia obscurata*) are an invasive species and not currently permitted for cultivation. Under existing Shellfish Conditions of Licence, valid licence holders may harvest varnish clam as incidental catch. Text has been added to the top of the valid **Shellfish Licence Holders list**, thereby permitting varnish clam as incidental catch to be accepted by processing plants.

Geoduck

In March 2017, DFO released the **Integrated Geoduck Management Framework** (IGMF). The Framework provides policy guidance for the integrated management of both wild and aquaculture geoduck fisheries in BC. The siting guidelines and **IGMF maps** are provided as a general guide for individuals applying for geoduck aquaculture licences.

CANADIAN SHELLFISH SANITATION PROGRAM CONSIDERATIONS

The Canadian Shellfish Sanitation Program (CSSP) is a federal food safety program jointly administered by the Canadian Food Inspection Agency (CFIA), Environment and Climate Change Canada (ECCC) and DFO. The goal of the program is to protect Canadians from the health risks associated with the consumption of contaminated bivalve molluscan shellfish (for example: mussels, scallops, oysters and clams). The sanitary classification of water and biotoxin monitoring are the responsibility of ECCC and CFIA, respectively. Under the CSSP, DFO is responsible for issuing licences authorizing harvest from contaminated areas, the enforcement of closure regulations, and enacting the opening and closing of shellfish areas under the authority of the *Fisheries Act* and Regulations. Information about the **Canadian Shellfish Sanitation Program** is available online.

Where Canadian Shellfish Sanitation Program is not delivered

Approval of a shellfish aquaculture application, under the *Pacific Aquaculture Regulations,* is not possible in waters where the CSSP is not delivered. Sanitary water classification requires that water quality be surveyed and that actual and potential sources of pollution be identified. This minimizes the potential health risks associated with consuming bivalve molluscan shellfish and protects public health.

An applicant may make a request to the Pacific Region Interdepartmental Shellfish Committee (PRISC), requesting an expansion of the CSSP delivery. The request must be in writing and include a detailed location description with coordinates and a map, a summary of the proposed aquaculture operation, species, and the techniques planned (i.e. intertidal beach, deepwater suspended gear, floating surface culture gear, etc.). PRISC will consider the priority of the expansion of the CSSP in the context of work planning and resources available.

A proponent interested in an expansion of the CSSP should provide the requested information or direct any questions to DFO at:**DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca** .

Up to date information on Pacific Region **biotoxin and sanitary closures** can be found online.

Prohibited Waters

Approval of a shellfish aquaculture application for bivalves (except for seed) under the *Pacific Aquaculture Regulations* is not possible in waters where significant portions of the tenure are classified as Prohibited.

Applications that include minor areas classified as Prohibited within the tenure boundaries, (i.e. 125m from floating living accommodation, or a moorage facility) may be accepted if the applicant is aware of, and agrees to, the limitations of these areas for aquaculture use.

Restricted Waters

CSSP partners do not currently have decontamination protocol for scallops, mussels, Butter Clam, cockle or Geoduck Clam to allow for relay or depuration processes; thus, approval of a shellfish aquaculture licence for the above-mentioned species under the *Pacific Aquaculture Regulations* is not possible in waters classified as Restricted.

Management of Contaminated Fisheries Regulations

For species other than those listed above, or for the culture of seed in Prohibited waters, the applicant must apply for a licence issued under the authority of the ***Management of Contaminated Fisheries Regulations (MCFR)***.

Pacific Aquaculture Licence holders applying for a MCFR licence must submit the following to **DFO.MCFR-RGPPC.MPO@dfo-mpo.gc.ca:**

- A completed MCFR licence application form.
- A harvest and transport decontamination plan to be reviewed by DFO and CFIA.
- The full legal names, dates of birth and Fisher Identification Number (FIN) of all harvesters (Master Harvesters and Harvesters) involved in fishing on the site.
- Clear detailed maps/charts showing sites of harvest (and relay destination if applicable).

For more information on the MCFR, a blank application form, or harvest and transportation decontamination guidance documents, please contact: **DFO.MCFR-RGPPC.MPO@dfo-mpo.gc.ca**

Wet Storage

Wet storage is the temporary storage of harvested bivalve shellfish from a licensed wild commercial fishery or from another licensed aquaculture facility (other than the approved receiving aquaculture facility). Wet storage of harvested product shall not exceed 60 days on a licensed shellfish aquaculture facility.

Prior to January 15, 2019, the CFIA provided letters of authorization for wet storage activities upon recommendation from DFO and ECCC. As of January 15, 2019, DFO is the lead authorizing agent for wet storage approvals on licensed shellfish aquaculture facilities. All previous wet storage approvals issued by CFIA are no longer valid. Wet storage of harvested bivalves without the appropriate authorizations from DFO may result in prosecution, fines and seizure of product.

Pacific Aquaculture Regulations shellfish licence holders may request that their existing shellfish aquaculture licence be amended to incorporate a site-specific condition authorizing wet storage activities.

To request an amendment to authorize wet storage activities, please submit the following to **DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca**:

- Two calendar years of product movement records (**Shellfish aquaculture licence under the *Fisheries Act***).
- Completed Wet Storage Application Form.
- Map showing where the product will be wet stored at the wet storage shellfish aquaculture facility. DFO can provide a blank map of the wet storage shellfish aquaculture facility for licence holders to fill out the wet storage location.

For more information on Wet Storage or Bulk Tagging, or for a blank application form, please contact: **DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca**

Bulk Tagging

Bulk tagging is the tagging of multiple containers on a wrapped pallet or tote or other container where shellfish are harvested from one shellfish aquaculture facility, on a single day by an aquaculture licence holder, with the contained, single unit tagged with a single tag, in accordance with their DFO approved bulk tagging plan. Licence holders may request that their existing shellfish aquaculture licence be amended to incorporate a site-specific condition authorizing bulk tagging activities.

To request an amendment to authorize bulk tagging activities, please submit the following to **DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca:**

- Two calendar years of product movement records (**Shellfish aquaculture licence under the *Fisheries Act***).

Floating Surface Culture Gear

Floating surface culture gear refers to nets, bags, pouches or other gear that is designed or installed in such a manner that part of the gear is floating and exposed above the water.

Pathogens affecting shellfish can include, but are not limited to: Salmonella spp., Shigella spp., Campylobacter jejuni, Yersinia enterocolitica, Vibrio cholerae, Hepatitis A and Norovirus. The presence of these pathogens in shellfish consumed in a raw or partially cooked state can present a risk to human health. Roosting birds on equipment such as floating surface culture gear can present a risk of introducing pathogens to shellfish.

CFIA's guidance document "**The identification, analysis and control of hazards that present a risk of contamination of live shellfish**" identifies that shellfish from floating surface culture gear are potentially contaminated. As such, this type of culture must be subject to decontamination measures prior to harvest for human consumption. No direct harvest or transfer of product from floating surface culture gear is permitted without an MCFR licence and a decontamination plan, approved by the CSSP partner agencies.

If you want more information on MCFR licences, or are planning to install or are currently cultivating bivalve shellfish in floating surface culture gear, please contact DFO at **DFO.MCFR-RGPPC.MPO@dfo-mpo.gc.ca** to initiate next steps for amending your shellfish aquaculture licence.

ELIGIBILITY REQUIREMENTS

To apply for Pacific Shellfish Aquaculture authorizations, an applicant must meet the following requirements:

Provincial Requirements

To be eligible for a Crown land tenure under the BC *Land Act*, an applicant must be:

- A Canadian citizen or permanent resident 19 years of age or older; or,
- A Corporation that is incorporated or registered in British Columbia. Corporations also include registered partnerships, cooperatives or non-profit societies formed under the relevant provincial statutes. A director's signature will be required.
- First Nations can apply through Band corporations or Indian Band and Tribal Councils. Band or Tribal Councils require a Band Council Resolution a) authorizing the council to enter into the tenure agreement, and b) giving the signatories of the tenure document the ability to sign on behalf of the Band. For tenures to be registered in the Land Title Office, First Nations must apply through either a Band corporation or trustees. Band members can elect 1 or more trustees to hold a tenure on behalf of the Band. Verification of election must be by way of a letter signed by the Chief and councilors of the Band, giving the full names of the trustees and stating that they were elected at a properly convened meeting of the Band. A Band Council Resolution is not required.
- In the case of aquatic land, a non-Canadian or a non-Canadian company incorporated or registered in BC can apply if they own the adjacent upland. This provision applies to applications for commercial as well as private purposes.

Fisheries and Oceans Canada Requirements

To be eligible for an aquaculture licence under the *Pacific Aquaculture Regulations*, *Fisheries Act* (Canada), applicants must be:

- An individual or company legally entitled to operate a business in Canada; and
- An individual at least 19 years of age.

Transport Canada Requirements

To be eligible for a *Canadian Navigable Waters Act* (CNWA) approval, applicants must be:

- the actual or reputed owner of the work or that owner's agent or mandatary; this includes a person who is in possession or claiming ownership of the work and a person who is authorizing or otherwise responsible for the construction, placement, alteration, rebuilding, removal, decommissioning, repair, maintenance, operation, use or safety of the work; or,
- A person who proposes to construct or place a work.

PART I – GENERAL INFORMATION

SECTION A1: APPLICATION TYPE

There is one harmonized application form which is used for all application types including: Shellfish Only Facility, Shellfish and Aquatic Plant Co-Culture Facility, or Aquatic Plant Only Facility in the Marine Environment. Please identify all application information you are applying for within this application.

- **Shellfish Aquaculture Only Facility**:

  1) New Shellfish Only Facility – Choose this option if you are applying for a new shellfish facility.
  2) Amendment to Existing Shellfish only Facility – Choose this option if you are applying for any change to an existing shellfish only facility.
  3) BC Tenure Replacement application – Choose this option if you are applying to replace an expired Crown land tenure for shellfish.
  4) BC Incidental Aquaculture Use (IAU) Application – Choose this option if you are applying for changes to improvements within the BC tenure area that represent a change of less than 30% of the currently provincially authorized infrastructure.

     Some movement, alteration or addition of improvements within the approved tenure area, that are not considered to be substantial alterations, may be considered Incidental Aquaculture Use as per section 8.1.1 of the **Land Use Operational Policy for Aquaculture**. If your proposal is eligible as Incidental Aquaculture Use, you are not required to submit provincial application fees. The Province will notify you if your application does not meet Incidental Aquaculture Use requirements. If you are unclear as to what is currently authorized, please contact the Province at **Aquaculture.Program@gov.bc.ca** to obtain a copy of your Management Plan.

     DFO and TC may still need to review your application based on their legislation and jurisdictions. For a copy of your current:

     - Transport Canada approval, contact **NPPPAC-PPNPAC@tc.gc.ca;** and
     - DFO approved management plan, contact **DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca**.

- **Shellfish and Aquatic Plant Co-Culture Facility:**

  1) New or Replacement Co-Culture (Shellfish and Aquatic Plant) Facility.

     Choose this option if you are applying for a new Crown land tenure for shellfish and aquatic plants or to replace an expired Crown land tenure for shellfish and aquatic plants.

  2) Amendment to add Aquatic Plant Culture to a Shellfish Only Facility.

     Choose this option if you have a Crown land tenure for shellfish and you are applying for a co-culture facility with aquatic plants and shellfish.

  3) Amendment to add Shellfish to an Aquatic Plant Only Facility.

     Choose this option if you have a Crown land tenure for aquatic plants and you are applying for a co-culture facility with aquatic plants and shellfish.

4) Amendment to Existing Co-Culture Facility:

   Choose this option if you want to amend the Crown land tenure, Aquatic Plant Licence or Shellfish Licence associated with a Shellfish and Aquatic Plant Culture Facility.

- **Aquatic Plant Only Facility in the Marine Environment:**

1) New or Replacement Aquatic Plant Only Facility.

   Choose this option if you are applying for a new Crown land tenure for aquatic plants or to replace an expired Crown land tenure for aquatic plants.

2) Amendment to an Aquatic Plant Only Facility.

   Choose this option if you want to amend the Crown land tenure or Aquatic Plant Licence for an Aquatic Plant Only Facility

3) Aquatic Plant Licence Renewal/Reissuance.

   Choose this option to renew an aquatic plant culture licence on an existing aquatic plant aquaculture tenure without any changes to the Crown land tenure or the authorized infrastructure.

Please Note: Any changes or amendments will require a complete application to be submitted including all required supporting information. Amendment applications must include all previously approved information (i.e., infrastructure, species, etc.) and what changes are being proposed. Following their respective reviews, not all agencies may require an updated authorization, depending on the changes requested.

If you wish to **reduce** the size of your Crown land tenure, you will be required to decommission the area of reduction as per section 9.5.2 of the **Land Use Operational Policy for Aquaculture** and provide proof that the area has been left in a clean, sanitary and safe manner, to the satisfaction of the provincial decision maker.

Please contact **Aquaculture.Program@gov.bc.ca** for more information about decommissioning and clean up guidance and procedures.

SECTION A2: PROJECT SUMMARY

The project summary must describe the proposed (and current if existing) operation, including all culture types and infrastructure. It must meet the requirements of the Application Summary Guidance Document, which is available by contacting **Aquaculture.Program@gov.bc.ca**.

SECTION B: APPLICANT INFORMATION

All agency authorizations will be issued to only a single entity (individual, business or First Nation). Please identify the Registered Business name, single individual's name or the name of the First Nation which all agencies will issue authorizations to, should the application be approved.

Applicants wishing to use an Agent or Representative must provide a Letter of Authorization.

SECTION C: SITE GENERAL INFORMATION

Geographic Location of Site

Provide the general location of the application area.

Site Common Name

Provide the common name you wish the site to be labeled as for each agency authorization.

Estimated Application Area

Provide the estimated total area of the application area in hectares.

Land Ownership and/or Tenure Type

Depending on the ownership or controlling interest of land in your area of interest, there may be different requirements.

Provincial Crown land:

- If you are intending to use Crown land or Crown land covered by water, a *Land Act* authorization is required. Applications for marine-based aquaculture sites are submitted using the harmonized application form. Crown upland sites, such as hatcheries, storage or commercial facilities, are applied for under the **Commercial or Industrial** policies via the **Natural Resource Online Services website**.
- If the land is within a provincial park or conservancy, a **Park Use Permit** is required. Prior to completion of a harmonized application, it is recommended that you consult with BC Parks to assess feasibility of your proposal within a provincial park or conservancy.

Private land, Federal land or Harbour Authority:

- If your proposal falls within land that is not provincial Crown land you will need to contact the landowner or controlling interest (e.g. harbour authority) to obtain authorization to operate.

First Nations Reserve:

- First Nations intending to operate fully on Reserve land do not require a Crown land tenure.

Requested Tenure Type:

- The differences between a lease, licence of occupation and temporary licence of occupation are explained in the **Form of Crown Land Allocation Policy**.

Legal Description

If surveyed, provide the legal description as provided by the Land Title Office, e.g., Lot 1 of Section 31, Township 12 W6M Kamloops Division of Yale District Plan 18411.

A legal description is found in the Certificate of Title. A copy of the Certificate of Title must be attached to the application along with a copy of your Registered Survey Plan, if available.

If not surveyed, you must provide a spatial file OR metes and bounds as described in the document ***iMapBC Instructions for Aquaculture Applications***, available on the Province's **Land Use – Aquaculture** web page.

SECTION D: CULTURE INFORMATION

Culture Type

For each culture type that apply to the application area, provide the approximate size of the area on which aquaculture will take place. Note changes to culture area on an existing tenure can be increases or decreases.

- Intertidal refers to the culture area located between high tide and chart datum.
- Deepwater Suspended culture activities are those that involve suspending growing shellfish or aquatic plants within the water column, off the bottom of the body of water usually using longlines or rafts, and often has infrastructure or containers suspended underneath.
- Subtidal refers to the culture area of the sea floor below chart datum.
- Floating Surface Culture refers to culture activities that involve growing shellfish or aquatic plants at or near the surface of the water (such as pouches on longlines or FLUPSYs) but does not include infrastructure suspended in the water column.
- Extensive Area or Area Not Being Used for Culture refers to areas that are not suitable for culture, contain only anchors and deeply submerged anchor lines, or are otherwise not used for culture activities.

If more than one type of culture is overlapping in the same area, please include only the largest footprint figure. For example, if 2 hectares of deepwater suspended culture is occurring over a larger 5 hectare area of subtidal culture, please include only the subtidal culture area in this table, and mark the deepwater suspended row with an X to indicate it is occurring. Your mapping will still show both areas.

This table helps the Province accurately calculate rental amounts, and is used in determining if future applications meet the requirements of Incidental Aquaculture Use.

SECTION E: FIRST NATIONS CONSIDERATIONS

Canada and the Province of British Columbia are legally obligated to consult and, where appropriate, accommodate First Nations on decisions that could impact treaty rights or Aboriginal rights and title ("Aboriginal Interests"). Federal and provincial decision-makers are responsible for ensuring adequate and appropriate consultation and accommodations.

Applicants are encouraged to engage with First Nations as early as possible in the planning stages to build relationships and for information sharing purposes. You may use the Province's **Consultative Areas Database** to identify which First Nations to engage.

For more information, please review the provincial website: '**Consulting with First Nations**'; specifically proponents are advised to review: "**Guide to Involving Proponents When Consulting First Nations**".

For applications put forward by or on behalf of Indigenous or First Nations individuals, organizations or corporations, please contact **DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca** for additional resource materials and information.

Why is the Government required to consult First Nations regarding my application?

The courts have determined that the Crown has a legal duty to consult First Nations and seek to address their concerns before potentially impacting treaty rights or asserted or established Aboriginal rights and title ("Aboriginal Interests"). This duty stems from a constitutional obligation arising from the recognition of Aboriginal and treaty rights in the Constitution Act, 1982.

What is an Aboriginal Interest?

The term Aboriginal Interest refers to claimed or established treaty rights or Aboriginal rights (including title). Aboriginal rights are practices or traditions integral to a First Nation culture at the time of contact. Examples include fishing, hunting and gathering plants. Aboriginal title is a subcategory of Aboriginal rights that is a unique interest in land that encompasses the right to exclusive use and occupation of land for a variety of purposes. Treaty rights are held by a First Nation in accordance with the terms of a historic or modern treaty agreement with the Crown.

SECTION F: MAPS, DIAGRAMS AND ADDITIONAL REQUIRED DOCUMENTS

Mapping Instructions

Example maps and diagrams are provided below. For more detailed instructions on creating the general location, detailed location and application area maps using the **iMapBC** tool, and for instructions on how to create metes & bounds or corner point descriptions, refer to the document ***iMapBC Instructions for Aquaculture Applications***, available on the provincial **Land Use – Aquaculture** web page.

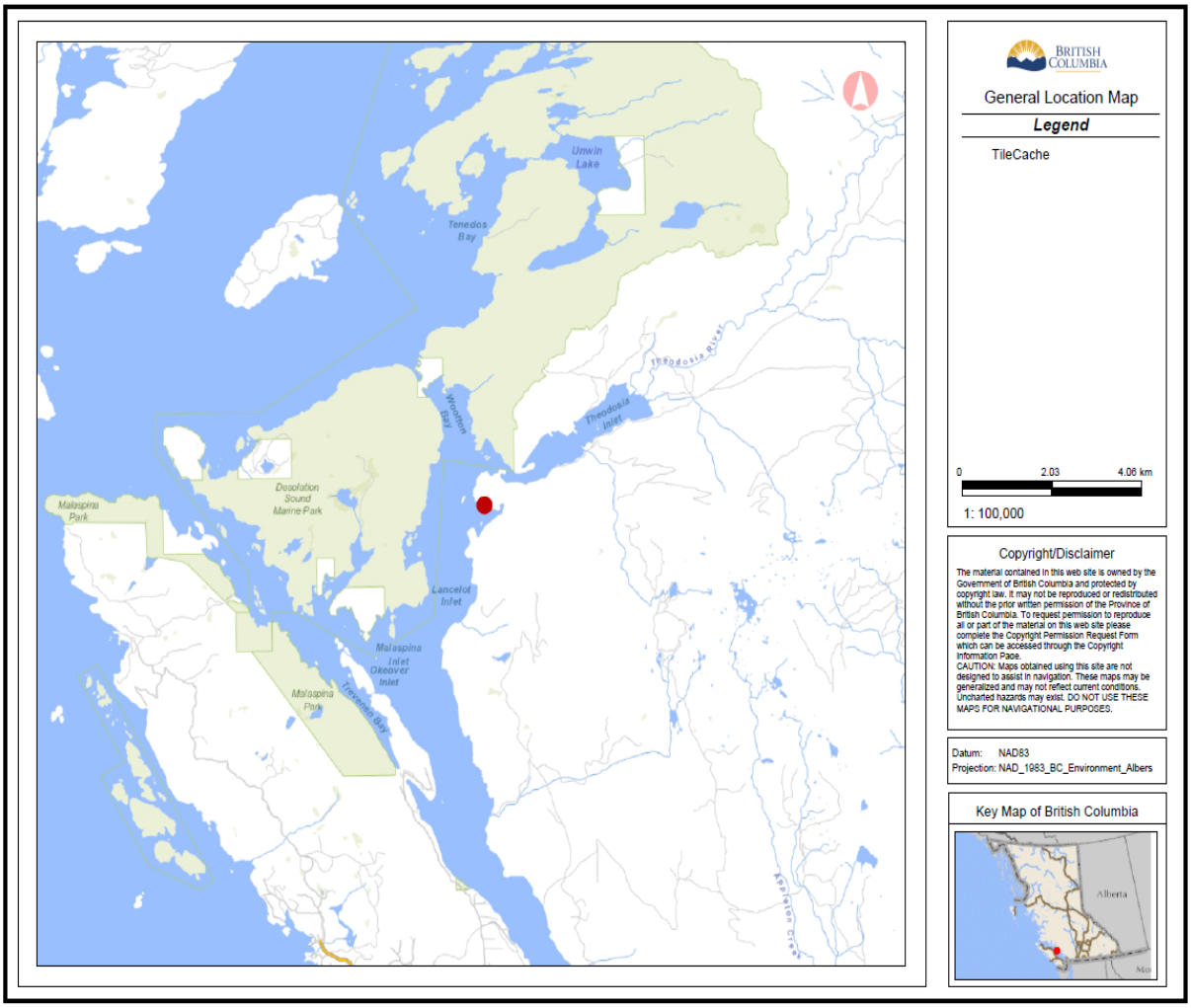
Operational Diagram Instructions for all Shellfish applications

All diagrams are mandatory for all applications.

F1: General Location Map

General Location Map:

A map at a scale of 1:50,000 to 1:100,000 indicating the general location of the area under application, noting the location of significant geographic features, such as islands, mountains, roads, lakes, named waterbodies, communities, etc.



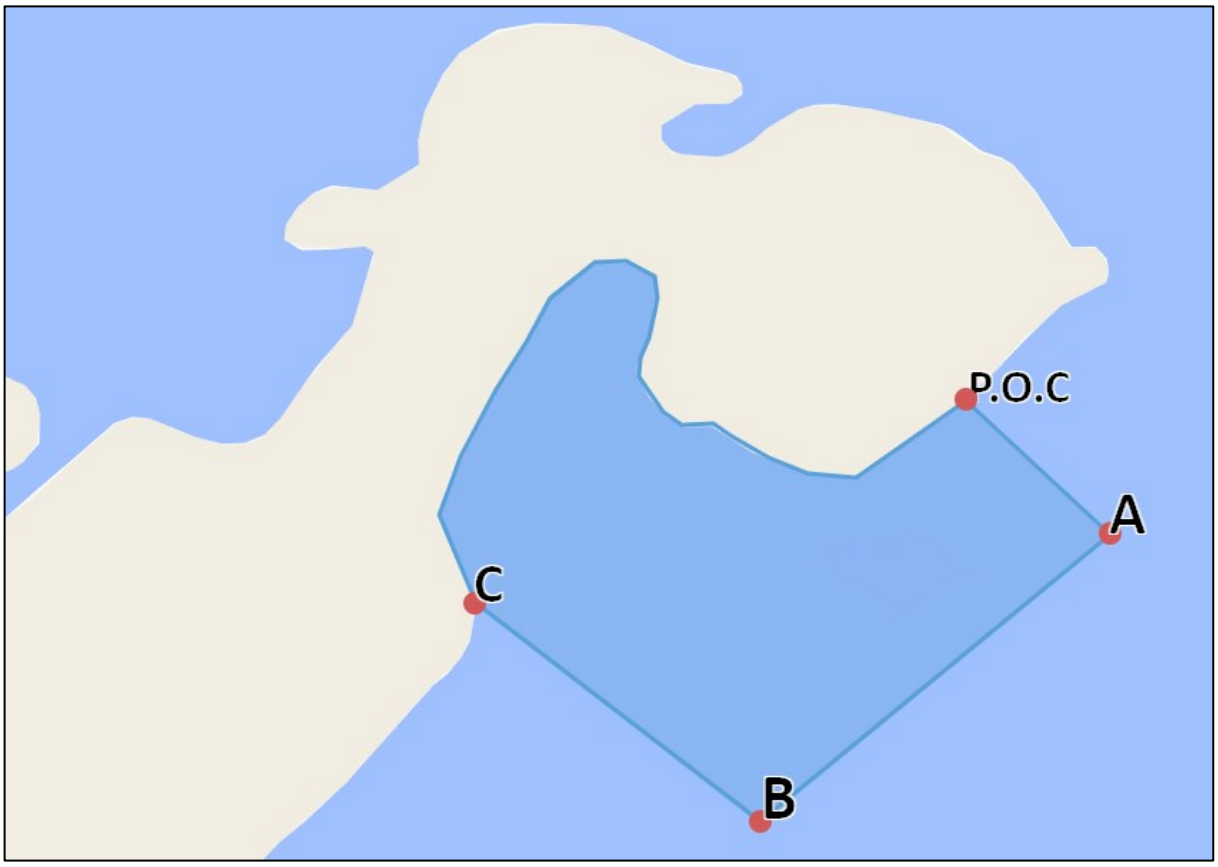
F2: Application Area Map (only required if not providing spatial file)

Application Area Map (submit one of the following):

a. Spatial file: attach a shapefile or .kmz geo-referenced to BC Albers Project (NAD 83), and including a reference map with a Point of Commencement.

OR

b. Metes & Bounds: A map showing a UTM/latitude and longitude of a point of commencement (POC) and a corresponding text description of the metes and bounds of the proposed shape.



Application Area Map Corner Points from iMap BC

Corner Points (Clockwise from POC):
POC to A-Measuring 106.99 meters at 127 degrees
A to B- Measuring 245.18 meters at 234 degrees
B to C- Measuring 194.35 meters at 316 degrees
Following shoreline back to POC

Corner Point Description (to accompany the application area map):

Latitude and Longitude of Points POC = 48.95702 N, 125.02871 W
A = 48.95636 N, 125.077661 W
B = 48.95496 N, 125.08026 W
C = 48.95602 N, 125.08240 W

F3: Top View Operational Diagrams

Top View Operational Diagram:

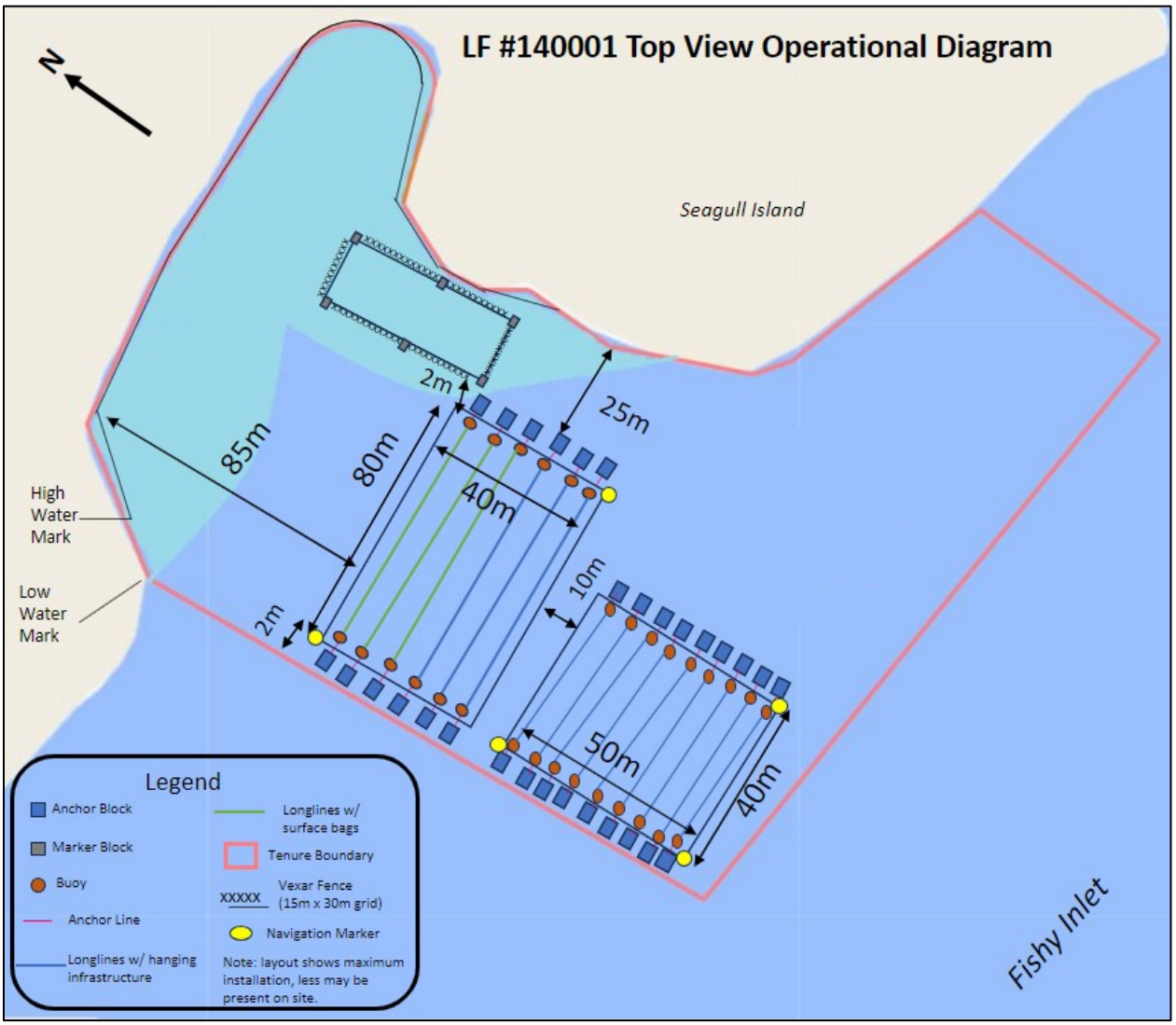
A map outlining the entire tenure area that clearly shows the location of all currently authorized and planned infrastructure including anchors, dimensions and spacing (include more than one diagram if necessary).

All intertidal culture area diagrams must also include high water mark (present natural boundary) clearly labelled in relation to proposed infrastructure.

Top View Drawings must include:

- North compass arrow
- Tenure boundary outline
- Waterway name, adjacent foreshore land name, island names (if applicable)
- Legend explaining all symbols
    - Labelling infrastructure/work types
    - Notation of maximum infrastructure installation
- All existing and proposed infrastructure
    - Dimensions in length by width in meters of all works
    - Distances from shore
    - Distances between works
    - Distances to tenure boundaries from works
- Delineation of the High Water Mark (HWM) and Low Water Mark (LWM)

Note: Top view diagrams must show the maximum installation of infrastructure. If you do not intend to install all infrastructure upon approval, please include in the legend an explanation of the minimum and maximum placements.


LF #140001 Top View Operational Diagram
N
Seagull Island
2m
25m
85m
80m
40m
High Water Mark
Low Water Mark
2m
10m
50m
40m
Fishy Inlet
Legend
Anchor Block
Marker Block
Buoy
Anchor Line
Longlines w/ hanging infrastructure
Longlines w/ surface bags
Tenure Boundary
XXXXX
Vexar Fence (15m x 30m grid)
Navigation Marker
Note: layout shows maximum installation, less may be present on site.

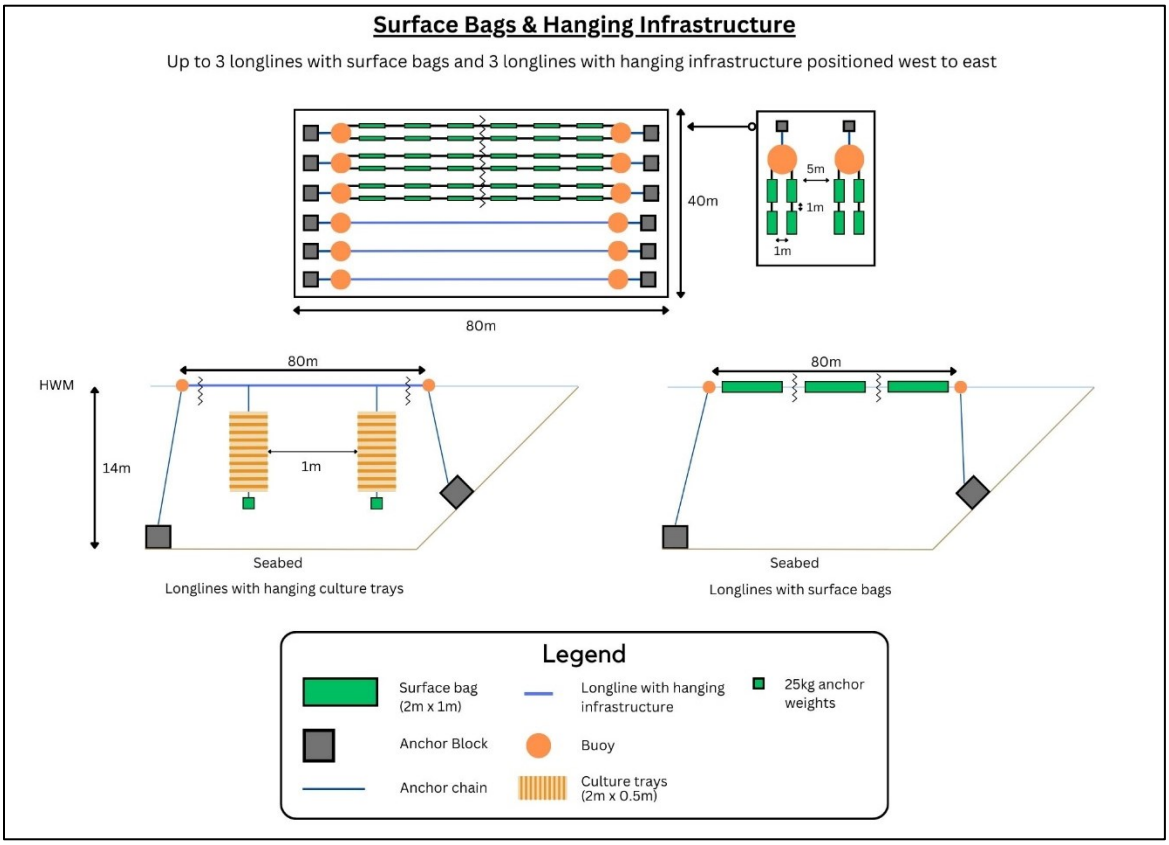
F4: Side View Operational Diagrams

Side View Operational Diagram, based on the culture type:

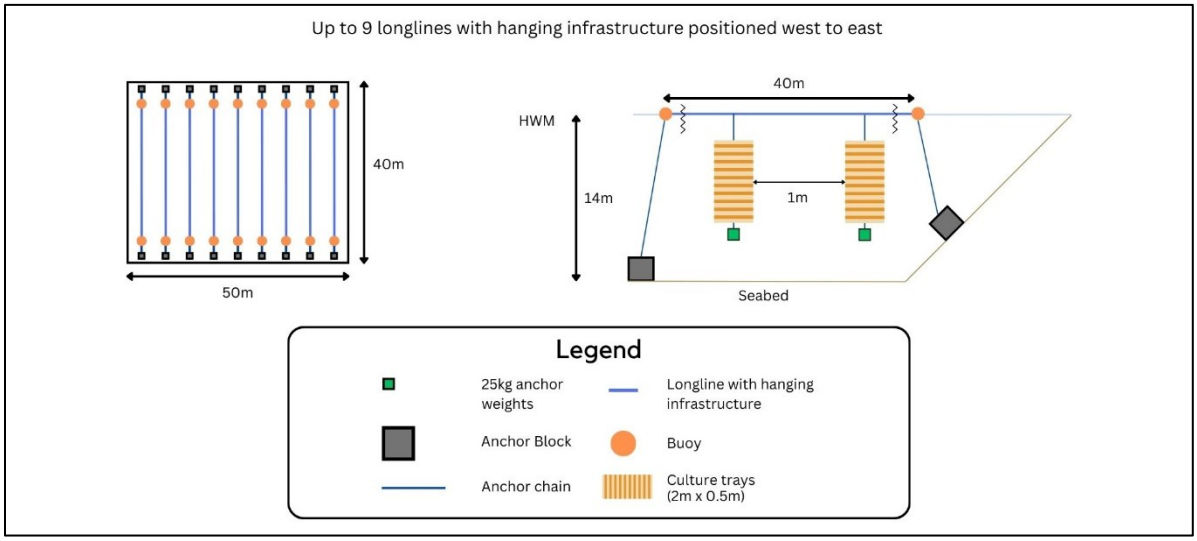
A scaled schematic diagram(s) showing the side/profile view of the proposed operation. Side view drawings should be included for all work types and where sections vary (ex. anchors with lines and anchor blocks in one section vs. shore pins in another – submit profile drawings for both). Side view drawings should include the height and schematic of all works above the water line as well as the schematic of all works below the water line.

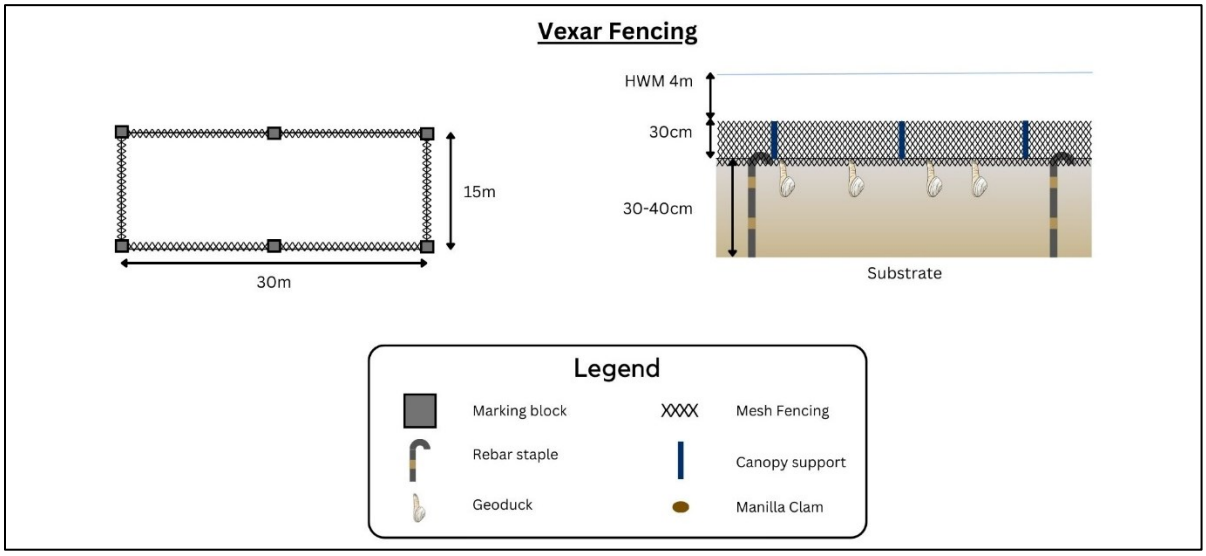
Side/Profile drawings must include:

- Visualization of all works from a cross section view in the water column or intertidal substrate
- High Water Mark (HWM), and bed of the waterway
- Water depth and depth of all infrastructure
- Dimensions of all work (Length by Width)



Side View Operational Diagram continued





F5: Optional: Alternate Layout Plans and TC Zone Map

Please refer to **APPENDIX 2 – ALTERNATE LAYOUT PLANS** for more instructions on applying for alternate layouts.

F6: High Definition Photographic Images

High definition representative and recent photographic images of the proposed tenure area (for new sites) or existing tenure/facility (for amendments). Photos must meet the requirements of the Photo Requirements Document, which is available by contacting **Aquaculture.Program@gov.bc.ca**.

F7: Harmonized Debris Management Plan

All applications require a debris management plan. Please see **Guide to Debris Management Plans** available on the provincial **Land Use – Aquaculture** web page.

F8: Fish and Fish Habitat Assessment Report

Any application for a new shellfish or co-culture aquaculture facility, or amendment to expand an existing shellfish or co-culture facility, will require the submission of a complete Fish and Fish Habitat Assessment Report. Depending on the siting of an aquatic plant only application, further DFO project review may be required, and the applicant may be asked to provide a complete Fish and Fish Habitat Assessment Report.

Please refer **APPENDIX 3 – GUIDANCE INFORMATION FOR COMPLETING DFO FISH AND FISH HABITAT ASSESSMENTS** for more information.

SECTION G: TABLE A: INFRASTRUCTURE INFORMATION

When Providing Infrastructure Information

The applicant must complete all columns for each row of infrastructure they wish to apply for or make changes to. For amendments, applicants must include all infrastructure already authorized even if no changes are being proposed for that infrastructure type.

Total area refers to the footprint (dimensions) of the infrastructure grouping that has a physical presence within the tenure area including space between individual pieces, see diagrams below. This includes all types of infrastructure within the tenure boundary.

If you are considering Alternate Layout Plans, please refer to **APPENDIX 2 – ALTERNATE LAYOUT PLANS**.

Types of Infrastructure:

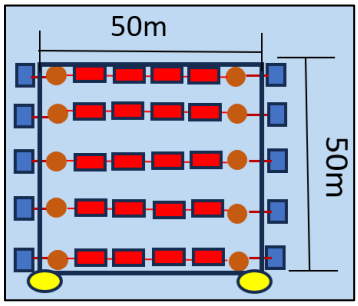
Living Accommodation or Work Float with Toilet

In accordance with the CSSP **Manual of Operations**, bivalve shellfish (clams, oysters, mussels, and scallops) shall not be cultivated, stored, or harvested within 125 m of any floating living accommodation unless the shellfish are seed and the activity is authorized by a separate licence. Additional information regarding the **CSSP** is available online.

If an approved Zero Discharge Waste Management Plan (ZDWMP) is in place, the Prohibited area may be reduced to a 25 m radius. The ZDWMP guidelines are available from **DFO.MCFR-RGPPC.MPO@dfo-mpo.gc.ca**.

Work Float (no toilet) or Culture Rafts

As in the Top View Diagram example (copied below), the total area of twenty rafts (20) 6 x 8 m rafts spaced 5 m apart would be 2,500m2 (the surface area of the rafts plus the area between the rafts that is unusable for other purposes).



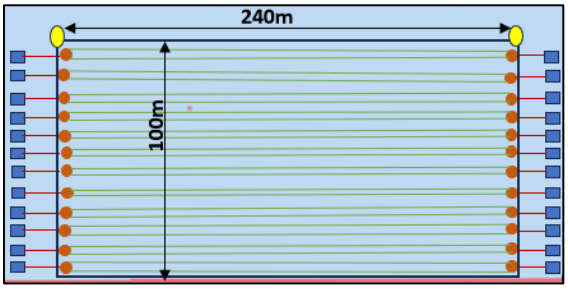
Nursery Floating Upweller System (FLUPSY) or other Nursery Infrastructure

Nursery infrastructure refers to structures that are designed to set and collect seed or spat and shelter juvenile shellfish prior to out planting in grow-out systems or areas. If the aquaculture facility is within a Small Craft Harbour a letter of permission must be obtained from the local Harbour Authority and the activity authorized by **DFO Small Craft Harbours** Branch.

In order to culture and relay bivalve shellfish seed from waters classified as Prohibited (i.e., a FLUPSY operating in a harbour), the applicant must apply to DFO for an additional licence, issued under authority of the MCFR.

Longlines

Similarly to floats and culture rafts, the area associated with longlines is calculated by multiplying the length (or average length) of longlines by the width of the longline grid.



Predator Netting and Predator Protection Tubes

All structures used to protect growing shellfish from predators, such as predator nets, tubes, etc. must be:

- constructed of an acceptable material and of an acceptable size to minimize entrapment and potential injury to fish species and wildlife, and;
- maintained, inspected and repaired on a regular basis.

The licence holder must confine predator exclusion devices (netting) to the licensed area. Acoustical deterrents for marine mammals are prohibited.

Rack and Bag or Retention Fencing

Rack and Bag systems and retention fencing may be proposed for containing cultured shellfish within the tenure boundaries. All structures must be affixed/secured so as not to move off the licensed area.

Remote Setting Equipment

Remote setting refers to temporary structures on which larval bivalves attach. For example, the practice of transferring larval bivalves to a nursery structure established in the intertidal zone to allow the shellfish larva to set onto the provided substrate. Please describe the remote setting gear and the months when it will be on site.

Floating Surface Culture Gear (floating at the surface)

Floating surface culture gear refers to nets, bags, pouches or other gear that is designed or installed in such a manner that part of the gear is floating and exposed to the atmosphere. Please calculate the area as the surface area of the floating surface culture gear plus the area between the strings of floating gear that is unusable for other purposes.

Standard Deepwater Suspended Culture Gear (suspended in the water column)

This is any type of gear hanging under longlines or rafts such as pearl nets, trays etc. that hang suspended in the water column under longlines or rafts.

SECTION G: TABLE B: PROPOSED ANCILLARY AND NAVIGATIONAL STRUCTURES

Site Marking

All subtidal and intertidal boundaries must be clearly marked. The use of rope or line (e.g. leaded line) to mark boundaries is not permitted.

Substrate Modification

Substrate modification refers to any activity that results in the redistribution of substrates and/or changes to grain size. Examples include construction of rock walls, trenches, berms, grading, or changes to substrate (addition, redistribution or removal). Use of a mechanical clam harvester does not constitute substrate modification.

Please describe in detail how proposed works will be undertaken and any mitigation measures proposed. For more detailed guidance on information and elements to include in your description of proposed works, please contact **DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca.**

Note: The licence holder shall conduct inspections of equipment, installation methods and anchoring systems at the licensed facility, to ensure that equipment and structures are capable of functioning as intended in the environment where they are located.

These inspections shall take place when the facility is first installed and before any fish are initially introduced or transferred to the facility; any time structures or equipment are altered; as required; and at least once per year.

The licence holder shall maintain written or electronic records relating to the licensed aquaculture activities throughout the species growing cycle. The records shall be produced upon request by a Fishery Officer or Fishery Guardian; and be submitted to DFO in an electronic and sortable format within 24 hours upon request of a Fishery Officer or a Fishery Guardian.

PART II – INFORMATION FOR THE BC MINISTRY OF WATER, LAND AND RESOURCE STEWARDSHIP (WLRS) CROWN LAND TENURE

The **Land Use Operational Policy for Aquaculture** applies to the siting and placement of improvements on tenures required for the cultivation of finfish, shellfish and marine plants on aquatic Crown land or foreshore. Please review the policy prior to completing your application.

SECTION A: SITING CONSIDERATIONS

A number of siting considerations are defined in the provincial **Land Use Operational Policy for Aquaculture**. Where proposals do not meet the established siting guidelines applicants must include a detailed explanation and justification for their choice of site in the Project Summary Part 1 Section A2.

We recommend using **Natural Resource Online Services** or **iMapBC** to identify interests or conflicts in the area. Refer to the document *Guide to Using iMap for Aquaculture Tenure Applications*, available on the provincial **Land Use - aquaculture** webpage for instructions on using iMapBC to research a proposed area and create the necessary maps.

For each of the siting considerations referenced below, the applicable iMapBC layers have been identified with a"/"denoting differences between layers and sub-layers. If polygons appear when the layers are added, more information can be found by right clicking your mouse on the polygon and selecting 'What's here? (Identify)'.

iMapBC also has a measuring tool to allow you to determine distance between your proposed area and other interests.

Does your proposal infringe on the riparian rights of an upland owner?

IMapBC layer: Land Ownership and Status/ParcelMap BC

Landowners of waterfront property have the right to access their property along all points of the natural boundary, or waterfront; this is commonly referred to as riparian rights. Placement of improvements should not infringe on the riparian rights of the upland owner without their consent. This applies to both private and Crown land ownership.

If the application directly adjoins privately owned upland, you must obtain a letter of consent from the landowner(s). To determine the name of the upland owner, find the Parcel Identification (PID) Number in iMapBC, then provide the PID to the **Land Title and Survey Authority** which will be able to identify the upland owner.

Upland owners are not obligated to provide consent. If consent is provided, it may be time limited and is non-transferable if the landowner changes. **Sample upland owner consent letter**

When the Crown owns the upland, further discussions with provincial ministries may be required as any designations on the upland parcel need to be considered.

Applicants who are unsure about the legal rights of upland owners are encouraged to independently seek legal advice.

Is the intended use consistent with approved local government bylaws for land use planning and zoning?

IMapBC layer (s): Administrative Boundaries/ABMS- Regional Districts, Island Trust, Municipalities

Local governments have authority to approve broad objectives, policies and guidelines respecting land use and development. Local governments exercise their authority through zoning bylaws, permits and other instruments (such as an Official Community Plan).

Applicants should contact the applicable local government to determine whether Zoning or Rural Land Use Bylaws apply to aquaculture activities on the specific parcel under application. Local governments review aquaculture applications and provide comments in relation to their Official Community Plans.

If your proposal is not consistent with the current local government land use designations, zoning or bylaws, **you are strongly recommended to contact the applicable local government to discuss your proposal prior to submitting an application**. Your proposal may be subject to a rezoning process. If rezoning is required, provide details and copies of any relevant correspondence between the applicant and local government with your application package. A positive decision by the Province regarding Crown land tenure does not guarantee that the activity can occur.

All tenure holders must abide by all applicable laws including zoning and bylaws.

SECTION C: WATER USE

The *Water Sustainability Act* was passed in February 2016. Important changes include the regulation of groundwater in addition to surface water. If your proposal involves the use of a fresh water source, you will need to apply for a Water Licence. More information can be found on the provincial **Water Licences & Approvals** web page.

PART III - INFORMATION FOR THE BC MINISTRY OF WATER, LAND AND RESOURCE STEWARDSHIP (WLRS) AQUATIC PLANT LICENCE

Aquatic Plant Only Facilities and Co-Culture Facilities require an aquatic plant culture licence. The following information is required to review an application for an aquatic plant culture licence under the *Fish and Seafood Act* (Fish and Seafood Licencing Regulation).

SECTION A: CONSIDERATIONS FOR THE END-USE OF THE AQUATIC PLANT PRODUCT

1. Applications for an aquatic plant culture licence must include an application fee of $50 unless the fee is waived for educational, scientific, or research purposes (Fish and Seafood Licencing Regulation (FSLR) 4 & *Fish and Seafood Act* (FSA) 7(4). Answer yes, if the activities under the licence will have *any* commercial benefit or the cultivated aquatic plants may be distributed for human consumption. If the proposed activities under this application are only for educational, scientific, and research purposes, proceed to Table A.
2. Aquatic plant culturers must keep records on their operations that include information on the species and quantity of aquatic plants cultivated and distributed. These records are submitted to the province annually in the Annual Aquaculture Statistical Report (AASR). Answer question two with the first year you propose to harvest aquatic plants and submit a complete AASR statistical report. Consult the Fisheries and Aquaculture Reporting Requirements webpage or email fishstats@gov.bc.ca for more information.
3. Aquatic plants must be processed at a licenced seafood processing facility unless the processor is exempt under section 28 of the Fish and Seafood Licencing Regulation. To find a licenced seafood processor you can use this online interactive map. Answer question three (3) with the name of the Seafood Processor that will process, prepare, or preserve harvested aquatic plants.
   Consult the Seafood Industry Licencing webpage or contact provincial staff at AgriServiceBC@gov.bc.ca or 1 888 22 7141 for the most current list of licensed seafood processors.

TABLE A: PROPOSED AQUATIC PLANT SPECIES AND CULTURE DETAILS

Applicants for an aquatic plant culture licence must complete Table A for each aquatic plant species they are applying to cultivate.

Column 1: Aquatic Plant Species

Applicants must complete column 1 with the full scientific name (genus and species) for each aquatic plant species they are applying to cultivate. Species that are not native to BC waters will not be considered.

Column 2: Culture Type

Applicants must complete column 2 with the culture type for each species they are applying to cultivate. Definitions of vertical longlines and horizontal longlines are available in the glossary. If you are not applying to cultivate aquatic plants using vertical or horizontal longlines, select other from the dropdown list and include your culture details in the project summary.

Column 3: Number of Culture Lines

Applicants must complete column 3 with the number of vertical or horizontal longlines they are applying to use to cultivate aquatic plants for each species.

Column 4: Length of Culture Lines

Applicants must complete column 4 with the length of the culture lines they are applying to use to cultivate each species. Applicants that are using different lengths of culture lines can complete more than one row for each species. Lengths should be in meters.

Column 5: Distance Between Culture Lines

Applicants must complete column 5 with the distance between the culture lines for each species they are applying to cultivate. Applicants using more than one culture system, with different distances between culture lines, can complete more than one row for each species. Distances should be in meters.

Column 6: Depth of Culture Lines from Chart Datum (m)

Applicants must complete column 6 with the depth of the culture lines for each species from the surface of the water. Applicants that are applying to cultivate aquatic plants on vertical longlines should report a range of depths for each species (e.g., 3-10m). Depths should be in m below the water level.

Column 7: Annual Metric Tonnes (wet weight).

Applicants must complete column 7 with the maximum annual metric tonnes they are applying to cultivate for each species. The annual metric tonnes should reflect the number and length of culture lines that are used to cultivate aquatic plants for each species. Applicants that are applying to change their species composition from year to year, must include the maximum annual metric tonnes they are applying to cultivate in total in the description box.

TABLE B: PROPOSED SOURCE OF REPRODUCTIVE MATERIAL AND TRANSPLANTING DETAILS

Applicants for an aquatic plant culture licence must complete the Table B for each species they are applying to cultivate.

Column 1: Species

Applicants must complete column 1 with each species that they are applying to cultivate in Table A.

Column 2: Source and Location of Aquatic Plant Reproductive Material

Applicants must complete column 2 with the source of the reproductive material for each species that they are applying to cultivate. Applicants who are applying to cultivate aquatic plants from wild aquatic plant beds must include the estimated distance of the wild aquatic plant bed from the application area. A definition of reproductive material is in the glossary.

Column 3: Name or Licence Number the of Aquatic Plant Culture Nursery Facility Supplying Aquatic Plant Material to be out-planted in the Marine Grow Out.

Applicants must complete column 3 with the name or aquatic plant culture licence number of the aquatic plant nursery facility they are proposing to use to cultivating aquatic plants prior to marine grow out. The definition of an aquatic plant nursery facility is available in the glossary.

PART IV – INFORMATION FOR FISHERIES AND OCEANS CANADA (DFO)

SECTION A: DFO PACIFIC SHELLFISH AQUACULTURE LICENCE

Fisheries and Oceans Canada (DFO) requests that all applicants review the current shellfish conditions of licence prior to submitting an application.

DFO also requests the date of birth from individual applicants. DFO retains this information solely for the purpose of correctly identify licence holders.

SECTION B: PROPOSED SHELLFISH SPECIES AND STOCK SOURCE

Please refer to the **DFO Shellfish Integrated Management of Aquaculture Plan** (SF-IMAP), section 1.2.4.1 for the list of the low risk primary and bycatch species for intertidal or deepwater-suspended culture type which will be considered.

Species intended for culture other than species currently licensed by DFO (species in the 'Other' category) will require an in-depth review and/or risk assessment by the Introductions and Transfers Committee (ITC). Additional information on **introductions and transfers** is available on the DFO website.

Access to Wild Aquatic Stock

Harvesting wild aquatic stock for aquaculture purposes (relay, on-growing, brood stock, etc.) may require a separate application. For more information refer to the Fisheries and Oceans Canada's policy**, Access to Wild Aquatic Resources as it Applies for Aquaculture 2004**, available on the DFO website**.**

SECTION C: FISH AND FISH HABITAT ASSESSMENT REPORT

NOTE: Please refer to **APPENDIX 3 – GUIDANCE INFORMATION FOR COMPLETING DFO FISH AND FISH HABITAT ASSESSMENTS** before completing this section. If you have any questions regarding the fish and fish habitat assessment requirements, contact DFO at: **DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca**

If applicants are applying for a new facility, or to expand the tenure area of an existing facility, applicants must submit a complete Fish and Fish Habitat Assessment Report. Applicants must be knowledgeable of the fish and fish habitat characteristics present on their proposed facility and demonstrate they have conducted a Fish and Fish Habitat Assessment Report. If applicants are unfamiliar with fish and fish habitat surveys, they are encouraged to consult with a Qualified Environmental Professional (QEP). A QEP is generally a registered professional biologist, applied environmental technologist, or other professional with demonstrated experience conducting scientifically defensible environmental assessments.

If applicants need assistance with siting and facility plans, or working within the legal requirements of the fish and fish habitat protection provisions of the *Fisheries Act* and its regulations, and licences issued thereunder, they should consult a QEP.

PART V – INFORMATION FOR TRANSPORT CANADA (TC)

SECTION A: TRANSPORT CANADA INFORMATION

Waterway Name

The name of the water where the planned work is located *must* be included on the application. Both the official name and any local names should be noted. If the waterway has a common name, e.g. Fish Lake, or any name which might be confused for another location, please add an identifier, e.g. "23 km west of Hwy 2 at 8th Line Rd", or include clearly written directions to the site as one of your supporting documents.

Width (m) and Depth Range (m)

The width and depth can be roughly determined by using Google Earth, Topo Maps, **Canadian Hydrographic Services** (CHS) navigational charts (if the subject waterway is charted) or actual measurements. In charted waterways, these measurements should refer to a chart datum (the measured elevation benchmark noted in the legend of the chart) and on uncharted waterways it should reference the normal or ordinary water level.

Known information about past, present or future navigation use on the waterway.

Please provide any known information.

Nearest Community or Site Access Information

If the proposed work is in an area that has not been surveyed, indicate the nearest community and provide the distance from the nearest kilometre post, if applicable.

New, Existing or Modification of an Existing Work

New: If your work is a new proposal that has not yet been constructed or received an authorization under the *Canadian Navigable Waters Act* (CNWA).

Existing: If the work has been constructed but does not have an CNWA authorization.

Modification: If the work is for the rebuild, alteration, or removal of work(s) that has an existing CNWA authorization.

APPLYING TO TRANSPORT CANADA'S NAVIGATION PROTECTION PROGRAM (NPP)

Once an application is accepted by the Project Review Team (PRT), a letter will be provided from FrontCounter BC with directions outlining the requirement to submit an Application for Approval to the NPP. The application process is completed online and a guide on how to complete the process is provided below.

The *Canadian Navigable Waters Act* (CNWA) protects the public right of navigation by regulating works and obstructions that may interfere with navigation in Canada's navigable waters. The CNWA applies to all existing or proposed works (man-made structures) constructed, placed, rebuilt, altered, removed, and/or decommissioned on a navigable water. The NPP is responsible for the

administration and enforcement of the CNWA. The NPP receives applications, conducts assessments, and issues approvals to construct, or place works in navigable waters.

All aquaculture sites are considered Major Works as determined by the Major Works Order under the CNWA. An owner who proposes to construct, place, alter, rebuild, remove or decommission an aquaculture work is required to submit an application for approval to the Minister. If an application requires a fee, the fee must be paid in full prior to the application review process beginning.

As part of the approval process, the owner may be required to publish a public notice as specified by the Minister. Instruction on how to complete the public notice process will be provided by Transport Canada. Staking and Advertising Guidelines are provided to successful applicants by FrontCounter BC, however, the applicant must have an accepted application and communication with the NPP prior to posting public notice. The public notice process will seek comments pertaining to impacts to navigation. Comments will be received through Canada's ***Common Project Search*** and will be used as part of the decision making process by the Minister.

Please refer to A Guide to the Navigation Protection Program's Application and Review Requirements **for additional information.**

1. **Online resources:**

   Navigation Protection Program (NPP) **External Submission Site**

   About the Navigation Protection Program: **Apply to the NPP (canada.ca)**

   The Common Project Search Public Registry

2. **Contact Information:**

   Pacific Region
   Navigation Protection Program
   Transport Canada
   Pacific Regional Office
   820-800 Burrard Street
   Vancouver, BC
   V6Z 2J8
   Phone: 604-775-8867
   Email: **NPPPAC-PPNPAC@tc.gc.ca**

APPENDIX 1 – GLOSSARY

Access - means the harvest of wild aquatic stock for aquaculture purposes (relay, on-growing, brood stock, etc.).

Alternate - means to interchange successively or regularly

Amendment - means a change to an existing authorization.

Application Package - means the Pacific Shellfish Aquaculture, Aquatic Plant, or Co-Culture Application and supporting materials required to evaluate an aquaculture proposal and issue approvals under the *Fisheries Act* (*Pacific Aquaculture Regulations), Canadian Navigable Waters Act, BC Fish and Seafood Act* (Fish and Seafood Licencing Regulations) and/or *BC Land Act*.

Aquatic Plant – is defined in the *Fish and Seafood Act*. Means (a) benthic and detached algae, brown algae, green algae, red algae, marine flowering plants and phytoplankton, whether grown domestically or wild, (b) the products and by-products of the aquatic plants described in paragraph (a) and (c) part of an aquatic plant described in paragraph (a).

Aquatic Plant Culture Licence - means a licence to grow aquatic plants under the Fish and Seafood Act (Fish and Seafood Licencing Regulations). Aquatic Plant Culture Licences are issued to grow-out aquatic plants in the marine environment or in a land-based aquatic plant nursery. The maximum term of an Aquatic Plant Culture Licence is 10 years.

Aquatic Plant Culture Licence Renewal Application - means an application to renew an aquatic plant culture licence on an existing aquatic plant aquaculture tenure without any changes to the land tenure or the authorized infrastructure.

Aquatic Plant Horizontal Longlines - is a method of aquatic plant culture that utilizes parallel longlines suspended below the surface of the water to grow out aquatic plants. The longlines are horizontal to the surface of the water and maintained at a certain depth below chart datum.

Aquatic Plant Nursery (or Aquatic Plant Culture Nursery) - means a land-based facility that is used to propagate, grow, and prepare aquatic plants for marine grow-out. Aquatic Plant Nurseries are licensed with a Land-Based Aquatic Plant Culture Licence under the *Fish and Seafood Act* (Fish and Seafood Licencing Regulation).

Aquatic Plant Only Application in the Marine Environment - means an application for an Aquatic Plant Culture Licence under the *BC Fish and Seafood Act* (Fish and Seafood Licencing Regulation) that require a new land tenure or an amendment to an existing land tenure, whether or not the changes meet the definition of Incidental Aquaculture Use. Aquatic Plant Only Applications in the Marine Environment are not reviewed for the approval of a federal aquaculture licence.

Aquatic Plant Reproductive Material - is part of an aquatic plant that is used to generate or propagate new individuals. Aquatic Plant Reproductive Material can be harvested from mature plants in the marine environment with a Wild Aquatic Plant Harvesting Licence under the Fish and Seafood Act (Fish and Seafood Licencing Regulation).

Aquatic Plant Vertical Longlines - is a method of aquatic plant culture that uses vertical ropes suspended from a buoy/longline system or rafts. The longlines are vertical to the surface of the water and aquatic plants are cultivated at a range of depths below chart datum.

Bivalve Shellfish - means molluscs that have a two-part hinged shell, such as clams, oysters, mussels and scallops.

Bulk Tagging - means tagging of multiple containers on a wrapped pallet or tote or other container where shellfish are harvested from one shellfish aquaculture facility on a single day by an aquaculture licence holder the unit tagged with a single tag in accordance with their DFO approved bulk tagging plan.

By-catch - means non-cultivated individuals of the licensed species taken in addition to the fish deliberately placed on the licensed area

Chart Datum - (means lower low water) - means the level of water from which charted depths displayed on a nautical chart are measured.

Debris - means any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, enters into the marine environment. Includes, but is not limited to, garbage, refuse, and industrial materials (e.g. old logging equipment).

Deepwater Suspended - means culture activities that involve suspending growing shellfish off the bottom of the body of water (usually using containers suspended from rafts or longlines).

Eelgrass - means seagrasses of the genus Zostera. Eelgrass is considered important habitat for various life stages of numerous species of fish and shellfish. Eelgrass can be negatively impacted by physical disturbance, shading, and smothering. Eelgrass is found predominantly intertidally to 10m of depth though this maximum depth is variable depending upon local conditions. Eelgrass is a flowering vascular plant that produces a long stem with flat green blades measuring up to 1.2 m long. It grows in mud and sand substrates in intertidal and subtidal areas. Eelgrass may be submerged or partially exposed during low tide. Eelgrass beds are highly responsive to environmental conditions and can expand and contract seasonally.

Fish - means shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Fish Habitat - means spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly to carry out their life processes.

Floating Surface Culture - means culture activities that involve suspending growing shellfish at or near the surface of the water.

Floating Surface Culture Gear - means nets, bags, pouches or other gear that is designed or installed in such a manner that part of the gear is floating and exposed to the atmosphere.

FLUPSY - means Floating Upwelling Nursery System that promotes growth of spat of various species.

Co-culture – is the cultivation of aquatic plants and shellfish within the same aquaculture tenure.

Glass sponge complexes (Hexactinellidae) and/or coral complexes - means structure forming sponges and corals. Sponges or corals growing in relatively close association, thus providing valuable three-dimensional habitat, are considered a complex. These animals are often highly susceptible to human disturbance and take many years or decades to recover if impacted. A subtidal survey of proposed deepwater facilities is the best way to identify any sponge or coral complexes so that harmful impacts can be avoided.

Grow-out - means cultivation of a product in the marine environment to market size or harvest.

High Water Mark or Present Natural Boundary - refers to the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself.

Important and Sensitive Habitat - means any fish habitat, vital to the life processes of marine species, that could be harmed by aquaculture or other human activities, including but not limited to: intertidal stream channels, eelgrass beds (Zostera sp.), fish spawning areas, salmonid or other fish bearing streams, salmonid bearing estuaries, salt marshes, rocky reef/subtidal habitat, kelp beds, glass sponge (Hexactinellidae) and/or coral complexes, and the residences and habitats critical for *Species at Risk Act* listed species.

Incidental Aquaculture Use (IAU) - is defined in the BC Aquaculture Land Use Operation Policy. Changes to improvements within an aquaculture tenure area that do not require a tenure amendment. This can apply to finfish, shellfish, aquatic plant or co-culture facilities.

Intertidal - means the area between high tide and chart datum.

Intertidal Remote Setting - means the practice of transferring larval bivalves to a nursery structure established in the intertidal zone to allow the shellfish larva to set onto the provided substrate.

Intertidal stream channels - means channels of water flow in the transition zones between salt and freshwater. These channels are known to meander/move seasonally and over longer periods. When forming a network within the estuary of a salmon-bearing stream, they provide important routes for both adult and juvenile salmon. Some areas can have an extensive network of intertidal channels, fanning out over a very large estuary area.

Introduction - means the transport and release of live fish (seed, spat, eggs, juveniles or adults) into waters outside their present range and includes movement of fish from a hatchery or other fish breeding or holding facility to the marine environment.

Introductions and Transfers Committee (ITC) - means the Federal-Provincial joint committee responsible for reviewing applications for the introductions and transfers of fish and providing recommendations on issuance of the associated licences.

Kelp Beds - means areas with aggregation of species of kelps. Kelps can form canopy, understory or near-bottom (seafloor) beds. Examples of species commonly referred to as kelps include bull kelp (Nereocystis luetkeana), giant kelp (Macrocystis pyrifera) and sugar kelp (Laminaria saccharina). Kelp beds can be found in a variety of depths and maximum depth is dependent upon local conditions. Kelp are highly responsive to environmental conditions and can expand and contract seasonally. They can be impacted via physical disturbance, shading, and smothering.

Licensed Facility - Means the total area being considered or authorized for aquaculture within the authorized tenure boundary.

Marine Mammal usage area - means a location utilized by whales, sea lions or other marine mammals for one or more of their life processes. Some marine mammal usage areas may be subject to protection measures (e.g. for Southern Resident Killer Whales) or otherwise should be given a buffer from aquaculture installations or activities (e.g. a rocky islet sea lion haul-out).

Marine Riparian Area - means the portion of land 30 meters inland from the natural boundary (high water mark).

Mitigation Measures - means actions taken during the planning, design, construction and operation of works and undertakings to alleviate potential adverse effects on the productive capacity of fish habitat.

Nursery Infrastructure - means the structures that are designed to set and collect seed or spat and shelter juvenile shellfish prior to out planting in grow-out systems or areas.

Process - is defined under the *Fish and Seafood Act*. Includes (a) to preserve, by any method, fish or aquatic plants for future consumption, (b) to prepare, by any method, fish or aquatic plants, (c) to hold or maintain live fish or aquatic plants until their preservation or preparation, (d) to kill fish held under paragraph (c), and (e) to package fish or aquatic plants that have been preserved or prepared.

Qualified Environmental Professional (QEP) - means someone who is generally a registered professional biologist, applied environmental technologist, or other professional with demonstrated experience conducting scientifically defensible environmental assessments.

Relay - means the transfer of shellfish from marginally contaminated areas to approved areas for natural biological cleansing using the ambient environment as a treatment system.

Rocky Reefs and Rocky Subtidal Habitat - means a hard substrate, three-dimensional habitat. Northern Abalone is a protected species found primarily within the tidal range of 0-10m and in association with hard (rocky) substrates such as creviced bedrock or boulder fields. Rock reef crevice habitat can be lost with shell and biofouling drop off. Some areas of the coast are designated as Rockfish Conservation Areas (RCA), containing important rocky habitat.

Rockfish Conservation Area (RCA) - mean areas set aside for the conservation of rockfish, lingcod, and their habitats. Aquaculture applications may be considered within an RCA provided important rockfish habitat can be avoided.

Salmon-bearing estuary - means an area where rivers enter the ocean and freshwater mixes with the saltwater environment, and which supports adult salmon spawning migration and juvenile rearing. They are highly productive ecosystems. An estuary can contain numerous types of important and sensitive habitat components, such as salt marsh, eelgrass and intertidal stream channels.

Salt marsh - means coastal wetlands that are flooded and drained of salt water by tidal action and are inhabited by plants. Plants that characterize salt marshes include saltgrass, pickleweed, dune grass, orache, and other salt tolerant herbaceous species. Salt marshes are critical for many marine bio-geo-chemical processes. They also provide many terrestrial benefits including soil stabilization. Salt marshes may be expansive or fringing, and continuous or patchy.

SARA Listed Species Critical Habitat - means the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species. DFO is responsible for protecting aquatic species under the *Species at Risk Act* (SARA) which prohibits the killing, harming, harassing, capturing, harvesting, or destruction of critical habitat of a species that is listed as threatened or endangered. Aquaculture activities must not result in harm to a SARA listed species, their residence, or their critical habitat, as defined in the associated species recovery strategy, or action plan. Northern Abalone and Olympia Oyster are two SARA listed species which can be found within the same tidal zone that shellfish aquaculture activities occur.

Seed - means a submarket size bivalve shellfish requiring a minimum of 6 months to reach market size under normal growing conditions.

Shellfish - Means an aquatic shelled mollusc (i.e. an oyster or cockle) or a crustacean (i.e. a crab or shrimp).

Spat - means the spawn or larvae of oysters or similar shellfish.

Substrate Modification - means any activity undertaken or structure installed that results in the redistribution of substrates and/or changes to the grain size composition of the substrate. Examples include, but are not limited to, construction of rock berms, grading, trenching, and substrate addition.

Subtidal - Refers to the area of the sea floor below chart datum.

Tenure - means a provincial authorization issued under the authority of the Land Act to allow for use and occupancy of the provincially owned Crown land or Crown land covered by water.

Tenure Replacement - means consideration under the authority of the Land Act to offer a subsequent tenure agreement to the tenure holder for the same purpose and area as previously authorized.

Transfer - means the movement of individuals of a species or population of live fish (seed, spat, eggs, juveniles or adults) from one location to another within its present range. This includes transfers to or from a hatchery or other fish breeding or holding facility.

Third Party Assessment - means an assessment undertaken by someone other than the government or the applicant.

Wet Storage - means the temporary storage of live harvested bivalve shellfish sourced from approved licensed wild commercial fisheries, or from licensed aquaculture facilities other than the approved receiving aquaculture facility.

APPENDIX 2 – ALTERNATE LAYOUT PLANS

F5. (a) Alternate Layout Plans

Applicants are encouraged to explore Alternate Layout Plans as an option to allow for approved infrastructure changes and to minimize the number of future amendment applications required. Alternate Layout Plans can allow an operator to add, move or remove the approved infrastructure within the tenure boundary as identified within the alternate layouts without additional application requirements. Alternate Layout applications will be assessed for the maximum impacts.

Each Alternate Layout must include corresponding:

- top view diagram,
- side/profile view diagram(s),
- Transport Canada Zone Map (if applicable); and
- infrastructure table.

For example, if applying for three (3) alternate layouts, applicants would need to provide three (3) different packages including all the above for each layout option, and one overall TC Zone Map. Please label each Alternate Layout Plan and supporting maps Option A, Option B, etc.

BC Land tenure rent and security will be calculated on the maximum intensive use area (footprint) identified in any one Alternate Layout Plan.

For more information about how to plan for future flexibility and incorporate Alternate Layout Plans into your application, please contact **Aquaculture.Program@gov.bc.ca**.

NOTE: IF APPROVED, OPERATORS WILL ONLY BE AUTHORIZED TO INSTALL AND OPERATE ONE LAYOUT AT A TIME

F5. (b) Transport Canada Zone Map

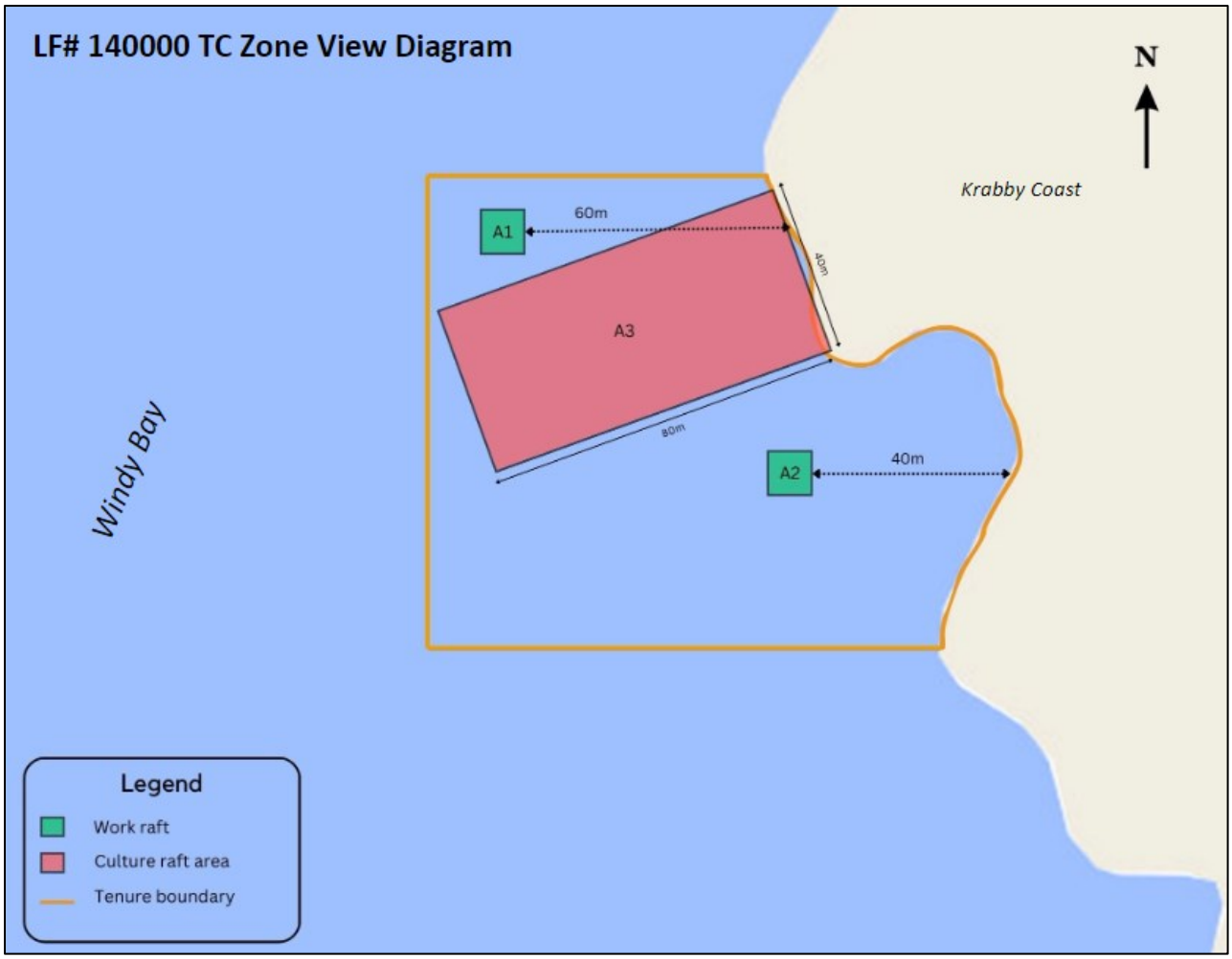
TC's Zone Map provides maximum flexibility for infrastructure placement under the *Canadian Navigable Waters Act*. The Zone Map is a simplified top view drawing that outlines intensive use areas within the tenure boundary. Within a 'zone' the owner can change between approved gear types and/or orientation of works. TC will not accept an entire tenure as a 'zone'. All gear types to be used in a 'zone' need accompanied profile drawings. Please see Alternate Layout Plan Example 1 below. If you have any questions about TC Zone Maps please contact **NPPPAC-PPNPAC@tc.gc.ca**.

Please see the examples included below which show potential Alternate Layout Plans. Two examples are provided below:

EXAMPLE 1 - with the TC Zone Map and Alternate Layouts A & B

EXAMPLE 2 - Alternate Layout where TC Zone Map is not possible

F5 - Example 1 Alternate Layout Plans with TC Zone Map

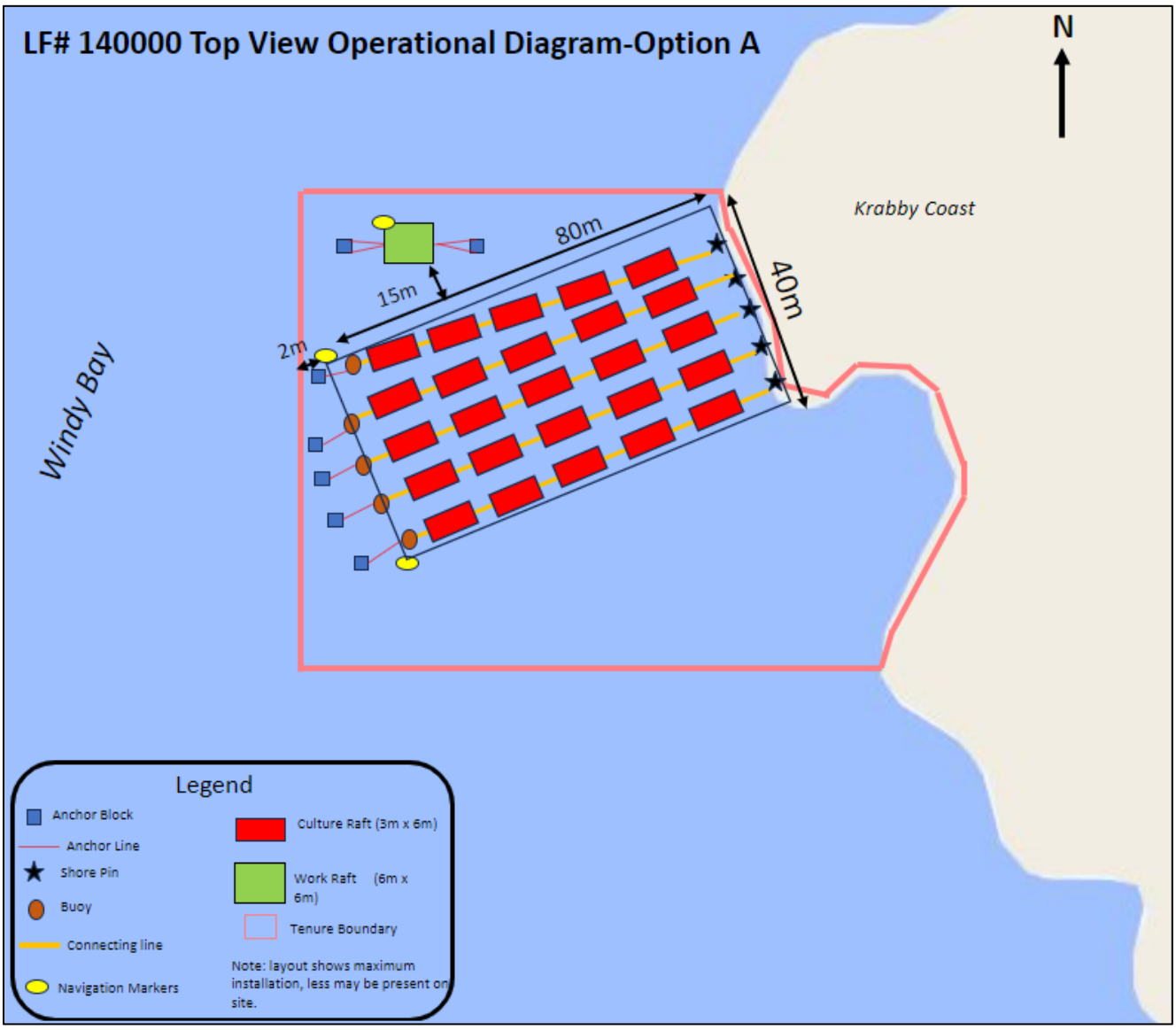


F5.1 - Top View Diagrams for Alternate Layout Plans

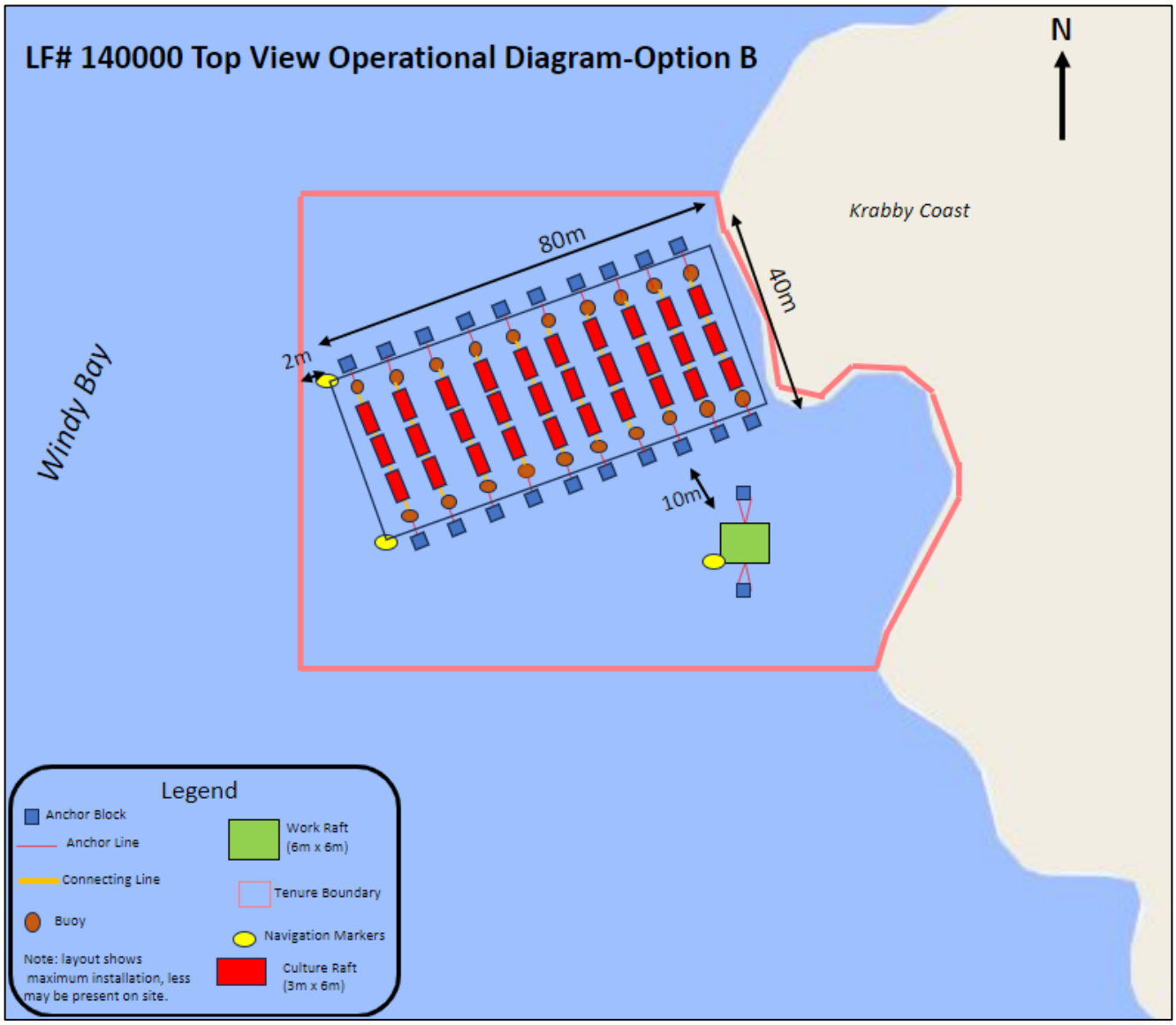
A fulsome top view diagram must be included for each proposed layout.

Top View diagrams must include the location of all planned infrastructure including anchors, dimension and spacing. Applicants must ensure that top view diagrams are labelled (A, B, C, etc.) and match the corresponding side view diagram and infrastructure table.

EXAMPLE 1 Alternate Layout Plan Top view/With TC Zone Map – Option A



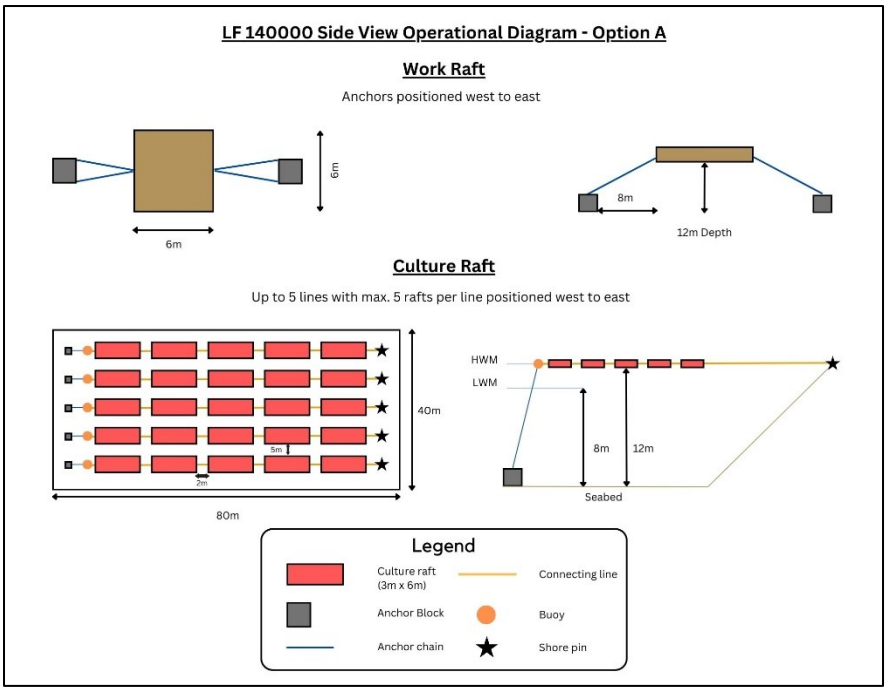
EXAMPLE 1 Alternate Layout Plan Top view/With TC Zone Map – Option B



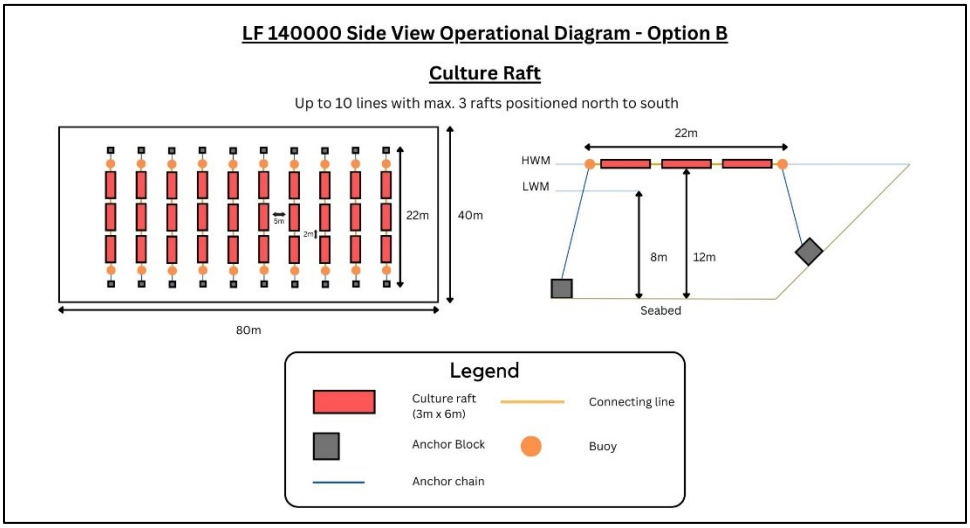
F5.2 - Side View Diagrams for Alternate Layout Plans

A side view diagram is required for each Alternate Layout Plan. All proposed infrastructure must be displayed. Side views must include the distance from the seabed to infrastructure and the high-water mark. Please ensure you have accounted for depth variability of alternate layouts. Side view diagrams must be labelled (A, B, C etc.) and match the corresponding top view diagram and infrastructure table.

EXAMPLE 1 Alternate Layout Plan Side View with TC Zone Map – Option A



EXAMPLE 1 Alternate Layout Plan Side View with TC Zone Map – Option B



F5.3 - Infrastructure Table for Alternate Layout Plans

Application for Alternate Layout Plans must be accompanied with an infrastructure table specific to each proposal. All infrastructure including ancillary and navigational structure must be included. Please ensure that infrastructure tables are labelled (A, B, C etc.) to match the corresponding top and side view diagram. If all infrastructure is proposed to remain the same between layouts only one infrastructure table may be required.

EXAMPLE 1 Alternate Layout Plan – Infrastructure Table with TC Zone Map – Option A

Complete the table below for all currently authorized and proposed infrastructure. Refer to your most recent approved Management Plan for details on currently authorized infrastructure at the site.

Alternate Layout Plan-Option A

Note: If applying for a new site, mark "Currently Licensed" columns as N/A. All structures noted on the top and side view diagrams must match the information contained in the Infrastructure Information table.

INFRASTRUCTURE	CULTURE TYPE	CURRENTLY LICENSED (# of pieces)	CURRENTLY LICENSED AREA (m²)	PROPOSED CHANGE (listed as # of pieces)	PROPOSED CHANGE (listed in AREA (m²))	TOTAL AREA (m²) OF INFRA-STRUCTURE(s)
Living Accommodation (Deep Water only)	N/A					
Work Float - with a toilet (Deep Water only)	N/A					
Work Float(s) - no toilet (Deep Water only)	N/A	0	0	1	36m2	36m2
Culture Rafts *Must also complete table below*	Deepwater Suspended Culture	0	0	25	3,200m2	3,200m2
Nursery Floating Upweller System (FLUPSY)	Floating Surface Culture					
Longlines *Must also complete table below*	Intertidal					
	Deepwater Suspended Culture					
	Floating Surface Culture					
Predator Netting	Intertidal					
	Subtidal					
Predator Protection Tubes	Intertidal					
	Subtidal					
Rack and Bag	Intertidal					
Retention Fencing	Intertidal					
Remote Setting Equipment	Intertidal					

Proposed Ancillary and Navigational Structures:

INFRASTRUCTURE	DESCRIPTION
Site Marking	
Navigational Markers	3- Navigation Buoy Markers
Anchor blocks	7-1000 kg Concrete Anchor Blocks 5- Shore pins
Other Structures:	5- Flotation Buoy 9-3/4" Anchor Chain up to 20 meters in Length
Other Structures:	5-Polysteel rope up to 80m in length, utilized as a connection line for culture rafts

EXAMPLE 1 Alternate Layout Plan – Infrastructure Table with TC Zone Map – Option B

Complete the table below for all currently authorized and proposed infrastructure. Refer to your most recent approved Management Plan for details on currently authorized infrastructure at the site.

Alternate Layout Plan-Option B

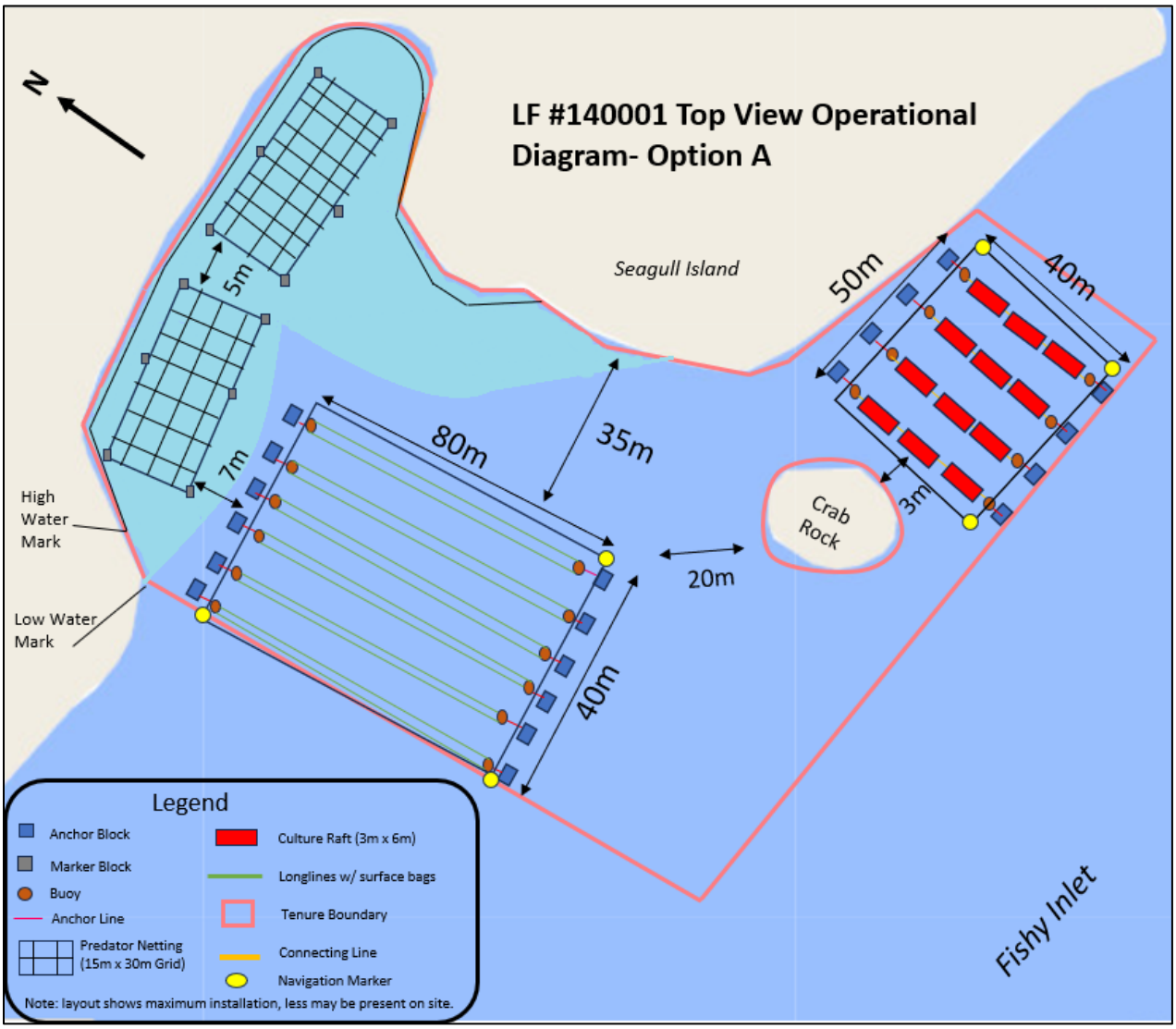
Note: If applying for a new site, mark "Currently Licensed" columns as N/A. All structures noted on the top and side view diagrams must match the information contained in the Infrastructure Information table.

INFRASTRUCTURE	CULTURE TYPE	CURRENTLY LICENSED (# of pieces)	CURRENTLY LICENSED AREA (m^2)	PROPOSED CHANGE (listed as # of pieces)	PROPOSED CHANGE (listed in AREA (m^2))	TOTAL AREA (m^2) OF INFRA-STRUCTURE(s)
Living Accommodation (Deep Water only)	N/A					
Work Float - with a toilet (Deep Water only)	N/A					
Work Float(s) - no toilet (Deep Water only)	N/A	0	0	1	36m2	36m2
Culture Rafts *Must also complete table below*	Deepwater Suspended Culture	0	0	30	3,200m2	3,200m2
Nursery Floating Upweller System (FLUPSY)	Floating Surface Culture					
Longlines *Must also complete table below*	Intertidal					
	Deepwater Suspended Culture					
	Floating Surface Culture					
Predator Netting	Intertidal					
	Subtidal					
Predator Protection Tubes	Intertidal					
	Subtidal					
Rack and Bag	Intertidal					
Retention Fencing	Intertidal					
Remote Setting Equipment	Intertidal					

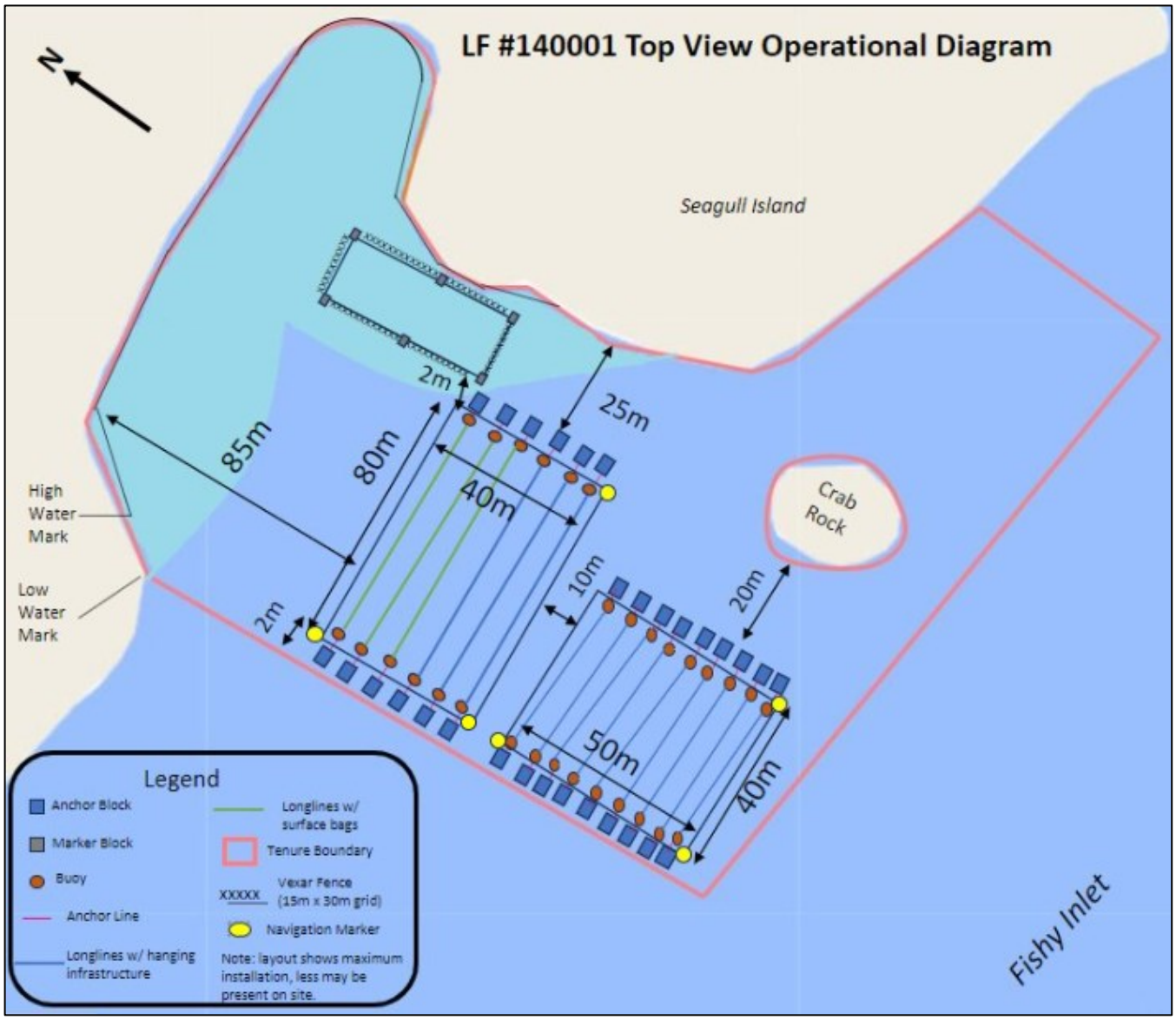
Proposed Ancillary and Navigational Structures:

INFRASTRUCTURE	DESCRIPTION
Site Marking	
Navigational Markers	3- Navigation Buoy Markers
Anchor blocks	22-1000 kg Concrete Anchor Blocks
Other Structures:	20- Flotation Buoy 24-3/4" Anchor Chain up to 20 meters in Length
Other Structures:	10-Polysteel rope up to 80m in length, utilized as a connection line for culture rafts

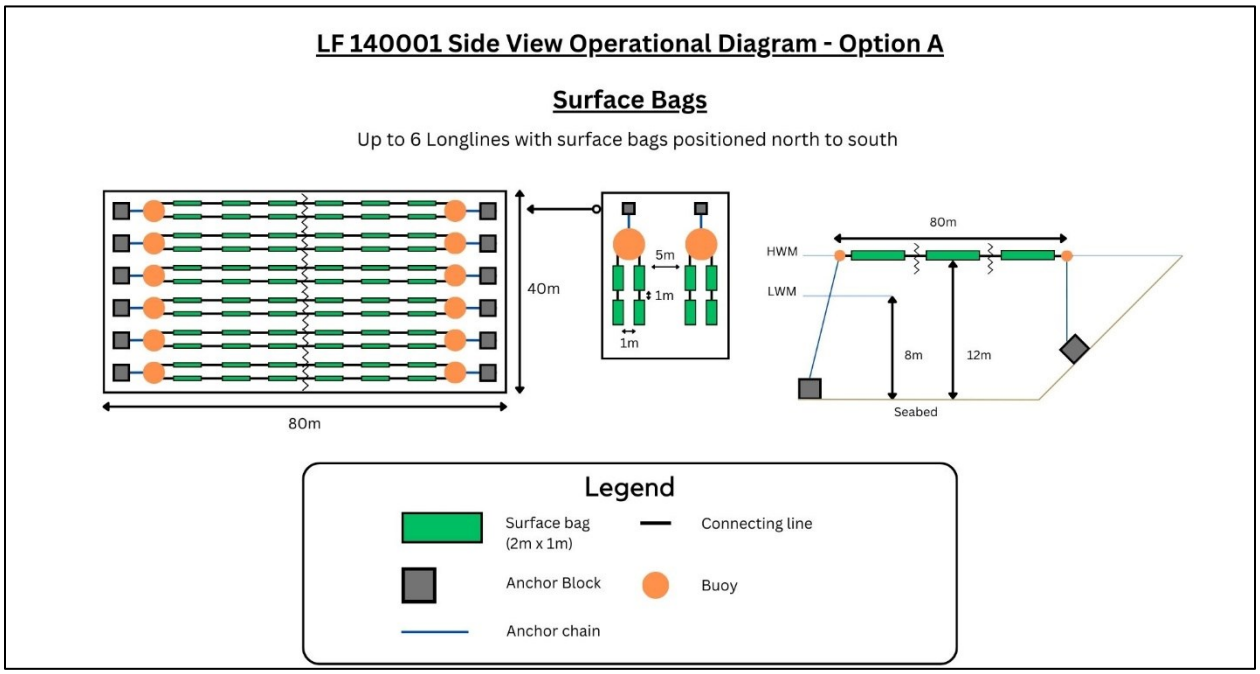
EXAMPLE 2 - Alternate Layout Plan - Top View with no TC Zone Map – Option A

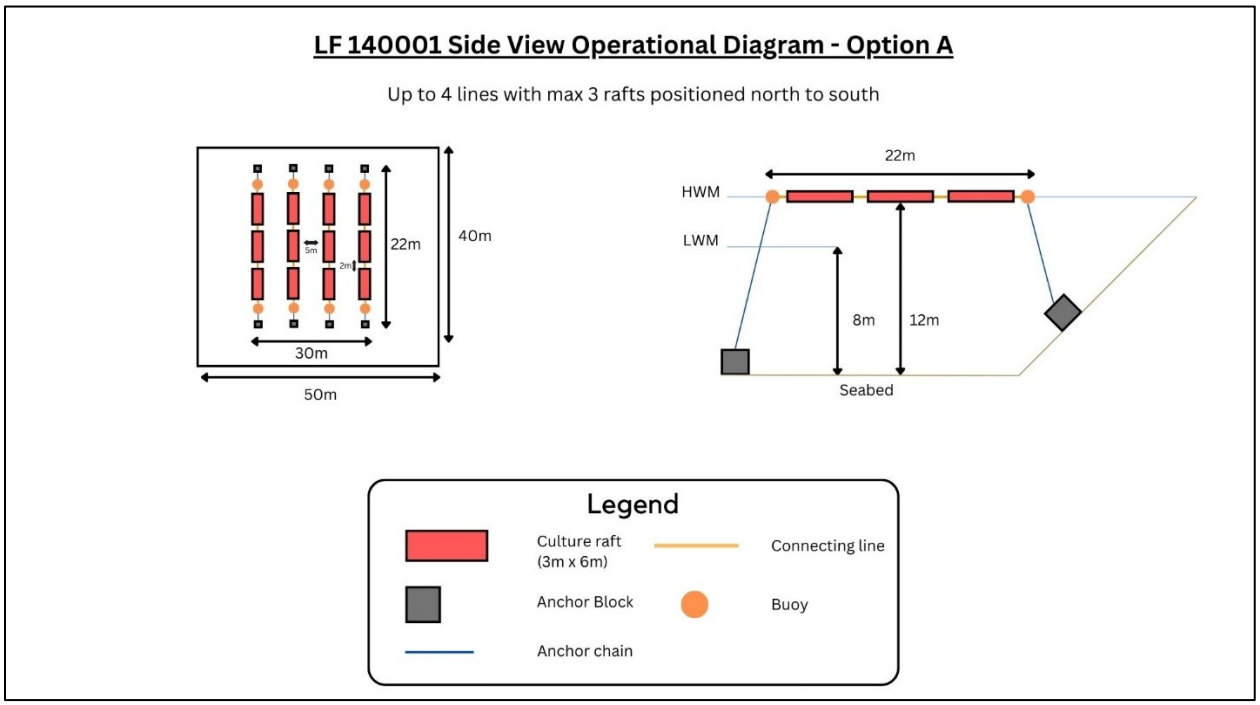


EXAMPLE 2 - Alternate Layout Plan - Top View with no TC Zone Map – Option B

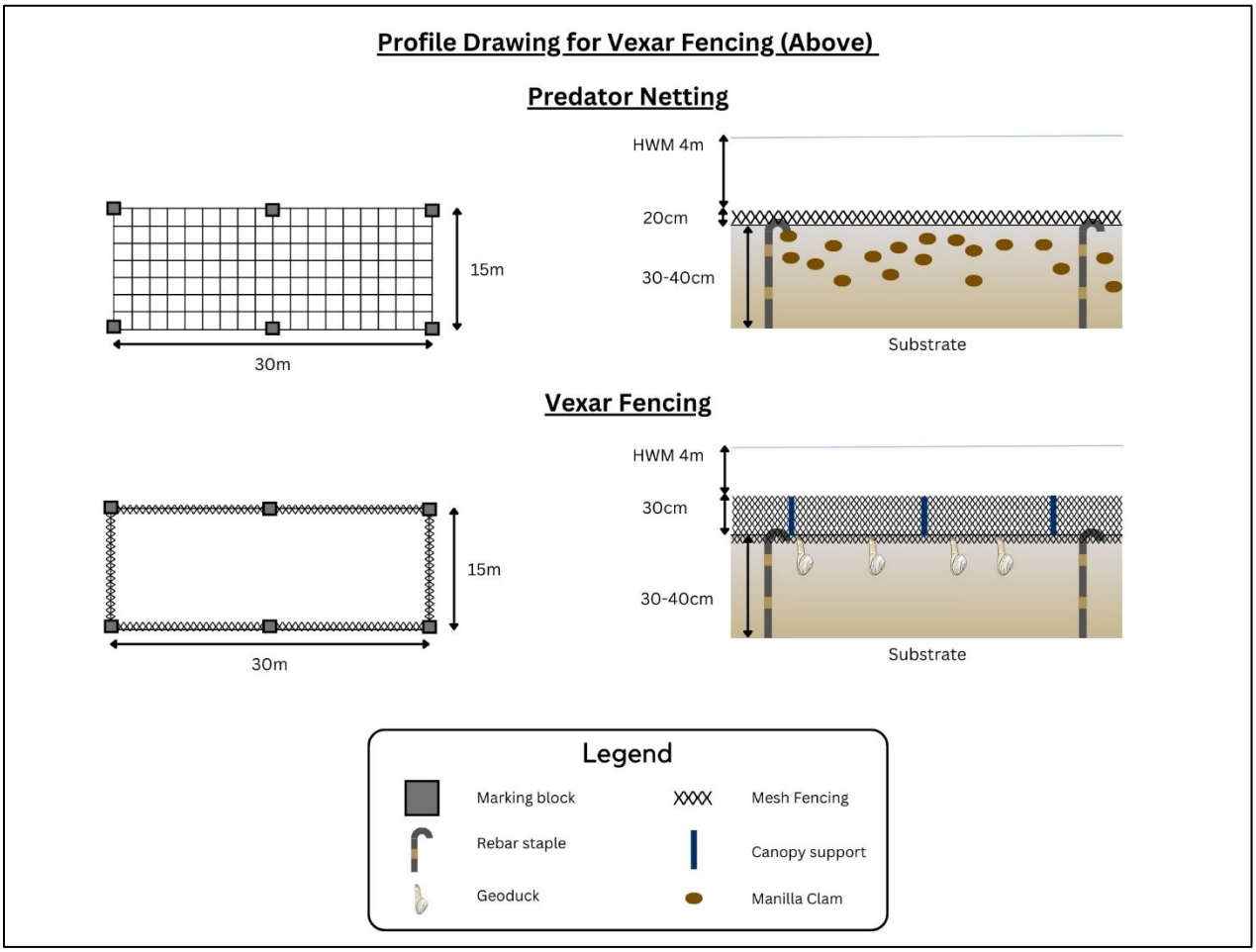


EXAMPLE 2 - Alternate Layout Plan – Side View with no TC Zone Map – Option A

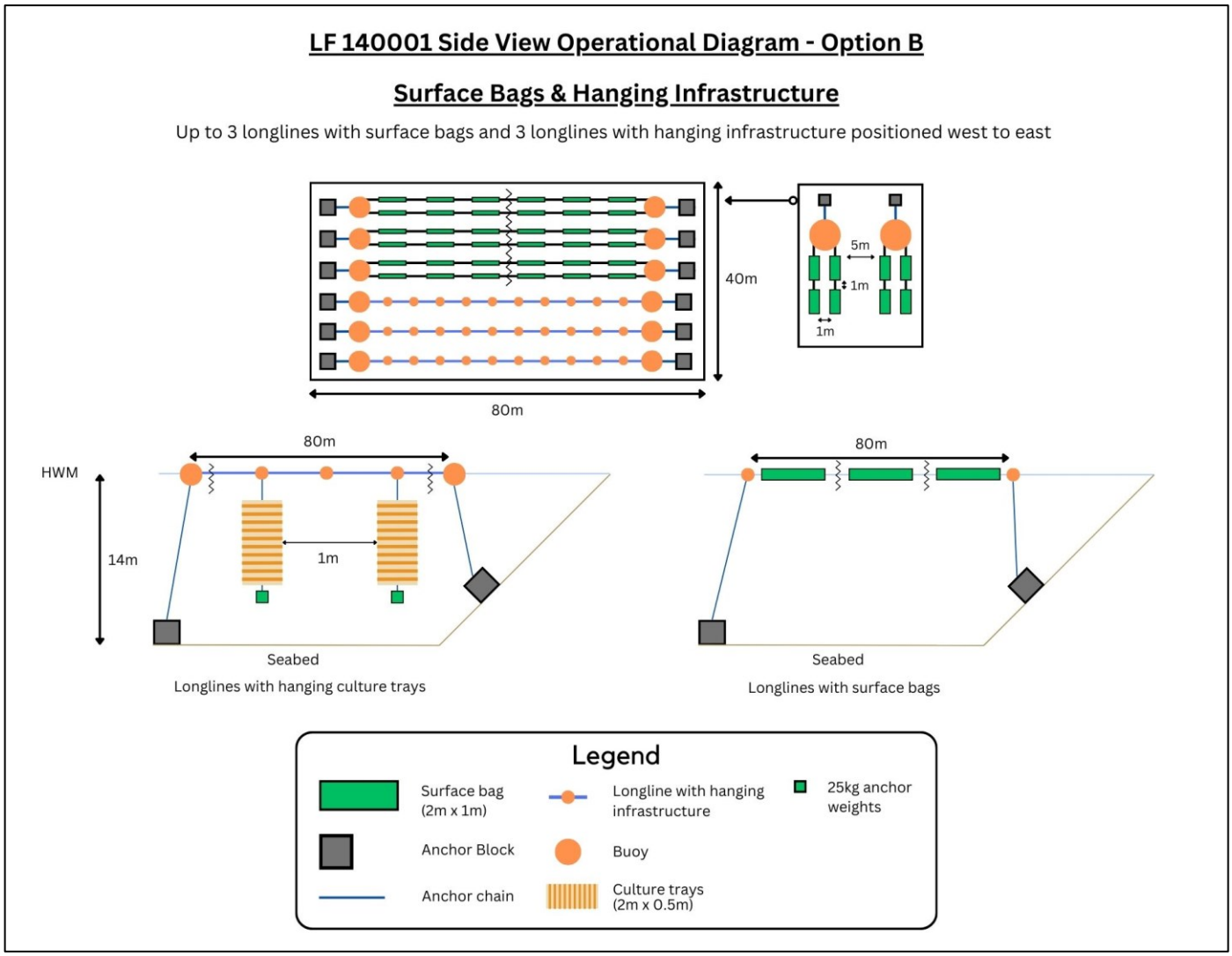




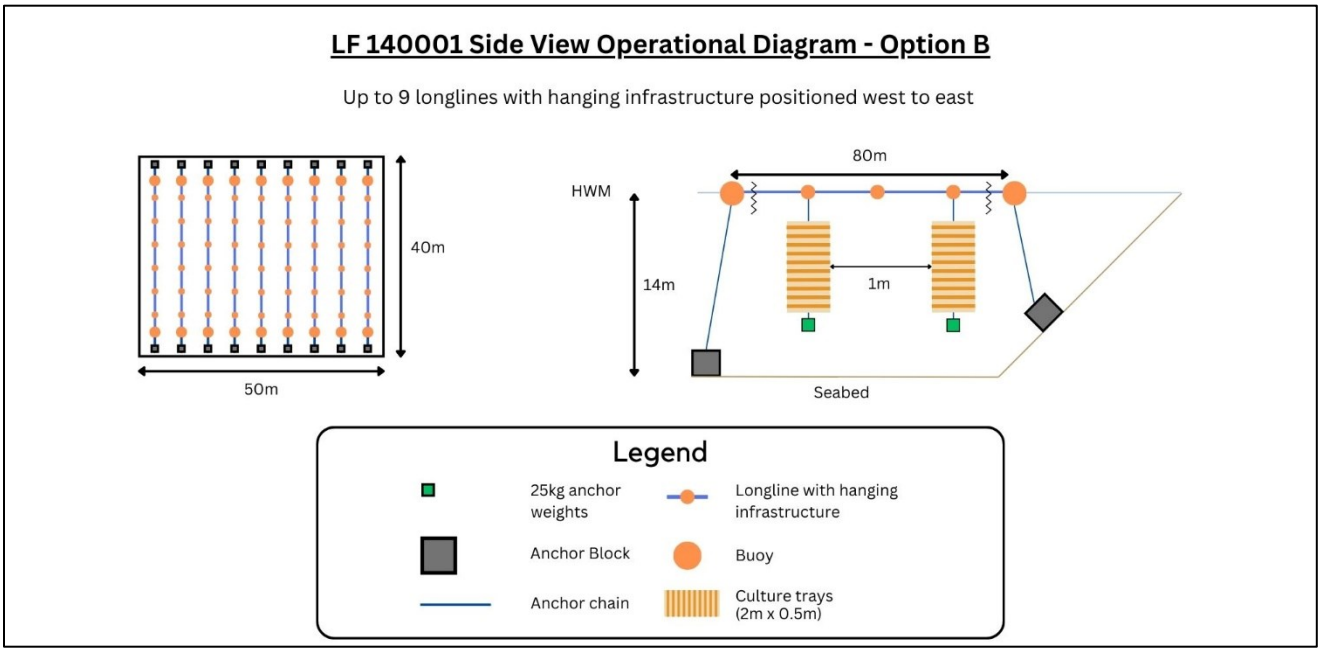
EXAMPLE 2 - Side View Option A continued

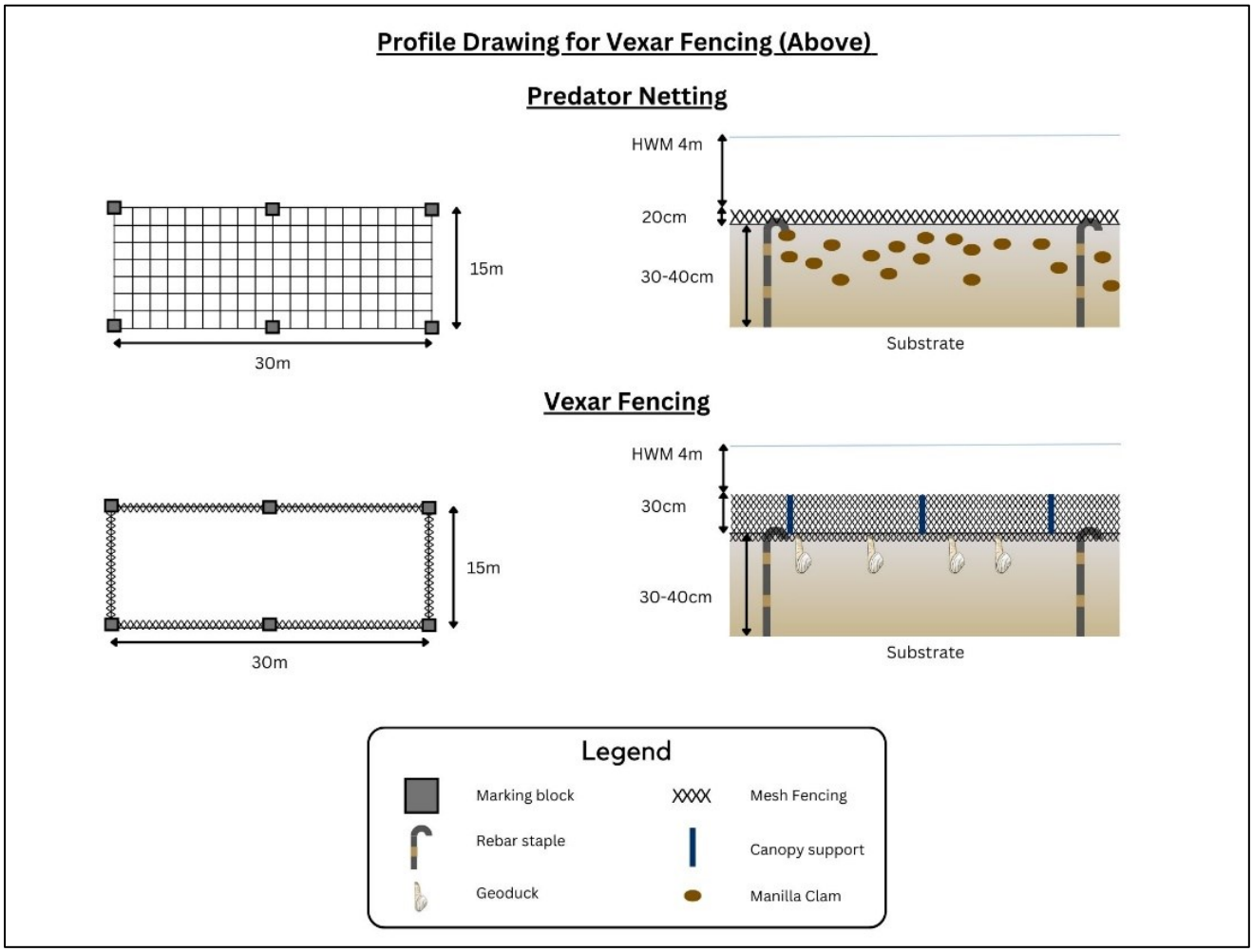


EXAMPLE 2 - Alternate Layout Plan – Side View with no TC Zone Map – Option B



EXAMPLE 2 - Side View Option B continued





EXAMPLE 2 Alternate Layout Plan – Infrastructure Table with no TC Zone Map – Option A

Complete the table below for all currently authorized and proposed infrastructure. Refer to your most recent approved Management Plan for details on currently authorized infrastructure at the site.

Alternate Layout Plan-Option A

Note: If applying for a new site, mark "Currently Licensed" columns as N/A. All structures noted on the top and side view diagrams must match the information contained in the Infrastructure Information table.

INFRASTRUCTURE	CULTURE TYPE	CURRENTLY LICENSED (# of pieces)	CURRENTLY LICENSED AREA (m²)	PROPOSED CHANGE (listed as # of pieces)	PROPOSED CHANGE (listed in AREA (m²))	TOTAL AREA (m²) OF INFRA-STRUCTURE(s)
Living Accommodation (Deep Water only)	N/A					
Work Float - with a toilet (Deep Water only)	N/A					
Work Float(s) - no toilet (Deep Water only)	N/A					
Culture Rafts *Must also complete table below*	Deepwater Suspended Culture	0	0	12	2,000m2	2,000m2
Nursery Floating Upweller System (FLUPSY)	Floating Surface Culture					
Longlines *Must also complete table below*	Intertidal					
	Deepwater Suspended Culture					
	Floating Surface Culture	0	0	12	3,200m2	3,200m2
Predator Netting	Intertidal	0	0	2	1,600m2	1,600m2
	Subtidal					
Predator Protection Tubes	Intertidal					
	Subtidal					
Rack and Bag	Intertidal					
Retention Fencing	Intertidal					
Remote Setting Equipment	Intertidal					

ADDITIONAL INFRASTRUCTURE INFORMATION IF APPLYING FOR CULTURE RAFTS OR LONGLINES:

INFRASTRUCTURE	ACKNOWLEDGEMENT	ADDITIONAL REQUIREMENTS:
Floating Surface Culture Gear is infrastructure attached to longlines and are intended to float on or near the surface. This gear may include but is not limited to floating bags or pouches, flip flop systems etc.	Yes☒ - I have read the additional requirements for Floating Surface Culture Gear.	*Please include all types of Floating Surface Culture gear in Harmonized Debris Management Plan and on both the Top View and Side View diagrams.* *If considering Floating Surface Culture Gear, contact* **DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca** *and further information may be required.*
Standard Deepwater Suspended Culture Gear is infrastructure attached under longlines or rafts and is intended to be hanging, suspended in the water column. This gear may include but is not limited to lantern nets, culture trays etc.	Yes - I have read the additional requirements for Standard Deepwater Suspended Culture Gear.	*Please include all types of suspended gear in Harmonized Debris Management Plan and on Side View diagrams.*

Proposed Ancillary and Navigational Structures:

INFRASTRUCTURE	DESCRIPTION
Site Marking	12-Concrete marking blocks for intertidal predator netting
Navigational Markers	6- Navigation Buoy Markers
Anchor blocks	20-1000 kg Concrete Anchor Blocks
Other Structures:	20- Flotation Buoy 24-3/4" Anchor Chain up to 20 meters in Length
Other Structures:	4-Polysteel rope up to 0m in length, utilized as a connection line for culture rafts

EXAMPLE 2 Alternate Layout Plan – Infrastructure Table with no TC Zone Map – Option B

Complete the table below for all currently authorized and proposed infrastructure. Refer to your most recent approved Management Plan for details on currently authorized infrastructure at the site.

Alternate Layout Plan-Option B

Note: If applying for a new site, mark "Currently Licensed" columns as N/A. All structures noted on the top and side view diagrams must match the information contained in the Infrastructure Information table.

INFRASTRUCTURE	CULTURE TYPE	CURRENTLY LICENSED (# of pieces)	CURRENTLY LICENSED AREA (m²)	PROPOSED CHANGE (listed as # of pieces)	PROPOSED CHANGE (listed in AREA (m²))	TOTAL AREA (m²) OF INFRA-STRUCTURE(s)
Living Accommodation (Deep Water only)	N/A					
Work Float - with a toilet (Deep Water only)	N/A					
Work Float(s) - no toilet (Deep Water only)	N/A					
Culture Rafts *Must also complete table below*	Deepwater Suspended Culture					
Nursery Floating Upweller System (FLUPSY)	Floating Surface Culture					
Longlines *Must also complete table below*	Intertidal					
	Deepwater Suspended Culture	0	0	9	3,200m2	3,200m2
	Floating Surface Culture	0	0	3	2,000m2	2,000m2
Predator Netting	Intertidal					
	Subtidal					
Predator Protection Tubes	Intertidal					
	Subtidal					
Rack and Bag	Intertidal					
Retention Fencing	Intertidal	0	0	1	1,600m2	1,600m2
Remote Setting Equipment	Intertidal					

ADDITIONAL INFRASTRUCTURE INFORMATION IF APPLYING FOR CULTURE RAFTS OR LONGLINES:

INFRASTRUCTURE	ACKNOWLEDGEMENT	ADDITIONAL REQUIREMENTS:
Floating Surface Culture Gear is infrastructure attached to longlines and are intended to float on or near the surface. This gear may include but is not limited to floating bags or pouches, flip flop systems etc.	Yes☒ - I have read the additional requirements for Floating Surface Culture Gear.	*Please include all types of Floating Surface Culture gear in Harmonized Debris Management Plan and on both the Top View and Side View diagrams.* *If considering Floating Surface Culture Gear, contact* **DFO.PACCSSP-PCAMPAC.MPO@dfo-mpo.gc.ca** *and further information may be required.*
Standard Deepwater Suspended Culture Gear is infrastructure attached under longlines or rafts and is intended to be hanging, suspended in the water column. This gear may include but is not limited to lantern nets, culture trays etc.	Yes☒ - I have read the additional requirements for Standard Deepwater Suspended Culture Gear.	*Please include all types of suspended gear in Harmonized Debris Management Plan and on Side View diagrams.*

Proposed Ancillary and Navigational Structures:

INFRASTRUCTURE	DESCRIPTION
Site Marking	6-Concrete marking blocks for intertidal vexar fence
Navigational Markers	6- Navigation Buoy Markers
Anchor blocks	32-1000 kg Concrete Anchor Blocks 100-25kg anchor weights
Other Structures:	32- Flotation Buoy 32-3/4" Anchor Chain up to 20 meters in Length
Other Structures:	

APPENDIX 3 – GUIDANCE INFORMATION FOR COMPLETING DFO FISH AND FISH HABITAT ASSESSMENTS

F8 - INTRODUCTION AND OVERVIEW OF FISH AND FISH HABITAT ASSESSMENTS

The information enclosed below is intended to assist applicants in completing the DFO Fish and Fish Habitat Assessment Report section of the Harmonized Shellfish, Aquatic Plant, or Co-Culture Aquaculture Application.

Any application for a new shellfish aquaculture facility, or amendment to expand an existing shellfish or co-culture facility, will require a complete Fish and Fish Habitat Assessment Report be submitted. Depending on the siting of an aquatic plant only application, further DFO project review may be required, and the applicant may be asked to provide a complete Fish and Fish Habitat Assessment Report.

As per Section 63 (2) of the *Fisheries Act*, it is a serious offense to make a false or misleading statement, whether orally or in writing, in an application for a licence under this Act. Those found making false or misleading statements in an application may have their application rejected and they may be prosecuted.

This guidance document is divided into 2 parts:

SECTION 1: SITING Selecting an appropriate location (site) for shellfish aquaculture is important. This section is aimed at helping applicants understand how DFO reviews risks and to assist applicants in choosing sites that are low risk for negative impacts to important/sensitive habitats, and species of concern. A list of resources is included to help applicants understand and identify lower risk facility siting.

SECTION 2: GUIDE TO COMPLETING FISH AND FISH HABITAT ASSESSMENTS This section is intended to support applicants in the assessment of their proposed facility area. Applicants must conduct a fish and fish habitat survey to ensure they can accurately provide the information needed for DFO to complete their review.

SECTION 1: SITING

When choosing a potential area for shellfish aquaculture, it is important to understand how DFO assesses risk to fish and fish habitat when reviewing a shellfish aquaculture application. The table below outlines how DFO generally assesses risk. DFO encourages applicants to select locations and activities that are at a low risk of harmful impacts to fish and fish habitat.

Applications falling in the low-risk category will generally have less onerous requirements, and applications in the higher-risk categories may be rejected or subject to significant changes and additional requirements. Applications are reviewed on a case-by-case, and site-by-site basis. Numerous decisions making factors, including site specific issues which may not be reflected in this general summary table are taken into account. All applications are audited for accuracy and truthfulness.

Shellfish Aquaculture Risk Assessment for Negative Impacts to Fish and Fish Habitat Summary

LOW RISK	MEDIUM RISK	HIGH RISK
• Site and associated activities do not conflict with species protected under the *Species At Risks Act* (SARA), their recovery strategies, Action Plans, or critical habitats; and/or • Installations and activities are low risk for harmful impacts to fish and fish habitat; and • There is clear and demonstrated avoidance of important and sensitive habitats. Assessment requirements: Applicant conducted baseline survey. Use of a Qualified Environmental Professional (QEP) may not be needed if the applicant can follow the guidebook and has appropriate tools or expertise for the type of surveying needed.	• Site and associated activities may overlap with species protected under the Species At Risks Act (SARA), their recovery strategies, Action Plans, or critical habitats; and • Small scale interactions or overlap with important or sensitive habitat(s) is likely; and • Avoidance and mitigation of harmful impacts to fish and fish habitat likely possible through some additional measures. Assessment requirements: Applicant conducted baseline proposed facility survey. Additional QEP assistance may be needed, on a case-by-case basis, to ensure proper facility siting and plans.	• Infrastructure installations and activities are at higher risk of impacts to species protected under the Species At Risks Act (SARA), their recovery strategies, Action Plans, or critical habitats; and/or • Significant harmful impacts to fish and fish habitat are likely; and • Avoidance and mitigation of harmful impacts is not possible or has not been demonstrated. Assessment requirements: Applicant provided QEP conducted baseline survey and impact assessment required, with no guarantee of application approval.
Likely Departmental Actions to manage risk: Existing conditions of licence (COL), if adhered to, should ensure the risk of harmful effects to fish and fish habitat remains low.	Likely Departmental Actions to manage risk: Existing conditions of licence (COL), plus possible site-specific condition(s) of licence (SSCOL). Prescribed environmental monitoring and/or facility re-design may be needed to ensure an acceptable low level of residual risk of harmful effects to fish and fish habitat.	Likely Departmental Actions to manage risk: Reject application if QEP can not outline an acceptable plan to significantly lower the residual risks of harmful effects to fish and fish habitat.

Low Risk Activities and Low Risk Siting

- If considering applying to acquire an existing or previously farmed facility, you should conduct a thorough pre-transfer inspection before accepting responsibility. Any items of facility non-compliance or required site clean-up become the responsibility of the new authorization holder.
- To help keep the risk of negative impacts to fish and fish habitat as low as possible, choose a proposed facility area which is devoid and well clear of any important or sensitive habitats. Well clear generally means greater than 50m from the nearest important and sensitive habitat, however reasonable buffer distances will vary depending on the type of habitat (e.g. intertidal stream channels may need a larger buffer due to probable movement of channels over time). Refer to the Avoidance of Important and Sensitive Habitat section for more information.
- Choose facility/tenure area of a manageable size that reasonably aligns with your farming plans, considering that, as a minimum, the whole proposed area must be surveyed.

For Intertidal areas, consider choosing areas:

- Away from intertidal streams and fish bearing estuaries as these often includes a fan of sensitive area radiating outward along the beach. Stream channels can move both seasonally and over greater periods of time. Consult a professional if you are unsure if your proposed area would be impacted by moving stream channels in the future.
- Well clear of any eelgrass, as eelgrass is known to move around over time.
- Which can be accessed in a manner that would not impact sensitive habitat, including salt marsh, eelgrass, estuary, or other important habitats.
- With sufficient protection from storms and other heavy weather conditions so that shellfish products and equipment can be properly contained.

For Deepwater areas, consider choosing areas:

- Away from rocky or other highly productive habitats. Locations with softer substrate types (e.g. mud and sand), void of glass sponge complexes, kelp beds, rocky reef/boulder habitat, or other important and sensitive habitats, represent the lowest risk.
- Within the depths of 10-40m to:
    - Stay deeper than the 0-10m depth contour area, which is typically a bio-productive zone sensitive to impacts from human activities, and where the SARA-listed Northern Abalone is most likely to be found.
    - Stay at depths that can reasonably be surveyed and from which lost or errant aquaculture debris and/or equipment can more easily be retrieved.

Avoidance of Important and Sensitive Habitat

Unique habitats that are necessary to support a viable population of fish and other species are often sensitive to negative impacts and should be protected from negative impacts wherever possible. The following is a list of some types of important and sensitive habitats. This is not an exhaustive list, and some coastal areas may have different types of important habitats not mentioned here. Consult a qualified environmental professional (QEP) if you have any questions about the types of habitats located at a proposed facility site of interest. More information on important and sensitive habitats may be found in the glossary.

Example Images of Sensitive Habitat and Vegetation

The following are representative images of some types of types of sensitive habitats and species of concern:

Vegetation / Habitat Type	Representative Photos
Intertidal Stream Channels	

Eelgrass habitat (*Zostera marina*)	a) Eelgrass (*Zostera marina*) submerged b) Eelgrass (*Zostera marina)* unsubmerged
Salt marsh habitat	a) Salt Marsh b) Pacific pickleweed (*Salicornia pacifica*) c) Sea plantain (*Plantago maritima*) d) Prairie plantain (*Plantago elongate)*

Kelp Habitats: can be near-bottom, or canopy forming.	
Sponge and Coral habitats	
Rocky habitat	

SECTION 2: GUIDE TO COMPLETING FISH AND FISH HABITAT ASSESSMENTS

In order to provide a detailed description of all the fish and fish habitat characteristics within your facility area (i.e. the full tenure/area of application), you must complete a site survey. Here is guidance on how to conduct a site survey for both intertidal and deepwater/subtidal locations.

Guidance Information for Intertidal Surveys

The intertidal zone is defined as the area of shoreline between the highest high tide and the lowest low tide.

Habitat inventories should preferentially be conducted during the more productive spring and summer months, if possible. During this period, sensitive eelgrass, kelp, and salt marsh species are more easily identifiable. Proponents are responsible for identifying whether their location contains certain characteristics at any point in the year, even if it is surveyed in a season when this species is not generally visible.

Important to note: The following survey methods are suggested based on commonly used practices, however applicants can use other approaches, provided they are scientifically defensible methodologies and techniques used for inventorying fish and fish habitat.

SURVEY AREA - INTERTIDAL

- Surveys should occur by foot (i.e. walking), during lower daytime tides such that all overlapping intertidal zones and areas of the proposed facility are assessed and documented. The lowest normal tide (0.0 m), or chart datum, should be used as the reference point for the measurement of tidal height and water depth. Tidal height can be estimated using the closest reference port found in the Canadian Tide and Current Tables.
- The use of drones can be used to supplement foot transects.
- Surveys should be conducted via transects running perpendicular to shore such that all intertidal zones are surveyed. Transects should begin at the highest water mark and, at a minimum, extend to the lower boundaries of the proposed facility.
- Transects should be spaced approximately 25-50m apart.
- The edges and full area of important/sensitive habitats must be mapped.
- Transects should be individually numbered for ease of reference.
- Transects must be shown on a habitat map.

WATERBODY CHARACTERIZATION - INTERTIDAL

- Identify sources of any freshwater influences in and around the proposed facility area (e.g., estuaries, rivers, streams, braided stream channels, etc.). All freshwater influences within 300m of the proposed facility area need to be included in the survey report.
- Identify any surface-visible important and sensitive habitat types (e.g. eelgrass beds, salt marsh, etc.) within 300m of the proposed facility.

PHOTOGRAHPIC DOCUMENTATION - INTERTIDAL

- It is important to produce a photographic (and/or videographic) record along the transects. Photos and videos provide time-stamped records of fish habitat at the proposed site and can be invaluable for site monitoring as baseline data prior to aquaculture operations.
- For intertidal surveys, photos should be taken at the lowest tide needed to survey the entire proposed facility, when visibility is good.
- Photos should be taken every 20m along a transect, or at significant changes in habitat type.
- Photos should be labelled in reference to their location along the transect line, or georeferenced with a latitude and longitude.
- Photos must be colour and must be high definition and high resolution.
- Photos must clearly show the characteristic being documented.
- Video footage, if taken, should be referenced with pertinent information (e.g., time, date, location, depth, heading, etc.).

RECORDING OBSERVATIONS – INTERTIDAL

- Observations should be recorded every 20m along the transect or at significant changes in habitat type.
- Observations should include substrate type and composition, presence and relative abundance of marine animals and vegetation, and any other notable features (e.g. industrial debris). An example summary table is provided below for reference.
- Marine animals and vegetation should be identified to the species level, if possible. You can refer to online/print species guidebooks or a QEP for help with identification of marine life. Example summary tables are provided below for reference.
- Observations should be georeferenced. This can be done by correlating the observation to the transect distance from the highest high water mark (HHWM), or by recording the location of an observation using a spatial referencing device (e.g. GPS).
- Drone footage or high resolution satellite imagery can be used to support foot surveys.

SUBSTRATE CHARACTERIZATION - INTERTIDAL

- Compile your transect data.
- Describe the types of substrates and their relative abundances across the proposed facility area.
- Substrate types can be defined by the following size class categories and recorded cumulatively as covering a percentage of the facility area out of a total of 100%. Percentage estimates should be rounded to the nearest 5% (e.g. boulder 15%; cobble 30%; sand 55%).
- Add your transect data to your habitat map. See below section on habitat maps for more information.

Substrate Category	% coverage of proposed facility	General Category
Boulder		Gravel/Rock
Cobble		
Pebble		
Sand		Sand
Mud		Mud
Shell (coarse)		Other
Organic debris		
Wood debris		

MARINE VEGETATION AND SENSITIVE HABITAT CHARACTERIZATION - INTERTIDAL

- Compile your transect data.
- Identify the prevalent types of aquatic and riparian vegetation (e.g. eelgrass, kelps and algae, salt marsh, grasses and shrubs, etc.).
- Vegetation observations are recorded as a percent coverage of the facility, rounded to the nearest 5% (e.g. 5% eelgrass, 10% salt marsh).
- Add your transect data to your habitat map. See below section on habitat maps for more information.

Vegetation and Sensitive Habitat Category	% coverage of proposed facility	Comments
Grasses		
Shrubs		
Salt Marsh		
Aquatic Plant		
Eelgrass		
Kelps		
Other Macroalgae (i.e., aquatic plants, seaweeds)		

MARINE ANIMALS, FISH, AND OTHER SPECIES OF INTEREST - INTERTIDAL

- Identify any notable marine animal, fish species, species of conservation concern, and any other species of interest in the area.
- These can be individually counted along the transect, or, where too numerous, their percentage cover can be estimated based on results of the transects.

Species	# of individuals and/or % coverage of proposed facility	Comments
e.g. intertidal clams (various species)	*30%*	*Varnish, Manilla, Littlenecks observed*
e.g. Plainfin Midshipman	*2 individuals*	*Visible in the muddy substrate along transects #2 and #3.*

DEBRIS, INFRASTRUCTURE, AND SUBSTRATE MODIFICATION - INTERTIDAL

- Provide a summary of any debris (i.e. garbage, refuse, industrial materials), substrate modifications, or infrastructure (e.g. anchor blocks, pilings, shore pins, etc.) observed on the proposed area. Provide information on the type of item and its location.
- Add this data to your habitat map(s). See below section on habitat maps for more information.

Type of debris, modification or infrastructure	# of pieces of debris/ Infrastructure, area of modification	Comments
e.g. rock wall	*5m long rock wall*	*Along transect #1*
e.g. small dingy	*1*	*Breaking apart dingy, no engine, on the foreshore*
e.g. plastic barrel	*1*	*Blue barrel, partially in the mud, found along transect # 2*

ADJACENT HABITAT FEATURES - INTERTIDAL

- In addition to the facility area surveying requirements, identify:
- Sources of any freshwater influences (e.g. nearby estuaries, rivers, streams, braided stream channels, etc.) within 300m of the proposed facility area.
- Any surface-visible important and sensitive habitat types (e.g. kelp beds, marine mammal haul outs, etc.) within 300m of the proposed facility.
- Include any presence of adjacent freshwater influences and important/sensitive habitat on your habitat map(s).

Habitat Category	Location	Comments
e.g. Estuary	*@50° 2'59.86"N 125°15'26.78"W; 250m N of the proposed facility*	*"Township Creek", a salmon bearing stream*

HABITAT MAP - INTERTIDAL

- Create an intertidal habitat map to show the locations of different types of vegetation, substrate, important/sensitive habitat areas, and other notable features in relation to the proposed facility. Create more than one map if needed. See below section on habitat mapping for more information.

Guidance Information For Deepwater Suspended Surveys

When conducting deeper water surveys, consideration should be given to both water clarity and the best timing windows to observe any important or sensitive aquatic plant species. It may be most preferable to survey during clear water times of the year to ensure maximum visibility to lessen the need for densely arranged transects. Colder months, such as late fall through winter are typically the clearest months for surveying deeper areas (>10m depth). However it is worth noting that it may be desirable, based on location or any desktop information available, to survey any shallower areas in and around the 0-10m depth contour during the more productive spring and summer months, if possible. During this period, sensitive aquatic plant species are more easily identifiable.

Important to note: The following survey methods are suggested based on commonly used practices, however applicants can use other approaches, provided they are scientifically defensible methodologies and techniques used for inventorying fish and fish habitat.

SURVEY AREA – DEEPWATER-SUSPENDED

- Surveys can be conducted a number of ways, including but not limited to:
  - Surface deployed drop-camera;
  - Tow camera;
  - Hand-held diver operated video camera; and/or
  - Remotely operated vehicle (ROV).
- Depths and currents at your facility will factor into what type of surveying equipment you require. You must consider the following:
  - All sections and depths of the facility require surveying.
  - If you require assistance, you should contract the services of a qualified subtidal surveyor, such as a commercial dive, ROV, or drop camera surveyor.
- Surveys should be conducted via transects running perpendicular to shore, where practical.
- Transects should be spaced 25m-50m apart. Transects should be closer together if there are visibility limitations or if there are important habitats present.
- The edges and full area of important/sensitive habitats must be mapped.
- Transects should be individually numbered and recorded, with their starting point referenced to benchmarks, where possible.

WATERBODY CHARACTERIZATION – DEEPWATER-SUSPENDED

- Identify the bathymetry.
- Supply a clearly visible map or chart of appropriate scale and showing:
  - The proposed tenure boundary.
  - Clearly visible depth contour lines (e.g. by 5m contours).
  - Data source used for the chart data.
  - Orientation (e.g. North up).
  - Scale.
  - Legend if applicable.

VIDEO RECORDING – DEEPWATER-SUSPENDED

- Video should be taken of surveys.
- Prior to submersion, the following should be recorded at the start of each station:
  - A placard containing relevant video station details (date, time, coordinates, lease number, and station ID).
  - A GPS displaying the coordinates (or GPS coordinates overlayed on the recorded video), and
  - A 360-degree panorama of the water surface view.
- The video should include continuous footage of the camera's initial descent, impact with the seafloor, hovering over seafloor area, ascent, and retrieval on deck.
- The camera should be high-definition and be close enough to the seafloor to record observations of sediment type, vegetation, and fauna.
- The camera should be positioned in a manner vertically above the seafloor and operated at an appropriate speed (e.g. 1.5 knots) so that video image quality and lighting is sufficient to recognize and identify substrate type, any marine vegetation and fauna, and other habitat features. Camera mounted lighting may be needed to satisfy the survey requirements.
- Note: if video imagery cannot be obtained for the entire length of the transect due to technical or environmental reasons, single point video recordings may be collected at stations along the length of the transect.
- Applicants are advised to refer to a QEP for guidance on habitat survey and video recordings, if needed.

RECORDING OBSERVATIONS – DEEPWATER-SUSPENDED

- Observations should be recorded every 20m along the transect or at significant changes in habitat type. Areas of important and sensitive habitat must be fully mapped/recorded.
- Observations should include substrate type and composition, presence and relative abundance of marine animals and vegetation, and any other notable features (e.g., debris accumulations, derelict gear, etc.). Use the format/tables described below for each of these parameters.
- Marine animals and vegetation should be identified to the species level, if possible. You can refer to online/print guidebooks or a QEP for help with identification of marine life.
- Observations should be georeferenced. In the absence of active georeferencing, the spatial extent of video segments can be calculated by extrapolating the distance travelled (by a diver, ROV, or vessel-deployed drop camera) from the elapsed time on the video at the current diver/ROV/ vessel's speed over ground.

SUBSTRATE CHARACTERIZATION – DEEPWATER-SUSPENDED

- Compile your transect data.
- Describe the types of substrates and their relative abundances across the facility.
- Substrate types can be defined by the following size class categories and recorded cumulatively as a percentage out of a total of 100%. Percentage estimates should be rounded to the nearest 5% (e.g. boulder 15%; cobble 30%; sand 55%).
- Add your transect data to your habitat map. See below section on habitat maps for more information.

Substrate Category	% coverage of proposed facility	General Category
Boulder		Gravel/Rock
Cobble		
Pebble		
Sand		Sand
Mud		Mud
Shell (coarse)		Other
Organic debris		
Wood debris		

MARINE VEGETATION AND SENSITIVE HABITAT CHARACTERIZATION – DEEPWATER-SUSPENDED

- Compile your transect data.
- Identify the prevalent types of aquatic and riparian vegetation, and any important/sensitive habitats (e.g. eelgrass, kelps and algae, rocky reef, etc.).
- Vegetation observations are recorded as a percent coverage within the facility and rounded to the nearest 5% (e.g. 10% bottom kelps/algae).

Vegetation and Sensitive Habitat Category	% coverage of proposed facility	Comments
e.g. near-bottom kelp	*5%*	*Noted along transect #5*
e.g. canopy forming kelp	*5%*	*Noted along transect # 7*
e.g. rocky/boulder habitat	*15%*	*Nearshore on transect #7 and # 8*

MARINE ANIMALS, FISH, AND OTHER SPECIES OF INTEREST – DEEPWATER-SUSPENDED

- Identify any notable marine animal, fish species, species of conservation concern, and any other species of interest in the area.
- These can be individually counted along the transect, or, where too numerous, their percentage cover can be estimated based on results of the transects.

Species	# of individuals and/or % coverage of proposed facility	Comments
e.g. Quillback Rockfish	*2 individuals*	*Observed along transect #3*
e.g. Plumose Anemone	*3 individuals*	*Observed along transect #5*

DEBRIS, INFRASTRUCTURE, AND SUBSTRATE MODIFICATION – DEEPWATER-SUSPENDED

- Provide a summary of any debris (i.e. garbage, refuse, industrial materials), substrate modifications, or infrastructure (e.g. anchor blocks, pilings, shore pins, etc.) observed on the proposed area. Provide information on the type of item and its location.
- Add this data to your habitat map. See below section on habitat maps for more information.

Type of debris, modification or infrastructure	# of pieces of debris / infrastructure, area of modification	Comments
e.g. anchor block	*1*	*Along transect #1*
e.g. tires	*2*	*Along transect #3*

ADJACENT HABITAT FEATURES – DEEPWATER-SUSPENDED

- In addition to the facility area surveying requirements, identify:
  - Sources of any freshwater influences (e.g. nearby estuaries, rivers, streams, braided stream channels, etc.) within 300m of the proposed facility area.
  - Any surface-visible important and sensitive habitat types (e.g. kelp beds, marine mammal haul outs, etc.) within 300m of the proposed facility.
  - Include any presence of adjacent freshwater influences and important/sensitive habitat on your habitat map(s).

Habitat Category	Location	Comments
e.g. Estuary	*@50° 2'59.86"N 125°15'26.78"W; 250m NW of proposed facility*	*"Township Creek", a salmon bearing stream*

HABITAT MAP – DEEPWATER-SUSPENDED

- Create a deepwater habitat map to show the locations of different types of vegetation, substrate, and any important/sensitive habitat areas, and other notable features in relation to the proposed facility. Create more than one map if needed. See below section on habitat mapping for more information.

HABITAT MAPPING

A habitat map should clearly show the locations of different types of vegetation, substrate, and any important/sensitive habitat areas found within and adjacent to the proposed facility. Here is guidance on what types of information need to be included in a habitat map.

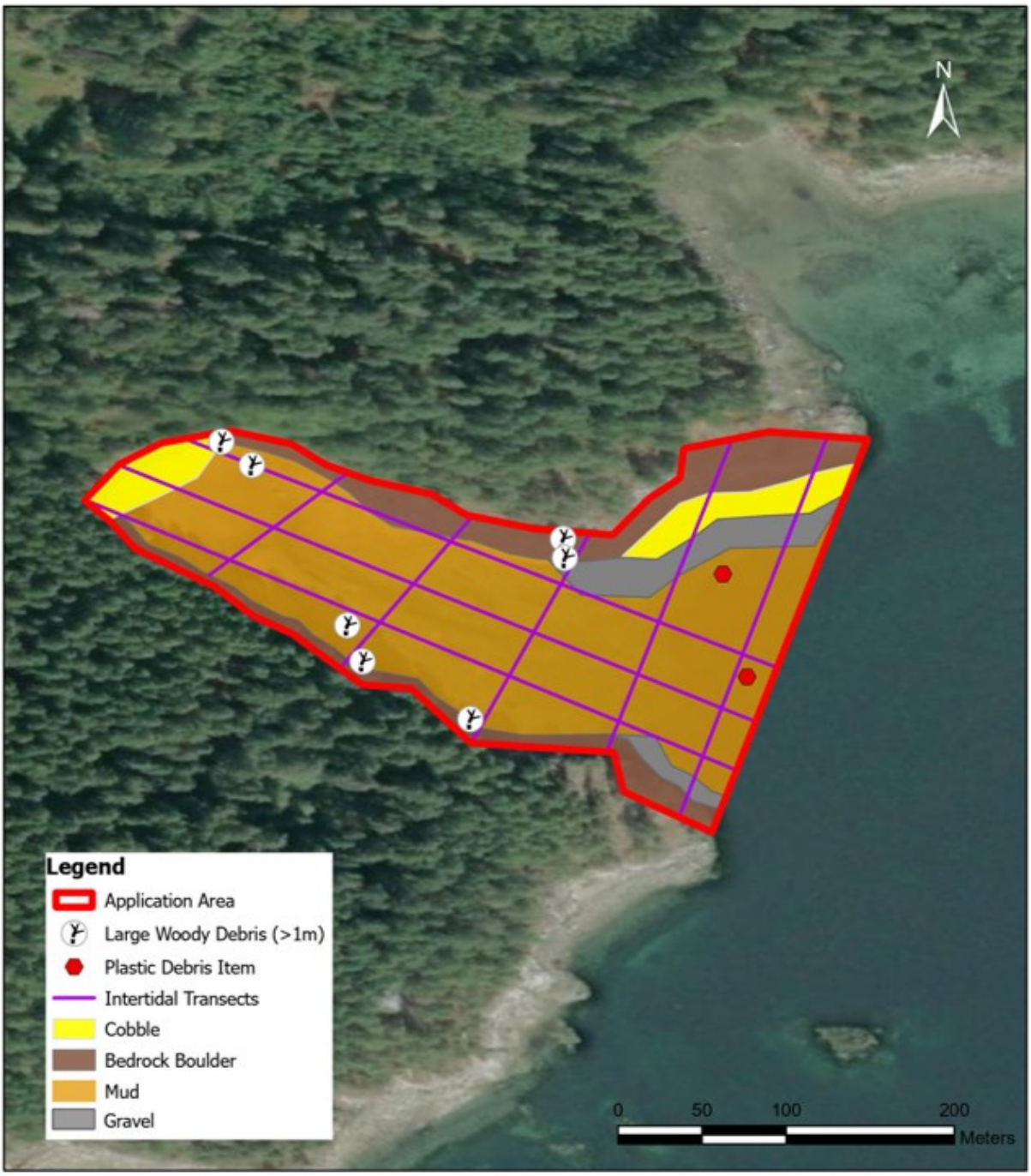
- Locations and type of substrates.
- Locations and type of aquatic vegetation.
- The presence of any important and sensitive habitat overlapping with your proposed application.
- Areas adjacent to the proposed facility where applicable.
- Notable items of existing habitat modification, infrastructure, refuse, plastic, or other debris.
- Bathymetry information wherever possible (for deepwater applications).

Include the following mapping characteristics:

- Location of survey transects.
- Scale and units of measurements (metric is preferred, i.e. metres).
- Direction of North.
- Legend.
- Bathymetry (depth contours), if possible for deepwater applications.

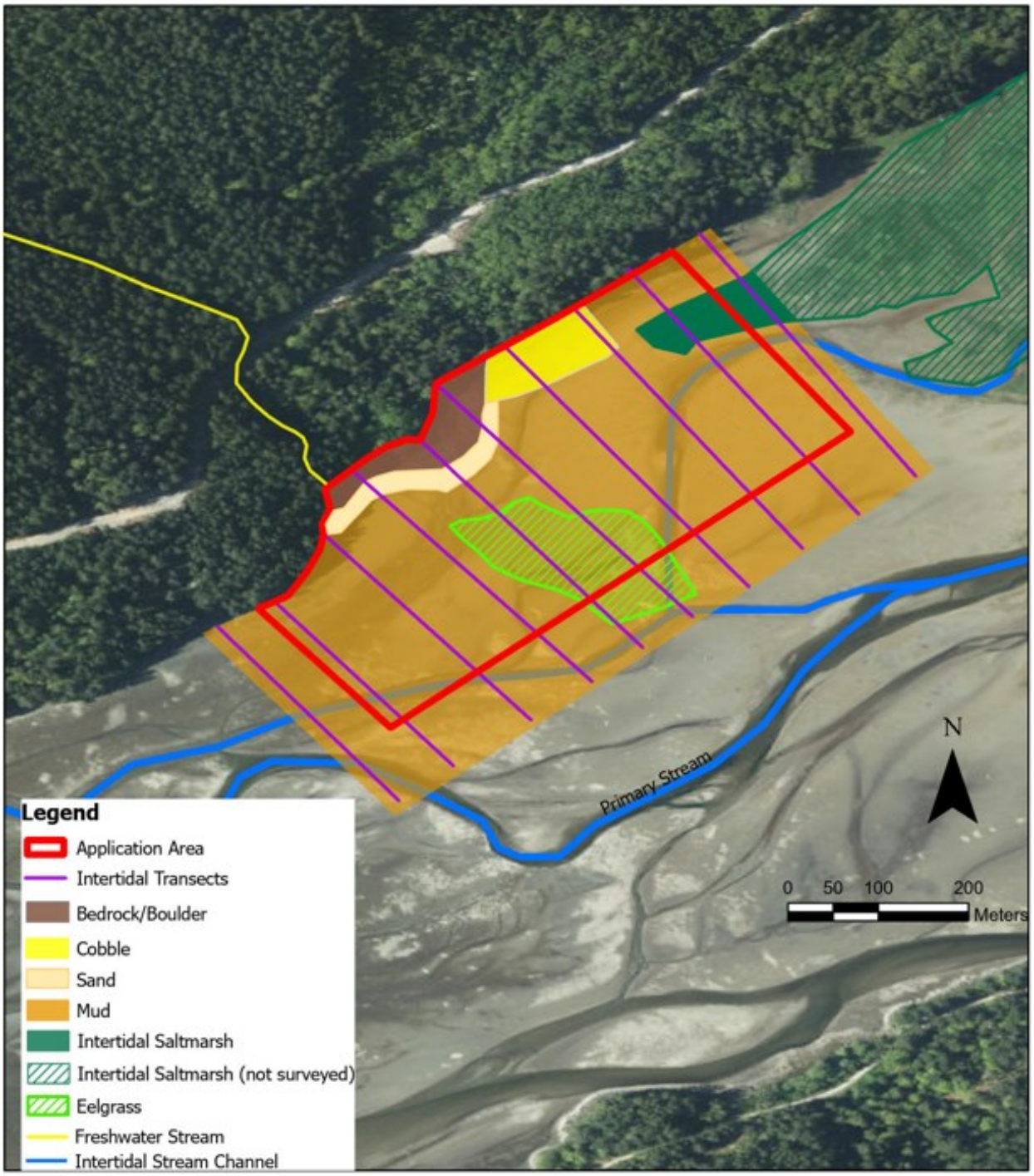
Example Habitat Maps

Intertidal: Low-risk siting example



Intertidal: Higher risk siting example

This is generally considerd not appropriate siting, due to the presence of intertidal stream channel(s), which will move and meander over time, as well as the presence of eelgrass overlapping with the faciltiy area.

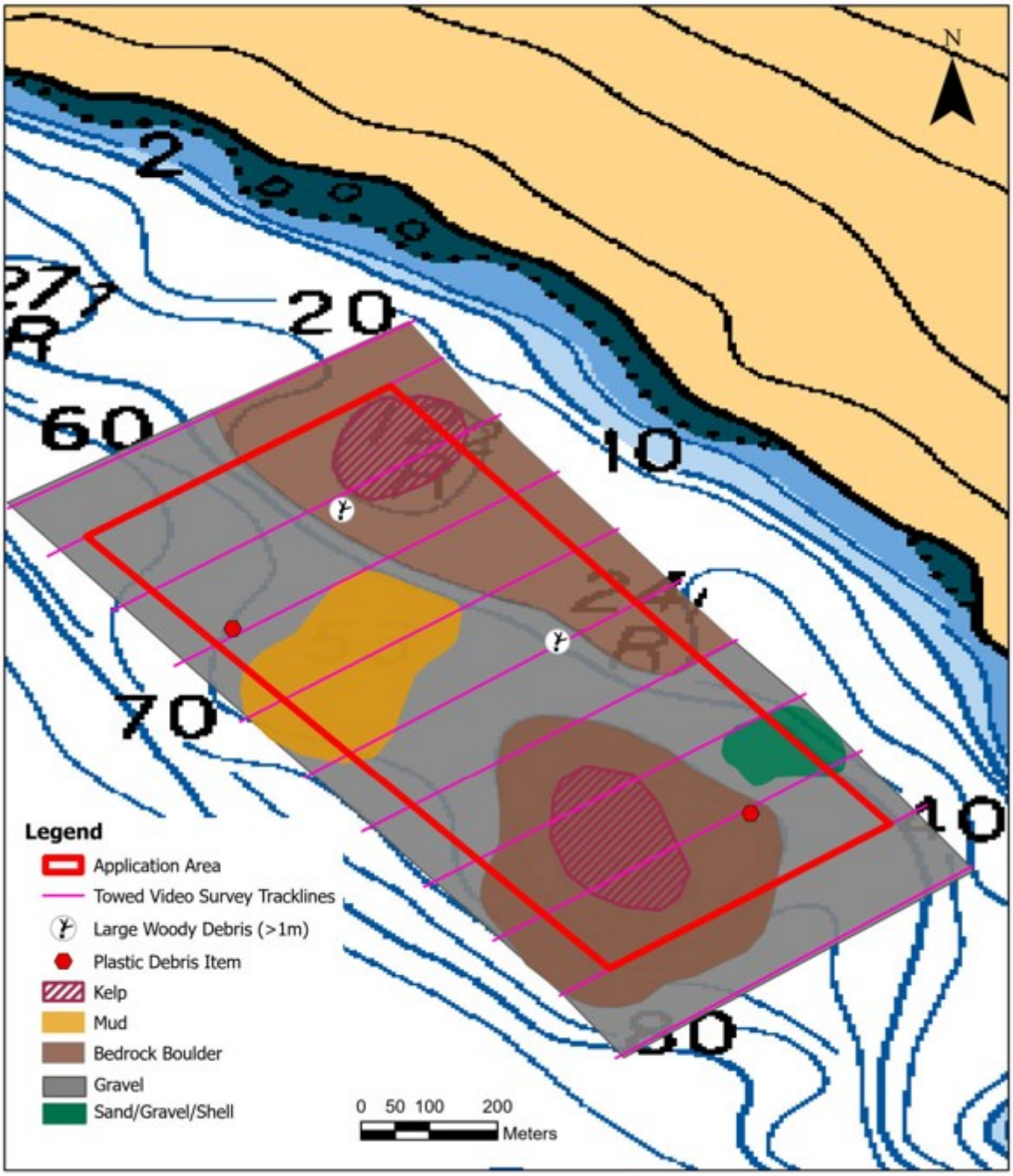


Deepwater: Example of low risk siting

This proposed deepwater facility area is sited well away from any important and sensitive habitat.

Deepwater: Example of higher risk siting

An example of siting with higher risk of negative impacts to important and sensitive habitat that may result in the application being rejected or subject to significant changes and additional requirements. Siting away from kelp beds and shallower rocky habitat is advised.



SUMMARY OF DETAILS REQUIRED IN THE FINAL FISH AND FISH HABITAT ASSESSMENT REPORT

This is a summary of all information which must be included in the report outlining fish and fish habitat characteristics within your facility area:

- Tabular data showing the survey findings:
    i. substrate characterization;
    ii. any marine vegetation and sensitive habitats;
    iii. any marine animals/fish species;
    iv. any debris/infrastructure/habitat modifications; and
    v. any adjacent important and sensitive habitat.
- Representative photographs of the fish and fish habitat features along each transect. Note: Video data may additionally be requested by the DFO reviewers, and submission instructions will be communicated at that time.
- Habitat map(s).

ADDITIONAL ONLINE FREE RESOURCES

- The following are some resources you can reference during your preliminary search for possible areas for application and learning about what impacts may be caused by your project plans.
- Please keep in mind that online fish and fish habitat database information is not a substitute for physically surveying an area and gaining first-hand knowledge of the current fish and fish habitat characteristics present.

**Hyperlinks are only valid at time of publishing and may not work if changed the by host website.*

Facility Planning/Siting

- BC Conservation Data Center iMap
- BC Habitat Wizard
- BC Species and Ecosystems Explorer
- E-Fauna BC
- Environmental Reporting documents for BC
- Islands Trust Mapping
- Sensitive Ecosystem Inventory
- ShoreZone Shoreline Mapping Inventory
- Timing Windows of Least Harm for Projects Near Water
- Natural Resource Best Management Practices
- Environmental Guidelines for Urban and Rural Land Development
- Historic Herring Spawning Information
- Management Measures to protect Southern Resident Killer Whales
- Rockfish Conservation Areas (RCA)

Marine Fish, Species at Risk, Marine Fish Habitat, Riparian Areas, Wetlands and Aquatic Plants

- *Fisheries Act*
- Fisheries Information Summary System Data Entry Tool
- Riparian Area Management Guidelines
- Riparian Areas Protection Regulation (RAPR)
- Riparian Management Area Guidebook
- Pacific North Coast Integrated Management Area
- Protecting Aquatic Ecosystems
- Projects Near Water
- Wildlife Habitat Protection
- *Species at Risk Act*
- Species at Risk Public Registry
- Avoiding Harm to Migratory Birds
- Wildlife Tree Stewardship
- *Migratory Birds Convention Act*
- Aquatic plants - Province of British Columbia (gov.bc.ca)

Water Quality, Lands, and Resources

- *Forest and Range Practices Act*
- *Forest Practices Code of British Columbia Act*
- Information on attaining Permits on Provincial Land
- Information on Crown Land and Water Use
- Tides, Currents, and Water Levels
- *Water Sustainability Act*
- BC Water Sustainability Regulation
- *Heritage Conservation Act*