

PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

PACIFIC OYSTERS

(Crassostrea gigas)

MARCH 1, 2021 TO FEBRUARY 28, 2022



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canada

This Integrated Fisheries Management Plan is intended for general purposes only. Where there is a discrepancy between the Plan and the Fisheries Act and Regulations, the Act and Regulations are the final authority. A description of Areas and Subareas referenced in this Plan can be found in the Pacific Fishery Management Area Regulations.

FOREWORD

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the main objectives and requirements for the Pacific Oyster fishery in the Pacific Region, as well as the management measures that will be used to achieve these objectives. This document also serves to communicate the basic information on the fishery and its management to Fisheries and Oceans Canada (DFO, the Department) staff, legislated co-management boards and other stakeholders. This IFMP provides a common understanding of the basic “rules” for the sustainable management of the fisheries resource.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the Minister's discretionary powers set out in the *Fisheries Act*. The Minister can, for reasons of conservation or for any other valid reason, modify any provision of the IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing obligations under land claims agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that the IFMP is inconsistent with obligations under land claims agreements, the provisions of the land claims agreements will prevail to the extent of the inconsistency.

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1. OVERVIEW

1.1. Introduction

This IFMP for Pacific Oysters covers the period March 1, 2021 to February 28, 2022.

The IFMP provides a broad context to the management and inter-relationships of all fishing sectors. Appendices 1 through 3 contain the information for the commercial, First Nations, and recreational harvest plans.

1.2. Commercial Fishery History

The Pacific Oyster is a non-indigenous species purposely introduced into British Columbia starting around 1912 for aquaculture production on licensed tenured aquaculture sites. Introductions continued over the decades, and successful reproduction events onto non-tenured wild foreshore beaches were reported beginning in the early and mid-1900s. Prior to 2012 commercial harvest opportunities for Pacific Oysters on untenured foreshore had been managed by the Province of British Columbia Ministry of Agriculture, Food and Fisheries (“the Province”) through a Memorandum of Understanding with the Federal Government. This was due to the direct connection between harvest on non-tenured lands and aquaculture activities managed by the Province. As a result of the Morton court decision (February, 2009), where aquaculture was deemed to be a fishery that must be managed by the Federal government, both governments agreed that it would be prudent for Fisheries and Oceans Canada to assume management responsibility of the Pacific Oyster fishery beginning in 2012.

Past commercial harvest opportunities under Provincial management have averaged 40-60 participants annually over the last ten years with a total allowable catch in 2011 of 417 tonnes. During the 2012 and 2013 season, DFO continued the Provincial management model while the transition was underway and the Department consulted and decided upon the future management and assessment frameworks for the fishery. A precautionary total allowable harvest of 155 tonnes (in 2012), and 200 tonnes (in 2013) was provided.

In October 2013 the Department announced future licence eligibility limitation for the commercial Pacific Oyster fishery. Past commercial licence holders having held a licence in at least one year during the period of 2009-2013 were able to apply for an opportunity to establish permanent eligibility (ZWO licence). As part of this process the Department also created 20 new communal commercial licences (FZWO licence) for First Nations. A total of 55 ZWO licences, and 20 FZWO licence eligibilities were established for the 2014 fishing season. One additional ZWO licence eligibility was authorized by the Minister in 2015 following an appeal process. Along with licence limitation, in 2014 the

Department announced new assessment and monitoring requirements for the commercial fishery.

As of 2021, five commercial ZWO licences were relinquished/retired due to inactivity and non-payment of licence fees. There are currently 51 regular commercial ZWO licences, and 20 communal commercial FZWO licences.

1.3. Type of Fishery and Participants

1.3.1. First Nations

Fish and marine resources are central to the culture, society, well-being, and economy of First Nations and provide a critical connection to language, traditional knowledge, and health of communities. Fisheries & Oceans Canada (DFO) remains committed to respecting First Nations' Aboriginal right to fish for food, social and ceremonial (FSC) purposes, or domestic purposes under Treaty which has priority – after conservation – over other users of the resource. Aboriginal harvest of oysters for food, social and ceremonial (FSC) or domestic purposes may occur year round in the waters of British Columbia that are open for fishing under the Canadian Shellfish Sanitation Program (CSSP). This harvest must be authorized by a communal licence.

Nisga'a Domestic Fishing - The Harvest agreement for domestic (FSC) purposes under the Nisga'a Final Agreement (Treaty) came into effect on May 11, 2000. The Nisga'a territory is located within the Nass River valley on the northwest coast of British Columbia. More information on the Treaty and the Nisga'a annual fishing plan can be found at: <https://www.nisgaanation.ca/treaty-documents>

Tsawwassen Domestic Fishing - The Tsawwassen fishery for domestic (FSC) purposes under the Tsawwassen Final Agreement (Treaty) came into effect on April 3, 2009. The Tsawwassen First Nation is located in the lower mainland near the city of Vancouver, and their territory spans portions the Strait of Georgia near the mouth of the Fraser River as well as portions of the lower Fraser River and Boundary Bay. More information on the Treaty can be found at: <https://www.aadnc-aandc.gc.ca/eng/1100100022706/1100100022717>

Maa-nulth Domestic Fishing - The Maa-nulth First Nations fishery for domestic (FSC) purposes under the Maa-nulth First Nations Final Agreement (Treaty) came into effect on April 1, 2011. The Maa-nulth First Nations comprise five individual First Nations; Huu-ay-aht First Nations, Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nations, Toquaht Nation, Uchucklesaht Tribe and the Yuułu?ił?ath First Nation on the west coast of Vancouver Island. More information on the Treaty can be found at: <https://www.aadnc-aandc.gc.ca/eng/1100100022663/1100100022665>

Tla'amin Domestic Fishing - The Tla'amin fishery for domestic (FSC) purposes under the Tla'amin Final Agreement (Treaty) came into effect on April 5, 2016. The Tla'amin Nation is located near the city of Powell River, 130 km northwest of Vancouver. More information on the Treaty can be found at: <https://www.rcaanc-cirnac.gc.ca/eng/1397152724601/1542999321074>

Five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have aboriginal rights to fish for any species of fish, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a 2020/21 Five Nations Multi-species Fishery Management Plan (FMP). Feedback provided by the Five Nations during consultations was considered and incorporated into the 2020/21 FMP by DFO where possible. The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. For further information see the FMP at: <http://waves-vagues.dfo-mpo.gc.ca/Library/40869374.pdf>

1.3.2. Recreational

The recreational fishery for oysters occurs year-round in the tidal waters of British Columbia except those areas that are closed to fishing. Fishing closures are put in place for various reasons often related to concerns for public health and safety. Information on recreational fishing is provided online at <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>. A British Columbia Tidal Waters Sport Fishing Licence is required for the recreational harvest of all species of fish including shellfish. Tidal Waters Sport Fishing licences may be purchased online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html>

1.3.3. Commercial

Pacific Oysters (*Crassostrea gigas*) are harvested commercially in the southern waters of British Columbia that are open for fishing under the CSSP. Licences are limited entry, with 51 current regular ZWO commercial licences, and 20 FZWO communal commercial licence eligibilities.

First Nations have communal access to commercial opportunities through communal commercial licences acquired through the Allocation Transfer Program (ATP). The five First Nations of the Maa-nulth Treaty Society have been provided with a total of five (5) communal commercial licences outside of the Treaty, and outside of the “Maa-nulth First Nation Harvest Agreement”. These licences are fished in a manner that is comparable to the general commercial fishery.

1.3.4. Aquaculture

The Pacific Oyster is the most widely cultured oyster in the world, and in British Columbia. Licences to cultivate Pacific Oysters in British Columbia are administered by Fisheries and Oceans Canada as authorized through the *Pacific Aquaculture Regulations* (PAR). In British Columbia, provincial legislation manages the leasing of aquaculture site tenures. There are 463 shellfish aquaculture facilities licensed to culture Pacific Oyster in British Columbia. This represents 97% of the shellfish aquaculture sector.

Oyster farmers need a reliable source of seed or spat. Oyster farmers in British Columbia mainly purchase seed from hatcheries, while Atlantic Canada has been using “spat collectors” since the 1950s to culture seed. When the oysters are ready for grow-out, they are spread onto beaches or placed in suspension culture systems. Suspension systems can be floating rafts, floating bags, bags in cages, trays, or bags on racks or tables. Held in suspension, oysters grow more rapidly and develop plumper meats because the water circulation increases the availability of food.

Harvesting on Aquaculture Tenures

Licensed aquaculture facilities are considered private property. Under the *Fisheries Act*, fishing within an aquaculture facility already under federal licence (PAR aquaculture licence) is prohibited unless otherwise permitted by the occupant under the licence. The Department recommends that commercial and recreational harvesters familiarize themselves with the location of aquaculture tenures in fishing areas and that permission is sought from the aquaculturist for access.

Regulatory Regime

In December 2010 the *Pacific Aquaculture Regulations* (PAR) came into effect, giving DFO the authority to govern the management and regulation of aquaculture activities at marine finfish, shellfish, freshwater/land-based and enhancement facilities. The Province of British Columbia continues to have authority over land tenures and workplace safety related to aquaculture in BC. New applications, amendments and related referrals are coordinated through Front Counter BC. More information is available on the BC government’s website: <http://www.frontcounterbc.gov.bc.ca/>. DFO assesses, makes decisions and issues aquaculture licences.

DFO requires comprehensive environmental monitoring to be undertaken by the marine finfish industry, and the Department also conducts additional monitoring, audits, and investigations (where warranted). Public reporting is undertaken to ensure the transparency and accountability of the management of aquaculture in BC. Associated

reporting can be found on the DFO web pages: <http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/index-eng.html>.

Within the BC Aquaculture Regulatory Program there is a Compliance and Enforcement Unit, dedicated to aquaculture compliance, as well as an Aquaculture Environmental Operations Unit, which monitors the activities of industry on an on-going basis. The Program provides oversight and works to ensure the orderly management of the industry, including planning and licensing, linkages with national and regional policy, as well as consultation and communications. Contact information for staff with responsibilities related to aquaculture management within DFO can be found in the Departmental Contacts section of this plan.

Integrated Management of Aquaculture Plans

Integrated Management of Aquaculture Plans (IMAPs) provide an overview of each aquaculture sector and associated management and regulation. IMAPs are available on the DFO Consultations web pages: <http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html>. IMAPs complement IFMPs and the two are reviewed periodically to ensure consistency of management approaches.

Aquaculture Management Advisory Committees

Aquaculture Management Committee Meetings (AMACs) engage the aquaculture industry, First Nations, and other stakeholders in development of IMAPs and on-going feedback relevant to the management of Aquaculture. Information relating to AMAC meetings is posted on the DFO Consultations web pages: <http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html>. Meetings are open to the public.

More information on IMAPs and AMACs is available through IMAPS@dfo-mpo.gc.ca.

1.4. Location of Fishery

1.4.1. First Nations and Recreational

Aboriginal and recreational harvest may occur in areas approved for harvest under the CSSP and authorized under either a communal licence or recreational licence. The British Columbia coast north of Cape Caution (Areas 1 to 11 inclusive) is closed for the harvest of bivalves, unless the appropriate testing is in place to ensure safe harvest. Several First Nations and some commercial interests have established the necessary sampling required for small-scale harvest openings for all three sectors. See the DFO website for sanitary and biotoxin closures at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html>

1.4.2. Commercial

The current commercial fishery occurs within the south coast of British Columbia mainly along the mid portions of the east and west sides of Vancouver Island. Commercial harvest sites are divided into two licence areas, West Coast Vancouver Island (WCVI) and East Coast Vancouver Island (ECVI).

1.4.3. Aquaculture

The Pacific Oyster aquaculture fishery is licensed throughout British Columbia, however ~60% of the oyster culture occurs within in the Strait of Georgia and on the West Coast of Vancouver Island.

1.5. Fishery Characteristics

1.5.1. First Nations

First Nations' harvest for FSC or domestic purposes may be open year round, subject to available sanitary and biotoxin contamination sampling and results, and is limited to the gear specified for bivalve harvest in the communal licence.

1.5.2. Recreational

The recreational fishery may be open year round, subject to available sanitary and biotoxin contamination sampling and results, and is limited to hand picking.

1.5.3. Commercial

The commercial licence year runs from March 1, 2021 to February 28, 2022 for this season. The actual commercial fishery opening time is scheduled to run from March 1, 2021 to June 30, 2021; and then re-open again from September 10, 2021 to December 31, 2021; but may vary during that timeframe based on sanitary and biotoxin contamination conditions and quota harvest completion. The Department may consider modifications to these dates in-season due to unforeseen circumstances. Official opening and closing dates are announced by fishery notice and are available through the DFO website.

The fishery operates under a Total Allowable Catch (TAC) and individual licence quotas.

1.6. Governance

The *Fisheries Act* and the regulations made thereunder.

- Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations, 2007*.

- *Fishery (General) Regulations* (i.e. Conditions of Licence) and the *Pacific Fishery Regulations, 1993* (i.e. open times).
- *The British Columbia Sport Fishing Regulations* (1996) and the *Aboriginal Communal Fishing Licences Regulations*.
- *The Oceans Act*.
- *The Species at Risk Act*.

These documents are available on the DFO website at: <http://www.dfo-mpo.gc.ca/acts-lois/index-eng.htm>

In addition, the national Sustainable Fisheries Framework (SFF) contains policies for adopting an ecosystem-based approach to fisheries management including:

- A Fishery Decision-Making Framework Incorporating the Precautionary Approach;
- Managing Impacts of Fishing on Benthic Habitat, Communities and Species; and
- Policy on New Fisheries for Forage Species.

Along with existing economic and shared stewardship policies, these help the department meet objectives for long-term sustainability, economic prosperity, and improved governance.

Scientific advice for this fishery is peer-reviewed through a committee called Fisheries and Oceans Canada's Centre for Science Advice Pacific (CSAP), formerly the Pacific Region Scientific Advice Review Committee (PSARC).

DFO engages in a variety of consultation, engagement and collaborative harvest planning processes with First Nations. These exchanges and involvement may include bilateral consultations, advisory processes, management boards, technical groups and other roundtable forums. Consultation is an important part of good governance, sound policy development and decision-making. It is also a component of modern treaties established between First Nations and the provincial and federal governments. In addition to good governance objectives, Canada has statutory, contractual, and common law obligations to consult with Aboriginal groups.

1.7. Approval Process

The Regional Director General for the Pacific Region approves this plan.

2. STOCK ASSESSMENT, SCIENCE AND TRADITIONAL KNOWLEDGE

2.1. Biological Synopsis

The Pacific Oyster, *Crassostrea gigas* (Thunberg 1793) is a non-indigenous species introduced to B.C. for aquaculture purposes (Quayle 1964, 1969, 1988; Gillespie et al. 2012). Its native range is from Sakhalin Island and coastal Russia through Japan to Kyushu, China, Korea, Southeast Asia and Pakistan (Coan et al. 2000). They have been introduced and have established populations in many countries worldwide (Ruesink et al. 2005, Gillespie et al. 2012).

The Pacific Oyster was introduced extensively on the west coast of North America in the early 1900s, and was first brought into B.C. in 1912 or 1913 (Bourne 1979, Gillespie et al. 2012). Small-scale introductions continued and large-scale importation of seed oysters began in 1925. Successful reproduction was reported in Ladysmith Harbour in 1925, 1926 and 1932, followed by successful dispersal beyond the harbour in 1936 (Elsey 1932, 1934; Elsey and Quayle 1939; Quayle 1964, 1969, 1988; Bourne 1979). Widespread reproductive success was reported in 1942, 1958 and 1961 resulting in the establishment of Pacific Oysters throughout the Strait of Georgia. They were transplanted to the west coast of Vancouver Island (Esperanza Inlet; Barkley, Clayoquot and Kyuquot Sounds) in 1937 and they are now established in suitable habitats on the west coast of Vancouver Island south of Brooks Peninsula (Gillespie 2007; Gillespie et al. 2012). There is also confirmed reproductive success of Pacific Oysters in Skidegate Inlet, Haida Gwaii (Sloan et al. 2001; Gillespie et al. 2012) and reported occurrence of natural-set Pacific Oysters from Tasu Sound on the west coast of Haida Gwaii (Gillespie, unpublished data).

Pacific Oysters are protandric hermaphrodites, initially spawning as males and then may become females during the winter season (Gillespie et al. 2012). They are broadcast spawners with a pelagic larval period of 3-4 weeks depending on temperature (Gillespie et al. 2012). Their natural distribution in B.C. is limited to locations with warmer water temperatures that are required to stimulate gonadal development, spawning and the metamorphosis of larvae. Although spawning can occur at temperatures between 16-34°C and salinities ranging from 10-42 ppt., temperatures of 20-25°C and salinities of 35 ppt. are considered optimal (Gillespie et al. 2012). However, the range of Pacific Oysters can be expanded by manual introduction to microhabitats. Adults are sessile and the only exchange between sites is through larval transport or human intervention. Adults grow relatively quickly in the first few years after settlement and growth slows with maturity and senescence.

Longevity and age structure of populations are not documented due to difficulties in establishing aging methods and criteria. Methods for aging Pacific Oysters have been

tested on Pacific Oysters in China (Harding and Mann 2006), but these methods still need to be tested for the Pacific Oysters in B.C. Both the literature and local knowledge suggest that Pacific Oysters can live for decades (Quayle 1988, Pauley et al. 1988).

Pacific Oyster populations in B.C. generally occur in mid to high intertidal zones on hard substrates (Bourne 1979, Ruesink et al. 2005) but can vary depending on the environmental conditions of the site. Fishermen have noted that Pacific Oysters are lower in the intertidal zone on the west coast of Vancouver Island. A preferred settlement substrate is oyster shell and large aggregations form if populations are not disturbed. Under appropriate conditions they can form reefs on gravel banks at the tidal mouths of small streams (Gillespie et al. 2012). Harvestable populations of Pacific Oysters may be present on bedrock walls and outcrops where successful larval recruitment occurs on a regular basis.

In all but a few locations in B.C., successful recruitment on a large scale is sporadic. Pacific Oyster populations can exhibit local recruitment events that will sustain populations for a number of years. However, populations can become ephemeral if larval recruitment is irregular.

2.2. Ecosystem Interactions

Ecosystem considerations in the fisheries include:

- Potential retained bycatch of Olympia Oysters (listed as Special Concern under the *Species At Risk Act*) which are attached to Pacific Oyster shells.
- Discards of other species and their ability to re-establish once discarded.
- There are minimal benthic impacts to beaches from the collecting activities as these are highly dynamic environments.
- The role of Pacific Oysters in the intertidal ecosystem is not well understood. Partial information on predator/prey interactions and environmental changes arising from human activities is available. Information on biological components of primary and secondary productivity is limited.

2.3. Aboriginal Traditional Knowledge/Traditional Ecological Knowledge

The Department is interested in receiving all Aboriginal Traditional Knowledge available and encourages all First Nations to share information important in the management of the oyster resource.

Traditional Ecological Knowledge in the form of observations and comments collected from commercial harvesters over many years contributes to decisions on management of this fishery.

2.4. Stock Assessment

A stock assessment protocol has been developed by DFO and provided to the commercial licence holders. Beach biomass surveys will be completed and biomass estimates will be calculated and used to help set future harvest quotas. Between 2014 and 2020 a number of biomass surveys were conducted at some of the existing commercial harvest sites on the coast.

Survey work conducted by industry-funded biologists has completed partial biomass assessments at several harvest sites in recent years. In 2015, partial assessments were conducted at Myrtle Rocks (PFMA 15), Saltery Bay (PFMA 16), and Toquaht (PFMA 23). In 2016, partial assessments were conducted at Stag Bay (PFMA 15), Dog Bay (PFMA 15), and a section of Savary Island (PFMA 15). In 2017, partial assessments were conducted at Storm Bay (PFMA 16), Sechelt Inlet (PFMA 16), Atrevida Reef (PFMA 15), Seaford (PFMA 15), Pipestem Inlet (PFMA 23), and Toquaht (PFMA 23). In 2018 further survey work was conducted on Savary Island (PFMA 15). Further surveys were carried out in 2019 at Head Bay (Area 25), Myrtle Rocks (Area 15), and Smelt Bay (Area 15).

Survey Year	PFMA	Harvest Site/Beach
2015	15, 16, 23	Myrtle Rocks, Saltery Bay, Toquaht
2016	15	Stag Bay, Dog Bay, Portion of Savary Island
2017	15, 16, 23	Atrevida Reef, Seaford, Storm Bay, Sechelt Inlet, Pipestem, Toquaht
2018	15	Savary Island
2019	13, 15, 25	Smelt Bay, Myrtle Rocks, Head Bay
2020 (field season impacted by Covid-19 restrictions and limited	14	Areas south of Comox Harbour

safe work options)		
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DFO also worked with the Tla’amin First Nation in the summer of 2017, 2018, and 2019 to conduct an oyster survey at Okeover Arm Provincial Park beach in PFMA 15-4.

2.5. Stock Scenarios

The current stock status in B.C. is unknown and is affected by extremely variable recruitment. A number of site specific biomass surveys have been conducted in recent years, including at several of the higher use harvest areas such as; Myrtle Rocks, Savary Island, Hernando Island, and Toquaht Bay area.

2.6. Precautionary Approach

The Department follows the Sustainable Fisheries Framework (SFF), which is a toolbox of policies for DFO to sustainably manage Canadian fisheries in order to conserve fish stocks and support prosperous fisheries. The SFF includes a decision-making framework incorporating a precautionary approach to commercial, recreational, and food, social and ceremonial (FSC) fishing: <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.htm>

In general, the precautionary approach in fisheries management is about being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone action or failure to take action to avoid serious harm to fish stocks or their ecosystem. This approach is widely accepted internationally as an essential part of sustainable fisheries management.

Applying the precautionary approach to fisheries management decisions entails establishing a harvest strategy that:

- identifies three stock status zones – healthy, cautious, and critical – according to upper stock reference points and limit reference points;
- sets the removal rate at which fish may be harvested within each stock status zone; and
- adjusts the removal rate according to fish stock status variations (i.e., spawning stock biomass or another index/metric relevant to population productivity), based on pre-agreed decision rules.

The National framework requires that a harvest strategy be incorporated into respective fisheries management plans to keep the removal rate moderate when the stock status is

healthy, to promote rebuilding when stock status is low, and to ensure a low risk of serious or irreversible harm to the stock. A key component of the Precautionary Approach Framework requires that when a stock has declined to the Critical Zone, a rebuilding plan must be in place with the aim of having a high probability of the stock growing out of the Critical Zone within a reasonable timeframe. <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precautionary-precaution-eng.htm>

2.7. Research

Research studies were conducted in 2012 to determine the best survey methods for Pacific Oysters. The results from this work were presented and accepted by the Canadian Science Advisory Secretariat (CSAS) in December 2012 (Norgard et al. 2014). This report was developed to assist potential harvesters in conducting surveys and data collection of wild Pacific Oysters on beaches in which discrete beds of oysters are found. Discrete beds are those where well defined beds of oysters can be visually determined on beaches. In general, Pacific Oyster populations may be found in discrete beds of single or clustered oysters loose on the surface of the beach or individual oysters cemented to hard substrate (large rocks or bedrock), including vertical surfaces. This protocol provides key guidance on sampling and data collection methodology, optimal quadrat size and sampling intensity for discrete oyster beds.

The recommendations from this work were:

- Stratified Random Sampling survey methods should be used on relatively high-density discrete beds. Formal adherence to randomization for locating quadrats prevents bias, allows established probability statistics to be used and improves defensibility of third-party or industry assessments.
- A quadrat size of no less than 75x75cm is required. Smaller quadrat sizes exhibited higher variance, more edge effect and appeared to be more affected by small-scale patchiness. Larger quadrat sizes did not exhibit these problems to the same degree, and the 75x75 cm quadrat size outperformed the 100x100cm quadrat in cost effectiveness (and to some extent in practicality).
- A sampling intensity of ten (10) quadrats per hectare with a minimum sample size of five (5) quadrats per stratum is recommended. This sampling intensity will be reviewed as more survey results become available.

A draft beach survey protocol was developed from this work and was distributed for review in 2014. This survey protocol describes the methods for survey and analysis of discrete oyster populations.

3. SOCIAL, CULTURAL AND ECONOMIC IMPORTANCE

3.1. Economics of the fishery

The intent of this section is to provide a socio-economic context of the oyster fisheries in BC. An overview of commercial, recreational, and export sectors of the fishery is provided. Information on First Nations activity in this fishery was not available for this analysis.

3.2. First Nations

Generally, there are three categories of Indigenous participation in fisheries – food, social, and ceremonial (FSC)/domestic, commercial, and treaty.

3.3. Participation in the Food, Social, and Ceremonial Fishery

Section 35(1) of the *Constitution Act*, recognizes and affirms the existing Indigenous and treaty rights of the Indigenous peoples in Canada, however it does not specify the nature or content of the rights that are protected. In 1990, the Supreme Court of Canada issued a landmark ruling in the Sparrow decision. This decision found that the Musqueam First Nation has an Indigenous right to fish for FSC purposes. The Supreme Court found that where an Indigenous group has a right to fish for FSC or domestic purposes, it takes priority, after conservation, over other uses of the resource. The Supreme Court also indicated the importance of consulting with Indigenous groups when their fishing rights might be affected.

The Aboriginal Fisheries Strategy (AFS) was implemented in 1992 to address several objectives related to First Nations and their access to the resource. These may identify the amounts of species that may be fished for FSC purposes, terms and conditions that will be included in the communal fishing licence or domestic document, and fisheries management arrangements. Information on FSC access can be found in Section 6.1.

3.4. Participation in the Commercial Fishery

First Nations' access in the commercial fishery, either communally or individually, is described below in Section 6.1.

3.5. Participation in Modern Indigenous Treaties

Fisheries chapters in modern First Nations treaties may articulate a treaty fishing right for FSC purposes that are protected under Section 35 of the *Constitution Act, 1982*. Some modern treaty First Nations are provided commercial access either through the general commercial fishery or a Harvest Agreement. While this commercial access may be referenced in the treaty, it is not protected under the *Constitution Act*.

Seven modern treaties (Nisga'a Final Agreement, Tsawwassen First Nation Final Agreement (TFA), Maa-nulth First Nations Final Agreement (MNA), Tla'amin Nation Final Agreement,

Sechelt Self-government Act, Westbank First Nation Self-government Agreement, and Yale First Nation Final Agreement) have been ratified in British Columbia.

3.6. Social and Cultural Significance

Fish and aquatic resources are central to the culture, society, well-being, and economy of First Nations and provide a critical connection to language, traditional knowledge, and health of communities. Fisheries and the harvest and management of aquatic resources have particular importance to many Indigenous communities. Many Indigenous communities are located adjacent to key fishing sites, oceans and aquatic resources, and consider the management of these resources to be matters important to these communities. There are Indigenous groups who are seeking greater access to economic opportunities from aquatic resources as a potential driver for economic development in their communities; more stability in FSC or domestic fisheries; a greater role in the aquatic resource and oceans management decisions that affect them; and a greater role in stewardship, including stock assessment, oceans and habitat management, conservation and protection, and recovery strategy development and implementation.

3.7. Commercial

The earliest data available for commercial wild Pacific oyster harvest is from 2014, when the hail program officially started with DFO. Figure 1 below presents Pacific oyster total (active and inactive) commercial and communal commercial licence eligibilities and total hailed landings (lbs) from 2014-2019. Licence numbers have been fairly stable, with commercial and communal commercial eligibilities averaging 54 and 11 licences, respectively. Total landings have varied year to year, with landings increasing from 2014-2016, decreasing the following two years, and once again increasing in 2019. From 2014-2019, hailed landings have averaged over 193,000 lbs. Landed value and price data is not available at this time due to lack of oyster sale-slip data. The commercial wild Pacific oyster fishery is minimal in comparison to the aquaculture harvest of oysters which had an annual average of 8300 tonnes of oysters (between 2014 to 2019).¹

¹ BC Seafood Year in Review (2007- 2017) and Aquaculture Group (2017-2019)

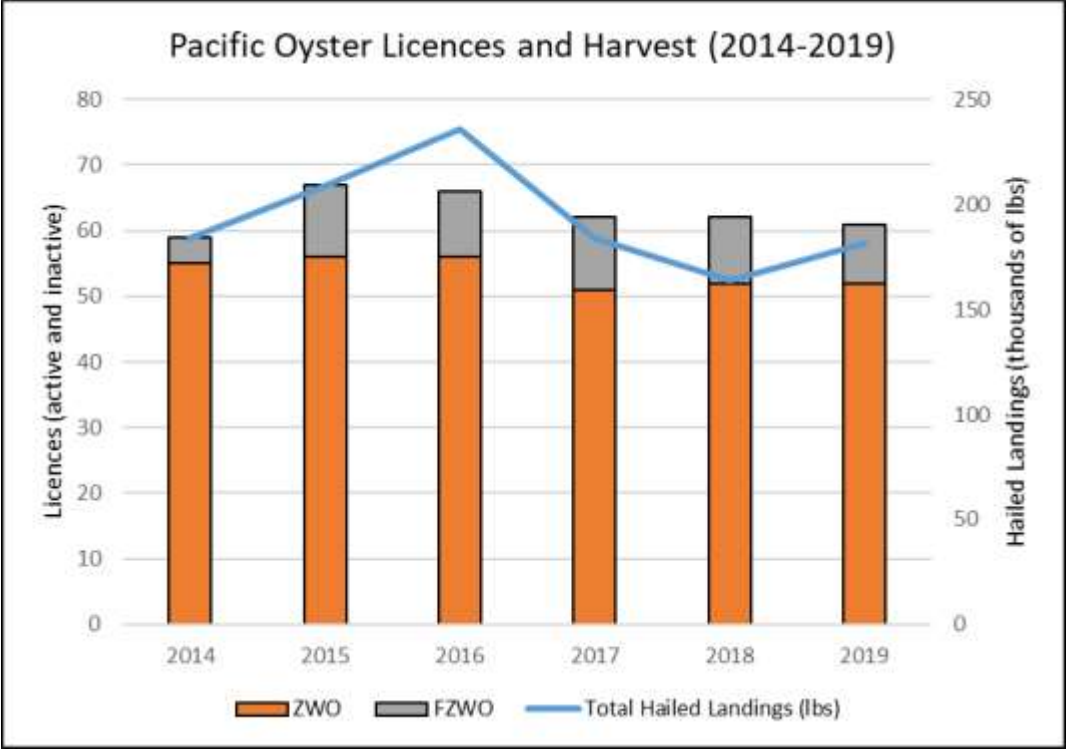


Figure 1 Total licences and harvest of oysters from BC 2014-2019

(Source: Fisheries and Aquaculture Management.)

Table 1 (below) shows Pacific oyster beach quota (lbs) by sub-area for the 2020-2021 fishing season. The sub-areas constitute West and East Coast Vancouver Island. As stated above, hauled landings from 2014-2019 averaged 193,000 lbs, well below the total quota of 613,800 lbs.

Subarea	Beach Quota (lbs)
13-15	27,500
13-17	3,600
15-1	-
15-2	90,000
15-3	134,100
15-5	77,500

Subarea	Beach Quota (lbs)
16-6	5,000
16-8	6,000
16-12	6,900
16-13	5,000
16-16	22,500
16-21	25,200
23-10	171,000
25-3	9,000
25-4	15,500
25-5	15,000
Total	613,800

Table 2. Quota (lbs) by Subareas for 2020-2021 Fishing Season

(Source: Fisheries and Aquaculture Management.)

3.8. Recreational

Recreational fishing can be considered a leisure activity, a source of food for personal use, or a combination of the two. These activities contribute directly and indirectly to the economy through fishery related expenditures. BC’s recreational community includes both local residents and visiting anglers. As of the 2018/2019 fishing season the majority of BC’s tidal water anglers are Canadian residents (84%), with non-residents accounting for the remainder (16%).

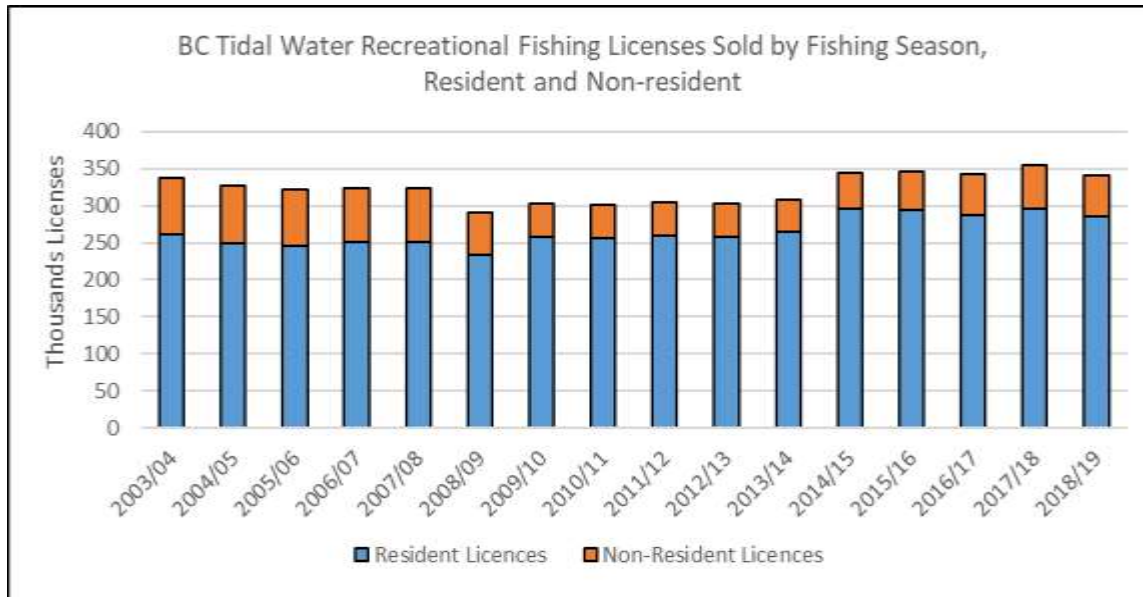


Figure 2. BC tidal water recreational fishing licences sold to Canadians (blue) and non-residents (red) 2003/04-2018/19 (thousands of licences). Source: DFO Internal Recreational Licensing data.²

The total number of BC tidal water fishing licenses administered has been fairly constant over the years, with the exception of 2008-2013. Purchase of recreational fishing licences decreased by 10% between 2007-2008, stayed constant until 2013, and then increased by 12% the following year. From 2003-2007, international anglers on average accounted for 23% of sold licences. Between 2008-2018, that average has decreased to 16%, while resident anglers have increased the purchase of licences by 22%.

The DFO National Recreational Fishing Survey provides data on individual expenditures, major purchases, and preferred target species for recreational fishing. According to the 2015 survey, resident and non-resident anglers had expenditures and purchases totalling \$597.9 million (2019\$). Although, in earlier surveys (2010), only 2.1% of all anglers identified oysters as one of their top three target species, significantly more BC residents preferred oysters (2.6%) than did non-resident anglers (0.6%)³. Overall, shellfish fishing made up more than a quarter (573,000) of an estimated 2 million days spent fishing by anglers in BC tidal waters in 2015.⁴

² <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/Stats/99tocurrent-eng.html>

³ DFO Survey of Recreational Fishing in Canada, 2010

⁴ DFO Survey of Recreational Fishing in Canada, 2015

3.9. Exports

On average between 2016-2019, BC exported 16.84 thousand kilograms of oyster annually, with an average export value of \$202.37 thousand per year.⁵ Figure 3 below presents the export quantity and value from BC's four largest oyster trading partners and others.⁶ The United States of America (USA) is the largest buyer of oysters, with BC exporting an average of \$155.18 thousand of oysters to the US each year. This made up about 77% of the yearly average export value from 2016-2019 (in 2019\$). Value received from the USA was more than 9 times higher than the next country, Singapore, which accounted for an average of 8% of export value each year. Following Singapore was Hong Kong at 7% and China at 5%. Although Hong Kong accounted for more value on average than China, export quantities on average to both countries were nearly identical. On average, China imported 1.05 tonnes worth \$9.77 thousand, whereas Hong Kong imported 1.03 tonnes worth \$13.72 thousand. It is clear that the price of oyster exports to Hong Kong was higher on average compared to China: \$12.95/kg and \$9.37/kg, respectively. Other countries, which included Vietnam, Malaysia, South Korea, Macao, among others, imported on average 0.74 tonnes of BC oysters each year in the four year span. This made up 4% of the annual volume of oyster exports, and was responsible for 3% of the annual value of exports.

5 Average export values are measured in constant 2019 dollars.

6 Export quantity and value numbers presented are for wild oysters. Since EXIM does not separate aquaculture or wild exports, proportional estimates of wild harvest from total harvest were used to estimate the amount of wild oyster quantity and value that was exported.

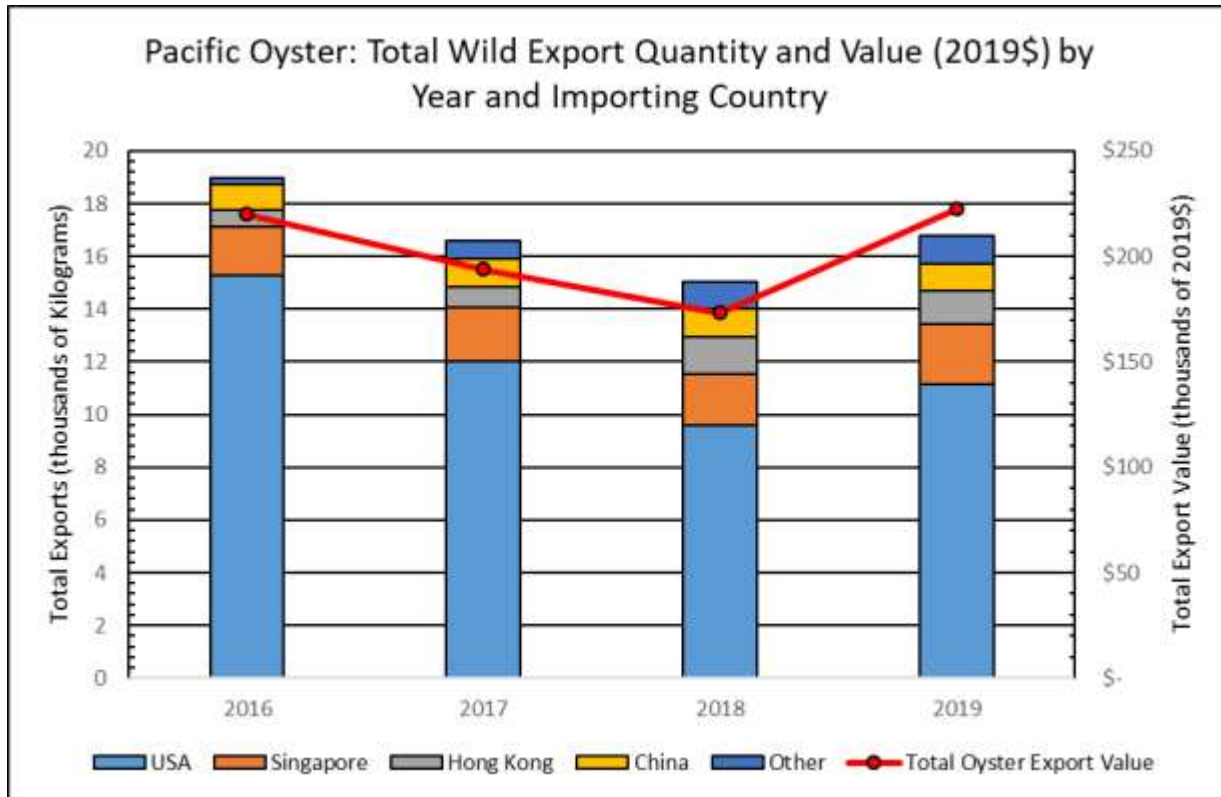


Figure 3. Total Volume of Oyster Exports and Total Value of Oyster Exports to Importing Countries, 2016-2019 (in 2019 \$). Source: Statistics Canada (EXIM), Accessed on September 29, 2020.

4. MANAGEMENT ISSUES

The following emerging issues may impact the management measures in place for the Pacific Oyster fishery.

4.1. Conservation and Sustainability

4.1.1. Assessment Programs

A limited number of biomass assessments have been organized and funded by licence holders during the past five seasons (2014-2020). The industry assessment programs for this fishery are still in early development. Quotas for the commercial fishery in 2021 are still relying partially upon previous assessment data conducted by the Province of B.C. This data is becoming dated and commercial harvesters will need to continue to fund new stock assessment surveys in 2022 and future seasons. If these assessments are not

completed, the Department will consider reducing the commercial harvest opportunities in the future.

4.1.2. Sustainable Management Objectives

The Pacific Oyster is a non-indigenous species introduced to British Columbia by humans for the purposes of aquaculture production. Given that Pacific Oyster is not a native species to Canada and it was introduced on purpose, it would not be considered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for assessment regardless of stock status, and thus cannot be considered for listing under SARA. Conservation is not the Department's objective for this species, however the Department does aim to manage Pacific Oyster resources sustainably to provide fishing opportunities for all harvest sectors.

4.2. Social, Cultural and Economic

4.2.1. Funding of Stock Assessment and Management Programs

Harvesters have committed to ongoing funding of stock assessment work on harvest beaches. Harvesters are expected to fund stock assessment work that will contribute towards setting biologically-based quotas at commercial harvest sites for this fishery.

4.2.2. First Nations

Coastal First Nations are showing an increased interest in economic opportunities, and interest in commercial oyster licences.

In 2014 the Department established twenty (20) FZWO communal commercial Pacific Oyster licences in order to provide commercial harvesting opportunities for First Nations. First Nations access to these commercial oyster licences is currently being addressed by the ATP. For more information on the Aboriginal Fisheries Strategy (AFS) and ATP, contact a resource manager listed in Appendix 7 or see the DFO website at: <http://www.pac.dfo-mpo.gc.ca/abor-autoc/atp-ptaa-eng.html>

4.3. Compliance

Through conditions of licence DFO ensures traceability of bivalve product from harvest to the point of landing at federally registered plants. DFO is no longer confident in the integrity of the CSSP - we are unable to state, with certainty, where product has originated, including whether it has been lawfully harvested from safe waters. There is a risk to human health. Regardless of efforts to date, tracing bivalve product remains problematic and compliance with conditions of licence is poor in all harvesting sectors.

4.4. Ecosystem

4.4.1. Depleted Species Concern

The Pacific Oyster fishery is a selective fishery and there are few concerns for potential impacts on depleted species during the directed fishing activities, including those species which have been listed under the *Species at Risk Act* (SARA). However, Olympia oyster habitat may overlap with the location of current or future harvest sites.

Olympia Oyster

Olympia Oysters (*Ostrea lurida*, previously *Ostrea conchaphila*) are listed as a species of Special Concern under SARA primarily due to population declines that were recorded historically. The introductions of exotic parasites, predatory snails, green crabs and fouling ascidians, as well as industrial and domestic pollution, pose significant threats to the oyster. Additionally, limited dispersal and vulnerability to low temperature extremes and sedimentation from floods and landslides may increase its vulnerability and ability to recover from adverse impacts.

The 2011 COSEWIC Assessment and Status Report on the Olympia Oyster suggests that harvest is likely a low-level threat, but that the Pacific Oyster fishery may have exacerbated other ongoing threats. COSEWIC notes that the limited recovery of the Olympia Oyster population may be due to incidental mortality of Olympia Oysters attached to harvested Pacific Oysters and poor survival of Olympia Oysters settling on Pacific Oyster shells in the mid- to upper-intertidal zones, rather than low intertidal and subtidal zones, due to increased exposure.

Olympia Oysters may occasionally be harvested by mistake during commercial, recreational, or First Nation harvests. As a species of Special Concern, no prohibitions under SARA apply to Olympia Oysters, however, mitigation of anthropogenic threats to this species must be considered as part of ongoing conservation efforts for this species. There is no current commercial or recreational fishery allowed for Olympia Oysters.

Further information regarding conservation of Olympia Oysters, including details on known threats to the species, and potential management actions, may be found in the Management Plan for the Olympia Oyster (*Ostrea conchaphila*) in Canada, located at the following link:

http://www.sararegistry.gc.ca/virtual_sara/files/plans/mp_olympia_oyster_0709_e.pdf

As a non-native (or “Alien”) species that was introduced into Canada by humans for aquaculture purposes, Pacific Oysters would not be considered by COSEWIC or under SARA for listing or protection within Canada regardless of stock status.

4.4.2. Oceans and Habitat Considerations

Oceans and Habitat Considerations

The Oceans Act came into force in 1997. This legislation provides a foundation for an integrated and balanced national oceans policy framework supported by regional management and implementation strategies. In 2002, Canada’s Oceans Strategy was released to provide the policy framework and strategic approach for modern oceans management in estuarine, coastal, and marine ecosystems. As set out in the Oceans Act, the strategy is based on the three principles of sustainable development, integrated management, and the precautionary approach.

For more information on the Oceans Act and other relevant publications, please visit: <http://www.dfo-mpo.gc.ca/oceans/index-eng.html>

The Oceans Act, the Canada Wildlife Act, and the National Marine Conservation Areas Act have given rise to several initiatives on the Pacific coast, which are listed below. As goals, objectives, and management plans are finalized for these initiatives, the Department’s management of fisheries will be adapted as appropriate, in consultation with interested parties through Integrated Fisheries Management Plan processes.

Canada’s Marine and Coastal Areas Conservation Mandate

In August 2019, the Government of Canada surpassed its milestone of protecting 10% of Canada’s marine and coastal areas by 2020, a target which is a reflection of Canada’s United Nation Convention on Biological Diversity Aichi Targets commitments, collectively referred to as Canada’s marine conservation targets. The Government of Canada further committed domestically to protecting 25% by 2025, and working towards 30% by 2030.

More information on the background and drivers for Canada’s marine conservation targets is available at the following link:

<http://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html>

To meet our marine conservation target, Canada is establishing Marine Protected Areas (MPAs) and “other effective area-based conservation measures” (“Other Measures”), in consultation with industry, non-governmental organizations, and other interested parties.

An overview of these tools, including a description of the role of fisheries management measures that qualify as Other Measures is available at the following link: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm-aoi-si-eng.html>.

Pacific North Coast Integrated Management Area (PNCIMA)

Endorsed in February 2017, the Pacific North Coast Integrated Management Area (PNCIMA) plan was developed, in collaboration with the Province of British Columbia, First Nations and stakeholders to help coordinate various ocean management processes and to complement existing processes and tools including IFMPs. High-level and strategic, the plan provides direction on integrated, ecosystem-based and adaptive management of marine activities and resources in the planning area as opposed to detailed operational direction for management. The plan outlines an ecosystem-based management (EBM) framework for PNCIMA that has been developed to be broadly applicable to decision-makers, regulators, community members and resource users alike, as federal, provincial and First Nations governments, along with stakeholders, move together towards a more holistic and integrated approach to ocean use in the planning area.

The endorsement of the PNCIMA plan supports the Government of Canada’s commitment to collaborative oceans management for the Pacific North Coast and provides a joint federal-provincial-First Nations planning framework for conservation and the management of human activities in the Pacific North Coast. One of the key priorities for the plan is the development of a marine protected area network. The planning for this network is well underway in the Northern Shelf Bioregion. It is anticipated that the network development will contribute to the Government of Canada’s commitment to protecting 25% of Canada’s oceans by 2025, and working toward 30% by 2030.

The PNCIMA Plan is available online at: <https://www.dfo-mpo.gc.ca/oceans/management-gestion/pncima-zgicnp-eng.html>

Northern Shelf Bioregion MPA Network

The Province of BC, the Government of Canada and 16 First Nations are working together to develop a network of marine protected areas for the Northern Shelf Bioregion which extends from the top of Vancouver Island (Quadra Island/Bute Inlet and Brooks

Peninsula) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as the Pacific North Coast Integrated Management Area. The planning process is being developed under the policy direction outlined in the National Framework for Canada's Network of MPAs as well as the Canada-British Columbia MPA Network Strategy.

A draft MPA network design, which consists of a map of areas proposed for conservation as well as potential management measures for proposed sites, was shared with First Nations, who are currently not part of the collaborative governance arrangement, and with members of the Network Advisory Committees in February 2019. The various sectors engaged in a review of the draft network design provided substantial input by January 30, 2020. A stakeholder forum was held in February 2020 to present and discuss feedback received. DFO completed its internal review of the draft design scenario and presented the report to the MPA Technical Team in March 2020. Governance partners are considering all input received to date and will be reporting out to stakeholders in late fall 2020. Revising the draft scenario will occur during the winter 2021 after which there will be further consultations, including public engagement in coastal communities, on scenario #2 and the accompanying socio-economic analysis.

More information on MPA Network Planning can be found at: <http://www.mpanetwork.ca>

Marine Spatial Planning South Coast

As part of a national marine spatial planning (MSP) initiative, DFO in collaboration with the Province of BC, federal departments (Transport Canada, Natural Resources Canada, Environment and Climate Change Canada, Parks Canada) and Indigenous groups, have begun marine spatial planning efforts on the South Coast, including the Strait of Georgia and Southern Shelf bioregions. The intent of MSP is to improve coordination across jurisdictions and activities in the marine space, and work is underway to define scope and objectives of the project. In the early phases, engagement on governance is taking place internally with GC partners, and externally with the Province of BC and local First Nations (beginning with representative organizations like First Nations Fisheries Council). National MSP deliverables include: governance, a bioregional atlas, and a marine spatial plan. Harvesters can expect updates on this process via Advisory Boards in the future.

Marine Protected Areas (MPAs)

DFO is also responsible for designating Marine Protected Areas (MPAs) under Canada's Oceans Act. Under this authority, DFO has designated three MPAs in the Pacific Region.

MPA regulations and management plans articulate any restrictions on activities taking place within the MPA, where applicable. More information on MPAs can be found at:

<http://www.dfo-mpo.gc.ca/oceans/conservation/areas-zones/index-eng.html>, and in Appendix 10 of this IFMP.

Endeavour Hydrothermal Vents (EHV) MPA

The EHV MPA was designated in 2003 with the objective of conserving the unique hydrothermal vent ecosystems. The hydrothermal vents lie in waters 2,250 m deep 250 km southeast of Vancouver Island. The occasional licenced commercial pelagic fishing that occurs very near the ocean surface in the MPA is not considered to be in conflict with the conservation objectives of the MPA and will continue. All commercial groundfish fisheries are restricted within the Endeavour MPA. More information can be found online at: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/endeavour/index-eng.html>.

SGaan Kinghlas-Bowie Seamount (SK-B) MPA

The SK-B MPA (180 km west of Haida Gwaii) was designated in 2008 and was

established to conserve and protect the unique biodiversity and biological productivity of the area's marine ecosystem, including the surrounding waters, seabed, and subsoil. The MPA is cooperatively managed by DFO and the Council of the Haida Nation (CHN) through the SK-B Management Board, which was established under a Memorandum of Understanding (MOU). The Management Board (in consultation with the SK-B Advisory Committee) has recently finalized the SK-B MPA Management Plan which guides the conservation and protection of the SK-B ecosystem. In 2018, the Government of Canada and the Haida Nation closed all bottom-contact fishing at SK-B MPA as a precautionary management approach to protect sensitive benthic habitats, resulting in the MPA being closed to all commercial fishing activities. More information can be found online at: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html>

Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs (HS/QCS) MPA

The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Marine Protected Area (Hecate MPA) was designated under the Oceans Act in February 2017 to conserve the biological diversity, structural habitat and ecosystem function of the glass sponge reefs. The Hecate MPA Regulations are available online at: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html>. The Hecate MPA is located in the Northern Shelf Bioregion of the Pacific Region southeast of Haida Gwaii, North and South of the entrance to the Douglas Channel, covering an area of approximately 2,410 square kilometers. The Hecate MPA zoning approach involves different management measures within each zone. Under the Hecate MPA Regulations, each glass sponge reefs' Core Protection Zone (CPZ) is closed to all commercial, recreational, and Aboriginal fishing. Anchoring, cable installation, maintenance and repair are also prohibited in the CPZ. The Vertical Adaptive Management Zone (VAMZ) and Adaptive Management Zone (AMZ) is currently closed to all commercial bottom contact fishing activities for prawn, shrimp, crab and groundfish (including halibut), as well as for midwater trawl for hake. For more detail on the fishery closure within the Hecate MPA, review Fishery Notice FN0198 found here: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?DOC_ID=194216&ID=all&pg=view_notice. Scientific research, monitoring, and educational activities are allowed in the Hecate MPA if a proponent submits an activity plan to DFO and it receives Ministerial approval. Additional maps and shapefiles of the Hecate MPA are available at: <https://open.canada.ca/data/en/dataset/a1e18963-25dd-4219-a33f-1a38c4971250>.

Offshore Pacific Area of Interest

In May 2017, DFO announced a new Area of Interest (AOI) with the intention of making it one of Canada's largest Marine Protected Areas by 2020. The proposed MPA extends from the toe of the continental slope to the westward boundary of Canada's Exclusive Economic Zone (EEZ) in the southern portion of the Offshore Pacific Bioregion. On average, the proposed MPA would be approximately 150 km away from the west coast of Vancouver Island, and would have an approximate area of 133,019 km². The conservation objective for the proposed MPA is to conserve, protect and enhance understanding of unique seafloor features including seamounts and hydrothermal vents and the marine ecosystems they support. More information on the Offshore Pacific AOI can be found on the internet here: <http://www.dfo-mpo.gc.ca/oceans/aoi-si/offshore-hauturiere-eng.html>

Offshore Pacific Seamounts and Vents Closure

Fishery closures to restrict commercial and recreational bottom-contact fishing activities within the Offshore Pacific AOI were announced in October 2017. At approximately 83,000 km² in size, the closure protects and conserves unique seafloor features including seamounts and hydrothermal vents identified through a Canadian Science Advisory Secretariat process, as well as a number of species of regional importance including corals, sponges and other endemic or rare species. The closure boundary was informed by available science and input received during consultations with First Nations, federal and provincial government agencies, industry and conservation organizations. Specific details of the closure can be found in the Fishery Notice.

More information on the Offshore Pacific seamounts and vents closure can be found on the internet here: <http://www.dfo-mpo.gc.ca/oceans/oeabcm-amcepz/refuges/offshore-hauturiere-eng.html>

Race Rocks Area of Interest

Race Rocks, an area off Rocky Point, south of Victoria (currently designated as a Provincial Ecological Reserve), has been identified as an area of interest.

National Marine Conservation Area Reserves (NMCARs)

Gwaii Haanas

Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site is a 5000 km² land-and-sea protected area in the southern part of Haida Gwaii (formerly the Queen Charlotte Islands), approximately 100 kilometres off the north coast of British Columbia. The Haida Nation designated the area a Haida Heritage Site in 1985. The terrestrial part of Gwaii Haanas was designated a National Park Reserve by the Government of Canada soon after, and Canada and the Haida Nation have been managing the area cooperatively since 1993. In 2010, the Gwaii Haanas marine area was designated a National Marine Conservation Area Reserve.

Gwaii Haanas is managed by the Archipelago Management Board (AMB), a cooperative body made up of three representatives of the Council of the Haida Nation and three representatives of the Government of Canada (Fisheries and Oceans Canada (1) and Parks Canada (2)). The AMB is guided by the Gwaii Haanas Agreement (1993) and the Gwaii Haanas Marine Agreement (2010), which describes how Canada and the Haida Nation will manage Gwaii Haanas cooperatively.

In November 2018, following an extensive consultation process, a new management plan for Gwaii Haanas was approved by Canada and the Haida Nation. The Gina 'Waadluxan KilGuhlGa Land-Sea-People plan includes a shared vision, guiding principles based on Haida cultural values, goals and objectives, and zoning for the land and the sea. The plan will be in place for the next decade.

To develop the zoning plan, key ecological and cultural features were identified using a range of ecological data and traditional knowledge. A set of design considerations, which included minimizing socio-economic impacts, was used to develop an initial zoning proposal. This proposal was reviewed with stakeholder groups including the commercial and recreational fishing sectors and major changes were made to the zoning plan based on advice the AMB received.

The final zoning plan includes several areas of strict protection, where commercial and recreational fishing are prohibited.

The zoning plan can be found at:

<https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/%20info/%20consultations/gestion-management-2018>

Refer to Fishery Notice 0536, released June 13, 2019 for a detailed description of the Strict Protection Zones and can be found at:

https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all

Council of the Haida Nation Fisheries Management Directions for the Gwaii Haanas Haida Heritage Site can be found at:

<http://www.haidanation.ca/wp-content/uploads/2019/04/CHN-Fisheries-Management-Directions-FINAL.pdf#:~:text=COUNCIL%20OF%20THE%20HAIDA%20NATION%20FISHERIES%20MANAGEMENT%20DIRECTIONS,jurisdiction%20of%20the%20Council%20of%20the%20Haida%20Nation>

A monitoring plan will be developed to assess the effectiveness of zoning in achieving ecological and cultural objectives. Regular monitoring within and outside of strict protection zones will illustrate ecosystem responses and facilitate adaptive management of the Gwaii Haanas marine area.

Implementation of the Land-Sea-People plan will also involve cooperative management of fisheries using an ecosystem-based management framework, and monitoring activities will be supported through partnerships. For more information on Gwaii Haanas and the Archipelago Management Board, visit www.parksCanada.gc.ca/gwaiihaanas. The Land-Sea-People plan can be downloaded at <https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/info/consultations/gestion-management-2018>.

Users of the Gwaii Haanas marine area should be aware that, as specified in the Gwaii Haanas Agreement, there is "no extraction or harvesting by anyone of the resources of the lands and non-tidal waters of the Archipelago for or in support of commercial enterprise" (s3.3). There are specific requirements for visiting the Gwaii Haanas terrestrial area and advanced planning is necessary. Please contact the Gwaii Haanas administration office at 1-877-559-8818 for further information.

Southern Strait of Georgia National Marine Conservation Area Reserve (feasibility assessment)

Parks Canada, in partnership with the Government of British Columbia, launched a feasibility assessment for a National Marine Conservation Area Reserve (NMCAR) in the southern Strait of Georgia in 2004. Since then, consultations with First Nations, key stakeholders, communities and the public have occurred. Informed by those discussions, a proposed boundary for consultation was announced by the provincial and federal Ministers of Environment in 2011.

Since 2011, the two governments have been consulting with First Nations, local governments and industry. A preliminary concept is currently being developed to help advance consultations on the feasibility assessment. If the results of the feasibility assessment indicate that establishment of a NMCAR is practical and feasible, an establishment agreement between the Governments of Canada and British Columbia will be negotiated and an interim management plan developed. If the NMCAR is determined to be feasible, further consultations related to establishment agreements and Indigenous rights will also take place with First Nations. Commercial and recreational fishing sectors, communities, landowners, recreation and environmental organizations and other stakeholders will also have opportunities to provide input to the development of the interim management plan.

Parks Canada information on the proposed NMCAR in the southern Strait of Georgia is available on the internet at: <https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnmca/dgs-ssg>

Scott Islands Marine National Wildlife Area

The Scott Islands Marine National Wildlife Area (mNWA) is the first protected marine area established by Environment and Climate Change Canada (ECCC) under the Canada Wildlife Act. In support of the conservation objectives of the Scott Islands mNWA, DFO is consulting on new regulations under the Fisheries Act to restrict certain fisheries that pose a risk to seabirds. A Notice of Intent was published in Canada Gazette Part 1 in June 2018 indicating the proposed regulations would prohibit fishing for three key forage fish species that serve as a key food source for seabirds (Pacific sand lance, Pacific saury, and North Pacific krill) as well as groundfish bottom trawling (in portions of the mNWA consistent with existing commercial closures) and salmon gill net and seine for commercial, recreational, and Indigenous fishing for food, social and ceremonial purposes. The anticipated pre-publishing of the regulations in Canada Gazette 1 is expected to occur in early 2021.

For further information on this, please contact - DFO.ScottIslands-IlesScott.MPO@dfo-mpo.gc.ca

More information on the Scott Islands marine NWA can be found at:

<https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/locations/scott-islands-marine.html>

The Scott Islands Protected Marine Area Regulations can be found at:

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-119/index.html>

Strait of Georgia and Howe Sound Glass Sponge Reef Marine Refuges

Effective April 1st, 2019 all commercial, recreational and Aboriginal Food, Social and Ceremonial (FSC) bottom-contact fishing activities for prawn, shrimp, crab and groundfish, as well as the use of downrigger gear for recreational salmon trolling (restricted via Condition of Licence) are prohibited within portions of Subareas 28-2 and 28-4 to protect nine Howe Sound glass sponge reefs, as marine refuges. This includes prohibition of the following fishing activities: prawn and crab by trap; shrimp and groundfish by trawl; groundfish by hook and line; and use of downrigger gear in recreational salmon trolling.

These eight closures are in addition to the nine areas closed to all commercial, recreational and Aboriginal FSC bottom-contact fishing activities in the Strait of Georgia and Howe Sound in 2015. Nine remaining areas in Howe Sound have been ground-

truthed to assess their ecological significance and management measures are currently being considered.

For further information on this, please contact Lindsay Klopp at Lindsay.Klopp@dfo-mpo.gc.ca.

Current closure locations and more information are available at: <https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/closures-fermetures-eng.html>

Ghost Gear Initiative

One of the biggest threats to oceans internationally is marine litter, and in particular, ghost fishing gear. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost or otherwise discarded and is some of the most harmful and deadly debris found in oceans.

In support of international efforts to reduce marine litter, in 2018, Canada signed the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities. In doing so:

- Canada committed to accelerating the implementation of the 2015 Oceans Plastics Charter; and,
- Strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.
- These commitments were further strengthened in DFO's 2019 Minister's Mandate Letter, emphasizing the importance of this work to Canadians.

Conditions of Licence to Report Lost and Retrieved Gear

In the spring of 2020 it became a condition of licence for commercial harvesters to report lost and retrieved fishing gear. Not reporting lost and or retrieved gear is now a chargeable offence that can have international trade implications.

Lost gear reporting forms can be found at: <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html>

Sustainable Fisheries Solutions and Retrieval Support Contributions Program (A.K.A. The Ghost Gear Fund)

In the summer of 2020, DFO funded seven organizations in Pacific Region to work on the retrieval, collection and responsible disposal of lost or otherwise discarded fishing gear.

To learn more about the DFO Ghost Gear Fund, go to: <https://www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/programme/projects-projets-eng.html>

Cold-Water Coral and Sponge Conservation Strategy

DFO's Pacific Region Cold-water Coral and Sponge Conservation Strategy encompasses short and long-term goals and aims to promote the conservation, health and integrity of Canada's Pacific Ocean cold-water coral and sponge species. The Strategy also takes into consideration the need to balance the protection of marine ecosystems with the maintenance of a prosperous economy. It was created with input from stakeholders throughout the Pacific Region and will help regional partners and stakeholders to understand how DFO's existing programs and activities tie into cold-water coral and sponge conservation.

Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas

Benthic ecosystems provide habitat, support food webs and are an important source of biodiversity. They also support many aquatic species that play an important social, cultural and economic role in the lives of many Canadians. It is imperative that these ecosystems are considered when managing oceans activities, including the harvest of fisheries resources. This includes the consideration of target species, non-target species, the ecosystems of which they are a part and the impact of fishing on these ecosystems when making management decisions. This is the basis of an ecosystem approach to fisheries management, which, along with a precautionary approach, is key to the Sustainable Fisheries Framework.

To avoid serious or irreversible harm to sensitive benthic habitat, species and communities and to otherwise address impacts to benthic habitat, communities and species, this policy follows a five (5) step process. Following these steps, ongoing fishing activities in historically fished areas will be managed to address impacts of fishing on sensitive benthic areas through existing processes, including the advisory processes in place for the given fishery, following these steps. The management of proposed new fishing activities in frontier areas will be addressed through a separate procedure, also using these steps. For more information on this Policy, please visit the following web site: <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/benthi-eng.htm>

4.4.3. Gear Impacts

The Pacific Oyster fishery is conducted by hand-picking and is highly selective with little impact to the habitat during harvest from the beaches.

The Department will review all fisheries in the coming years against the Policy for Impacts of Fishing on Sensitive Benthic Habitat to determine if any mitigation measures are warranted.

4.4.4. Catch Monitoring

Robust fishery monitoring information is essential for stock assessment and to effectively implement management measures such as target and bycatch limits, quotas and closed areas. Fishery monitoring information is also needed to support the long-term sustainable use of fish resources for Food, Social, and Ceremonial and other Indigenous fisheries, commercial fisheries, recreational fisheries, and to support market access for Canadian fish products.

Following multi-sectoral consultations, DFO released the national Fishery Monitoring Policy in 2019, replacing the regional “Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries” (2012). The Fishery Monitoring Policy seeks to provide dependable, timely and accessible fishery information through application of a common set of procedural steps used to establish fishery monitoring requirements across fisheries. Policy principles include respecting Indigenous and Treaty rights, linkage of monitoring requirements to the degree of risk and complexity of fisheries, linkage of monitoring programs to fishery and policy objectives while accounting for cost-effectiveness and practicality of implementation, and shared accountability and responsibility between DFO, Indigenous groups and stakeholders.

To ensure consistent national application of the Fishery Monitoring Policy, further guidance is provided through the “Introduction to the Procedural Steps of Implementing the Fishery Monitoring Policy”. Fisheries are first prioritized for assessment through collaboration with Indigenous groups and Stakeholders. Risk and data quality assessments are then conducted on priority stocks and associated fisheries and monitoring programs. Next, monitoring objectives are set in alignment with the Fishery Monitoring Policy, followed by specifying monitoring requirements and then monitoring programs are operationalized. Finally, a review and evaluation of the fishery monitoring programs against the monitoring objectives will be conducted and reported on.

The Fishery Monitoring Policy is part of DFO’s Sustainable Fisheries Framework and is available at:

<https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm>

The “Introduction to the Procedural Steps of Implementing the Fishery Monitoring Policy” is available at:

<https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fmp-implementation-ppm-mise-en-oeuvre-eng.htm>

In cases where assessment of monitoring programs identifies a gap between the current and target level of monitoring, discussions will be held between DFO Indigenous groups and stakeholders to identify options to address the monitoring gap, and the feasibility of these options (e.g. cost, technical considerations, etc.). To support Fishery Monitoring Policy principles, a collaborative approach is required.

Where monitoring options are determined to be feasible, the monitoring and reporting regime will be revised to incorporate these options, providing resource managers with sufficient information to meet Fishery Monitoring Policy objectives. Where monitoring options are not feasible, alternative management approaches are required to reduce the risk posed by the fishery. If there is no gap between the current and target level of monitoring, the management approach will not require any change.

5. OBJECTIVES

5.1. National

DFO aims to:

- Meet conservation objectives and ensure healthy and productive fisheries and ecosystems for indigenous species;
- Manage fisheries to provide opportunities for economic prosperity;
- Provide stability, transparency, and predictability in fisheries management and improved governance.

5.2. Pacific Region

In 1994, the Biological Objective Working Group of the PSARC identified three biological objectives for management of Pacific Region fish and invertebrate stocks (Rice et al, 1995). The objectives remain relevant today, particularly in light of development of the national objectives around sustainable fisheries:

- For indigenous species, ensure that subpopulations over as broad a geographical and ecological range as possible do not become biologically threatened (in the COSEWIC sense of “threatened”).
- Operationally, the above objective requires at least that management allow enough spawners to survive, after accounting for all sources of mortality (including all fisheries and natural mortality), to ensure production of enough progeny that they will, themselves, be able to replace themselves when mature.
- Fisheries may have collateral effects on other species, mediated by the ecological relationships of the target species. Fisheries should be managed in ways that do not violate the above objectives for ecologically related species, as well as target species.

5.3. Invertebrate Resource Management

Management goals and objectives have been defined for invertebrate fisheries in annual management plans produced by the Department since 1990. The management goals and objectives, as written by Invertebrate Fisheries Management and revised in 1997, are:

- To ensure conservation and protection of indigenous invertebrate stocks and their habitat through the application of scientific management principles applied in a risk averse and precautionary manner based on the best scientific advice available;
- To meet the federal Crown’s obligations regarding Aboriginal fisheries for FSC purposes and Treaty obligations;
- To develop sustainable fisheries through partnership and co-management arrangements with client groups and stakeholders to share in decision making, responsibilities, costs, and benefits;
- To develop fishing plans and co-operative research programs which will contribute to improving the knowledge base and understanding of the resource;
- To consider the goals of stakeholders with respect to social, cultural and economic value of the fishery;
- To consider health and safety in the development and implementation of management plans, fishery openings and closures;
- To consider opportunity for the development of the aquaculture industry; and

- To provide opportunities for a recreational fishery.

5.4. Pacific Oyster

5.4.1. Stock Conservation and Sustainability

The Pacific Oyster is a non-indigenous species introduced to British Columbia by humans for the purposes of aquaculture. Under COSEWIC definition, Pacific Oyster is considered an “alien” species, and would not normally be considered for COSEWIC or SARA listing or protections regardless of stock status. Conservation is not the Department’s objective for this specific species, but DFO does aim to manage the Pacific Oyster resources available in order to provide fishing opportunities for all harvest sectors.

The objective is to spread the harvest the available biomass over a period of time and manage harvest on an individual harvest site basis. The management objectives to accomplish these biological objectives are to:

- Conduct ongoing surveys and research to improve information;
- In most cases the guideline harvest rate of the harvest site biomass used for management planning in this fishery is 10%; and
- Track accurate harvest information for all users.

5.4.2. Ecosystem

Harvest and culture activities should occur in a manner that will minimize impacts to eelgrass beds and other sensitive fish habitats. Harvesters should avoid eelgrass beds when anchoring. If commercial harvesters have any concerns or questions that a fishing activity may adversely affect fish habitat, they are encouraged to contact the local Fisheries Protection Program manager.

5.4.3. Social, Cultural, and Economic Considerations

5.4.3.1. **First Nations:** The Department will continue to provide opportunities for First Nations to harvest fish for domestic and FSC purposes, in a manner consistent with the decision of the Supreme Court of Canada in the *Sparrow Decision*, and other court decisions. Additional allocations of Pacific Oysters will be provided to First Nations who demonstrate further requirements for FSC. For more information, see Appendix 2.

5.4.3.2. **Recreational:** DFO’s objective is to affirm the social and economic importance of the recreational fishery, provide sustainable recreational harvesting opportunities as part of integrated management plans consistent with DFO’s policies, to

create an environment within the advisory process in which recreational fishing representatives are welcome to express their concerns and opinions at the table, and to establish working mechanisms in conjunction with the other fishing sectors to reduce conflict and mitigate issues.

A Vision for Recreational Fisheries in British Columbia was developed cooperatively by DFO, the Province of B.C. and the Sport Fishing Advisory Board (SFAB). It serves as a framework for developing initiatives and actions to support achievement of a collective vision for the recreational fishery in BC.

5.4.3.3. **Commercial:** The Department will continue to work collaboratively with Industry to:

- Provide for a stable and sustainable fishery;
- Establish and monitor conditions of harvest to develop knowledge of the stock;
- Ensure safe harvest of shellfish through compliance with the CSSP programs.

DFO's objective is to develop standards for catch monitoring for all sectors, including recreational, commercial and First Nations.

5.4.3.4. **Aquaculture:**

Regulatory Regime:

In December 2010 the *Pacific Aquaculture Regulations* came into effect, giving DFO the authority to govern the management and regulation of aquaculture activities at marine finfish, shellfish, freshwater/land-based and enhancement facilities. The Province of B.C. continues to have authority over land tenures and workplace safety related to aquaculture in B.C. New applications, amendments and related referrals are coordinated through Front Counter B.C. More information is available on the B.C. government's website: <http://www.frontcounterbc.gov.bc.ca/>. DFO approves and issues aquaculture licences.

DFO requires comprehensive environmental monitoring to be undertaken by industry, and the Department also conducts additional monitoring, audits, and investigations (where warranted). Public reporting is undertaken to ensure the transparency and accountability of the management of aquaculture in B.C. Associated reporting can be found on the DFO web pages: <http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/index-eng.html>.

Within the B.C. Aquaculture Regulatory Program there is a Compliance and Enforcement Unit, dedicated to aquaculture compliance, as well as an Aquaculture Environmental Operations Unit, which monitors the activities of industry on an on-going basis. The

Program provides oversight and works to ensure the orderly management of the industry, including planning and licencing, linkages with national and regional policy, as well as consultation and communications requirements. Contact information for staff with responsibilities related to aquaculture management within DFO can be found in the Departmental Contacts section of this plan.

Integrated Management of Aquaculture Plans:

Integrated Management of Aquaculture Plans (IMAPs) provide an overview of each aquaculture sector and associated management and regulation. IMAPs are available on the DFO Consultations web pages: <http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html>

IMAPs complement IFMPs and the two are reviewed periodically to ensure consistency of management approaches.

Aquaculture Management Advisory Committees:

Aquaculture Management Committee Meetings (AMACs) engage the aquaculture industry, First Nations, and other stakeholders in development of IMAPs and on-going feedback relevant to the management of aquaculture. Information relating to AMAC meeting is posted on the DFO Consultations web pages: <http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html> Meetings are open to the public. More information on IMAPs and AMACs is available through IMAPS@dfo-mpo.gc.ca.

5.5. Compliance Objectives – Food Safety

As partners for delivery of the Canadian Shellfish Sanitation Program (CSSP), Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) collaborate to prevent illegal harvesting and selling of bivalve shellfish, including suspected laundering of illegal products through legitimate aquaculture businesses. DFO also remains committed to meeting conservation objectives for bivalves as well as supporting priority for Food, Social and Ceremonial fisheries. Any harvest occurring in conflict with established management measures and controls has the potential of negatively impacting the conservation of bivalve populations. DFO will investigate reports of illegal harvesting violations and will take appropriate enforcement actions, including prosecution. Furthermore, DFO may consider more restrictive management approaches if needed to protect public health. Commercial growers and harvesters are reminded that they are required, by law, to follow specific record-keeping and tagging requirements. Records of shellfish movement through the growing cycle and to the point of distribution provide evidence to support public health, regulatory decisions and closure recommendations.

The CSSP was established to co-ordinate the efforts of federal government agencies concerning the standards for sanitary shellfish practices. The purpose of the CSSP is to ensure that bivalve mollusc shellfish (including oysters) are safe for human consumption. To achieve this, the CSSP:

- sets standards for the harvest and handling of all bivalves within Canadian tidal waters;
- commits by way of the Agreement to improve sanitary practices within the shellfish industry;
- designates the responsibilities of DFO, Environment and Climate Change Canada (ECCC) and Canadian Food Inspection Agency (CFIA) to properly facilitate the mandate of the CSSP to Canadians and foreign governments; and
- strives to increase the efficiency and effectiveness of the CSSP by co-operation, communication, and participation.

The Pacific Region Interdepartmental Shellfish Committee (PRISC) meets biannually to discuss the recommendations that have arisen from water quality survey work conducted by ECCC.

6. ACCESS AND ALLOCATION

The Minister can, for reasons of conservation or for any other valid reasons, modify access, allocations, and sharing arrangements as outlined in this IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

6.1. First Nations

Subject to CSSP restrictions, to date, no limits have been placed on Aboriginal harvest of Pacific Oysters for FSC purposes.

Five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have aboriginal rights to fish for any species of fish, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a 2020/21 Five Nations Multi-species Fishery Management Plan (FMP). Feedback provided by the Five Nations during consultations was considered and incorporated into the 2020/21 FMP by DFO where possible. The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing

area, harvesting opportunities, and fishery monitoring and catch reporting. For further information see the FMP at: <http://waves-vagues.dfo-mpo.gc.ca/Library/40869374.pdf>

Maa-nulth domestic fisheries -The domestic (FSC) allocations for Pacific Oyster under the Maa-nulth First Nations Final Agreement are provided through set-aside beaches identified for bivalve domestic harvest.

Maa-nulth commercial fisheries - In addition to the allocation of Pacific Oyster for domestic purposes, Maa-nulth has been provided five (5) communal commercial Pacific Oyster licences outside of the Treaty and outside of the “Maa-nulth First Nation Harvest Agreement”. More information on the Treaty can be found at: <https://www.aadnc-aandc.gc.ca/eng/1100100022623/1100100022643>

Nisga’a Domestic Fishing - The Harvest agreement for domestic (FSC) purposes under the Nisga’a Final Agreement (Treaty) came into effect on May 11, 2000. The Nisga’a territory is located within the Nass River valley on the northwest coast of British Columbia. More information on the Treaty and the Nisga’a annual fishing plan can be found at: <http://www.nisgaalisims.ca/the-nisgaa-final-agreement>

Tsawwassen Domestic Fishing - The Tsawwassen fishery for domestic (FSC) purposes under the Tsawwassen Final Agreement (Treaty) came into effect on April 3, 2009. The Tsawwassen First Nation is located in the lower mainland near the city of Vancouver, and their territory spans portions the Strait of Georgia near the mouth of the Fraser River as well as portions of the lower Fraser River and Boundary Bay. More information on the Treaty can be found at: <https://www.aadnc-aandc.gc.ca/eng/1100100022706/1100100022717>

Tla’amin Domestic Fishing - The Tla’amin fishery for domestic (FSC) purposes under the Tla’amin Final Agreement (Treaty) came into effect on April 5, 2016. The Tla’amin Nation is located near the City of Powell River, 130 km northwest of Vancouver. More information on the Treaty can be found at: <http://www.aadnc-aandc.gc.ca/eng/1397152724601/1397152939293>

6.2. Recreational

Subject to CSSP restrictions, the daily limit for Pacific Oysters in Pacific Fisheries Management Areas (PFMAs) 12 to 29 is 12 per day; the possession limit is twice the daily limit. The daily limit in PFMAs 1 to 11 is zero.

6.3. Commercial

The coast-wide commercial Total Allowable Catch (TAC) in the standard fishery for 2021/22 is 688,800 lb (312,522 kg).

6.4. Aquaculture

The first priority in managing fish stocks is conservation, followed by First Nations obligations. Beyond that, the needs of aquaculturalists will be given consideration to those of other users in the commercial and recreational sectors.

7. MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

See the Harvest Plans, Appendix 1 to 3 for details on the following:

- TAC
- Fishing Seasons/Areas
- Control and Monitoring of Removals
- Decision Rules
- Licensing

8. SHARED STEWARDSHIP ARRANGEMENTS

8.1. Commercial

Commercial licence holders are responsible for arranging assessment and in-season fishery monitoring services. Licence holders fund a hail program to collect information on fishing activity, and to track area and licence quotas.

8.2. Fisheries and Oceans Canada

Several Stock Assessment and Fisheries Management personnel are directly involved in this fishery for some part of their activities. Contributions to the IFMP are provided by Fisheries Management in area offices and at regional headquarters, the Science Branch, Conservation and Protection (C&P) Branch, the Pacific Fishery Licence Unit, and numerous administrative personnel. Generally, all personnel are multi-tasked.

9. COMPLIANCE PLAN

9.1. Overview

DFO's C&P program is responsible for enforcing the *Fisheries Act* and pursuant regulations and related legislation. Enforcement activities are carried out by fishery officers across Canada who conduct patrols on land, at sea and in the air.

The Department promotes compliance with the law through a range of activities from education and awareness activities that encourage Canadians to protect fishery resources and habitats, patrol activities to detect violations, and major case management. These activities are further outlined in the C&P National Compliance Framework.

There are approximately 160 fishery officers stationed in the Pacific Region, which encompasses B.C. and Yukon Territory. They are designated as "fishery officers" under Section 5 of the *Fisheries Act*. The *Fisheries Act* and the *Criminal Code of Canada* are the primary pieces of legislation outlining the powers and responsibilities of fishery officers. Officers are designated under other Acts as well, such as the *Coastal Fisheries Protection Act* and *Species at Risk Act*.

Users of the resource have a responsibility to report violations. Any suspected or actual fisheries, wildlife or pollution violations can be quickly and discretely reported to the appropriate enforcement officer by using the toll free observe, record and report hotline. This toll free number is available 24 hours a day.

OBSERVE, RECORD AND REPORT 1-800-465-4DFO (1-800-465-4336)

Enforcement enquiries can also be directed to the local field offices during regular office hours.

9.2 Enforcement Issues and Strategies

Enforcement of the Pacific Oyster fisheries will be balanced against other commitments to higher priority issues, such as species at risk, CSSP and fisheries that have conservation concerns. C&P staff will pursue opportunities to monitor and enforce issues and problems related to the fishery in conjunction with the monitoring and enforcement activities dedicated to the identified priority fisheries in the Pacific Region.

Fishery officers conduct a range of activities to promote compliance. These activities include attending industry and internal management meetings, defining key enforcement concerns with Fisheries Management prior to the commercial fishery, conducting patrols, at-sea boarding of vessels carrying product, plant inspections during the fishery, and post season reporting.

Hail reporting by harvesters is a key component of the management of the fishery. C&P supports the hail programs through random checks against landing reports and verifications in-season, and by inspecting offloads and monitoring offloading practices at random points during the fishery.

Air surveillance resources will be utilized to patrol boundaries and conduct gear and vessel counts. Charter aircraft as well as DFO aircraft may be utilized for these activities.

C&P strives to meet with First Nations groups to build relationships. Fishery guardians are integral to this process and are very important to the enforcement program. C&P conducts joint patrols of First Nations fisheries and strives to complete enforcement protocols to better define the working relationship.

ISSUE	SECTION	STRATEGY
Licensing verification: Vessel licensed. No fishers' registration card (FRC). Fail to produce FRC. Failure to wear high visibility vest	<i>Pacific Fishery Regulations (PFR)</i> Section (S) 22, PFR S 25, <i>Fishery General Regulations (FGR)</i> S 11	Beach, at-sea and dockside inspections will occur when opportunities exist. These inspections may include inspection of all licensing documents to ensure compliance with regulations.
Harvest from contaminated area.	<i>Management of Contaminated Shellfish Regulations (MCSR) S 3</i>	Patrols are increased for all bivalve fisheries as part of CSSP patrols and when areas close due to PSP. Due to hail-in requirements, commercial fish harvesters can be notified of closures.
Fish during closed time/area.	PFR S 63	Patrols utilizing program vessels will be made when opportunities exist. May use charter or DFO aircraft.

ISSUE	SECTION	STRATEGY
Fail to provide proper landing and hail information, lack of notification for change of area, cancellation of trip, or incorrect reporting of area fished.	FGR S 22(7) (Fail to comply with terms and conditions of licence.)	Beach, at-sea and dockside inspections will occur when opportunities exist. Investigations will occur on an opportunistic basis after notification by Fisheries Management that a violation may have occurred. Charter aircraft may be used in co-ordination with scheduled priority fishery patrols.
Fail to use proper tag. Wet Storage without proper permists.	FGR S 22(7)	At-sea and dockside inspections will occur when opportunities exist. Investigations will occur on an opportunistic basis after notification by Fisheries Management that a violation may have occurred.
Fail to maintain Harvest Log Book.	FGR S 22(7)	At-sea and dockside inspections will occur when opportunities exist. Investigations will occur on an opportunistic basis after notification by Fisheries Management that a violation may have occurred.

10. PERFORMANCE REVIEW

10.1. Management Plan Evaluation Criteria

10.1.1. Pacific Region Objectives

- Were adequate steps taken to insure that Pacific Oyster stocks were managed to meet allocation objectives for First Nations, recreational, and commercial harvesters?

- Were stocks managed so as to have no collateral ecological effects?

10.1.2. Invertebrate Resource Management Objectives

- Did the Department provide reasonable opportunities for the domestic and FSC needs of First Nations?

- Were co-management goals achieved?

- Were goals around health and safety achieved?

- What opportunities for aquaculture development were provided?

- What opportunities for a recreational fishery were provided?

10.1.3. Pacific Oyster Objectives

- Were there advances in the understanding of oceans and aquatic resources relative to oysters? How many research and survey activities were conducted?
- Was harvest limited to the quotas established for the year?
- Did the commercial Monitoring Programs function appropriately, and what advances in catch monitoring for other sectors were made?
- How many beds have been closed upon reaching the beach quota?
- Were area boundaries and fishing times adhered to during the fishery?

11. GLOSSARY

Aboriginal Traditional Knowledge (ATK)	Knowledge that is held by and unique to Aboriginal peoples. It is a living body of knowledge that is cumulative and dynamic and adapted over time to reflect changes in the social, economic, environmental, spiritual, and political spheres of the Aboriginal knowledge holders. It often includes knowledge about the land and its resources, spiritual beliefs, language, mythology, culture, laws, customs and medicines.
Abundance	Number of individuals in a stock or a population.
age composition	Proportion of individuals of different ages in a stock or in the catches.
Aquaculture	As defined by the United Nations Food and Agriculture Organization (FAO), aquaculture is the culture of aquatic organisms, including fish, molluscs, crustaceans, and aquatic plants. Aquaculture implies some form of intervention in the rearing process to increase production, such as regular stocking, feeding, protection from predators, etc. It also implies individual or corporate ownership of the cultivated stock.
Area and Subarea	Defined in Section 2 of the <i>Pacific Fishery Management Area Regulations</i> . A map of Pacific Fishery Management Areas is available on the Department's internet site at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/areas-secteurs/index-eng.html
Biomass	Total weight of all individuals in a stock or a population.
Bycatch	The unintentional catch of one species when the target is another.

chart datum	The zero tide elevation on a hydrographic chart which usually approximates the lowest tide level for the local area.
Committee on the Status of Endangered Wildlife in Canada (COSEWIC)	Committee of experts that assess and designate which wild species are in some danger of disappearing from Canada.
communal commercial licence	Licence issued to First Nations organizations pursuant to the <i>Aboriginal Communal Fishing Licences Regulations</i> for participation in the general commercial fishery.
communal licence	A licence issued to First Nations organizations under Section 4 of the <i>Aboriginal Communal Fishing Licences Regulations</i> , pursuant to the <i>Fisheries Act</i> , to carry on fishing and related activities.
CSSP	Canadian Shellfish Sanitation Program. A program to classify and monitor shellfish harvest areas to determine whether shellfish are safe for human consumption and to regulate harvesting from those areas.
Domoic Acid Poisoning	A marine biotoxin sometimes found in bivalves. Also referred to as ASP or Amnesic Shellfish Poisoning.
DSP	Diarrhetic Shellfish Poisoning. A marine biotoxin sometimes found in bivalves.
fishing effort	Quantity of effort using a given fishing gear over a given period of time.
Food, Social, and Ceremonial (FSC)	A fishery conducted by Aboriginal groups for food, social and ceremonial purposes.
intertidal	The area of the ocean shoreline located between the highest high water and lowest low water tidal levels.
invertebrate	An animal without a backbone.
IVQ	Individual Vessel Quota: a portion of the total allowable catch (TAC) allocated annually to an individual vessel licence.
landed value	Value of the product when landed by the licensed vessel.
Landing	Quantity of a species caught, retained and then landed at shore.
Marine Biotoxin	Poisonous compounds accumulated by shellfish feeding upon toxin

	containing dinoflagellates and marine diatoms.
natural mortality	Mortality from natural causes, symbolized by the mathematical symbol M.
PSP	Paralytic Shellfish Poisoning. A marine biotoxin sometimes found in bivalves. Also commonly referred to as “red tide”.
Quota	Portion of the total allowable catch that is assigned or permitted to be taken by or from a single unit such as a single licence, beach, or fishing area in a given period of time.
recruitment	Amount of individuals becoming part of the exploitable stock e.g. that can be caught in a fishery. The process whereby young animals are added to a fishable stock or population.
<i>Species at Risk Act</i> (SARA)	The purposes of this Act are to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.
stakeholders	Individuals or groups with an interest in a particular fishery or activity.
Stock	Describes a population of individuals of one species found in a particular area, and is used as a unit for fisheries management.
stock assessments	Scientific evaluation of the status of a species belonging to a same stock within a particular area in a given time period. Results of analyses of fisheries and research data used to evaluate the effects of fishing on a stock or population and to predict the reactions of populations to alternative management choices.
subtidal	A portion of the bottom of the ocean that is not exposed at low tide stages. The ocean bottom at elevations below low water or chart datum.
Tonne	Metric tonne, which is 1,000kg or 2,204.6 lb.
total allowable catch (TAC)	Total allowable catch: the amount of catch that may be taken from a stock, determined by analytical procedures, to achieve management objectives.

APPENDIX 1: 2021/22 WILD PACIFIC OYSTER COMMERCIAL HARVEST PLAN

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MANAGEMENT HIGHLIGHTS AND CHANGES FOR 2021/22

- **Area Licencing:** The licence area selection process for 2021 resulted in 18 licences designated to the West Coast Vancouver Island (WCVI) and 48 licences designated to the East Coast Vancouver Island (ECVI). See Section 1.8.
- **Fishing Season:** The 2021/22 fishing season is scheduled to include two separate harvest periods. The first commercial opening is tentatively scheduled to occur from March 1, 2021 to June 30, 2021. The second commercial opening is tentatively scheduled to occur from September 10, 2021 to December 31, 2021. Harvesters are reminded to check the DFO fishery notice system for official openings and closures prior to fishing.
- **Canadian Shellfish Sanitation Program:** As partners for delivery of the Canadian Shellfish Sanitation Program (CSSP), Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) collaborate to prevent illegal harvesting and selling of bivalve shellfish, including suspected laundering of illegal products through legitimate aquaculture businesses. DFO also remains committed to meeting conservation objectives for bivalves as well as supporting priority for Food, Social and Ceremonial fisheries. Any harvest occurring in conflict with established management measures and controls has the potential of negatively impacting the conservation of bivalve populations. DFO reminds harvesters of the requirements for Legal Sourcing and Harvest of Bivalve Shellfish. Information has been updated. See Sections 2. And 3.
- **Licence Fees:** In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by Consumer Price Index (CPI) published by Statistics Canada.
- **Total Allowable Catch:** The total allowable catch (TAC) for the 2021/22 season has been set at 312,522 kg (688,800 lb). A total of 217,014 kg (478,300 lb) is allocated to the ECVI, and 95,481kg (210,500 lb) allocated to the WCVI. See Section 4.6.
- **Individual Licence Quotas:** The individual licence quota for each licence designated to the WCVI is 11,694 lb. The individual licence quota for each licence designated to the ECVI (Inside Waters) is 9,965 lb. See Section 4.3.
- **Harvest Locations:** A total of 25 quota harvest sites have been approved for harvest in the 2021 fishing season. A new harvest site within Pacific Fisheries Management Area 14 is included this year following a biomass survey at this location. A full list of the harvest sites opening for commercial harvest is provided in Section 4.4.3.
- **Quota Management by Harvest Site:** The Pacific Oyster fishery will be managed to individual harvest site quotas. Closures of individual harvest sites will be implemented in-

season as quotas are achieved. Quotas have been adjusted at some harvest sites. See Section 4.6.

- **Fishing Activity Hail Requirements (Office Hours only 9am to 5pm):** In order to monitor fishing activity an industry-funded hail program has been established to ensure the Department is able to track daily fishing activity. Licence holders are required to hail to a service provider a minimum of 24 hours prior to starting any harvesting. Hails must be provided during office hours from 9am to 5pm. The service provider will document the hail, and ensure the intended fishing location has remaining quota available for harvest. Harvesters must hail and receive a hail out number prior to fishing. Failure to hail is a violation of licence conditions. See Section 5.
- **Maximum period for a hail-in set at 8 days:** Harvesters may not hail-in to a harvest area indicating that they plan to fish for a period greater than 8 days. The maximum hail period is eight (8) days. Harvesters are required to re-hail at the end of their initial hail period if they plan to stay and fish at a harvest site beyond the initial hail period.
- **Harvest Quota Monitoring Program Requirements (Hailing from 9am to 5pm):** In order to monitor individual licence quotas and harvest area quotas an industry-funded program for quota tracking has been established. Licence holders must hail their catch (harvest) information to the approved service provider within 16 hours of the harvested oysters being removed or transported from the harvest site. The hail will ensure harvest amounts will be counted against the harvest site quota, and individual licence quota. Failure to hail harvest information following fishing activity is a violation of licence conditions. See Section 5.1.2.
- **Harvest Logbook Program Requirements:** Licence holders are responsible for completing and submitting an accurate harvest logbook record. See Section 5.2.1.
- **Service Provider:** The service provider selected by licence holders to be the designated provider for the 2021 season is D&D Pacific Fisheries Ltd. Contact information: 1-604-886-4819.
- **Canadian Shellfish Sanitation Program:** DFO is reviewing all commercial management measures and controls related to conservation, the effective delivery of the Canadian Shellfish Sanitation Program and the protection of public health, and priority for Food, Social and Ceremonial fisheries. See Section 2.
- **Amendments to Tagging of Product Requirements:** Water-proof tags are required for all containers of oysters harvested in the fishery. Additional information requirements have been included in the 2021/22 conditions of licence. See Section 5.2.2.
- **Wet Storage:** As of January 15, 2019 DFO Aquaculture Management is the lead authorizing agent for wet storage activities. Conditions of licence have been amended to reflect new

approval requirements for wet storage of product. Harvesters are reminded that commercially harvested oysters can not be left on wild beaches unattended without wet storage permits.

- **Wearing of High Visibility Vest:** All licence holders and harvesters must wear a high visibility vest to help identify those person operating in the commercial Pacific oyster fishery. See Section 6.3.
- **Five Nations Fishing Plan:** Five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have aboriginal rights to fish for any species of fish, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a 2020/21 Five Nations Multi-species Fishery Management Plan (FMP). Feedback provided by the Five Nations during consultations was considered and incorporated into the 2020/21 FMP by DFO where possible. The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. For further information see the FMP at: <http://waves-vagues.dfo-mpo.gc.ca/Library/40869374.pdf>
- It is the responsibility of all licence holders/harvesters to understand all management measures in the IFMP, and all licence conditions, prior to beginning harvest.

1. LICENCE REQUIREMENTS

1.1. Commercial Licencing

National Online Licensing System (NOLS) Client Support - Licensing Services

All fish harvesters/Licence Holders/vessel owners are required to use the National Online Licensing System (NOLS) to view, pay for and print their commercial fishing licences, licence conditions and/or receipts.

Training materials, including step-by-step guides and a detailed user training manual, are available online (<http://www.dfo-mpo.gc.ca/FM-GP/SDC-CPS/licence-permis-eng.htm>) to guide users of the system in completing their licensing transactions. The Department also provides client support and assistance on how to use the system via e-mail at fishing-peche@dfo-mpo.gc.ca or by calling toll-free at 1-877-535-7307 (7:00 AM to 8:00 PM Eastern, Monday to Friday).

For more information on how to register and use the system, visit the Department's website at the address above, or contact our client support.

1.2. Licence Category

A commercial Pacific Oyster Category ZWO or FZWO licence eligibility is required to commercially harvest wild Pacific Oysters. Category ZWO licence eligibilities are limited entry and party based. FZWO licence eligibilities are limited entry and party based; an Aboriginal group is the licence eligibility holder.

ZWO – This licence designates the authorized harvester named on the licence to harvest under the authority of the licence. Additional harvesters are allowed to assist the licence holder in harvesting on the beach. The licence holder and any additional harvesters must be in possession of a valid Fishers Registration Card (FRC). The licence holder must be present, at the harvest, and have the ZWO licence available for presentation upon request, when additional harvesters are active.

FZWO – The First Nation or Aboriginal organization is the licence eligibility holder. The First Nation or Aboriginal organization may designate an individual who may fish under the authority of the licence. The designation must be made in writing and include at a minimum the communal commercial licence number, the name of individual designated to fish, name and signature of the person authorized to provide designation on behalf of the First Nation or Aboriginal organization and the effective date of the designation. While engaged in fishing under the communal commercial licence the designated party must be in possession of the designation document, proof of designation (identification that can verify identity of the individual), and have the FZWO licence available for presentation upon request of a DFO fishery officer.

1.3. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by Consumer Price Index (CPI) published by Statistics Canada. The commercial Wild Pacific Oyster (Category ZWO) licence renewal fee may be found on the following link: <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/renewalfees-fraisrenouvellement-eng.html>.

There is no annual licence renewal fee for communal commercial category FZWO licence.

1.4. Licence Issuance

Renewal of a Category ZWO licence and payment of the fees must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category ZWO not renewed by February 28th of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance, licence eligibility holders are required to:

- a) Meet any Ministerial conditions placed on the licence eligibility.
- b) Ensure all conditions of the previous year's licence have been met.

The licence eligibility holder of record for ZWO licences may annually choose to participate or re-designate another harvester to be named on the licence for the period of the annual licence. The annual licence fee must be paid and the licence obtained prior to requesting re-designation. Logbook/fish slip requirements must be met prior to re-designation. A request for re-designation must be submitted by the licence holder to DFO using the NOLS 'Submit a request' function. The commercial licence eligibility will return to the licence-holder-on-record upon expiration of the annual licence.

1.5. Licence Documents

Pacific Oyster licence documents are valid from the date of issue until February 28th of the following calendar year.

Replacements for lost or destroyed licence documents may be obtained by reprinting the licence document through the National Online Licensing System.

ZWO - The oyster licence and FRC must be carried at all times by the licence eligibility holder when harvesting oysters and must be produced upon the demand of a fishery officer or guardian. In addition to the oyster licence and the FRC, licence holders shall ensure that government issued photo identification is in their possession at all times during harvesting and is available for inspection upon request of a fishery officer or fishery guardian.

FZWO - The oyster licence and designation document must be carried at all times by the designated party when harvesting oysters and must be produced upon the demand of a fishery officer or guardian. In addition to the oyster licence and the designation document, the harvester shall ensure that a proof of designation (driver's licence, status card, certificate of designation issued by the Aboriginal Organization, or other government issued photo identification) is in their possession at all times during harvesting and is available for inspection upon request of a fishery officer or fishery guardian.

Communal Commercial licence holders may obtain sample designation templates by contacting their local DFO Resource Manager.

1.6. Licence Eligibility Nominations

Category ZWO Pacific Oyster licence eligibilities may be nominated from one party to another. Nominations must be completed and submitted to the Pacific Fishery Licence Unit via the NOLS by the licence holder. Notarized application 'Nomination for Party-Based

Licence Eligibility'. Scan the document and attach it to a 'Submit Request' in NOLS. PDF or standard picture formats are accepted (jpg, etc.).

The following requirements must be met:

- a) Meet any Ministerial conditions placed on the licence eligibility
- b) Ensure all Conditions of Licence such as the completion of logbooks have been submitted and approved by G. Parker, Resource Manager, Fisheries & Oceans Canada.

Communal commercial (category FZWO) licence eligibilities may not be nominated as these are allocated annually to First Nations groups.

1.7. Fisher Identification Number (FIN)

A unique Fisher Identification Number (FIN) is assigned to each vessel owner and holders of commercial licence eligibilities, or FRC in the Pacific Region. This allows for quick and accurate identification. (The FIN is printed on your FRC and both party and vessel based licences.)

Licence holders may be asked to provide their FIN when applying for a licence, or for dockside monitoring, or for enforcement purposes.

For further information, please contact a Pacific Fisheries Licencing Unit (PFLU) or a resource manager (see Contacts, Appendix 7).

1.8. Licence Areas

The current open harvest areas have been divided into two licence management areas; the WCVI; and ECVI. Only specific harvest areas/sites (see Section 4.4.3.) within these licence areas will be open for commercial harvest.

- ECVI Waters: Areas 12 through 19; and 28 and 29.
- WCVI Waters: Areas 21 through 27.

2. CANADIAN SHELLFISH SANITATION PROGRAM

2.1. General Information on Closures under the Canadian Shellfish Sanitation Program

Closures may be implemented on short notice in the event of changes to contamination status, including sanitary and biotoxin events. Licence holders, vessel masters, and harvesters are reminded that:

- It remains the responsibility of the licence holders and harvesters to ensure that an area is not closed for harvest due to sanitary or biotoxin contamination. Fishing in a closed area is an offence under the *Fisheries Act*. Consumption of product harvested from within a closed area poses a serious health risk.
- Prior to commencement of each day's fishing, the licence holder must take care to confirm that an area is open for harvesting either through the DFO website at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html> or the toll-free information line at 1-866-431-3474, or by contacting a local DFO office directly. Contact information is available in Appendix 7.
- Information may also be available through weekly broadcasts over a commercial or marine radio station ("the weather channel"). In the North Coast, this method is only updated weekly on Tuesdays and it is recommended that the sources listed above be the primary avenue for information.

2.1.1. Sanitary Contamination Closures

Shellfish may not be harvested from closed contaminated areas except by special permit licence under the *Management of Contaminated Fisheries Regulations (MCFR)*. Currently there is not an approved depuration process for oysters. There are both seasonal and permanent sanitary contamination closures. Descriptions and maps of contaminated closures may be found at the following DFO website: www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html

A copy of this list may also be obtained from the resource managers (see Contacts, Appendix 7). Sanitary closures are amended annually in May and November, and may also be amended in-season. Consequently, harvesters are advised to check the internet, prior to harvesting in an area, to ensure that they have the most recent contamination closure information.

Permanent bivalve harvesting closures are in place for Canadian fisheries waters of the Pacific Ocean within:

1. 300 m radius around industrial, municipal and sewage treatment plant outfall discharges;
2. 125 m radius of any marina, ferry wharf, any floating living accommodation facility (other than a floating living accommodation described in subsection (3)) or finfish net pen described in subsection (4);
3. 25 m radius of any floating living accommodation facility located within a shellfish aquaculture tenure where a zero-discharge waste management plan is a condition of the aquaculture licence and is approved by the Regional Interdepartmental Committee.

4. Zero (0) metres of any finfish net pen within an aquaculture tenure where an Integrated Multi-trophic Aquaculture Management Plan approved by the Regional Interdepartmental Committee is in operation.

2.1.2. Biotxin Contamination Closures

Shellfish may not be harvested from closed areas except by special permit licence issued under the *Management of Contaminated Fisheries Regulations*. Shellfish may not be harvested for consumption from any area closed due to biotoxin contamination. Descriptions of biotoxin closures may be found at the following DFO internet site: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>

Areas will be opened and fished according to protocols required by the Biotxin Monitoring Program, approved by the Canadian Food Inspection Agency (CFIA).

Three consecutive weekly samples containing acceptable levels of biotoxin must be received in order for CFIA to lift a harvest restriction in an area. CFIA will make recommendation to lift the biotoxin (Paralytic Shellfish Poison (PSP)/red tide, Domoic Acid Poisoning) (ASP) or Diarrhetic Shellfish Poisoning (DSP) prohibition and a harvest site can then be considered by DFO for Aboriginal, commercial or recreational harvesting. The resource manager will prepare the documentation necessary for an area opening for approval by the Regional Director General. For further details on the CSSP, see the internet at: <https://www.inspection.gc.ca/food/food-specific-requirements-and-guidance/fish/canadian-shellfish-sanitation-program/eng/1527251566006/1527251566942?chap=0>

2.2. **Reminder of Requirements for Legal Sourcing and Harvest of Bivalve Shellfish**

DFO is reviewing all wild bivalve conditions of licence, and will increase / clarify management controls around product movement, i.e. selling of products to buyers/receivers, and implement changes to notification, tagging and reporting requirements. Consultation and engagement will be conducted through Fall 2020 / Early Winter 2021, with a focus on increasing awareness of traceability requirements followed by changes to conditions of licence.

In addition, DFO will commence intensive enforcement operations on bivalve fisheries, targeting tagging, landing and reporting, and complete major C&P investigations regarding extensive bivalve laundering.

Over the longer term, DFO will continue to work with industry and BC to: improve industry traceability management, processes and technology, including access to funding; build and improve relationships with our Indigenous partners aimed at ensuring access, opportunity and monitoring of FSC fisheries meets all needs; reassess the impacts of focused and concerted enforcement on the bivalve fisheries aimed at assessing

effectiveness of management control measures and informing future management control measures.

The safety of consumers is a top priority for the Government of Canada. The reputation of Canada's food supply is a responsibility shared by all parties, including industry and federal and provincial governments.

As partners for delivery of the Canadian Shellfish Sanitation Program (CSSP), Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) collaborate to prevent illegal harvesting and selling of bivalve shellfish, including suspected laundering of illegal products through legitimate aquaculture businesses. DFO also remains committed to meeting conservation objectives for bivalves as well as supporting priority for Food, Social and Ceremonial fisheries. Any harvest occurring in conflict with established management measures and controls has the potential of negatively impacting the conservation of bivalve populations.

DFO will investigate reports of illegal harvesting violations and will take appropriate enforcement actions, including prosecution. Furthermore, DFO may consider more restrictive management approaches if needed to protect public health. Commercial growers and harvesters are reminded that they are required, by law, to follow specific record-keeping and tagging requirements. Records of shellfish movement through the growing cycle and to the point of distribution provide evidence to support public health, regulatory decisions and closure recommendations.

Commercial harvesters and aquaculture operators are required to:

- Understand and abide by the conditions of licence;
- Keep complete, clear and legible records and be able to produce them to a DFO fishery officer when requested;
- Ensure bivalve product destined for market sale is appropriately tagged with complete and accurate harvest information and is processed by an operator licenced by the Canadian Food Inspection Agency to process shellfish;
- Harvest only from open and approved areas and check our website before heading out for the latest information (www.dfo-mpo.gc.ca/CheckBeforeYouHarvest).

If you are aware of illegal bivalve harvest activities and/or are aware of violations, please call the DFO Observe, Record and Report (ORR) phone line at 1-800-465-4336.

More information on the policies and criteria for harvesting shellfish can be found in the CSSP manual. See also Fishery Notice FN1142 (2019): https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=227228&ID=all

2.3. Human Waste Containment Regulations

Disposal of human waste into waters where shellfish are harvested or adjacent to shellfish harvest areas creates unnecessary and potentially serious health risks for shellfish

consumers. In accordance with the Canadian Shellfish Sanitation Program (CSSP) and Transport Canada Regulations, raw sewage (Human wastes, sewage or refuse) shall not be discharged from vessels while in or adjacent to shellfish areas. Vessels operating at a distance which does not allow for timely access to on-shore washroom facilities are expected to have a designated human waste receptacle on board. Receptacles could include a portable toilet, a fixed toilet, or other containment device as appropriate. Such devices must be made of impervious, cleanable materials and have a tight-fitting lid. (Refer to Division 4 of the Vessel Pollution and Dangerous Chemicals Regulations under the *Canada Shipping Act*):

1. Portable toilets or other designated human waste receptacles shall be used only for the purpose intended, and shall be so secured and located as to prevent contamination of the shellfish area or any harvested shellfish on board by spillage or leakage.
2. The contents of toilets or other designated human waste receptacles shall be emptied only into an approved sewage disposal system.
3. Every person onboard a shellfish harvest vessel must wash and sanitize their hands after using or cleaning a waste receptacle, or after using an onshore washroom facility.

Information on human waste containment receptacle requirements can be found at the following CFIA internet site: <https://www.inspection.gc.ca/preventive-controls/fish/cssp/questions-and-answers/eng/1563470479199/1563470589053>

2.4. Harvesting Bivalves in the Vicinity of Wastewater Treatment Plants

Concerns have been raised regarding bivalve shellfish harvested in the vicinity of wastewater treatment plants. Increased controls were implemented in 2009 to prevent shellfish harvest in areas where a trigger event at a wastewater treatment plant may potentially cause contamination.

Conditional Management Plans are being developed at some of the priority wastewater treatment plants to manage harvest activities in the vicinity of the wastewater treatment plants.

DFO will be consulting with shellfish harvesters in areas where Conditional Management Plans must be developed.

For further information, contact Elysha Gordon at (250) 756-7192.

3. CLOSURES

Closures to the commercial fishery may be in place for a variety of reasons: Aboriginal and recreational access, parks, marine reserves, research, navigation, or sanitary and marine biotoxin contamination.

3.1. Seasonal Area Closures

Check the DFO website and Fishery Notices for updates. The commercial harvest site listed below is subject to seasonal sanitary closures from May 31 to September 30. Check for openings and closures prior to harvesting.

Area 15 Sanitary Closure 15.B. -- Tenedos Bay: A seasonal sanitary closure is in place at this commercial harvest site during the summer months. Please confirm opening and closure dates for this area on the DFO Fisheries Notice system prior to harvesting.

4. PACIFIC OYSTER MANAGEMENT MEASURES

4.1. Species

Pacific Oysters (*Crassostrea gigas*).

The Department would like to remind harvesters that commercial and recreational harvest of Olympia Oysters (*Ostrea lurida*, previously *Ostrea chonchaphila*) is set to zero (0). Olympia Oysters are listed as a species of Special Concern under the Species at Risk Act.

4.2. Gear

Hand-picking only.

Diving, and other forms of harvest are not authorized under the ZWO or FZWO licence conditions.

4.3. Individual Licence Quotas

The individual licence quota is determined by dividing the allowable harvest in the licence area equally by the number of eligible licences electing that licence area for that particular year.

Based on the Area Licence Selection forms submitted by licence holders for the 2021 licence year the individual licence quota for the WCVI licence area is set at 11,694 lb. The individual licence quota for the ECVI licence area is set at 9,965 lb.

4.4. Fishing Areas and Openings

4.4.1. Canadian Shellfish Sanitation Program

Check to ensure the fishing area is classified and open prior to harvesting any bivalves. See Section 3.

4.4.2. Open Times (Fisheries & Oceans Canada)

The commercial Pacific Oyster fishery is tentatively scheduled to open at 00:01 hours March 1, 2021, biotoxin monitoring permitting. The commercial fishing season will close effective 23:59 hours June 30, 2021. Specific harvest sites will close in-season as the beach quota for that specific beach is achieved. For harvest sites with remaining quota a second commercial harvesting opening will occur September 10, 2021 and remain open until December 31, 2021. Harvest sites will close in-season as the beach quota for that specific beach is achieved. Prior to harvesting, harvesters must check for official openings and closures through Fishery Notices issued by the Department. At the Department's discretion adjustments to the opening and closing dates may be considered under some circumstances.

No product may be removed from the harvest site when the fishery is closed. This includes product already contained in bags or containers.

4.4.3. Descriptions for Commercial Harvest Sites

There may be smaller closures defined within the following area descriptions for aquaculture tenures, sanitary or biotoxin closures, parks, or conservation reserves. It is the responsibility of the harvesters to ensure they are harvesting within an area open for harvesting.

4.4.3.1. Area 13

Harvest Area: Shark Spit -- That portion of Subarea 13-15 along the northern intertidal foreshore of Marina Island north of the parallel passing through 50°04.938' north latitude. [NAD83] [Shark Spit]

Harvest Area: Smelt Bay -- That portion of Subarea 13-15 on the western intertidal foreshore of Cortes Island, south of the parallel passing through 50°02.900' north latitude and north of the parallel passing through 50°02.218' north latitude. [NAD83] [Smelt Bay]

Harvest Area: Bird Cove -- Those waters and intertidal foreshore known as Bird Cove within Subarea 13-17 inside a line drawn from a point at 50°11.978' north latitude and 125°05.081' west longitude to a point at 50°11.906' north latitude and 125°05.418' west longitude. [NAD83] [Bird Cove]

4.4.3.2. Area 14

Harvest Area: Portion of PFMA 14-11 -- Those waters and intertidal foreshore of the East Coast of Vancouver Island north of a line at latitude 49°36.26' and south of a line at latitude 49°37.399' [NAD83] [Portion of PFMA 14-11]

4.4.3.3. Area 15

Harvest Area: Savary Island Part A -- Those waters and intertidal foreshore of Savary Island within Subarea 15-2 lying inside a line drawn from a point at 49°57.09' north latitude and 124°51.651' west longitude to a point at 49°56.972' north latitude and 124°51.626' west longitude, thence along the foreshore of Savary Island to a point at 49°56.498' north latitude and 124°47.367' west longitude, thence to a point at 49°57.028' north latitude and 124°47.351' west longitude, and thence back to the point of commencement. [NAD83] [Savary Island Part A]

Harvest Area: Savary Island Part B -- Those waters and intertidal foreshore of Savary Island within Subarea 15-2 lying inside a line drawn from a point at 49°55.473' north latitude and 124°48.926' west longitude to a point at 49°56.056' north latitude and 124°48.938' west longitude, thence along the foreshore of Savary Island to a point at 49°56.962' north latitude and 124°45.715' west longitude, thence to a point at 49°56.342' north latitude and 124°45.628' west longitude, and thence back to the point of commencement. [NAD83] [Savary Island Part B]

Harvest Area: Hernando Reef -- That portion of Subareas 15-2 and 15-3 along the southern intertidal foreshore of Hernando Island, south of the parallel passing through 49°57.798' north latitude. [NAD83] [Hernando Reef]

Harvest Area: East Hernando -- That portion of Subarea 15-3 along the eastern intertidal foreshore of Hernando Island, south of a line 49°58.17' north latitude and north of a line 49°57.798' north latitude. [NAD83] [East Hernando]

Harvest Area: West Hernando -- That portion of Subarea 15-3 along the western intertidal foreshore of Hernando Island south of the parallel passing through 50°00.194' north latitude and west of the meridian passing through 124°55.027' west longitude. [NAD83] [West Hernando]

Harvest Area: Stag and Dog Bays -- The waters and intertidal foreshore in Subarea 15-3 known as Stag Bay and Dog Bay along the northern portion of Hernando Island east of the meridian passing through 124°56.649' west longitude and west of the meridian passing through 124°53.795' west longitude. [NAD83] [Stag and Dog Bays]

Harvest Area: Lloyd Point -- Those waters and intertidal foreshore of Hombrey Channel in Subarea 15-5 inside a line drawn from a point at 50°11.645' north latitude and 124°36.486' west longitude to a point at 50°11.645' north latitude and 124°36.934' west longitude, thence to a point at 50°10.500' north latitude and 124°38.070' west longitude, thence to a

point at 50°10.500' north latitude and 124°37.458' west longitude, and thence following the coastline northerly back to the origin.[NAD83] [Lloyd Point]

Harvest Area: Seaford -- That portion of Subarea 15-5 on the eastern intertidal foreshore of Cortes Island, south of the parallel passing through 50°06.377' north latitude and north of the parallel passing through 50°05.658' north latitude. [NAD83][Seaford]

Harvest Area: Tenedos Bay -- Those waters and intertidal foreshore known as Tenedos Bay within Subarea 15-5 inside a line drawn from a point at 50°07.062' north latitude and 124°42.477' west longitude to a point at 50°07.283' north latitude and 124°41.772' west longitude. [NAD83] [Tenedos Bay]

Harvest Area: Atrevida Reef – Those waters and intertidal foreshore of Subarea 15-2 inside a line running from 49°55.508' north latitude and 124° 40.028' west longitude to a point at 49°54.901' north latitude and 124°40.098' west longitude, then to a point at 49°54.954' north latitude and 124° 38.831', and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Atrevida Reef]

4.4.3.4. Area 16

Harvest Area: Killam Bay -- That portion of Subarea 16-13 on the British Columbia mainland known as Killam Bay, inside a line drawn from a point 49°47.266' north latitude and 123°55.303' west longitude to a point at 49°46.998' north latitude and 123°55.710' west longitude. [NAD83] [Killam Bay]

Harvest Area: Blind Bay -- That portion of Subarea 16-16 intertidal foreshore and waters known as Blind Bay east of a line drawn from a point at 49°44.223' north latitude and 124°11.38' west longitude to a point at 49°42.846' north latitude and 124°11.582' west longitude. [NAD83] [Blind Bay]

Harvest Area: Davie Bay -- That portion of Subarea 16-21 along the southern intertidal foreshore of Texada Island, east of the meridian passing through 124°24.965' west longitude *and* west of the meridian passing through 124°22.902' west longitude. [NAD83] [Davie Bay]

Harvest Area: Mouat Bay -- That portion of Subarea 16-21 along the southern intertidal foreshore of Texada Island known as Mouat Bay, south of the parallel passing through 49°38.800' north latitude and north of the parallel passing through 49°38.248' north latitude. [NAD83] [Mouat Bay]

Harvest Area: St. Vincent Bay Part A -- That portion of Subarea 16-12 known as St. Vincent Bay inside a line starting from a point at 49°50.319' north latitude and 124°04.752' west longitude, then to a point at 49°48.847' north latitude and 124°05.261' west longitude,

then to a point at 49°48.14' north latitude and 124°04.857' west longitude, thence back to the point of commencement. [NAD 83] [St. Vincent Bay – Part A]

Harvest Area: St. Vincent Bay Part B -- That portion of Subarea 16-12 known as Sykes Island inside a line starting from a point at 49°48.843' north latitude and 124°05.111' west longitude, then to a point at 49°49.077' north latitude and 124°05.113' west longitude, then to a point at 49°49.079' north latitude and 124°04.834' west longitude, then to a point at 49°48.868' north latitude and 124°04.84' west longitude, thence back along the shoreline of Sykes Island to the point of commencement. [NAD 83] [St. Vincent Bay – Part B]

Harvest Area: Storm Bay – Those waters and intertidal foreshore of Subarea 16-8 inside a line running from 49°39.596' north latitude and 123°49.112' west longitude to a point at 49°39.924' north latitude and 123°49.766' west longitude, then to a point at 49°39.914' north latitude and 123°49.889', and thence along the foreshore of British Columbia mainland back to a point at 49°39.437' north latitude and 123°49.369' west longitude, and then running along a straight line to the point of commencement. [NAD83] [Storm Bay] – amended boundary effective 2020.

Harvest Area: Sechelt Inlet Part A – Those waters and intertidal foreshore of Subarea 16-6 inside a line running from 49°42.335' north latitude and 123°51.49' west longitude to a point at 49°42.283' north latitude and 123°51.551' west longitude, then to a point at 49°41.783' north latitude and 123°50.972', then to a point at 49°41.795' north latitude and 123°50.943' west longitude, and thence along the foreshore of British Columbia mainland back to the point of commencement. [NAD83] [Sechelt Inlet Part A]

Harvest Area: Sechelt Inlet Part B – Those waters and intertidal foreshore of Subarea 16-6 inside a line running from 49°42.132' north latitude and 123°53.395' west longitude to a point at 49°41.83' north latitude and 123°53.239' west longitude, and thence along the foreshore of Sechelt Peninsula back to the point of commencement. [NAD83] [Sechelt Inlet Part B]

4.4.3.5. Area 23

Harvest Area: Pipestem Inlet Part A -- Those waters and intertidal foreshore known as Pipestem Inlet within Subarea 23-10 east of the meridian passing through 125°12.847' west longitude. [NAD83] [Pipestem Part A]

Harvest Area: Pipestem Inlet Part B -- Those waters and intertidal foreshore known as Pipestem Inlet within Subarea 23-10, lying inside a line drawn from a point at 49°01.139' north latitude and 125°17.213' west latitude to a point at 49°01.306' north latitude and 125°16.872' west longitude, thence to a point at 49°01.251' north latitude and 125°16.724' west longitude, thence along the foreshore back to the point of commencement. [NAD83] [Pipestem Part B]

Harvest Area: Pipestem Inlet Part C -- Those waters and intertidal foreshore along the south-east shoreline of Pipestem Inlet within Subarea 23-10 beginning at a point at 49°00.884' north latitude and 125°19.197' west longitude to a point at 49°00.977' north latitude and 125°18.27' west longitude. [NAD83] [Pipestem Part C]

Harvest Area: Toquaht Part A -- The waters and intertidal foreshore portion of Subarea 23-10 lying inside a line drawn from a point at 49°02.368' north latitude and 125°20.688' west longitude to a point at 49°02.207' north latitude and 125°20.657' west longitude, thence to a point at 49°01.746' north latitude and 125°19.971' west longitude, thence to a point at 49°01.871' north latitude and 125°19.437' west longitude, and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Toquaht Part A (formerly Toquaht Bay)]

Harvest Area: Toquaht Part B -- The waters and intertidal foreshore portion of Subarea 23-10 lying inside a line drawn from a point at 48°59.218' north latitude and 125°21.394' west longitude to a point at 48°59.414' north latitude and 125°21.365' west longitude, thence to a point at 48°59.611' north latitude and 125°21.177' west longitude, thence to a point at 48°59.667' north latitude and 125°20.926' west longitude, thence to a point at 48°59.437' north latitude and 125°20.209' west longitude, thence to a point at 48°59.156' north latitude and 125°20.161' west longitude, thence to a point at 48°59.154' north latitude and 125°20.372' west longitude, thence to a point at 48°58.901' north latitude and 125°20.761' west longitude, thence to a point at 48°58.92' north latitude and 125°21.01' west longitude, thence to a point at 48°59.006' north latitude and 125°21.09' west longitude, and thence along the foreshore back to the point of commencement. [NAD83] [Toquaht Part B (formerly Toquaht Bay)]

Harvest Area: Toquaht Part C -- The waters and intertidal foreshore portion of Subarea 23-10 lying inside a line drawn from a point at 49°00.204' north latitude and 125°20.849' west longitude to a point at 49°00.265' north latitude and 125°20.842' west longitude, thence to a point at 49°00.082' north latitude and 125°19.986' west longitude, thence to a point at 48°59.562' north latitude and 125°19.861' west longitude, thence to a point at 48°59.52' north latitude and 125°20.48' west longitude, thence to a point at 48°59.619' north latitude and 125°20.567' west longitude, and thence along the foreshore back to the point of commencement. [NAD83] [Toquaht Part C (formerly Toquaht Bay)]

4.4.3.6. Area 25

Harvest Area: Tlupana Inlet -- Those waters and intertidal foreshore of Subarea 25-5 known as Tlupana Inlet inside a line running from 49°47.588' north latitude and 126°29.415' west longitude to a point at 49°46.748' north latitude and 126°27.323' west longitude, and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Tlupana Inlet]

Harvest Area: Hisnit Inlet Part A – Those waters and intertidal foreshore of Subarea 25-4 inside a line running from 49°44.555' north latitude and 126°31.159' west longitude to a point at 49°44.814' north latitude and 126°30.957' west longitude, and thence along the foreshore of Vancouver Island to the point of commencement. [NAD83] [Hisnit Inlet Part A]

Harvest Area: Hisnit Inlet Part B – Those waters and intertidal foreshore of Subarea 25-4 inside a line running from 49°44.175' north latitude and 126°30.224' west longitude to a point at 49°43.962' north latitude and 126°29.798' west longitude, to a point at 49° 44.025' north latitude and 126°29.767' west longitude, and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Hisnit Inlet Part B]

Harvest Area: Mooyah Bay -- Those waters and intertidal foreshore known as Mooyah Bay within Subarea 25-3 inside a line drawn from a point at 49°38.655' north latitude and 126°27.751' west longitude to a point at 49°38.325' north latitude and 126°25.541' west longitude. [NAD83] [Mooyah Bay]

4.5. Beach Management

4.5.1. Calculation of Beach Quotas

4.5.1.1. Surveyed Beaches

Where oyster biomass information from past years surveys is available, an estimate of current biomass using this survey data is used to establish a harvest quota. A guideline harvest rate of 10% of the estimated biomass is used for most beaches.

4.5.1.2. Unsurveyed Beaches

Where biomass estimates are not available, DFO has applied minimal quotas to some beaches so as to allow for a small commercial harvest opportunity.

4.5.2. Fishing Assigned Beach Quotas

It is the responsibility of the licence holder to hail to the fishery service provider prior to each fishing trip. The service provider will notify the licence holder if remaining quota exists on a specific beach.

Licences do not guarantee licence holders access to specific beaches for obtaining their quotas. Once beach quotas have been achieved for the fishing season, harvesters with remaining individual quotas will be required to harvest from other beaches with remaining quota available.

See section 4.6. and 4.7. for a full list of the individual beach quotas.

See section 5.1. for notification requirements prior to, and after fishing.

4.5.3. Quota Monitoring

Licence holders must hail their harvest information at the end of each fishing trip or off-load of product. Hail information will be provided to the service provider hired by the licence holders to monitor harvest levels against individual and beach quotas for the season.

The service provider hired by licence holders for the 2021 season is D&D Pacific Fisheries Ltd. Hails must be made to 1-888-730-8709 and must be made within 16 hours of the oysters being transported from, or removed from the harvest site. All product harvested must be accounted for in the hailed harvest to the service provider, even if product from an earlier day is removed by someone other than the licence holder.

The service provider must provide weekly updates to DFO, or as requested.

4.5.3.1. Possible Quota Transfers Due to Marine Biotxin Closures

The Department may, at its discretion, transfer quotas in-season between harvest areas, or to new harvest sites in order to mitigate access problems and/or harvest delays resulting from biotoxin closures. Transfers will only occur in extreme situations that harvesters would not be able to plan for in advance. Harvesters deciding to leave fishing until the end of the season and then encountering biotoxin issues should not expect quota transfers or fishing season extensions. In-season quota adjustments will not result in an increase in the annual commercial quota.

4.5.4. Role of the Service Provider

The approved service provider for the 2021 season is D&D Pacific Fisheries Ltd. The office hours for the service provider are 9am to 5pm. The service provider is responsible for receiving fishing hails from licence holders, providing up-to-date information on beach and licence quota status, and providing reporting services to DFO on behalf of licence holders. It remains the responsibility of the licence holder to ensure that all licence conditions are met.

For information on hail program requirements and contact phone numbers see section 5.1.

4.6. Harvest Opportunities for East Coast Vancouver Island (ECVI)

The 2021/22 wild Pacific Oyster quota for the ECVI waters is 478,300 lb. This has been subdivided and assigned to the beaches shown in Table 1. A total of 20 harvest sites have been assigned. At the Department's discretion adjustments to harvest quotas, harvest sites, or harvest site boundaries may be considered under some circumstances.

Table 1: 2021/22 Pacific Oyster Harvest Sites and Quotas - ECVI Waters

Site	Harvest Site Name	PFMA / Description	Quota (lb)
5031	Bird Cove	13-17	3,600
1411	South of Comox Harbour	14-11	75,000
5032	Blind Bay	16-16	22,500
5036	Davie Bay	16-21	15,200
5037	East Hernando	15-3	9,000
5042	Hernando Reef	15-3	78,000
5045	Killam Bay	16-13	5,000
5047	Lloyd Point	15-5	12,500
5052	Mouat Bay	16-21	10,000
5058	Seaford	15-5	50,000
5061	Smelt Bay	13-15	7,500
5062	St. Vincent Bay (Part A & B combined)	16-12	6,900
5063	Stag and Dog Bays	15-3	39,000
5071	West Hernando	15-3	8,100
5122	Shark Spit	13-15	20,000
7000	Sechelt Inlet (Part A & B combined)	16-6	5,000
6001	Tenedos Bay *	15-5	15,000
7001	Atrevida Reef	15-2	15,000
7002	Storm Bay	16-8	6,000
6005	Savary Island (Part A & B combined)	15-2	75,000
Total Allowable Catch (lb)			478,300
<i>*Note: Tenedos Bay - Seasonal water quality closures in place due to summer boating traffic.</i>			

4.7. Harvest Opportunities for West Coast of Vancouver Island (WCVI)

Five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have aboriginal rights to fish for any species of fish, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a 2020/21 Five Nations Multi-species Fishery Management Plan (FMP). Feedback provided by the Five Nations during consultations was considered and incorporated into the 2020/21 FMP by DFO where possible. The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. For further information see the FMP at: <http://waves-vagues.dfo-mpo.gc.ca/Library/40869374.pdf>

At the Department's discretion adjustments to harvest quotas, harvest sites, or harvest site boundaries may be considered under some circumstances.

Table 2: 2021/22 Pacific Oyster Harvest Site Areas and Quotas – WCVI

Beach	Harvest Site Name	PFMA/Description	Quota (lb.)
5068	Toquaht (Part A, B, & C combined)	23-9 and 23-10	138,000
6007	Pipestem Inlet (Part A, B, & C combined)	23-10	33,000
5043	Hisnit (Part A & B)	25-4	15,500
5118	Mooyah Bay	25-3	9,000
7003	Tlapana Inlet	25-5	15,000
Total Allowable Catch (lb)			210,500

5. CONTROL AND MONITORING OF COMMERCIAL FISHING ACTIVITIES

Control and monitoring of the commercial fishery is achieved largely through the Catch Monitoring Programs (Fishing Hail, Catch Hail, and Logbook). Commercial fish harvesters contract with D&D Pacific Fisheries Ltd. to track the commercial landings of oysters.

Licence holders are required to notify the service provider prior to engaging in fishing, and provide harvest information prior to the end of the day of harvesting. Each licence holders must also carry and fill out a harvest logbook with details of harvest activity.

The Department has been notified by licence holders that the service provider contracted for the purpose of notification, catch monitoring, and data submission for the 2021/22 season will be D&D Pacific Fisheries Ltd. The service provider can be reached at 1-604-886-4819 from 9am to 5pm.

5.1. Notification Procedure

The following are responsibilities of notification for holders of a ZWO or FZWO category licence, as detailed in the Conditions of Licence.

5.1.1. Notification by a Licence Holder prior to Fishing

24 hours prior to fishing Pacific Oysters, or upon cancellation of a fishing trip, licence holders must notify the service provider of the following information:

- Licence holder name and licence number
- Caller's name
- Vessel Name – (only if vessel used and vessel has a name)
- Pacific Fisheries Management Area/Subarea
- Beach name on which harvesting will occur (harvesting site)
- Date and time of arrival on, or departure from, the fishing area.

Notification may be completed through the service provider at 1-800-775-5505 during office hours only (9am to 5pm) or by emailing to pacificoyster@d-dpacificfisheries.com.

The maximum period for which a pre-harvest hail may be valid for is eight days. A harvester may not hail-in to a harvest site indicating that they plan to harvest for a period longer than eight days. If the harvester plans to fish an area for a period longer than eight days they must re-hail into the area after the initial eight days.

5.1.2. Notification by a Licence Holder after Fishing

Within 16 hours of transporting the product from the harvest site licence holders must notify the service provider of the following;

- Licence holder name
- Hail Out Number provided prior to fishing
- Beach name (harvest site) on which harvesting occurred on
- Pacific Fisheries Management Area/Subarea
- Date and time of landing, landing port and location at the port.
- Accurate Estimated Weight of oysters harvested

- Destination of oysters (lease or processor)

Notification may be completed through the service provider at 1-888-730-8709 during office hours only (9am to 5pm) or by emailing to pacificoyster@d-pacificfisheries.com.

If for any reason product harvested under the authority of the ZWO or FZWO licence is missing or stolen off the beach before the licence holder can transport the product, the harvested product must still be hailed and reported against the licence holder's quota.

5.2. Recording of Harvest Product

5.2.1. Harvest Logbooks

It is the responsibility of the vessel owner for the provision and maintenance of an accurate record, a "log" of daily harvest operations. This log must be completed and a copy submitted to Fisheries and Oceans Canada in both hard copy (paper) and electronic form in an approved format as defined by the 2021/22 Fishery Monitoring and Catch Reporting Program Standards. The harvest logbook supplied by the service provider under contract is an approved format harvest log.

A copy of the Fishery Monitoring and Catch Reporting Program Standards document for the 2021/22 season is found in Appendix 11.

The original copy of the log, the fishing location information, must be forwarded within 28 days following the end of each month in which fishing occurred. This information must be sent to:

Guy Parker

Fisheries and Oceans Canada

3225 Stephenson Point Road

Nanaimo, B.C., V9T 1K3

Catch information must be recorded in the harvest log prior to leaving the fishing locations on the day of fishing. The logbook must be at the harvest site. Logbooks must be produced for examination on demand of a fishery officer, guardian, or a fishery observer designated under the *Fisheries Act*.

Fisheries and Oceans Canada wishes to remind commercial fish harvesters that harvest logbooks must be completed accurately during fishing operations and submitted to Fisheries and Oceans Canada in accordance with the timing set out in conditions of licence. Delay of completion or submission of logs is a violation of a condition of licence.

The licence eligibility holder of record, as reported to the PFLU, is responsible to ensure that the harvest information has been completed and a submitted copy of the harvest log data. The Department can only release harvest log data to the reported licence holder, and only upon written request.

5.2.2. Tagging of Oyster Containers

All containers holding oysters shall be marked or tagged with the following information;

- Harvester's name;
- Licence Holder's name;
- Oyster Licence number;
- Harvest date;
- Commercial Harvest Site; and
- Pacific Fisheries Management Subarea (example: Subarea 24-4).

Tags shall be waterproof and information shall be written in water resistant ink.

All oyster containers shall be tagged prior to placing any oysters in them.

No container of oysters shall remain untagged during transport to market sale or a wet storage location in preparation for market sale.

5.2.1. Lost, Seized or Destroyed Product

Oysters harvested and then lost, seized, destroyed, or wasted for any reason shall be counted against the individual licence holder's quota and the beach quota where the product was harvested.

5.2.2. Wet Storage of Commercial Wild Harvest Pacific Oyster

As of January 15, 2019 DFO Aquaculture Management is the lead authorizing agent for wet storage activities. Conditions of licence have been amended to reflect new approval requirements for wet storage of product. Harvesters are reminded that commercially harvested oysters can not be left on wild beaches unattended without wet storage permits.

If harvesters are unable to retrieve oysters from the beach that were harvested during the fishery due to unforeseen circumstances (ex. Vessel breakdown) then harvesters should contact the local DFO office to inform Conservation and Protection staff of the situation.

5.3. Catch and Fishing Data

5.3.1. Nil Report for Validation & Harvest Log

In the event that a licence is issued but not fished, the vessel owner is responsible for submitting a Nil Report for the season. The Nil report must be submitted prior to the issuing of approval for licence renewal. One page from the Validation & Harvest Logbook

identifying the vessel, licence tab number, and the year with “Nil” entered in the body of the log and signed by the vessel owner constitutes a Nil Report.

5.3.2. Confidentiality of Harvest Data

Harvest data, including fishing location data supplied through latitude and longitude coordinates or chart records, collected under the harvest logbooks for shellfish fisheries programs, are collected for use by DFO in the proper assessment, management, and control of the fisheries. Upon receipt by DFO of harvest log data and/or fishing location information, supplied by the fish harvesters in accordance with Conditions of Licence, Section 20(1) (b) of the *Access to Information Act* prevents DFO from disclosing to a third party, records containing financial, commercial, scientific or technical information that is confidential information. Further, Section 20(1) (c) of *the Act* prevents DFO from giving out information, the disclosure of which could reasonably be expected to result in material financial loss or could reasonably be expected to prejudice the competitive position of the licence eligibility holder.

5.3.3. Fish Slip Requirements

An accurate written report shall be furnished on a fish slip of all fish and shellfish caught under the authority of this licence. A report must be made even if the fish and shellfish landed are used for bait, personal consumption, or otherwise disposed. The written report shall be posted *no later than seven days after harvest* and sent to:

Fisheries and Aquaculture Management Branch
FM Data Unit
Fisheries and Oceans Canada
Suite 200 - 401 Burrard Street
Vancouver, B.C.
V6C 3S4

Information on obtaining Fish Slips may be found at: <https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/fishslips-carnets/index-eng.html>

6. GENERAL INFORMATION

6.1. WORKSAFE BC

The oyster fishery, and other fisheries, are legislated by the requirements for occupational divers, found in Part 24 of the *Occupational Health and Safety Regulation* (OHSR) and as commercial fishing ventures, also found in Part 24 of the OHSR. Many of the general sections of the Regulation also apply, for example: Part 8 - Personal Protective Equipment, addresses issues related to safety head gear, safety footwear, and personal floatation

devices. Part 17 addresses issues on rigging and Part 5 addresses issues of exposure to chemical and biological substances. The entire regulation can be acquired from the Provincial Crown Printers or by visiting the WorkSafeBC Internet Site at: www.worksafebc.com. See Appendix 8 for more information.

6.2. Sale and Transfers of Pacific Oysters

The *B.C. Provincial Fish and Seafood Regulations* Section 21 states: A person must not possess, store or transport fish the person receives directly from a commercial fisher and that may be distributed to the public for human consumption unless the person (a) holds a fish receiver licence, (b) is exempt under subsection (2), or (c) is an employee, acting in the course of his or her employment, of a person referred to in paragraph (a) or (b).

Oyster harvesters may sell or hold their oysters on a lease provided the buyer is a duly licensed fish buyer.

6.3. Wearing High Visibility Vests While Harvesting

Licence holders and all persons harvesting Pacific oysters under the authority of a ZWO or FZWO commercial licence shall wear a high visibility vest during fishing activities.

APPENDIX 2: 2021/22 PACIFIC OYSTER FIRST NATION HARVEST PLAN

1. OPEN TIMES AND AREAS

Aboriginal harvest for food, social and ceremonial (FSC) or domestic purposes is open year round if authorized by a communal licence and the area is not closed for sanitary or biotoxin (e.g., paralytic shellfish poisoning (PSP) or red tide) contamination.

2. CLOSURES

2.1. Canadian Shellfish Sanitation Program

The consumption of bivalves from areas closed due to contamination concerns can be life threatening.

With the exception of Subarea 1-5 (McIntyre Bay), the entire British Columbia coast north of Cape Caution (Areas 1 to 11 inclusive) is closed for the harvest of bivalves. Area-specific and fishery-specific testing may be conducted in collaboration with Environment and Climate Change Canada (ECCC) for sanitary issues, and the Canadian Food Inspection Agency (CFIA) for biotoxin issues.

For Subarea 1-5 and all areas south of Cape Caution, harvesters are strongly advised to check for sanitary and biotoxin contamination closures prior to harvesting any bivalves by:

- calling our toll-free line 1-866-431-3474
- checking the following website:
<http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>
- calling a local DFO office (see Contacts section of IFMP, the British Columbia Sport Fishing Guide (<http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>) or check blue pages of the phone book).

Remember to check for both types of contamination closures that may affect bivalves: sanitary closures and biotoxin closures (PSP/red tide, Domoic Acid Poisoning and Diarrhetic Shellfish Poisoning (DSP)).

2.1.1. Sanitary Contamination Closures

Sanitary closures are in place in areas that have been found to contain, unacceptable levels of contaminants. Descriptions and maps of contaminated closures may be found at the following DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>

Harvesters are advised that, unless other closures are specified, permanent bivalve harvesting closures are in place for Canadian fisheries waters of the Pacific Ocean within:

1. 300 m radius around industrial, municipal and sewage treatment plant outfall discharges;
2. 125 m radius of any marina, ferry wharf, any floating living accommodation facility (other than a floating living accommodation described in subsection (3)) or finfish net pen described in subsection (4);
3. 25 m radius of any floating living accommodation facility located within a shellfish aquaculture tenure where a zero-discharge waste management plan is a condition of the aquaculture licence and is approved by the Regional Interdepartmental Committee.
4. Zero (0) metres of any finfish net pen within an aquaculture tenure where an Integrated Multi-trophic Aquaculture Management Plan approved by the Regional Interdepartmental Committee is in operation.

2.1.2. Biotoxin Contamination Closures

Closures due to elevated biotoxin levels (PSP/Red Tide, Domoic Acid Poisoning (ASP), and Diarrhetic Shellfish Poisoning (DSP) are frequent and often encompass large areas. These closures can occur on very short notice with the closure taking effect immediately. **Consumption of shellfish that contain the toxin causing PSP and Domoic Acid Poisoning can cause paralysis memory loss or death.**

Descriptions and maps of contaminated closures may be found at the following DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>

Check to ensure that the area where you intend to harvest is open prior to harvesting using the contact information above.

2.2. Reminder of Requirements for Legal Sourcing and Harvest of Bivalve Shellfish

The safety of consumers is a top priority for the Government of Canada. The reputation of Canada's food supply is a responsibility shared by all parties, including industry and

federal and provincial governments.

As partners for delivery of the Canadian Shellfish Sanitation Program (CSSP), Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) collaborate to prevent illegal harvesting and selling of bivalve shellfish, including suspected laundering of illegal products through legitimate aquaculture businesses. DFO also remains committed to meeting conservation objectives for bivalves, and to respecting as well as supporting priority for First Nations' Aboriginal right to fish for Food, Social and Ceremonial food, social and ceremonial (FSC) purposes, or domestic purposes under Treaty, which has priority – after conservation – over other users of the resource. Any harvest occurring in conflict with established management measures and controls has the potential of negatively impacting the conservation of bivalve populations.

DFO will investigate reports of illegal harvesting violations and will take appropriate enforcement actions, including prosecution. Furthermore, DFO may consider more restrictive management approaches if needed to protect public health. Commercial growers and harvesters are reminded that they are required, by law, to follow specific record-keeping and tagging requirements. Records of shellfish movement through the growing cycle and to the point of distribution provide evidence to support public health, regulatory decisions and closure recommendations.

Commercial harvesters and aquaculture operators are required to:

- Understand and abide by the conditions of licence;
- Keep complete, clear and legible records and be able to produce them to a DFO fishery officer when requested;
- Ensure bivalve product destined for market sale is appropriately tagged with complete and accurate harvest information and is processed by an operator licenced by the Canadian Food Inspection Agency to process shellfish;

Harvest only from open and approved areas and check our website before heading out for the latest information (www.dfo-mpo.gc.ca/CheckBeforeYouHarvest).

If you are aware of illegal bivalve harvest activities and/or are aware of violations, please call the DFO Observe, Record and Report (ORR) phone line at 1-800-465-4336.

More information on the policies and criteria for harvesting shellfish can be found in the CSSP manual. See also Fishery Notice FN1142 (2019): https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=227228&ID=all

2.3. Harvesting on Aquaculture Tenures

Aquaculture leases are considered private property. Aquaculture licences of occupation are activity (or species) specific and do not legally restrict access unless there are impacts to the species being cultured. The Department recommends that oyster harvesters familiarize themselves with the location of aquaculture tenures in fishing areas and that explicit permission be sought from the aquaculturist for access. All tenures must be marked with standard red-dyed concrete markers.

2.4. Human Waste Containment Regulations

Disposal of human waste into waters where shellfish are harvested or adjacent to shellfish harvest areas creates unnecessary and potentially serious health risks for shellfish consumers. In accordance with the Canadian Shellfish Sanitation Program (CSSP) and Transport Canada Regulations, raw sewage (Human wastes, sewage or refuse) shall not be discharged from vessels while in or adjacent to shellfish areas. Vessels operating at a distance which does not allow for timely access to on-shore washroom facilities are expected to have a designated human waste receptacle on board. Receptacles could include a portable toilet, a fixed toilet, or other containment device as appropriate. Such devices must be made of impervious, cleanable materials and have a tight-fitting lid. Refer to Division 4, Transport Canada's Vessel Pollution and Dangerous Chemicals Regulations under the *Canada Shipping Act*):

1. Portable toilets or other designated human waste receptacles shall be used only for the purpose intended, and shall be so secured and located as to prevent contamination of the shellfish area or any harvested shellfish on board by spillage or leakage.
2. The contents of toilets or other designated human waste receptacles shall be emptied only into an approved sewage disposal system.
3. Every person onboard a shellfish harvest vessel must wash and sanitize their hands after using or cleaning a waste receptacle, or after using an onshore washroom facility.

Information on Human Waste Containment Receptacle Requirements can be found at the following CFIA internet site: <https://www.inspection.gc.ca/preventive-controls/fish/cssp/questions-and-answers/eng/1563470479199/1563470589053>

2.5. Harvesting Bivalves in the Vicinity of Wastewater Treatment Plants

Concerns have been raised regarding bivalve shellfish harvested in the vicinity of wastewater treatment plants. Increased controls were implemented in 2009 to prevent shellfish harvest in areas where a non-permitted sewage overflow at a wastewater treatment plant may potentially cause contamination.

Conditional Management Plans are being developed at some of the priority based wastewater treatment plants to manage harvest activities in the vicinity of the wastewater treatment plants.

DFO will be consulting with shellfish harvesters in areas where Conditional Management Plans must be developed.

For further information, contact Elysha Gordon at (250) 756-7192.

3. CONTROL AND MONITORING OF ABORIGINAL FISHING ACTIVITIES

Aboriginal harvests for FSC purposes are the first priority after conservation. This fishery is regulated through the issuance of communal licences to First Nations organizations. These licences are issued under the authority of the *Aboriginal Communal Fishing Licence Regulations*. Further arrangements for Aboriginal fishing may be identified in agreements between the Department and individual First Nations organizations.

Communal licences and Fisheries Agreements may contain provisions for the designation of individuals by the First Nations organization to access the allocation provided under the communal licence, as well as provisions for monitoring and reporting by the group of the Aboriginal fishery in co-operation with the Department.

Aboriginal access to fish for FSC purposes is managed through a communal licence which can permit the harvest of Pacific Oysters.

For additional information on communal licences, see the internet at: <http://www.pac.dfo-mpo.gc.ca/abor-autoc/licences-permis-eng.html>

Nisga'a Domestic Fishing

The Harvest agreement for domestic (FSC) purposes under the Nisga'a Final Agreement (Treaty) came into effect on May 11, 2000. The Nisga'a territory is located within the Nass River valley on the northwest coast of British Columbia. More information on the Treaty and the Nisga'a annual fishing plan can be found at: <http://www.nkn.ca/files/u28/nis-eng.pdf>

Tsawwassen Domestic Fishing

The Tsawwassen fishery for domestic (FSC) purposes under the Tsawwassen Final Agreement (Treaty) came into effect on April 3, 2009. The Tsawwassen First Nation is located in the lower mainland near the city of Vancouver, and their territory spans portions the Strait of Georgia near the mouth of the Fraser River as well as portions of the lower Fraser River and Boundary Bay. More information on the Treaty can be found at: https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-BC/STAGING/texte-text/tfnfa_1100100022707_eng.pdf

Maa-nulth Domestic Fishing

The Maa-nulth First Nations fishery for domestic (FSC) purposes under the Maa-nulth First Nations Final Agreement (Treaty) came into effect on April 1, 2011. The Maa-nulth First Nations comprise five individual First Nations; Huu-ay-aht First Nations, Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nations, Toquaht Nation, Uchucklesaht Tribe and the Yuułu?iŋ?atŋ First Nation on the west coast of Vancouver Island. More information on the Treaty can be found at: http://www.maanulth.ca/downloads/treaty/2010_maa-nulth_final_agreement_english.pdf

Tla'amin Domestic Fishing

The Tla'amin fishery for domestic (FSC) purposes under the Tla'amin Final Agreement (Treaty) came into effect on April 5, 2016. The Tla'amin Nation is located near the City of Powell River, 130 km northwest of Vancouver. More information on the Treaty can be found at: <https://www.rcaanc-cirnac.gc.ca/eng/1397152724601/1542999321074>

APPENDIX 3: 2021/22 WILD PACIFIC OYSTER RECREATIONAL HARVEST PLAN

1. INTRODUCTION

Tidal Water Sport Fishing - Licensing and Regulations

The recreational harvest of various fish and invertebrate species in BC is regulated via the *British Columbia Sport Fishing Regulations, 1996* made under the *Fisheries Act*. A DFO Tidal Waters Sport Fishing licence is required for the recreational harvest of all species of fish and invertebrates. Tidal Waters Sport Fishing licences may be purchased for a 1, 3, 5 day, or annual period. Fees depend on licence duration, age (senior, adult, juvenile) and residency status. Licences for juveniles (ages 15 and under) are free. Check for applicable fees and purchase your licence online via the National Recreational Licensing System: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html>

Licence type & duration	Fee: resident	Fee: non-resident
Annual licence, Adult (16-64 years of age)	\$22.05	\$106.05
Annual licence, Senior (65 years of age and over)	\$11.55	\$106.05
Annual licence, Juvenile (under 16 years of age)	Free	Free
5 day licence	\$16.80	\$32.55
3 day licence	\$11.55	\$19.95
1 day licence	\$5.51	\$7.35
Salmon Conservation Stamp (annual)	\$6.30	\$6.30

Notes:

- Fees shown above include GST
- A Canadian resident is an individual who normally lives in Canada; proof of residency may be requested (driver's licence etc.)
- A non-resident is anyone who does not live in Canada

- Fees are governed by the BC Sport Fishing Regulations as established in 1996 - <http://laws-lois.justice.gc.ca/eng/regulations/SOR-96-137/index.html>; please note that the regulations do not have concessionary rates for people with disabilities.
- An annually-purchased Salmon Conservation Stamp (\$6.00 + GST) must be affixed to licences held by anglers, both adult and juvenile, wishing to retain any species of Pacific salmon; a salmon stamp is not required for catch and release.

Online Regulations

The regulations for recreational fishing are summarized online in the British Columbia Tidal Waters Sport Fishing Guide, which lists open and closed times, catch limits, size limits (where applicable) and open/closed areas: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>. When required, Fishery Notices are issued to advise of changes to the regulations which are kept up-to-date in the online Sport Fishing Guide; view or sign-up to receive Fishery Notice notifications by email at: <http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm>. The old printed Sport Fish Guide booklet is no longer being produced/distributed, both to reduce costs and in recognition that the online guide does a better job at reporting in-season changes, which was not possible with the printed guide. You may also call your local fishery office to obtain regulatory information for your area of interest – visit us at <http://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html> or call 604-666-0384 or email info@dfo-mpo.gc.ca.

Using mobile devices and the FishingBC App

The FishingBC App <http://www.fishingbcapp.ca/> as developed by the Sport Fishing Institute of BC, may be downloaded to your mobile device to assist with having access to regulatory information for species/areas/fishing gear while out on the water (along with other functionality). Please note that the DFO website is the official site for regulatory information in the event of a discrepancy between the two.

E-licences and Paper licences

At this time most fishers continue to use the traditional paper copy of their licence; however an e-licence – which is an electronic/pdf copy of your licence – may be used on a mobile device, such as a cell phone or tablet; however there are restrictions on its use.

Please consider these licensing requirements before your fishing trip:

- For all recreational tidal water fishers that do not have an electronic copy of their licence on their mobile device - you must still have a paper copy of your licence with you as proof of licence purchase to show to a fishery officer.

- For users of the App, or on any electronic device, you may have a pdf copy of your licence on the device which must be immediately producible to show to a fishery officer; and a paper copy of the licence is not required unless you wish to retain any chinook, halibut, or lingcod.
- For all fishers wishing to retain chinook, halibut, or lingcod, even if you have your e-licence and catch details in the App or in your mobile device, you must still have a paper copy of your licence with you to record catch on the licence for these three species.

Supporting Sustainable Fisheries - Catch Reporting and the (iREC) Survey

The Sport Fishing Advisory Board (SFAB) is the primary consultative body for the recreational fishing community, and includes representatives from all geographic regions in BC, and the BC Wildlife Federation, and the Sport Fishing Institute of BC. The SFAB and the recreational fishing sector strongly support effective fishery monitoring and catch reporting programs in recreational fisheries. The SFAB has been working with DFO on initiatives to strengthen fishing monitoring and catch reporting in the recreational fishery for a number of years.

Recreational harvesters are required as a condition of the Tidal Waters Sport Fishing Licence to report information on their recreational fishing activity and catch to DFO representatives when requested to do so, whether in person or via an internet survey. Recreational harvesters may be requested by a Fishery Officer or designated DFO representative at the dock, or through a creel or internet survey to provide catch/effort information on their recreational fishing activities.

The Internet Recreational Effort and Catch (iREC) Survey was initiated in 2012 to provide monthly estimates of effort for all methods of recreational fishing. New in 2018, survey participants are now selected at time of licence purchase, and have their iREC survey access code printed to their licence. A reminder notice will also be sent by email. By completing the survey, fishers provide information essential to understanding the full impacts of the recreational fishery, and thus support sustainable fishery management. More information on the iREC Survey is available at: <https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/irec-iarc/index-eng.html>

2. OPEN TIMES AND AREAS

The recreational fishery for oysters occurs year-round in the tidal waters of British Columbia except those areas that are closed to fishing. Fishing closures are put in place for various reasons, often related to concerns for public health and safety. Please refer to section 4 for details.

3. CLOSURES

3.1. Canadian Shellfish Sanitation Program

The consumption of bivalves from areas closed due to contamination concerns can be life threatening.

The British Columbia coast north of Cape Caution (Areas 1 to 11 inclusive) is closed for the harvest of oysters. Area-specific and fishery-specific testing may be conducted in collaboration with Environment and Climate Change Canada (ECCC) for sanitary issues and the Canadian Food Inspection Agency (CFIA) for biotoxin issues.

Harvesters are strongly advised to check for sanitary and biotoxin contamination closures prior to harvesting any bivalves by:

- calling our toll-free line 1-866-431-3474
- checking the following website:
- <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>
- calling a local DFO office (see Contacts section of IFMP, the British Columbia Sport Fishing Guide (<http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>) or check blue pages of the phone book).

Remember to check for both types of contamination closures that may affect bivalves: sanitary closures and biotoxin closures (Paralytic Shellfish Poisoning (PSP)/red tide, Domoic Acid Poisoning and Diarrhetic Shellfish Poisoning (DSP)).

3.1.1. Sanitary Contamination Closures

Sanitary closures are in place in areas that have been tested and found to contain unacceptable levels of contaminants.

Descriptions and maps of contaminated closures may be found at the following DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>

Harvesters are advised that, unless other closures are specified, permanent bivalve harvesting closures (no harvesting for any purpose) are in place for all waters within:

1. 300 m radius around industrial, municipal and sewage treatment plant outfall discharges;

2. 125 m radius of any:
 - (i) marina;
 - (ii) ferry wharf;
 - (iii) any floating living accommodation facility, other than a floating living accommodation described in subsection (3); or
 - (iv) any finfish net pen, other than a finfish net pen described in subsection (4);
3. 25 m radius of any floating living accommodation facility located within a shellfish aquaculture tenure where a zero-discharge and appropriate waste management plan is a condition of the Aquaculture Licence and is approved by the Regional Interdepartmental Committee; and
4. Zero (0) m of any finfish net pen within an aquaculture tenure where an Integrated Multi-Trophic Aquaculture Management Plan approved by the Regional Interdepartmental Committee is in operation.

3.1.2. Biotoxin Contamination Closures

Closures due to elevated biotoxin levels (PSP/Red Tide, Domoic Acid Poisoning, and DSP) are frequent and often encompass large areas. These closures can occur on very short notice with the closure taking effect immediately. **Consumption of shellfish that contain the toxin causing PSP and Domoic Acid Poisoning can cause paralysis, memory loss, or death.**

Descriptions and maps of contaminated closures may be found at the following DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/index-eng.html>

Check to ensure that the area where you intend to harvest is open prior to harvesting using the contact information above.

3.2. Reminder of Requirements for Legal Sourcing and Harvest of Bivalve Shellfish

The safety of consumers is a top priority for the Government of Canada. The reputation of Canada's food supply is a responsibility shared by all parties, including industry and federal and provincial governments.

As partners for delivery of the Canadian Shellfish Sanitation Program (CSSP), Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) collaborate to prevent illegal harvesting and selling of bivalve shellfish, including suspected laundering of illegal products through legitimate aquaculture businesses. DFO also

remains committed to meeting conservation objectives for bivalves as well as supporting priority for Food, Social and Ceremonial fisheries. Any harvest occurring in conflict with established management measures and controls has the potential of negatively impacting the conservation of bivalve populations.

DFO will investigate reports of illegal harvesting violations and will take appropriate enforcement actions, including prosecution. Furthermore, DFO may consider more restrictive management approaches if needed to protect public health. Commercial growers and harvesters are reminded that they are required, by law, to follow specific record-keeping and tagging requirements. Records of shellfish movement through the growing cycle and to the point of distribution provide evidence to support public health, regulatory decisions and closure recommendations.

Commercial harvesters and aquaculture operators are required to:

- Understand and abide by the conditions of licence;
- Keep complete, clear and legible records and be able to produce them to a DFO fishery officer when requested;
- Ensure bivalve product destined for market sale is appropriately tagged with complete and accurate harvest information and is processed by an operator licenced by the Canadian Food Inspection Agency to process shellfish;
- Harvest only from open and approved areas and check our website before heading out for the latest information (www.dfo-mpo.gc.ca/CheckBeforeYouHarvest).

If you are aware of illegal bivalve harvest activities and/or are aware of violations, please call the DFO Observe, Record and Report (ORR) phone line at 1-800-465-4336.

More information on the policies and criteria for harvesting shellfish can be found in the CSSP manual. See also Fishery Notice FN1142 (2019): https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=227228&ID=all

3.3. Human Waste Containment Regulations

Disposal of human waste into waters where shellfish are harvested or adjacent to shellfish harvest areas creates unnecessary and potentially serious health risks for shellfish consumers. In accordance with the Canadian Shellfish Sanitation Program (CSSP) and

Transport Canada Regulations, raw sewage (Human wastes, sewage or refuse) shall not be discharged from vessels while in or adjacent to shellfish areas. Vessels operating at a distance which does not allow for timely access to on-shore washroom facilities are expected to have a designated human waste receptacle on board. Receptacles could include a portable toilet, a fixed toilet, or other containment device as appropriate. Such devices must be made of impervious, cleanable materials and have a tight-fitting lid. (Refer to Division 4, Transport Canada's Vessel Pollution and Dangerous Chemicals Regulations under the *Canada Shipping Act*):

1. Portable toilets or other designated human waste receptacles shall be used only for the purpose intended, and shall be so secured and located as to prevent contamination of the shellfish area or any harvested shellfish on board by spillage or leakage.
2. The contents of toilets or other designated human waste receptacles shall be emptied only into an approved sewage disposal system.
3. Every person onboard a shellfish harvest vessel must wash and sanitize their hands after using or cleaning a waste receptacle, or after using an onshore washroom facility.

Information on Human Waste Containment Receptacle Requirements can be found at the following CFIA internet site: <https://www.inspection.gc.ca/preventive-controls/fish/cssp/questions-and-answers/eng/1563470479199/1563470589053>

3.4. Harvesting Bivalves in the Vicinity of Wastewater Treatment Plants

Concerns have been raised regarding bivalve shellfish harvested in the vicinity of wastewater treatment plants. Increased controls were implemented in 2009 to prevent shellfish harvest in areas where a non-permitted sewage overflow at a wastewater treatment plant may potentially cause contamination.

Conditional Management Plans are being developed at some of the priority based wastewater treatment plants to manage harvest activities in the vicinity of the wastewater treatment plants.

DFO will be consulting with shellfish harvesters in areas where Conditional Management Plans must be developed.

For further information, contact Elysha Gordon at (250) 756-7192.

3.5. Harvesting on Aquaculture Tenures

Aquaculture leases are considered private property. Aquaculture licences of occupation are activity (or species) specific and do not legally restrict access unless there are impacts to the species being cultured. The Department recommends that recreational fishers familiarize themselves with the location of aquaculture tenures in fishing areas and that explicit permission be sought from the aquaculturist for access. All tenures must be marked with standard red-dyed concrete markers.

4. CONTROL AND REGULATION OF RECREATIONAL FISHING ACTIVITIES

The recreational harvest of shellfish is regulated via the *British Columbia Sport Fishing Regulations, 1996* made under the *Fisheries Act*. The regulations are summarized in the British Columbia Sport Fishing Guide. Critical information, such as updates to closed areas, is provided online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>

4.1. Gear

Pacific Oysters may be harvested by handpicking.

4.2. Daily Limits

Recreational harvest may occur in areas approved for harvest under the CSSP and authorized under a recreational licence. Pacific Fisheries Management Areas 1 through 10 are closed to bivalve harvest unless the appropriate testing is in place to ensure safe harvest.

Pacific Oysters:

- The daily limit in Areas 12 to 29 is twelve (12).
- The daily limit in Areas 1 to 11 is zero.

4.3. Possession Limits

Possession limits are two times the daily limit.

4.4. Voluntary Minimum Size Limit

The Department recommends a voluntary minimum size limit of 5 cm for Pacific Oysters be followed during harvesting. This minimum size limit is recommended in order to avoid inadvertently harvesting Olympia Oysters. Olympia Oysters are listed as a Species of Special Concern under the Species at Risk Act.

5. MONITORING AND REPORTING OF RECREATIONAL FISHING ACTIVITIES

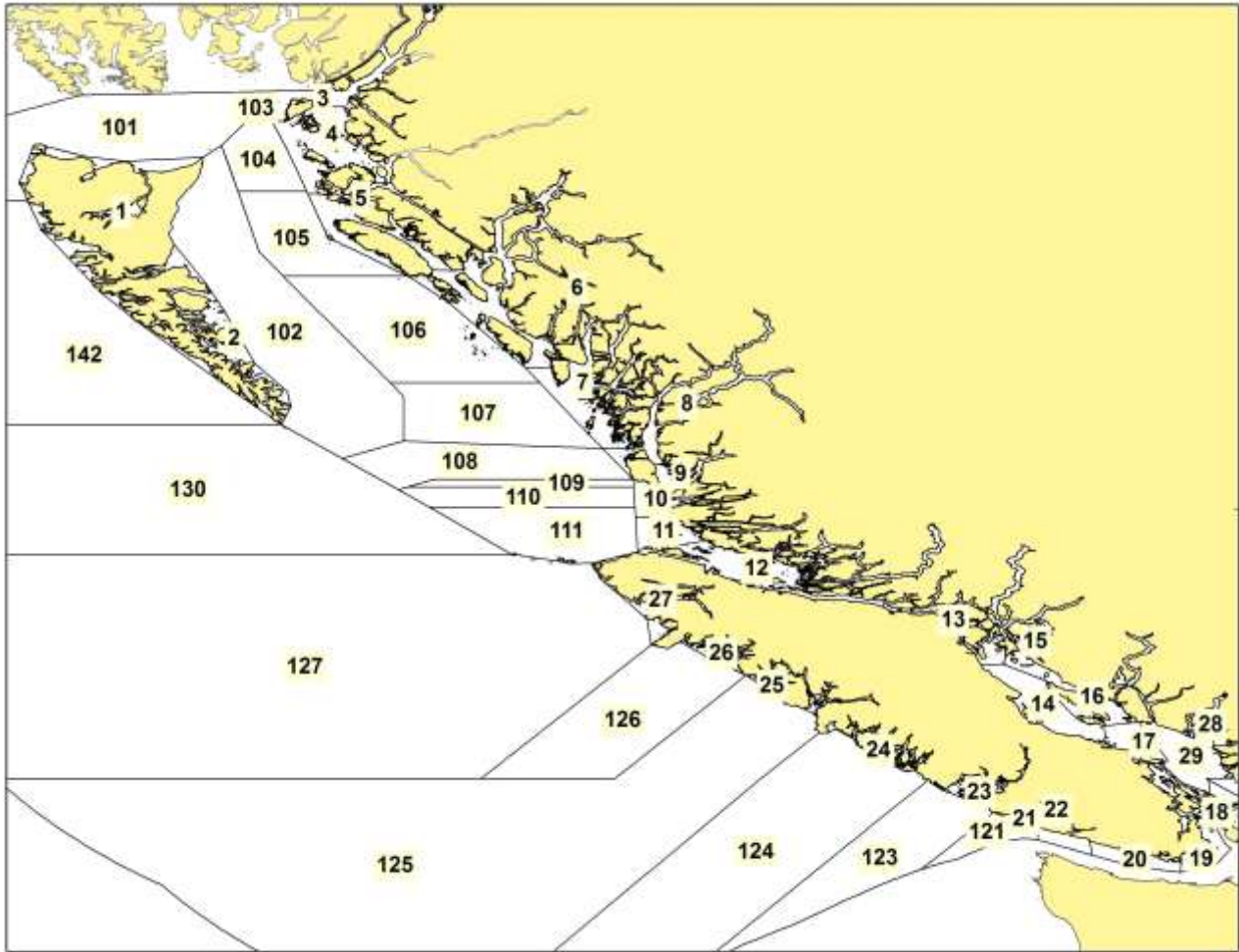
The SFAB and the recreational fishing sector strongly support effective fishery monitoring and catch reporting programs in recreational fisheries. The SFAB has been working with DFO on initiatives to strengthen fishing monitoring and catch reporting in the recreational fishery for a number of years.

As of 2013 recreational harvesters are required, as a condition of the Tidal Waters Sport Fishing Licence, to report information on their recreational fishing activity and catch to DFO representatives when requested. Commonly, recreational harvesters may be requested by a Fishery Officer or designated DFO representative at the dock or through a creel survey to provide important catch and effort information. A recreational phone survey is also conducted nationally by DFO every five years. In 2012, a new internet survey was initiated to provide monthly estimates of effort for all methods of recreational fishing, including angling, trapping, beach collecting, and diving, and to provide monthly estimates of catch for all sport caught species.

The internet survey contacts participants by email in advance of the survey period and allows for the selected participants to record their information periodically (preferred if several fishing trips occur in the month), or to complete the survey on a single visit to the website after the month ends. Participants who do not fish during the month are also surveyed as well, as an important component of the catch and effort estimation. Since participants in the survey are selected randomly, some licence holders will be selected to participate for more than one month during a licensing year (April to March).

Information on the internet recreational survey is available at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/irec/index-eng.html>

APPENDIX 4: MAP OF PACIFIC FISHERY MANAGEMENT AREAS



Inshore fishery areas include Pacific Fishery Management Areas 1 to 29. Offshore areas include PFMA 101 to 111, 121 to 127, 130 and 142.

APPENDIX 5: REFERENCE MAPS FOR PACIFIC OYSTER COMMERCIAL HARVEST BEACH AREAS

Commercial harvesters are reminded that these maps are to be used for general reference only. The final authority of these descriptions of Areas, Subareas and portions thereof is as set out in the *Pacific Fishery Management Area Regulations*, and the written descriptions of DFO Fisheries Notices for the official openings and closures.

1. PACIFIC FISHERIES MANAGEMENT AREA MAPS

See Management Area descriptions for complete details.

For more detail on Pacific Fishery Management Areas and Subareas, see the Internet at:

www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/areas-secteurs/index-eng.html

2. CLOSURES TO COMMERCIAL FISHERIES

Closures to the commercial fishery may be in place for a variety of reasons: Aboriginal and recreational access, parks, marine reserves, research, navigation, contamination or biotoxins.

2.1. General Information on Closures under the Canadian Shellfish Sanitation Program

Closures may be implemented on short notice in the event of changes to contamination status, including sanitary or other biotoxin events. Licence holders, vessel masters, and harvester are reminded that:

- It remains the responsibility of the licence holder to ensure that an area is not closed for harvest due to sanitary or biotoxin contamination. Fishing in a closed area is an offence under the *Fisheries Act*. Consumption of product harvested from within a closed area poses a serious health risk.
- Prior to commencement of each day's fishing, the licence holder and harvester must take care to confirm that an area is open for harvesting either through the DFO website at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html> or the toll-free information line at 1-866-431-3474, or by contacting a local DFO office directly.

2.2. Sanitary (Contamination) Closures

Shellfish may not be harvested from closed contaminated areas except by special permit licence under the *Management of Contaminated Fisheries Regulations*. There are both seasonal and permanent sanitary contamination closures. Descriptions and maps of contaminated closures can be found through the DFO website at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html>

A copy of this list may also be obtained from the resource managers (see the Contacts section in the IFMP). Sanitary closures are amended annually in May and November, and may also be amended in-season. Consequently, harvesters are advised to check the internet,

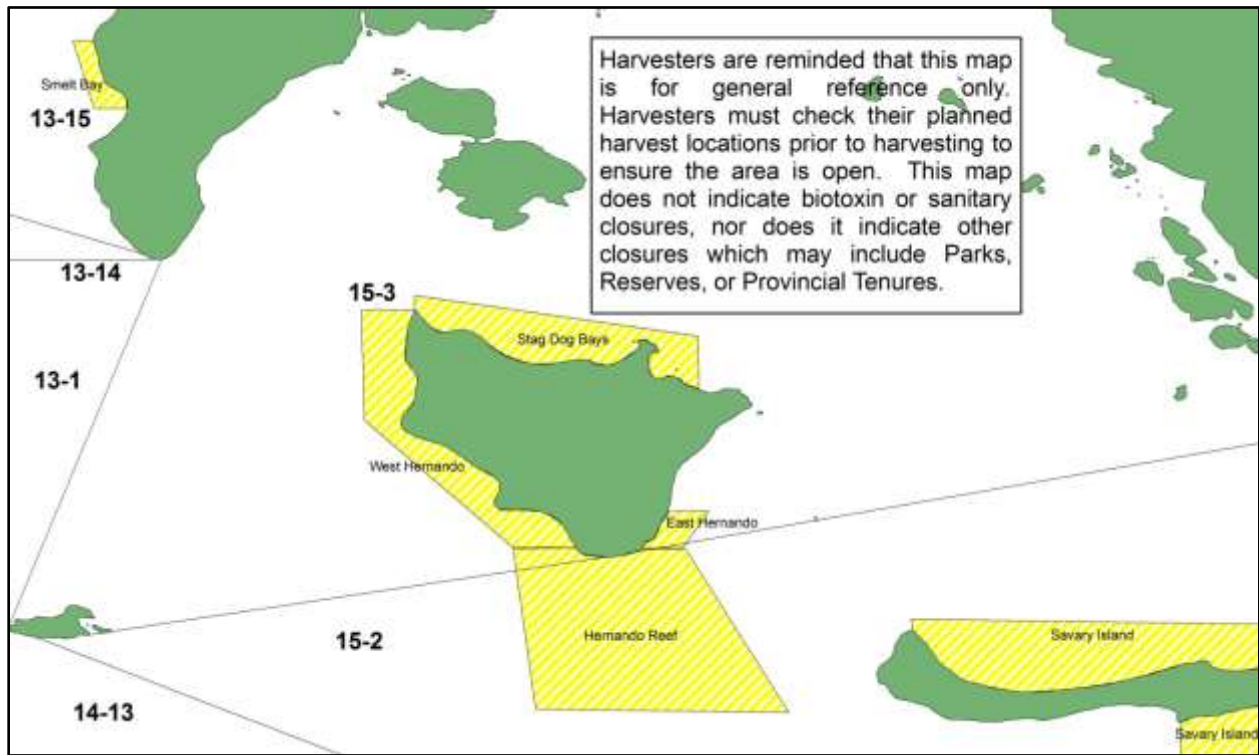
prior to harvesting in an area, to ensure that they have the most recent contamination closure information.

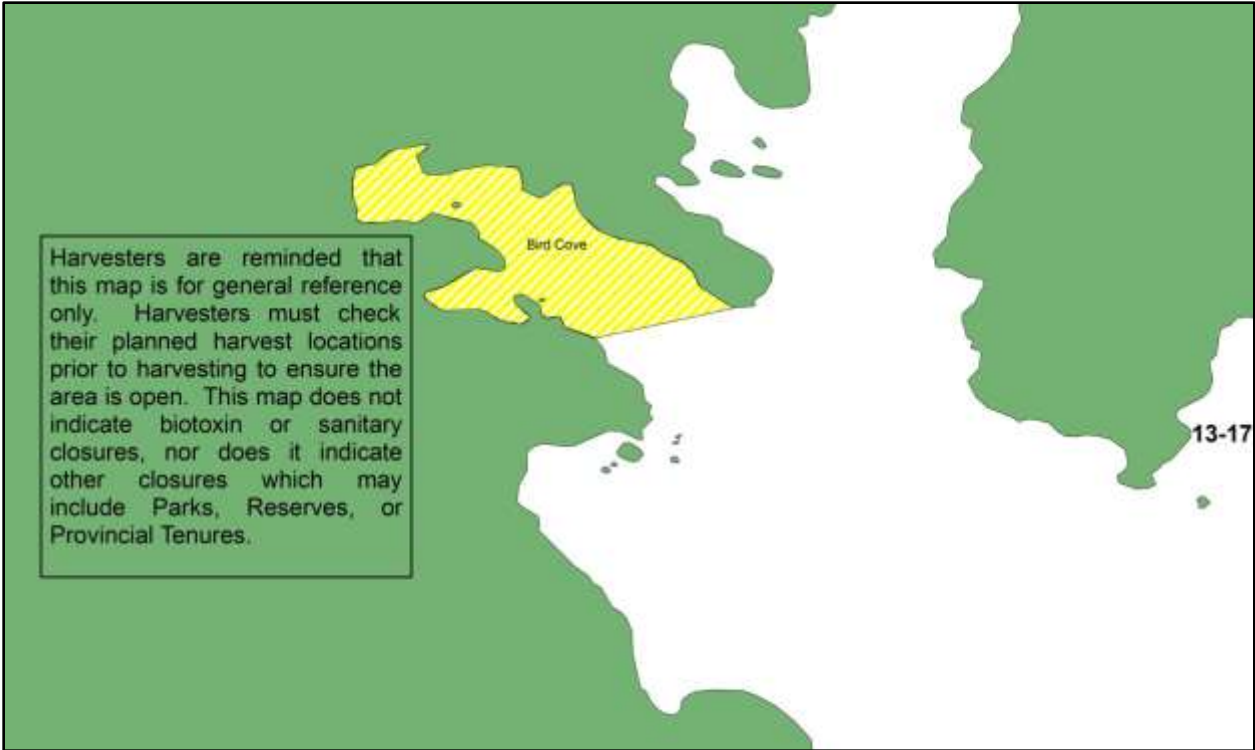
Harvesters are advised that, unless other closures are specified, permanent bivalve harvesting closures are in place for Canadian fisheries waters of the Pacific Ocean within:

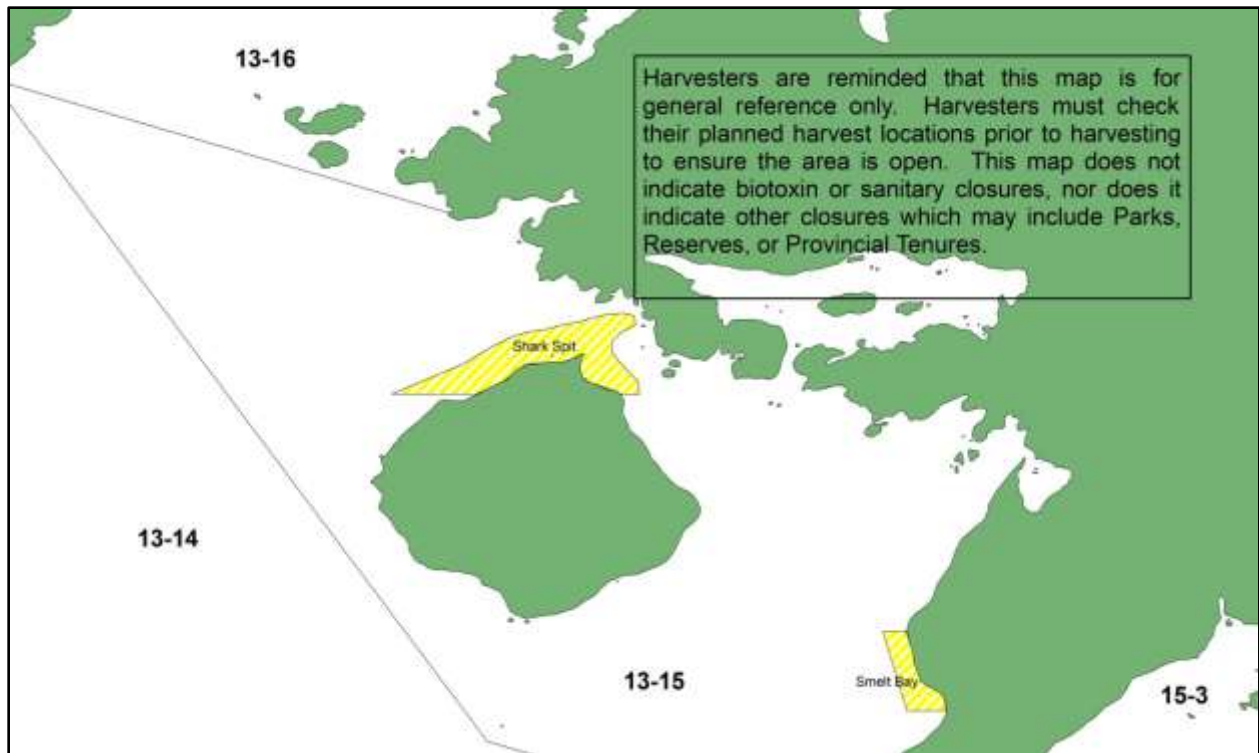
1. 300 m radius around industrial, municipal and sewage treatment plant outfall discharges;
2. 125 m radius of any marina, ferry wharf, any floating living accommodation facility (other than a floating living accommodation described in subsection (3)) or finfish net pen described in subsection (4);
3. 25 m radius of any floating living accommodation facility located within a shellfish aquaculture tenure where a zero-discharge waste management plan is a condition of the aquaculture licence and is approved by the Regional Interdepartmental Committee.
4. Zero (0) metres of any finfish net pen within an aquaculture tenure where an Integrated Multi-trophic Aquaculture Management Plan approved by the Regional Interdepartmental Committee is in operation.

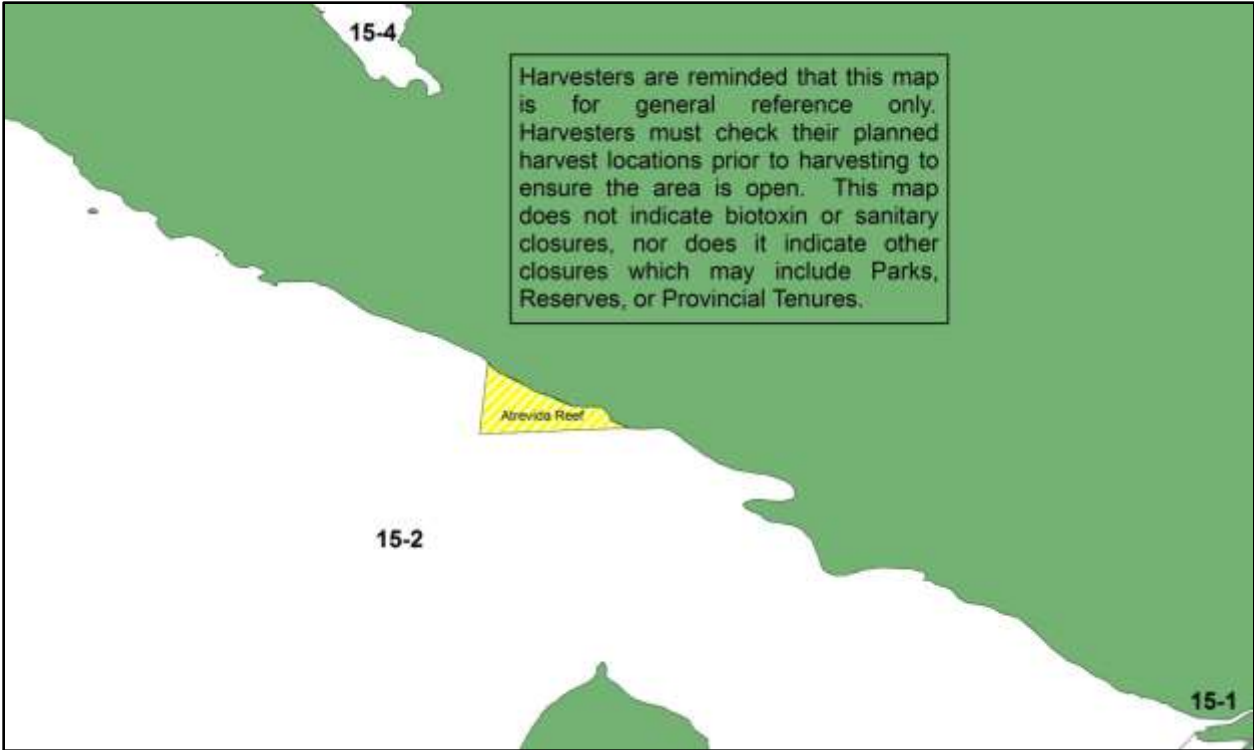
2.3. Aquaculture Leases and Sites

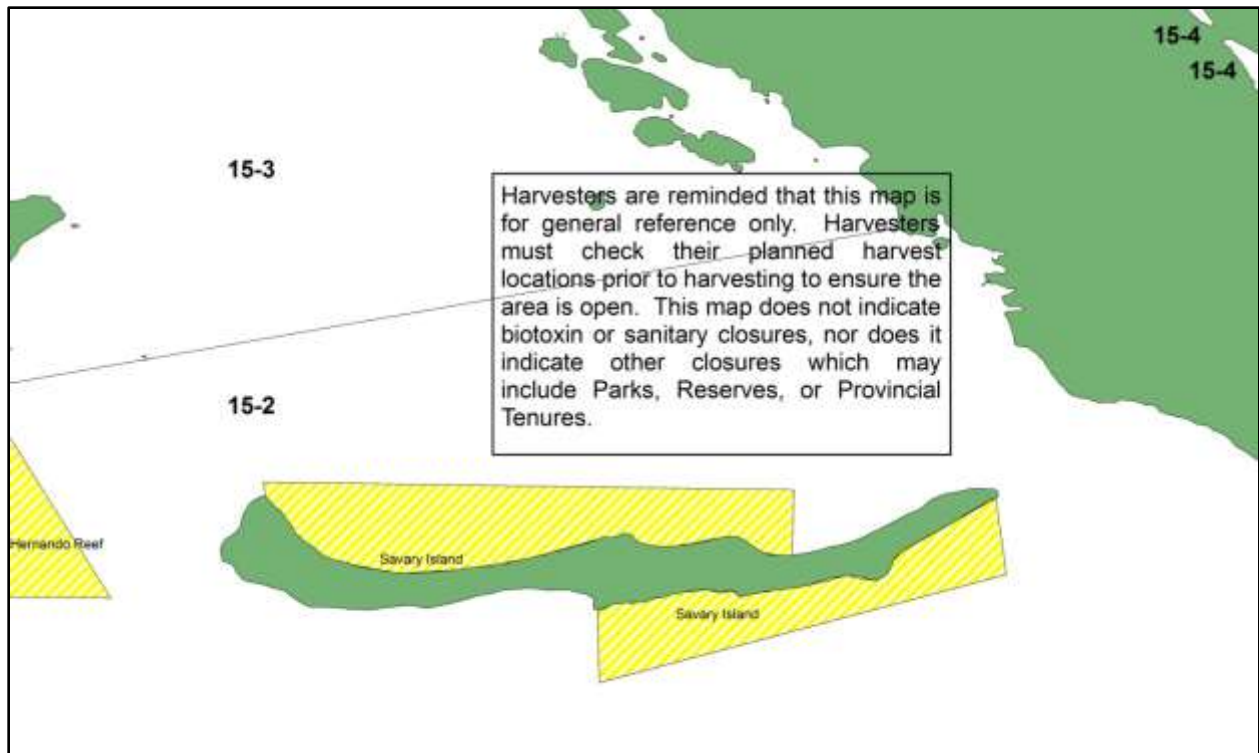
Harvesters are advised to observe the boundaries of any intertidal tenures. Harvesting on any tenures is prohibited under this fishery unless authorized by the tenure holder.

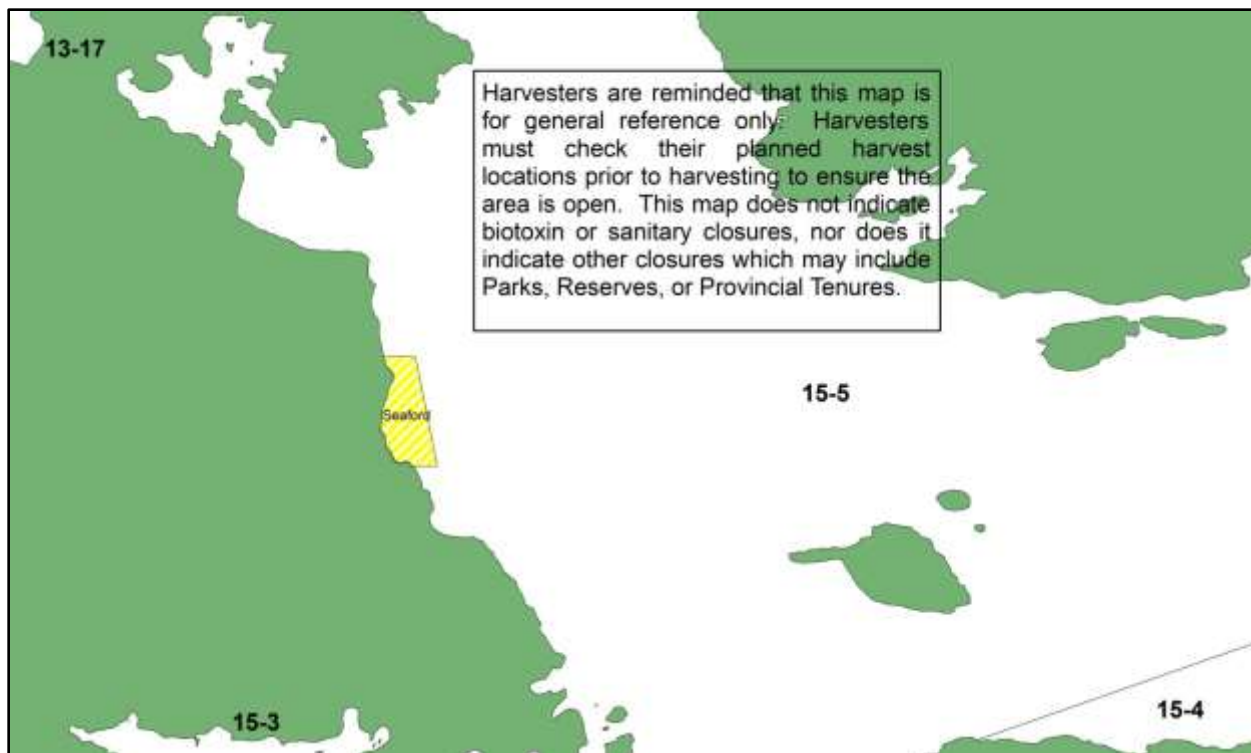


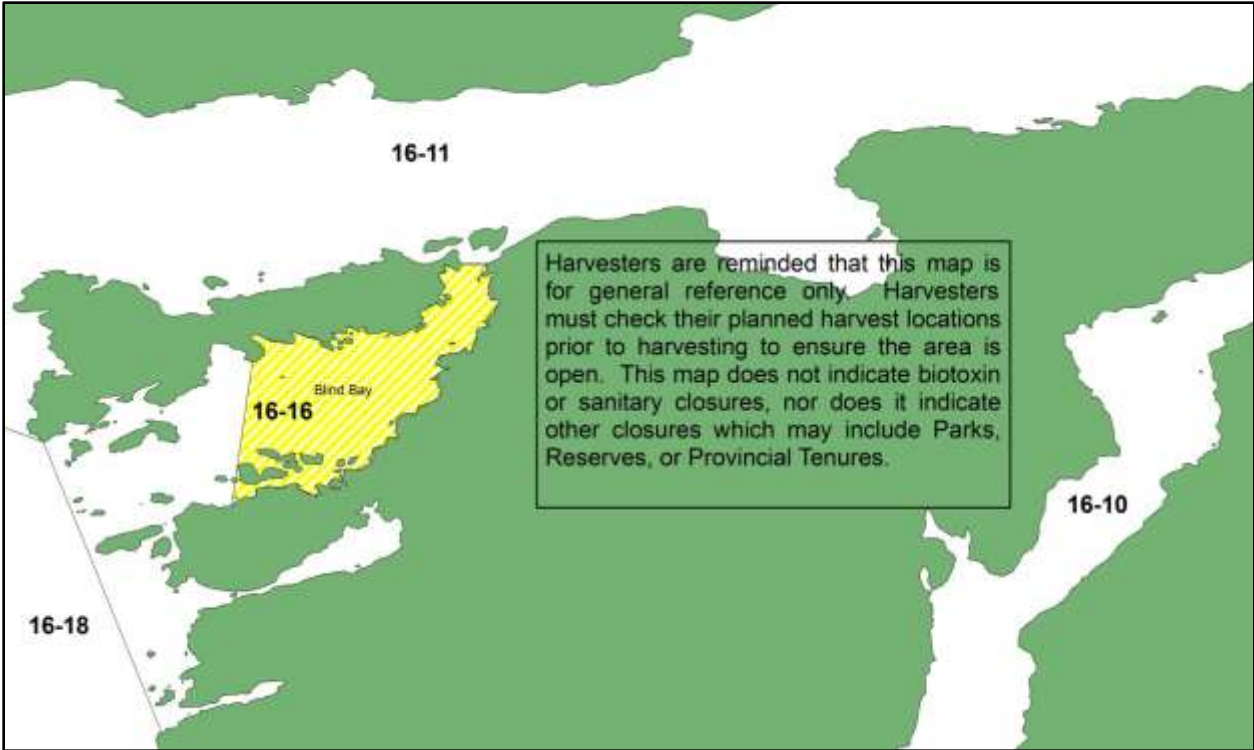


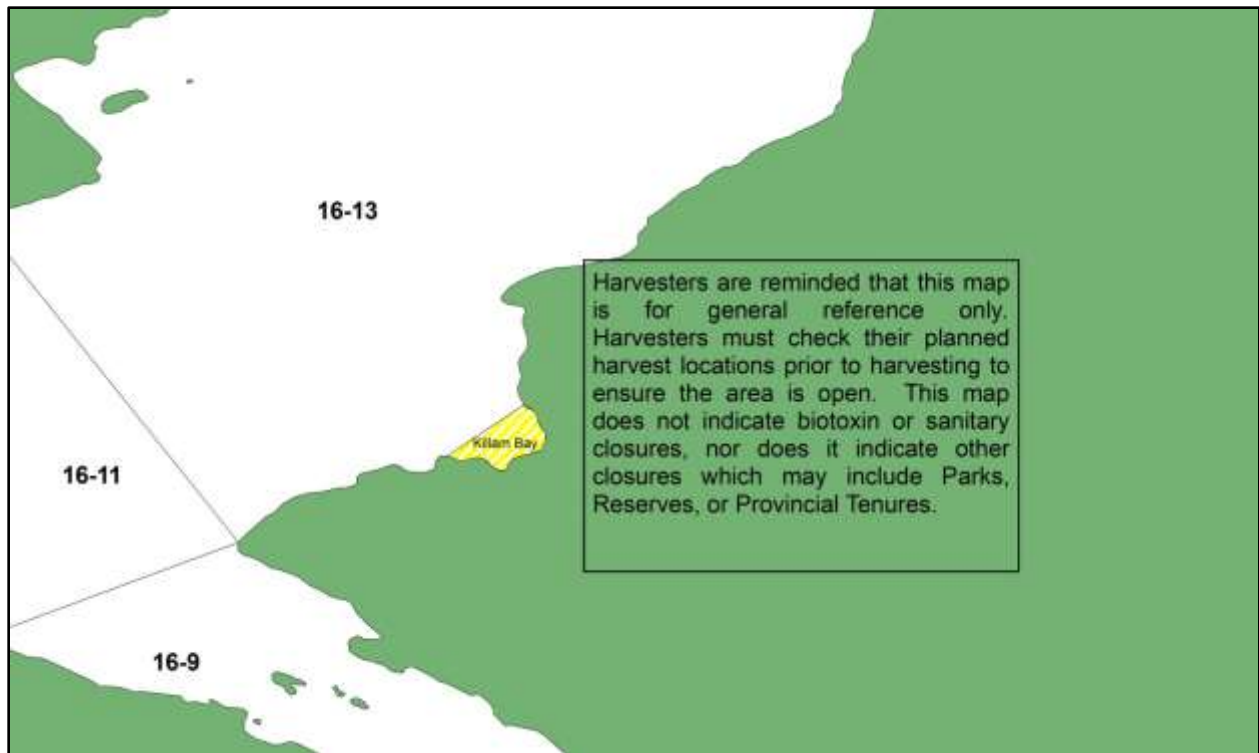


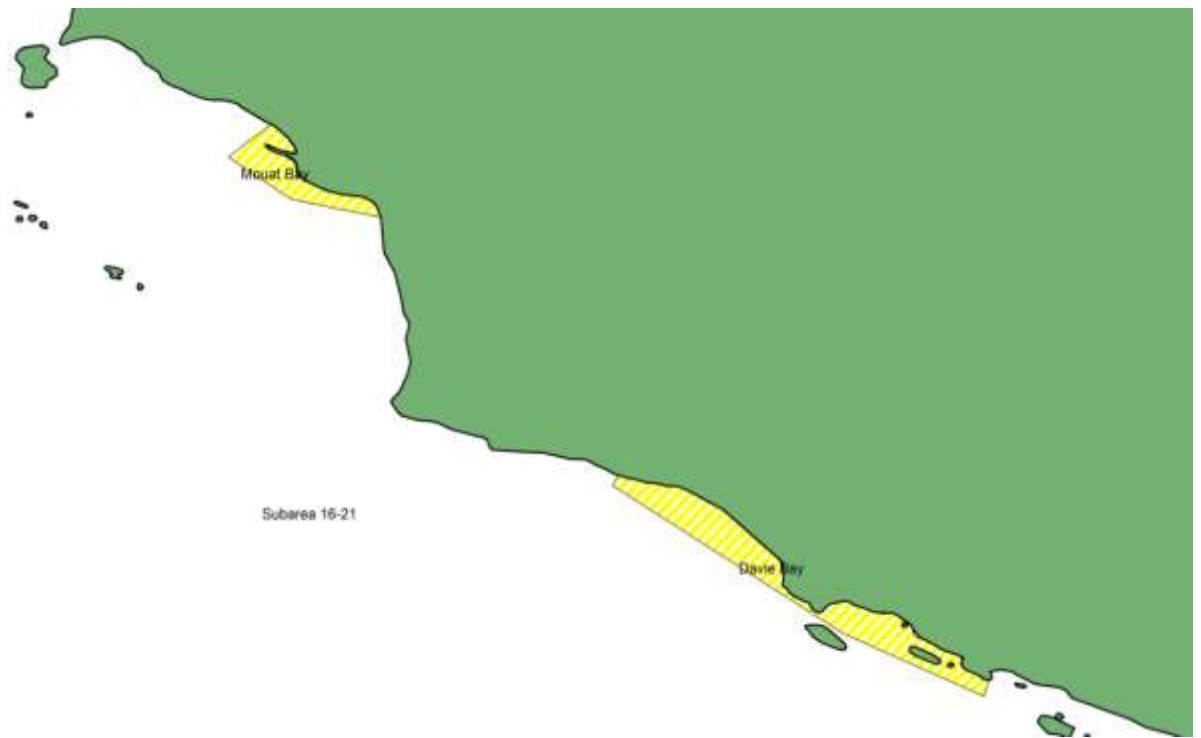


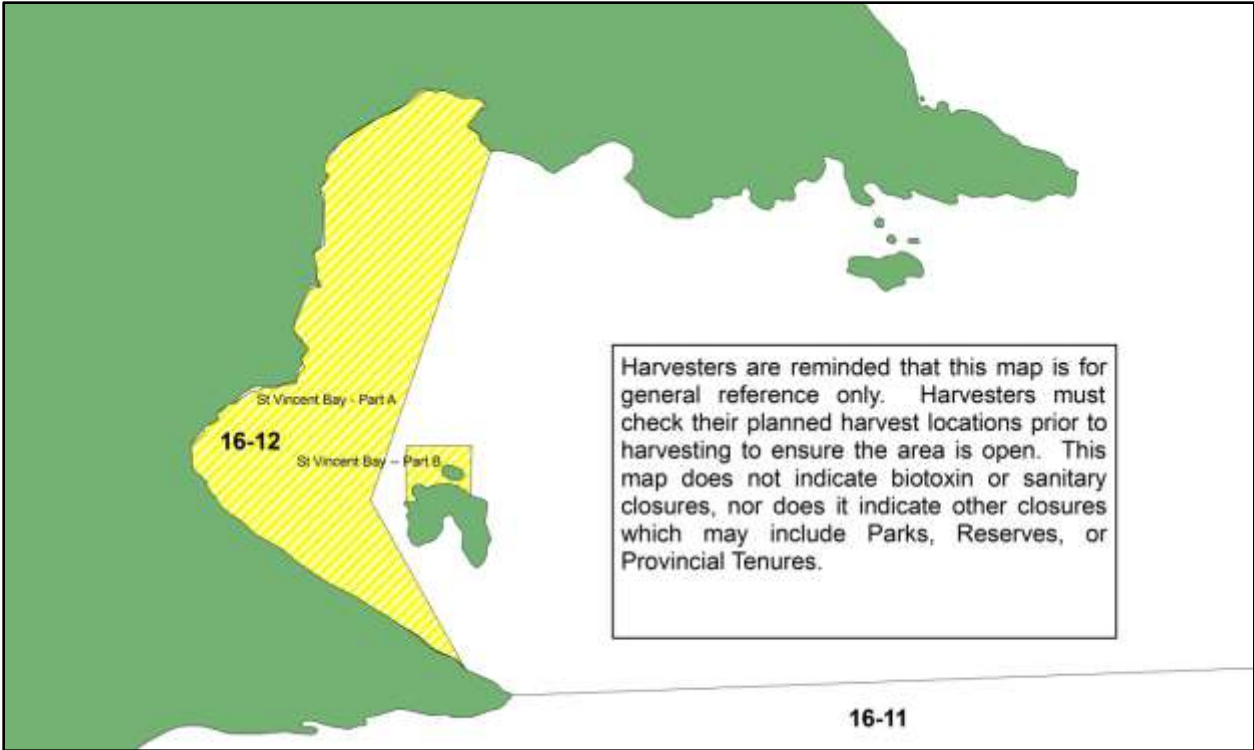


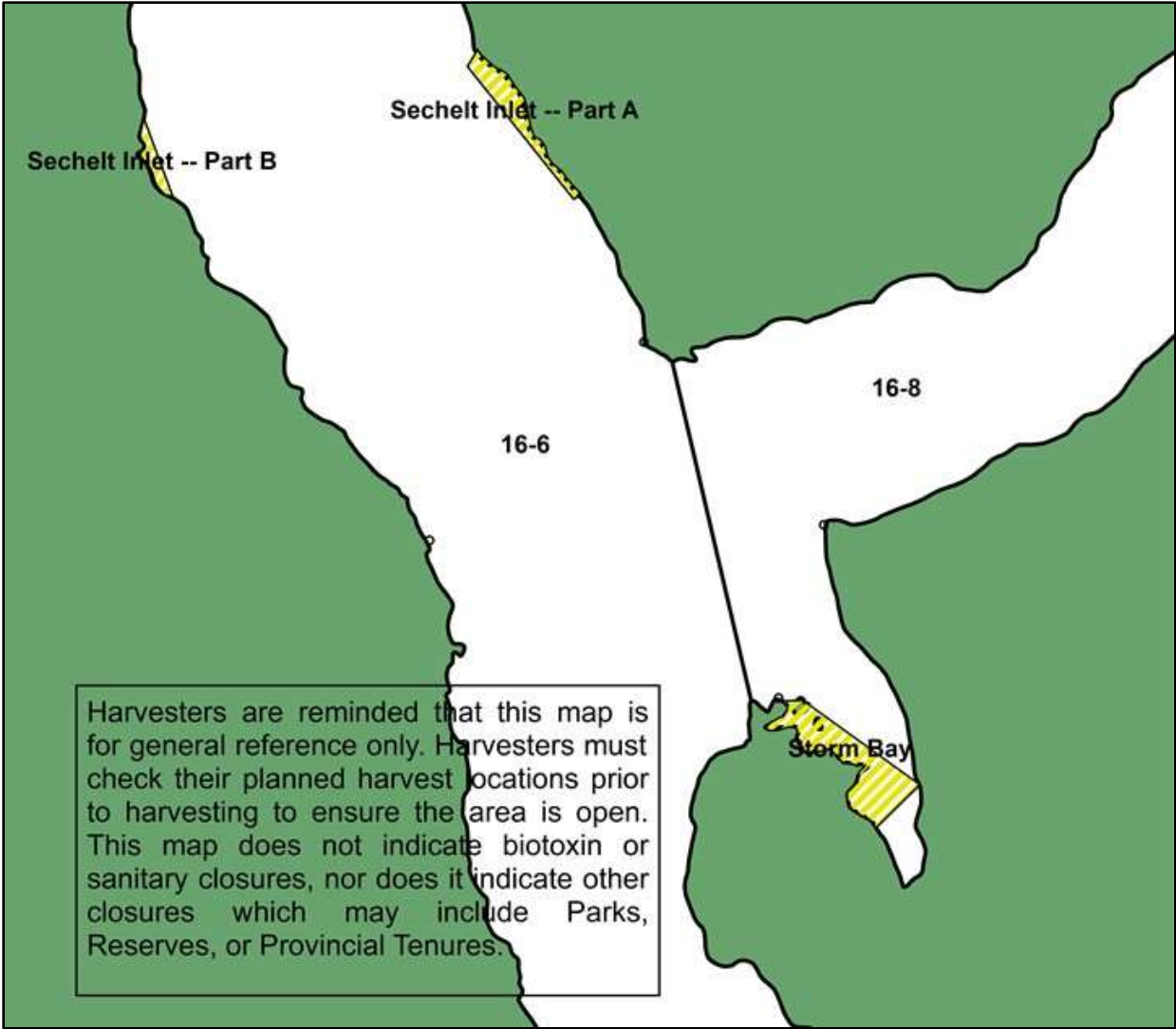


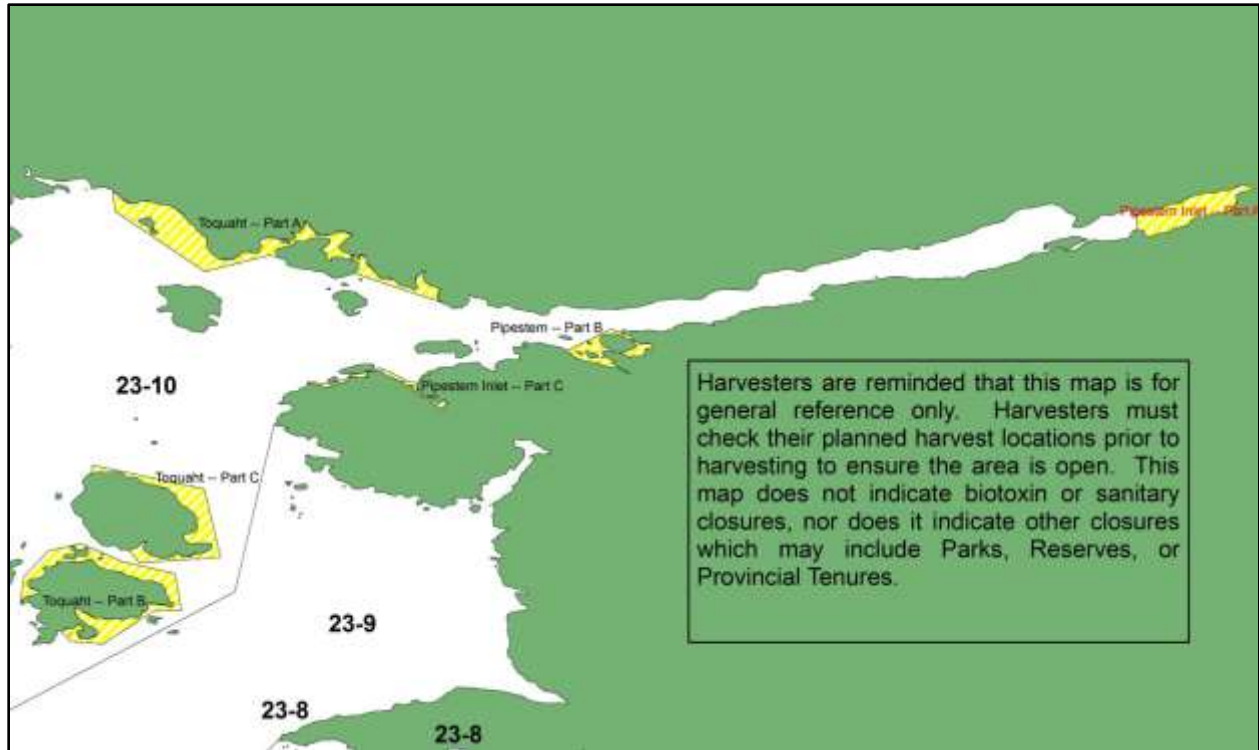


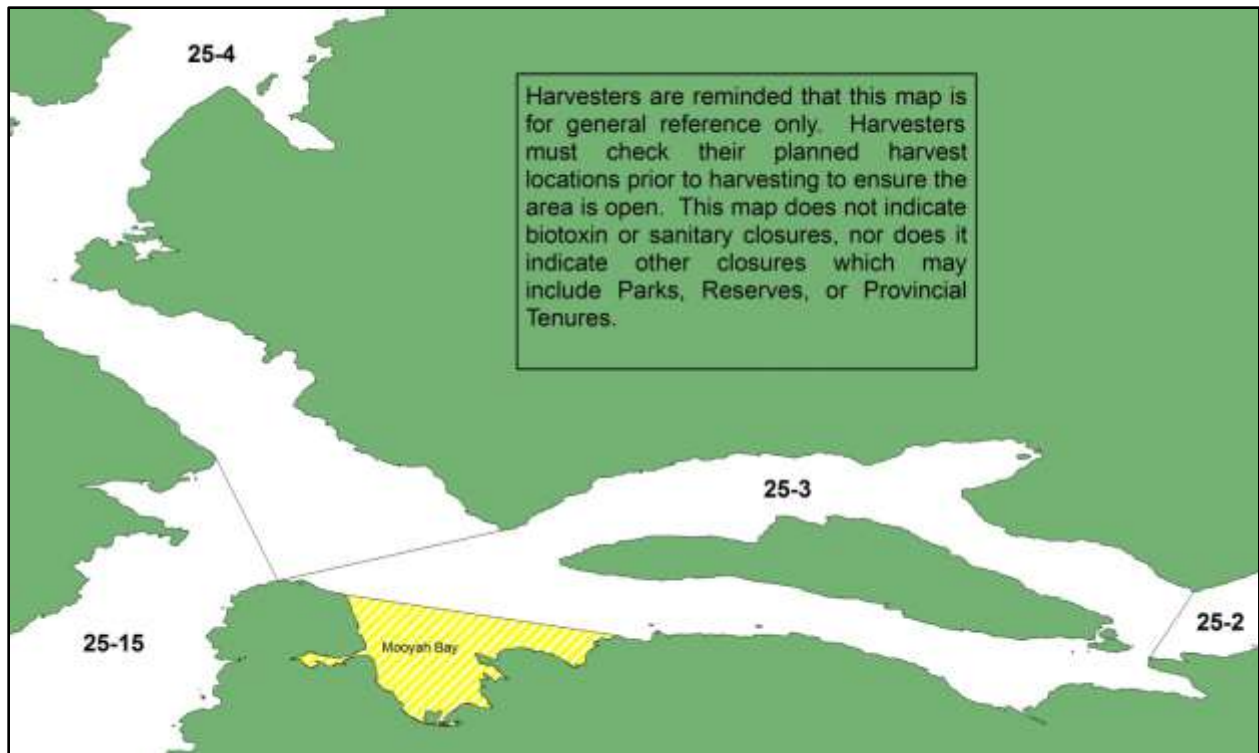


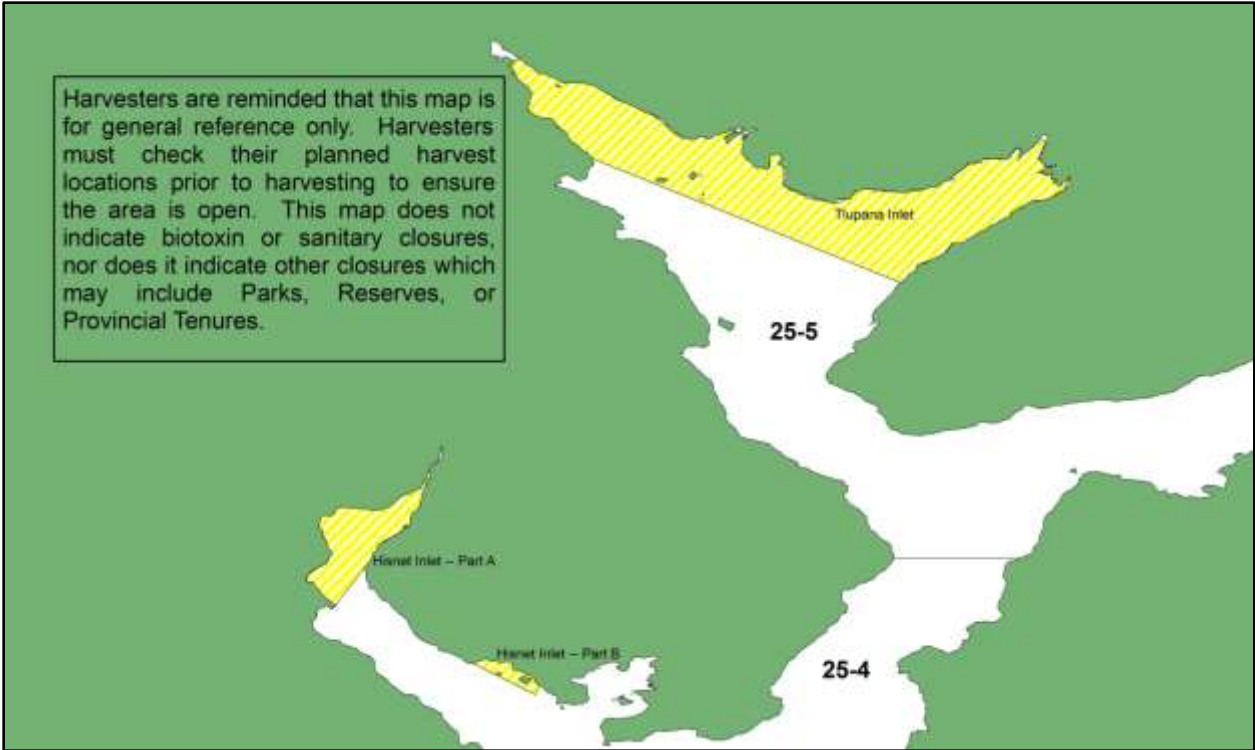












APPENDIX 6: EXAMPLE OF LICENCE CONDITIONS

2021/2022 CONDITIONS OF PACIFIC OYSTER LICENCE - NOT OFFICIAL VERSION

Licence Period: March 1, 20xx to February 28, 20xx

These conditions are provided as an example only. Harvesters must refer to their official licence conditions issued with their official legal licence for final wording.

Authority

The Department of Fisheries and Oceans has authority to set licence conditions under subsection 22(1) of the *Fishery (General) Regulations* for the proper management and control of fisheries and the conservation and protection of fish.

Persons fishing under authority of this licence may only do so in accordance with the conditions stated below.

Also, it is the responsibility of individual fishers to be informed of, and comply with, the *Fisheries Act* and the Regulations made thereunder, in addition to these conditions.

Definitions:

"Area" and "Subarea" have the same meaning as in the *Pacific Fishery Management Area Regulations, 2007*.

"CFIA" means Canadian Food Inspection Agency.

"Department" means the Department of Fisheries and Oceans.

"harvester" means a person who fishes for or takes oysters, by any means, in the defined locations of harvest authorized by this licence.

"log" means the Harvest Log or an alternative log approved by the Department.

"wet storage" means the temporary storage of live shellfish from approved sources, intended for marketing, in containers or floats in natural bodies of seawater or in tanks containing natural or synthetic seawater or otherwise meeting the requirements of the CFIA.

1. Species of fish permitted to be taken:

Pacific Oyster (*Crassostrea gigas*)

2. Quantities permitted to be taken:

The maximum allowable harvest is as set out on the current Pacific Oyster licence.

3. Waters in which fishing is permitted:

Area of fishing is as set out on the current Pacific Oyster licence.

APPENDIX 6: EXAMPLE OF LICENCE CONDITIONS

4. Fishing gear permitted to be used:

Handpicking only. Diving or other forms of harvest are not permitted.

5. Marking of bags or containers to hold or transport Pacific Oysters:

(1) All containers holding oysters shall be marked with the following information using waterproof tags and written in water resistant ink.

- (a) Harvester's Name;
- (b) Licence Holder's Name;
- (c) Oyster Licence number;
- (d) Harvest date;
- (e) Commercial Harvest Quota Site; and
- (f) Pacific Fisheries Management Subarea (example: Subarea 24-4).

(2) Flagging tape may not be used as the water-proof tag;

(3) All oyster containers shall be tagged prior to placing any oysters in them.

(4) No container of oysters shall remain untagged during transport to market sale or a wet storage location in preparation for market sale.

6. Harvester Identification:

(1) Licence holders and harvesters shall ensure that a government issued photo identification is in their possession at all times during harvesting and is available for inspection upon request of a fishery officer or fisheries guardian.

(2) Each harvester shall wear a 'HIGH VISIBILITY VEST' at all times while engaged in the commercial Pacific Oyster fishery.

7. Sale and Transfer of Product:

Pacific oysters harvested under this licence shall be sold only to persons holding a federal licence to process bivalve shellfish in British Columbia, persons holding a Fish Receiver's Licence issued pursuant to the *Fish and Seafood Act* (B.C.), or delivered to a licensed aquaculture facility.

8. Oral reports:

(1) The licence holder shall report the information set out below by telephoning the approved Service Provider between the hours of 9:00 a.m. and 5:00 p.m. Pacific time at 1-800-775-5505 or by emailing to pacificoyster@dpacificfisheries.com. Hails must be made not less than 24 hours prior to harvesting:

- (a) Licence holder's name and licence number;
- (b) Commercial Harvest Quota Site name where harvesting will occur;
- (c) Pacific Fisheries Management Subarea;
- (d) Date and time of arrival at the fishing location; and
- (e) Caller's name

APPENDIX 6: EXAMPLE OF LICENCE CONDITIONS

(2) The licence holder shall report the information set out below by telephoning the approved Service Provider between the hours of 9:00 a.m. and 5:00 p.m. Pacific time at 1-888-730-8709 or by emailing to pacificoyster@d-pacificfisheries.com. Hails must be made within 16 hours following the oysters being removed from the harvest site:

- (a) Licence holder's name;
- (b) Hail out number;
- (c) Caller's name;
- (b) Commercial Oyster Harvest Site name where harvesting occurred;
- (c) Subarea; and
- (d) Accurate estimated weight of harvested oysters

(3) Upon failure to arrive at the fishing location within 24 hours of the time stated in subsection 8(1), the licence holder shall report the following information to the designated service provider:

- (a) licence number; and
- (b) details of change in fishing plans.

(4) The licence holder shall arrange to have an updated summary report of all hails provided to the Service Provider sent to the Department within 7 days of the data being received by the Service Provider.

9. Harvest logs:

(1) The licence holder shall maintain a log of all harvest operations. The content and format of this log shall meet the requirements set out by the Department in the Pacific Oyster Commercial Fishery Monitoring and Catch Reporting Program Standards for the current licence year.

(2) The harvest and fishing location information recorded in the log shall be complete and accurate.

(3) The information for each day's harvest operations shall be recorded in the log prior to leaving the harvest site each day.

(4) The log shall be in the possession of the harvester and produced for examination on demand of a fishery officer or a fishery guardian.

(5) The completed log pages (original copy) shall be forwarded within 28 days following the end of each month in which fishing occurred to:

Guy Parker
Fisheries and Oceans Canada
3225 Stephenson Point Road
Nanaimo, BC
V9T 1K3

10. Fish slips:

(1) An accurate written report shall be provided on a fish slip of all fish and shellfish caught and retained under the authority of this licence.

(2) A report shall be made even if the fish or shellfish harvested are used for personal consumption or disposed of otherwise.

APPENDIX 6: EXAMPLE OF LICENCE CONDITIONS

(3) The report shall be mailed not later than seven days after harvest and sent to:

Fisheries and Aquaculture Management Branch
FM Data Unit
Suite 200 - 401 Burrard Street
Vancouver, BC
V6C 3S4

(4) This report shall be made within seven days of harvest regardless of whether or not the catch has been sold within that period.

Fish slips may be downloaded and printed at
<http://www.pac.dfo-mpo.gc.ca/stats/fishslips-carnets/index-eng.html>.
Fish slip books may also be ordered from the printer at user cost at
<http://www.pac.dfo-mpo.gc.ca/stats/fishslips-carnets/index-eng.html>.
Phone (604) 666-2716 for more information.

11. Contaminated fisheries:

(1) This licence does not authorize harvesting during paralytic shellfish poisoning (PSP) closures, domoic acid (ASP) closures, or other prohibitions made pursuant to the *Management of Contaminated Fisheries Regulations*.

(2) When notified of closure of the licensed harvest area due to biotoxin, sewage or other contamination, harvesting authorized by this licence shall cease forthwith.

(3) The following methods may be used to notify the licence holders and harvesters that they are to stop fishing:

- (a) Broadcasting the notice over a commercial or marine radio station, a radio station operated by DFO or a radio station located on a vessel under contract to DFO that broadcasts in the area or vicinity of the area affected by the closure notice; or
- (b) Transmitting the notice by electronic means to affected persons; or
- (c) Having the area posted with signage by authorized person(s);
- (d) Having a fishery officer or fishery guardian give oral notice thereof; or
- (e) DFO fishery notice.

12. Licence available:

Licence holders and harvesters shall ensure that a copy of this licence is available at the harvest location at all times during harvesting and is available for inspection upon request of a fishery officer or fishery guardian.

13. Fisher's Registration Card:

Persons shall hold and be in possession of a valid Fisher's Registration Card and be authorized by the licence holder to harvest under the authority of this licence.

14. Wet Storage of harvested product:

APPENDIX 6: EXAMPLE OF LICENCE CONDITIONS

Wet storage of product shall occur only on licensed aquaculture facilities that are specifically approved for the activity of wet storage in their Pacific Aquaculture Regulations aquaculture licence. Commercially harvested oysters may not be left on non-tenured beaches unattended without a wet storage permit.

15. No Removal of Product from harvest site after a closure notice:

(1) No oysters shall be removed from the harvest site after a closure notice has been issued by the Department.

(2) Any oysters collected into bags prior to a closure notice shall not be removed from the site following a closure notice.

16. Marine Mammal Reporting:

(1) The vessel master shall provide information regarding all interactions with marine mammals during fishing trips.

(2) For the purpose of subsection 7(1), interactions refer to cases of incidental mortality and serious injury to marine mammals. This includes accidental drowning, bycatch, entanglements, collisions, and fatalities.

(3) The vessel master shall immediately phone the Marine Mammal Incident Hotline at 1-800-465-4336 to report cases of mortality and serious harm.

(4) The vessel master shall complete the DFO reporting form "MARINE MAMMAL INTERACTION FORM" <http://www.dfo-mpo.gc.ca/species-especes/mammals-mammiferes/report-rapport/fish-harvester-pecheur-eng.asp>.

(5) The Marine Mammal Interaction Form shall be submitted as per the instructions provided on the form.

APPENDIX 7: WILD PACIFIC OYSTER FISHERY CONTACTS

Observe, Record and Report (Enforcement Line) (800) 465-4336
Fisheries Information and Shellfish Contamination Closure Update (24 Hours) (866) 431-3474
(Greater Vancouver) (604) 666-2828

Invertebrate Internet Page

<http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/shellfish-mollusques/index-eng.html>

Fisheries Management

Regional Resource Manager - Invertebrates	Lisa Mijacika	(604) 666-3869
Resource Manager	Guy Parker	(250) 756-7163
Regional Recreational Fisheries Co-ordinator	Greg Hornby	(250) 286-5886
Resource Manager – Canadian Shellfish Sanitation Coordinator	Elysha Gordon	(250) 756-7192

North Coast Area, Areas 1 to 10 417 2nd Avenue West Prince Rupert, BC V8J 1G8	General Inquiries Fax	(250) 627-3499 (250) 627-3427
Resource Management Biologist Resource Manager - First Nations Fisheries	Pauline Ridings Kristen Wong	(250) 756-7118 (250) 799-5620

South Coast Area, Areas 11 to 26 3225 Stephenson Point Road Nanaimo, BC V9T 1K3	General Inquiries Fax	(250) 756-7270 (250) 756-7162
Resource Manager - First Nations Fisheries Resource Manager - Recreational Fisheries	Gerry Kelly Kevin Conley Brad Beath	(250) 756-7122 (250) 756-7196 (250) 756-7190

Lower Fraser Area, Areas 28 and 29 Unit 3, 100 Annacis Parkway Delta, BC V3M 6A2	General Inquiries Fax	(604) 666-8266 (604) 666-7112
Resource Management Biologist Resource Manager - First Nations Fisheries Resource Manager - Recreational Fisheries	Karen Vaudry Brian Matts Barbara Mueller	(604) 666-6390 (604) 666-2096 (604) 666-2370

Conservation and Protection

Enforcement Plan	Matt Conley	(604) 485-7562
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Science Branch

Pacific Biological Station 3190 Hammond Bay Road Nanaimo, BC V9T 6N7	Dominique Bureau	(250) 756-7114
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Fisheries Protection Program 866 845-6776

Aboriginal Negotiations Division 604 666-0197

Aboriginal Programs Division

401 Burrard Street
Vancouver, BC V6C 3S4

(604) 666-6757

Commercial Licensing

Pacific Fishery Licence Unit (by appointment only)
200 - 401 Burrard Street
Vancouver, BC V6C 3S4

1-877-535-7307
fishing-peche@dfo-mpo.gc.ca

Aquaculture Resource Management

General Inquiries Shellfish Aquaculture
Shellfish Coordinator

Shellfish.Aquaculture@dfo-mpo.gc.ca
Melinda Scott (250) 729-8383

Other DFO Area Offices	Telephone	Fax	Area of responsibility
NORTH COAST			
Queen Charlotte City	(250) 559-4413	(250) 559-4678	1, 2, 101, 102, 130, 142
Prince Rupert District	(250) 627-3433	(250) 627-3495	3-6 (north), 103-106
CENTRAL COAST			
Bella Coola	(250) 799-5345	(250) 799-5540	6 (south), 7 – 10, 107 - 110
Port Hardy	(250) 949-6422	(250) 949-6755	11, 12 (north), 27, 111, 127
Campbell River	(250) 850-5701	(250) 286-5854	12 (south), 13
SOUTH COAST			
Nanaimo	(250) 754-0235	(250) 754-0309	14 – 17, 29 (west)
Victoria	(250) 363-3252	(250) 363-0191	18 - 20
Port Alberni	(250) 724-0195	(250) 724-2555	21 - 26, 121 - 126
FRASER RIVER			
Steveston	(604) 664-9250	(604) 664-9255	28, 29 (east)

Environment and Climate Change Canada

Growing Water Quality Classification/Surveys

Elizabeth Graca

(604) 903-4475

Canadian Food Inspection Agency

Pacific Shellfish Desk

(604) 666-3737

BC Ministry of Agriculture, Food and Fisheries

Darah Gibson
Industry Specialist – Marine Fisheries & Seafood
Sector Development Branch

(250) 893-0260

WorkSafe BC

Occupational Safety Officer

Courtenay

Mark Lunny

(250) 334-8732

Courtenay	Pat Olsen	(250) 334-8777
Victoria	David Clarabut	(250) 881-3469
Richmond	Bruce Logan	(604) 244-6477
Terrace	Shane Neifer	(250) 615-6640

Focus Sector Manager for Fishing	Mark Peebles	(604) 279-7563
		toll free 1-888-621-7233 (ext. 7563)

Service Provider

D&D Pacific Fisheries Ltd.
 PO Box 1445 Gibsons, B.C.
 V0N 1V0
 (604) 886-4819
 Email -- ddpacific@dccnet.com

Fishing Activity (prior to harvest) Hail line -	1-800-775-5505
Harvest Reporting (following harvest) Hail Line	1-888-730-8709

Commercial Licence Eligibility Holder Representatives

Kevin Vautier	250-248-8786
Joe Tarnowski Jr.	250-897-9290
Stephan Morgenstern	604-413-2675
West Sampson	604-483-9007

APPENDIX 8: FISHING VESSEL SAFETY

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1. OVERVIEW – FISHING VESSEL SAFETY

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, prevent vessel damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), WorkSafeBC, and other applicable agencies. Vessels subject to inspection should ensure that the certificate of inspection is valid for the area of intended operation.

In the federal government, responsibility for shipping, navigation, and vessel safety regulations and inspections lies with TC; emergency response with the Canadian Coast Guard (CCG) and DFO has responsibility for management of the fisheries resources. The Transportation Safety Board is an independent agency that advances transportation safety by investigating selected occurrences in the air, marine, pipeline and rail modes of transportation including fishing vessel occurrences. In BC, WorkSafeBC exercises jurisdiction over workplace health and safety and conducts inspections on commercial fishing vessels in order to ascertain compliance with the Workers Compensation Act (WCA) and the Occupational Health and Safety Regulation (OHSR).

Before departing on a voyage the owner, master, or operator must ensure that the fishing vessel is capable of and safe for the intended voyage and fishing operations. Critical factors for a safe voyage include the seaworthiness of the vessel, having the required personal protective and life-saving equipment in good working order, adequate number of properly trained crew, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel owner, crew, and other workers must be aware of the latest legislation, policies and guidelines prior to each trip.

There are many useful tools available for ensuring a safe voyage. These include:

- Education and training programs
- Marine emergency duties training
- Fish Safe – Stability Education Program & 1 Day Stability Workshop
- Fish Safe – SVOP (Subsidized rate for BC commercial fishers provided)
- Fish Safe – *Safest Catch* program – **FREE** for BC commercial fishers
- Fish Safe *Safe At Sea* DVD Series – Fish Safe
- Fish Safe Stability Handbook – *Safe at Sea* and *Safest Catch* – DVD Series
- Fish Safe *Safest Catch* Log Book
- Fish Safe *Safety Quiz*
- First Aid training
- Radio Operators Course (Subsidized rate for BC commercial fishers provided)
- Fishing Masters Certificate training
- Small Vessel Operators Certificate training

Publications:

- *Gearing Up for Safety* - WorkSafeBC
- Transport Canada Publication TP 10038 Small Fishing Vessel Safety Manual (can be obtained at Transport Canada Offices from their website at: <http://www.tc.gc.ca/eng/marinesafety/tp-tp10038-menu-548.htm>)
- Amendments to the Small Fishing Vessel Inspection Regulations (can be obtained from: <http://www.gazette.gc.ca/rp-pr/p2/2016/2016-07-13/html/sor-dors163-eng.php>)
- Safety Issues Investigation into Fishing Safety in Canada report can be accessed: <https://www.tsb.gc.ca/eng/rapports-reports/marine/etudes-studies/M09Z0001/M09Z0001.html>

For further information see: <https://tc.canada.ca/en/marine-transportation>
www.fishsafebc.com
www.worksafebc.com
www.tsb.gc.ca/eng/rapports-reports/marine/index.html

2. IMPORTANT PRIORITIES FOR VESSEL SAFETY

There are three areas of fishing vessel safety that should be considered a priority. These are: vessel stability, emergency preparedness, and cold water immersion.

2.1. Fishing Vessel Stability

Vessel stability is paramount for safety. Care must be given to the stowage and securing of all cargo, skiffs, equipment, fuel containers and supplies, and to correct ballasting. Fish harvesters must be familiar with their vessel's centre of gravity, the effect of liquid free surfaces on stability (e.g. loose water or fish on deck), loading and unloading operations, watertight integrity and the vessel's freeboard. Know the limitations of your vessel; if you are unsure contact a naval architect, marine surveyor or the local Transport Canada Marine Safety Office.

Fishing vessel owners are required to develop detailed instructions addressing the limits of stability for each of their vessels. These instructions must include detailed safe operation documentation kept on board the vessel.

In 2017, Transport Canada Marine Safety (TC) issued Ship Safety Bulletin (SSB) [No. 03/2017](#) announcing the coming into force of the New Fishing Vessel Safety Regulations. The initial regulations were published in the Canada Gazette Part II on July 13, 2016 and came into force on July 13, 2017. The bulletin includes important information on changes to requirements for Written Safety Procedures, Safety Equipment and Vessel Stability.

As of July 13, 2017, new regulations pertaining to stability assessments to be performed by a competent person came into effect, as follows:

- A new fishing vessel that has a hull length of more than 9 m where the vessel construction was started or that a contract was signed for the construction after July 13, 2018;

- A fishing vessel more than 9 m and that has undergone a major modification or a change in activity that is likely to adversely affect its stability;
- A fishing vessel that is fitted with an anti-roll tank at any time;
- A fishing vessel more than 15 gross tonnage and used for catching herring or capelin during the period beginning on July 6, 1977 and ending on July 13, 2017
- For an existing fishing vessel that is not required to undergo a stability assessment, the owner shall be capable of demonstrating that their vessel has adequate stability to safely carry out the vessel's intended operations. Guidelines have been developed and are available online to help small fishing vessel owners and operators meet their regulatory requirements
- Two good resources can be found here: [TP 15393 - Adequate stability and safety guidelines for fishing vessels \(2018\)](#) and [TP 15392 – Guidelines for fishing vessel major modification or a change in activity \(2018\)](#)

Further, the new Regulation requires a “Stability Notice” to be developed after a stability assessment. This notice includes a simple diagrammatic of the vessel, its tanks and fish holds, or deck storage as the case may be. It is intended to assist fishing vessel crews in quickly determining the safe carriage limits of the vessel without having to reference a complicated Trim and Stability Book.

Additionally, Transport Canada published a Stability Questionnaire ([SSB No. 04/2006](#)) and Fishing Vessel Modifications Form ([SSB No. 01/2008](#)) which enable operators to identify the criteria which will trigger a stability assessment. Please contact the nearest Transport Canada office if you need to determine whether your vessel requires a stability assessment, or to receive guidance on obtaining a competent assessor.

In 2019, TC provided an updated [SSB 03/2019](#), which sets out a voluntary record of modifications for the benefit of owners/masters of any fishing vessels. For vessels of more than 15 gross tons, the record of modifications was to be reviewed by TC inspectors during regular inspections and entered on the vessel's inspection record. However, information gathered during the Transportation Safety Board's (TSB) Safety Issues Investigation into the fishing industry showed minimal recording of vessel modifications prior to this date.

The TSB has investigated several fishing vessel accidents since 2005 and found a variety of factors that affected the vessel's stability were identified as contributing factors in vessels capsizing, such as with: [M05W0110](#) - *Morning Sunrise*, [M07M0088](#) - *Big Sisters*, [M08W0189](#) - *Love and Anarchy*, [M09L0074](#) – *Le Marsouin I*, [M10M0014](#)M - *Craig and Justin*, M12W0054 – *Jessie G*, - *Pacific Siren*, M14P0121 – *Five Star*, M15P0286 – *Caledonian*, M16A0140 – *C19496NB*, M17C0061 – *Emma Joan*, M17P0052 – *Miss Cory*, M18P0073 – *Western Commander* and M18A0425 – *Charlene A*.

Vessel masters are advised to carefully consider stability when transporting gear. Care must be given to the stowage and securing of all traps, cargo, skiffs, equipment, fuel containers and supplies and also to correct ballasting. Know the limitations of your vessel; if you are unsure, contact a reputable marine surveyor, naval architect or the local Transport Canada Marine Safety office.

WorkSafeBC's Occupational Health and Safety Regulations (OHSR) require owners of fishing vessels to provide documentation on board, readily accessible to crew members, which describes vessel characteristics, including stability.

Fish Safe has developed a code of best practices for the food and bait/roe herring fisheries and the prawn fishery: These Best Practices are available on Fish Safe's website for convenient download here: <https://www.fishsafebc.com/best-practices> Please contact Ryan Ford at Fish Safe for a copy of the program materials they developed to address safety and vessel stability in these fisheries. Ryan Ford – office: (604) 261261-9700 - Email: ryan@fishsafebc.com.

2.2. Emergency Drill Requirements

The *Canada Shipping Act, 2001* requires that the Authorized Representative of a Canadian Vessel shall develop procedures for the safe operation of the vessel and for dealing with emergencies. The Act also requires that crew and passengers receive safety training. The Marine Personnel Regulations require that all personnel on board required to meet the minimum safe manning levels have received MED (Marine Emergency Duties) training to an A1 or A3 level, depending on the vessel's voyage limits, within 6 months of serving aboard. MED A3 training is 8 hours in duration and is applicable to seafarers on fishing vessels less than 150 GRT that are within 25 miles from shore (NC2). MED A1 training is 19.5 hours duration and is applicable to all other fishing vessels.

To assist fishers in meeting their crew training requirements, Fish Safe has created a downloadable '*New Crew Orientation Form and How To Guide*' available on Fish Safe's website here: <https://www.fishsafebc.com/downloadable-tools>

MED provides a basic understanding of the hazards associated with the marine environment; the prevention of shipboard incidents; raising and reacting to alarms; fire and abandonment situations; and the skills necessary for survival and rescue.

WorkSafeBC's Occupational Health and Safety Regulation (OHSR) requires written rescue and evacuation procedures for work on or over water. Additionally, fishing vessel masters must establish procedures and assign responsibilities to each crew member to cover all emergencies, including the following: crew member overboard, fire on board, flooding of the vessel, abandoning ship, and calling for help. Fishing vessel masters are also required to conduct emergency drills at the start of each fishing season, when there is a change of crew, and at periodic intervals to ensure that crewmembers are familiar with emergency procedures.

Between 2011 and 2015 the TSB investigated 17 fishing vessel accidents which resulted in 17 fatalities. The report's findings highlighted the lack of safety drills and safety procedures and practices. The *Safest Catch* program, delivered by Fish Safe and free to BC commercial fishers, includes comprehensive practice of drills such as abandon ship, man overboard and firefighting drills.

2.3. Cold Water Immersion

Drowning is the number one cause of death in BC's fishing industry. Cold water is defined as water below 25 degrees Celsius, but the greatest effects occur below 15 degrees C. BC waters are usually below 15 degrees C. Normal body temperature is around 37 degrees Celsius; cold water rapidly draws heat away from the body. The effects of cold water on the body occur in four stages: cold shock, swimming failure, hypothermia and post-rescue collapse. Know what to do to prevent you or your crew from falling into the water and what to do if that occurs. More information is available in the WorkSafeBC Bulletin Cold Water Immersion (available from the WorkSafeBC website at www.worksafebc.com).

Under the recently amended (June 2019) OHS Regulation, section 24.96.1, a crewmember must wear a PFD or lifejacket when on board a fishing vessel that has no deck or deck structure or when on the deck of a fishing vessel that has a deck or deck structure. The use of a PFD will prepare a crewmember to remain afloat, to survive the effects of cold shock, reduce the need to swim and give rescuers time to respond.

Section 8.26, which requires workers to wear a PFD or lifejacket when working "under conditions which involve a risk of drowning", would continue to apply to fishing crewmembers and other workers (e.g. when they are working on shore, docks and other vessels). The specific requirements can be found on WorkSafeBC's PFD Primer provided on Fish Safe's website here: <https://www.fishsafebc.com/cold-water-survival>.

It has been demonstrated time and again that, when worn, PFD's save lives - and the chance of surviving a mishap increases significantly when these devices are worn while working on deck.

Resulting from the TSB investigations into the *Diane Louise* - M14P0110 and the *Caledonian* - M15P0286 fishing vessel accidents the Board recommended that both TC and WorkSafeBC require that persons wear a suitable personal flotation devices (PFDs) at all times when: on the deck of a commercial fishing vessel; or, when on board a commercial fishing vessel without a deck or deck structure, and ensure that programs are developed to confirm compliance.

2.4. Other Issues

2.4.1. Weather

Vessel owners and masters are reminded of the importance of paying close attention to current weather trends and forecasts during the voyage. Marine weather information and forecasts can be obtained on VHF channels 21B, Wx1, Wx2, Wx3, or Wx4. Weather information is also available from Environment Canada website at: http://www.weatheroffice.gc.ca/marine/index_e.html

2.4.2. Emergency Radio Procedures

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system early rather than later by contacting the Canadian Coast Guard

(CCG). It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons should be registered with the National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources. The TSB notes that there have been several recent occurrences on board vessels not equipped with an EPIRB, and that were either unable or did not use any other means of emergency signaling distress (e.g. M14P0121, M14A0289, M150189, M16A0327, M18A0076, M18A0303, M18A0078, M18P0184, M19A0082, M19P0242, M20A0258, M20A0160) which resulted in 24 fatalities.

Fish harvesters should monitor VHF channel 16 or MF 2182 KHz and make themselves and their crews familiar with other radio frequencies. All crew should know how to make a distress call and should obtain their restricted operator certificate from Industry Canada. However, whenever possible, masters should contact the nearest Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) station (on VHF channel 16 or MF 2182 kHz) prior to a distress situation developing. Correct radio procedures are important for communications in an emergency. Incorrect or misunderstood communications may hinder a rescue response. Further information is available at Radio Aids to Marine Navigation General

Since August 1, 2003 all commercial vessels greater than 8 metres in length are required to carry a Class D VHF Digital Selective Calling (DSC) radio. A registered DSC VHF radio has the capability to alert other DSC equipped vessels in your immediate area and MCTS that your vessel is in distress. Masters should be aware that they should register their DSC radios with Industry Canada to obtain a Marine Mobile Services Identity (MMSI) number or the automatic distress calling feature of the radio may not work. For further information see the Coast Guard website at: <http://www.ccg-gcc.gc.ca/eng/CCG/Home> or go directly to the Industry Canada web page: www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01032.html

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on DSC can be found here: TC DSC Safety Bulletin. Questions regarding Coast Guard DSC capabilities can be obtained by contacting your local MCTS centre (Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333).

2.4.3. Collision Regulations

Fish harvesters must be knowledgeable of the *Collision Regulations* and the responsibilities between vessels where risk of collision exists. Navigation lights must be kept in good working order and must be displayed from sunset to sunrise and during all times of restricted visibility. To help reduce the potential for collision or close quarters situations which may also result in the loss of fishing gear, fish harvesters are encouraged to monitor the appropriate local Vessel Traffic Services (VTS) VHF channel when travelling or fishing near shipping lanes or other areas frequented by large commercial vessels. Vessels required to participate in VTS include:

- a) every ship twenty metres or more in length,
- b) every ship engaged in towing or pushing any vessel or object, other than fishing gear,
- c) where the combined length of the ship and any vessel or object towed or pushed by the ship is forty five metres or more in length; or
- d) where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

Exceptions include:

- a) a ship towing or pushing inside a log booming ground,
- b) a pleasure yacht **less than** 30 metres in length, and
- c) a fishing vessel that is **less than** 24 metres in length and not **more than** 150 tons gross.

More detailed information on VTS can be obtained by calling either Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333 or from the Coast Guard website: MCTS Radio Aids to Marine Navigation Traffic

2.4.4. Buddy System

Fish harvesters are encouraged to use the buddy system when transiting and fishing as this allows for the ability to provide mutual aid. An important trip consideration is the use of a sail/voyage plan which includes the particulars of the vessel, crew and voyage. The sail plan should be left with a responsible person on shore or filed with the local MCTS. After leaving port the fish harvester should contact the holder of the sail plan daily or as per another schedule. The sail plan should ensure notification to JRCC when communication is not maintained which might indicate your vessel is in distress. Be sure to cancel the sail plan upon completion of the voyage.

3. WORKSAFEBBC

WorkSafeBC exercises jurisdiction over workplace health and safety, including the activities of crews of fishing vessels. Commercial fishing, diving and other marine operations are subject to the provisions of the *Workers Compensation Act (WCA)* and requirements in Part 24 of the Occupational Health and Safety Regulation (OHSR). Examples of Part 24 regulatory requirements related to fishing include, but are not limited to, the requirement to establish emergency procedures, to conduct emergency drills, to provide immersion suits for the crew, to provide stability documentation for the vessel, safe work procedures, injury reporting, correction of unsafe working conditions, the requirement to wear personal floatation devices (PFDs), etc.

Other sections of the OHSR also apply to commercial fishing operations. For example, Part 3 addresses training of young and new workers, first aid, and employer

incident/accident investigations. Part 4 addresses general conditions such as maintenance of equipment, workplace conduct and impairment. Part 8 addresses issues related to safety headgear, safety footwear, eye and face protection, limb and body protection and personal flotation devices (PFDs) when working on the dock. Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.

Both owners and masters of fishing vessels are considered to be employers. Under the *Workers Compensation Act* and the OHS Regulation (OHSR) they have varying and overlapping duties and responsibilities. Masters, because they have the most control during fishing and related activities, are considered to be the employer with primary responsibility for the health and safety of the crew.

The OHSR and the WCA are available from the Provincial Crown Printers or by visiting the WorkSafeBC website: www.worksafebc.com

NOTE: Regarding the OHSR requirement to wear PFD's, WorkSafeBC has produced a video entitled "Turning the Tide – PFD's in the Fishing Industry". For more information on PFD use, including a link to the video, please access the following site:

<https://www.worksafebc.com/en/about-us/news-events/news-releases/2018/November/new-fishing-industry-safety-video?origin=s&returnurl=https%3A%2F%2Fwww.worksafebc.com%2Fen%2Fsearch%23q%3DTurning%2520the%2520Tide%26sort%3Drelevancy%26f%3Alanguage-facet%3D%5BEnglish%5D>

For further information, contact an Occupational Safety Officer:

Bruce Logan	Vancouver/ Richmond/Delta	(604) 244-6477
Mark Lunny	Courtenay	(250) 334-8732
Cody King	Courtenay	(250) 334-8733
Gregory Matthews	Courtenay	(250) 334-8734
Paul Matthews	Courtenay	(250) 334-8741
Jessie Kunce	Victoria	(250) 881-3461

or the Manager of Interest for Marine and Fishing, Pat Olsen (250) 334-8777

For information on projects and initiatives related to commercial fishing health and safety please contact Tom Pawlowski, Manager, OHS Consultation and Education Services, at (604) 233-4062 or by email: tom.pawlowski@worksafebc.com or Tim Pryde, OHS Consultant at (604) 802-2954 or by email: <mailto:tim.pryde@worksafebc.com>.

4. FISH SAFE BC

Fish Safe encourages Vessel masters and crew to take ownership of fishing vessel safety. Through this industry driven and funded program Fish Safe provides fishing relevant tools and programs to assist fishers in this goal. The Fish Safe Stability Education Program and 1 Day Stability Workshop are available to all fishers who want to improve their understanding of stability and find practical application to their vessel's operation. The SVOP (Small Vessel Operator Proficiency) Course is designed to equip crew with the skills they need to safely navigate during their wheel watch. The *Safest Catch* Program, along with fisher-trained Safety Advisors, is designed to give fishers the tools they need to create a vessel specific safety management system.

As referenced throughout the above documentation, Fish Safe provides a broad range of courses, programs and services that are either free for BC commercial fishers or highly subsidized.

Fish Safe is managed by Ryan Ford, Program Manager, and support staff including John Krgovich, Program Coordinator, Stephanie Nguyen, Program Assistant, Rhoda Huey, Bookkeeper/Administrative Assistant, and an experienced team of fisher Safety Advisors. All activities and program development is directed by the Fish Safe Advisory Committee (membership is open to all interested in improving safety on board fishing vessels). The Advisory Committee meets two to three times annually to discuss safety issues and give direction to Fish Safe in the development of education and tools for fish harvesters.

Fish Safe also works closely with WorkSafeBC to improve the fishing injury claims process. For further information contact:

Ryan Ford	Cell: (604) 739-0540
Program Manager	Office: (604) 261-9700
Fish Safe	Email: ryan@fishsafebc.com
#100, 12051 Horseshoe Way	www.fishsafebc.com
Richmond, BC V7A 4V4	

5. TRANSPORTATION SAFETY BOARD

The Transportation Safety Board (TSB) is not a regulatory board. The TSB is an independent agency that investigates marine, pipeline, railway and aviation transportation occurrences to determine the underlying risks and contributing factors. Its sole aim is the advancement of transportation safety by reporting publicly through Accident Investigation Reports or Marine Safety Information Letters or Advisors. It is not the function of the Board to assign fault or determine civil or criminal liability. Under the TSB Act, all information collected during an investigation is completely confidential.

In 2014 the TSB Pacific region released three investigation reports:

- the collision between trawl fishing vessel *Viking Storm* and US long line fishing vessel *Maverick* and the subsequent fatality,

- the person over board off the prawn fishing vessel *Diane Louise* and the subsequent fatality, and
- the capsizing of the crab fishing vessel *Five Star* and subsequent fatality.

In 2016 the TSB Pacific region released one investigation report:

- the capsizing of the trawl *Caledonian* and subsequent fatalities.

In 2018 the TSB Pacific region released two investigation reports:

- the capsizing and sinking of the *Miss Cory* and subsequent fatality
- the sinking of the *Western Commander* and loss of life

In 2020 the TSB Pacific region is currently investigating the fatal accident involving the *Arctic Fox II* on August 11.

The TSB issued five recommendations following the *Caledonian* report. Three recommendations issued are aimed at ensuring all crews have access to adequate stability information that meets their needs. That means:

- All commercial fishing vessels should have a stability assessment appropriate for their size and operation.
- The information from that assessment must then be kept current, and it must be used to determine safe operating limits.

Moreover, these operating limits must be easily measurable, and relevant to the vessel's operation. For example, that could mean marking the sides of a vessel's hull to indicate the maximum operating waterline, or maximum permitted loads can be specified in the most relevant unit of measure—total catch weight for instance, or the safe number of traps. Regardless, for it to be of real, practical use, the information must be presented in a format that is clearly understood and easily accessible to crew.

The other two recommendations address the most basic step that harvesters can take: wearing a personal flotation device. Here in British Columbia, roughly 70 percent of all fishing-related fatalities in the past decade came while not wearing a PFD. Yet many harvesters still do not wear them. TC regulations currently require that PFDs be worn only if harvesters identify a risk, however; you never know when you could end up in the water. So the TSB is recommending to TC to require persons to wear suitable personal flotation devices at all times when on the deck of a commercial fishing vessel or when on board a commercial fishing vessel without a deck or deck structure and that programs are developed to confirm compliance. In June 2019, WorksafeBC amended its fishing regulation related to the use of PFDs. Under the amendments, crewmembers must wear a PFD or lifejacket when on board a fishing vessel that has no deck or deck structure, or when on the deck of a fishing vessel that has a deck or deck structure. Crewmembers are not required to wear lifejackets or PFDs below deck or when inside a deck structure where there is risk of entrapment. This amendment removes the need for a risk of drowning to be present before a PFD must be worn.

For more information about the TSB, visit the website at www.tsb.gc.ca

For information about the TSB's investigation into fishing safety, or to view a brief video, visit: <http://www.tsb.gc.ca/eng/medias-media/videos/marine/m09z0001/index.asp>

To view information on the TSB's recent safety Watchlist, visit: <http://www.bst-tsb.gc.ca/eng/surveillance-watchlist/marine/2018/marine.html>

Reporting an Occurrence: www.tsb.gc.ca/eng/incidents-occurrence/marine/
After a reportable occurrence happens; you can fill out the TSB 1808 form or call the TSB at the contact information below.

Recently the TSB produced a Safe at Sea: Activity book on fishing safety intended for the next generation of fish harvesters (ages 4-7). Download a copy.
[www.tsb.gc.ca > eng > medias-media > prudence-safe > safe-at-sea](http://www.tsb.gc.ca/eng/medias-media/prudence-safe/safe-at-sea)

Glenn Budden, Investigator, Marine - Fishing Vessels
Transportation Safety Board of Canada
4 - 3071 No. 5 Road
Richmond, BC, V6X 2T4
Telephone: (604) 619-6090
Email: glenn.budden@tsb-bst.gc.ca

APPENDIX 9: CONSULTATION

A more formalized consultative process was developed in 2014 to help organize and coordinate the Pacific Oyster fishery. A call for nominations was made in 2014 for a three-year term on the Sectoral Committee. In 2017 and again in 2020 nominations were requested for commercial representatives to serve on the committee. A total of five seats were available for commercial representatives on the Sectoral Committee. In both 2017 and 2020 only four nominations were received, and those four people were appointed by the Department as representatives for a three-year period. An additional seat may be filled in the future if a nominee is identified. Additional seats are also available on the Sectoral Committee for representatives from First Nations, BC Ministry of Agriculture, Food and Fisheries, and recreational harvesters.

It is expected future advisory committee members will meet at least once annually in the late fall period to review and provide advice to the Department regarding management issues pertaining to the fishery and advice on the proposed IFMP for the following season.

Each year the preliminary draft IFMP, which incorporates new science advice and advice on quota options and the upcoming fishery, is made available to all interested parties: First Nations, commercial licence holders, recreational organizations, DFO (Science Branch, Conservation and Protection, Commercial Licensing, the Oceans Directorate, the Aquaculture Division, Fisheries Management and Policy Branch), other Federal agencies such as CFIA, ECCC and the Province Ministry of Agriculture, Food and Fisheries for review and comment prior to the IFMP being finalized and approved by the Department.

APPENDIX 10: POST-SEASON REVIEW

During the 2019/20 season 25 commercial harvest sites were approved in the Integrated Fisheries Management Plan (IFMP) for commercial harvest. Twenty-one (21) of the 71 commercial licences were active in the fishery. However, the proportion of the over-all total allowable catch that was harvested remained low. Hail reports indicate approximately 181,191 lb of product was harvested out of the coast wide Total Allowable Catch (TAC) of 737,300 lb.

The 2018/19 season was the fifth year that the fishery was conducted using a third-party service provider (D&D Pacific Fisheries Ltd.) for monitoring the licence and area quotas, in-season, through a mandatory hail reporting program.

The commercial fishery opened on March 1, 2019 until May 31, 2019; and then re-opened for a second opening from September 15, 2019 to December 15, 2019. Only one of the individual harvest sites reached their maximum quota in-season, and no quota overages occurred.

Pacific Region Objectives:

- All commercial harvest was controlled within the allocated quotas approved in the IFMP. Few public complaints were received by the Department.
- Harvest of Pacific Oysters is limited to harvesting by hand-picking, and thus is believed to reduce any ecological impacts on habitat due to harvesting activity.

Invertebrate Resource Management Objectives:

- There continues to be interest by First Nations to engage in the harvest of Pacific Oysters from wild product and through aquaculture.
- The Department has created a total of 20 FZWO communal commercial licences for First Nations. First Nations with an interest in the fishery may apply through the ATP program for access.
- Arrangements were successfully made with licence holders to implement the required in-season management hail, catch monitoring and tracking, and logbook reporting programs as outlined in the DFO data reporting standards for the 2019/20 season. This program was carried out by the service provider selected for the season by licence holders, D&D Pacific Fisheries Ltd.
- Recreational harvest opportunities were provided in most South Coast areas year-round, in areas with the approved water-quality and biotoxin monitoring in place. The Department consulted with the SFAB on proposed reductions to the daily recreational harvest limit for Pacific oysters. The daily limit was reduced the subsequent year to 12 oysters/day. Opportunities for harvesting continued under the recreational sport fishing licence.

Pacific Oyster Objectives:

- During 2019 field season three commercial harvest site beaches had survey work conducted on them. These surveys were conducted in PFMA 13, 15 and 25, at Smelt Bay, Myrtle Rocks, and Head Bay respectively.
- Commercial harvest at all sites was limited to the allocated quota amounts identified in the IFMP.
- The catch monitoring and tracking programs for the commercial fishery were believed to function fairly well. Several vessels failed to submit logbooks within the required timelines outlined in their licence conditions.
- No harvest sites exceeded their harvest limit during the 2019/20 season.

APPENDIX 11: REPORTING STANDARDS

Pacific Oyster Commercial Fishery Monitoring and Catch Reporting Program Standards For the Licence Year 2021/22

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Annex 1 – Fishing Activity Hail Reporting Specifications

Annex 2 – Pacific Oyster Harvest Logbook Program (Paper) Data Specifications

Annex 3 – Harvest Hail Reporting Specifications

1. PURPOSE OF THIS DOCUMENT

This document describes the official Fisheries and Oceans Canada standards for fishery monitoring and catch reporting in the commercial Pacific Oyster fishery, including data collection, data submission, and reporting. The document defines the requirements for the 2021/22 licence year and will be adapted for subsequent seasons as necessary. Through conditions of licence, commercial harvesters are required to establish programs for:

- Fishery activity monitoring;
- Harvest logbook reporting;
- Harvest hail reporting; and
- Fish Slip reporting;

This document is intended to provide information to licence holders regarding their obligations for reporting during the 2021/22 season, and may be used by commercial licence holders in discussions with third-party service providers who may be interested in bidding on the opportunity to provide these programs and requirements on behalf of licence holders.

Persons applying for a licence for the 2021/22 season will be required to ensure that they have made arrangements, either individually or through an area association, for each element of these programs to be completed on their behalf.

Prior to the Department opening the fishery for the 2021/22 season all commercial licence holders, or associations acting on their behalf, are required to submit a detailed proposal to the Department on behalf of the licence holders represented outlining how each of the fishery monitoring and catch reporting program requirements will be met. It is essential that proposals demonstrate how programs will function to meet the minimum program standards of the Department described in this document. These proposals are due a minimum of nine (9) weeks prior to the department opening the fishery. The Department will review proposals to ensure they meet all program standards, and may request discussion with proponents for clarification. Departmental approval of programs will be provided in writing. The Department recommends that licence holders refrain from committing to any contract arrangements with service providers prior to the Department confirming, in writing, approval for the proposal(s) submitted on their behalf.

All program components, as outlined in the proposal, and approved by the Department, must be in place for the start of the fishery.

The Department requires that all licence holders within a single oyster licence area choose a single service provider for the fishing activity hail program and for the harvest report hail program. Individual licence holders within a licence area may choose to select a different or multiple service providers to provide logbook services or to complete stock assessment surveys, provided submission of data and reports meet DFO format standards.

2. MONITORING OBJECTIVES FOR COMMERCIAL OYSTER FISHERY

Over-arching objectives for the fishery include:

- Collect accurate harvest and effort data;
- Collect accurate and timely data on fishing activity;
- Collect data to support compliance with conditions of licence;
- Collect data on stock abundance and structure; and
- Collect economic data from the fishery

3. MONITORING PROGRAMS

The monitoring of the commercial oyster fishery during the 2021/22 fishing season will be accomplished through four programs. It is expected that most harvesters will meet the monitoring requirements through the fishing activity hail, harvest logbook, harvest report hail, and fish slip programs. Detailed reporting standards for the fishing activity hail, harvest logbook and harvest report hail are provided in Annex 1 thru 3.

3.1. Fishing Activity Hail Program

3.1.1. Phone-in Hails – prior to fishing

Harvesters may choose to use a phone-in hail program to meet the objectives of collecting accurate and timely data on fishing activity. All licence holders must hail-in a minimum of 24 hours prior to each fishing trip. Hails must be made during regular business hours (between 09:00 hrs. and 17:00 hrs.) or by emailing to pacificoyster@d-pacificfisheries.com. Fishers may hail for multiple days at a time, up to a maximum of eight (8) days. Licence holders must phone and make arrangement to have all the detailed data outlined in Annex 1 uploaded to a DFO approved database. Individuals may not phone DFO directly. All data must be provided through a DFO approved service provider (see Annex 1).

Licence holders electing not to participate in the fishing activity phone hail program must arrange for a DFO designated observer, designated by the Regional Director General for monitoring, to be present during harvesting and must ensure the observer accurately monitors and reports on all the detailed standards outlined in this document. Observers must participate in a training program specific to the oyster fishery monitoring, and must be designated under Section 39 of the *Fishery (General) Regulations*. Details on required information reports are provided in Annex 1. Contact a Resource Manager for more information (see Section 4).

3.2. Catch Reporting

3.2.1. Harvest Logbooks

The goal of this program is to obtain accurate harvest and effort data in the commercial oyster fishery. As a Condition of Licence, the licence holder is responsible for the provision and maintenance of an accurate record, a “log” of daily harvest operations. This log must be completed and a copy submitted in both hard (paper) copy and electronic form in an approved format as defined by Fisheries and Oceans Canada. Licence holders may use a service provider to meet the requirement for provision of electronic data (see Annex 2). Alternately, licence holders may elect to meet this requirement independent of a service provider.

3.2.2. Fish Slips

The fish slip program is intended to collect economic data from the fishery. Service providers are not required in order to fulfill program requirements. Licence holders are responsible for ensuring fish slips are submitted. It is a Condition of Licence that an accurate written report shall be furnished on a fish slip of all fish and shellfish caught under the authority of this licence. A report must be made even if the fish and shellfish landed are used for bait, personal consumption, or otherwise disposed. The written report shall be posted not later than seven days after the offloading and sent to:

Fisheries and Oceans Canada
Regional Data Unit
Suite 200 - 401 Burrard Street
Vancouver, B.C., V6C 3S4
(604) 666-3784

Fish slip books may be purchased at most Fisheries and Oceans Canada offices. Phone (604) 666-2716 for more information.

3.2.3. Harvest Report Hail

Licence holders shall arrange to have catch information on fishing harvest reported within 16 hours of the product leaving the harvest location. Within 16 hours of the oysters being removed from the harvest site the licence holder shall contact the approved service provider and provide all the detailed data outlined in Annex 3. The licence holder shall arrange to have all data outlined in Annex 3 uploaded to the DFO database on a weekly basis. Individuals may not phone DFO directly. All data must be provided through a DFO approved service provider (see Annex 3).

Licence holders electing not to participate in the harvest report phone hail program must arrange for a DFO designated observer, designated by the Regional Director General for monitoring, to be present during harvesting and must ensure the observer accurately monitors and reports on all the detailed standards outlined in this document. Observers must participate in a training program specific to the

oyster fishery monitoring, and must be designated under Section 39 of the *Fishery (General) Regulations*. Details on required information reports are provided in Annex 3. Contact a Resource Manager for more information (see Section 4).

3.3. Stock Assessment Program

Licence holders are responsible for participating in new biomass surveys annually to collect data on oyster abundances to be used for establishing quotas at commercial harvest sites. Representatives from industry will participate in a survey subcommittee to help plan and organize surveys.

It is the responsibility of the Licence holders to make arrangements for biomass assessments to be conducted, analyzed, and the data provided to DFO based on the work plans established by the survey subcommittee. Licence holder representatives may propose new harvest sites to be surveyed to replace existing harvest sites. All new proposed harvest sites will need to be reviewed and evaluated by DFO, and it is recommended that proposals for new harvest sites be submitted to DFO several months in advance of anticipated survey dates.

The objective of the surveys will be to collect information on the biomass of oyster populations which will be used to help determine harvest quotas.

The assessment protocol to be followed has been developed and peer-reviewed through the Canadian Scientific Advice Committee within DFO. The detailed survey manual outlining the steps and reporting standards was prepared by DFO science and made available in early 2014. The manual includes a requirement for surveys to be coordinated by an independent third-party biologist capable of running the survey and completing the necessary analysis of data. Harvesters or others may assist in the surveys to reduce personnel and other costs.

4. CONTACTS FOR MORE INFORMATION

Stock Assessment	Dominique Bureau	(250) 756-7114
Resource Manager	Guy Parker	(250) 756-7163
Aquaculture Management	Melinda Scott	(250) 729-8383

Annex 1 - Fishing Activity Hail Reporting Specifications



Project Name:	PacFISH Information Management Framework
Document Title	DFO Data Transfer Specifications: Fishery Activity Hail Programs
Author:	DFO
Organization:	Fisheries and Oceans Canada
Date:	September 29, 2016

This document provides information on the data requirements and specifications for programs collecting data for transfer to Fisheries and Oceans Canada, Pacific Region. The intended audience is both DFO staff and external groups involved in collecting, transferring or managing fisheries data. All data submitted becomes the exclusive property of Fisheries and Oceans Canada

Fishery(s): Commercial Pacific Oyster (code – PACOYST)

Fishery Season: 2021

Data Collection Program Name: Fishery Activity Hail

Associated Fishery Data Manager: Resource Management – Invertebrates, Pacific Region

Rationale: This hail program is integral to the following activities:

Monitoring and tracking fishing activity

Tracking and monitoring harvest against beach and individual licence quotas

Data Transfer Requirements

Format: Microsoft Excel (2010 or earlier versions)

Medium: DFO ftp site or Email to Local Area Oyster Manager

Timeliness: The vessel master shall arrange to have a fishing activity report entered into the DFO database by the end of business every Monday:

- All data shall be made available to DFO no more than 7 days after the data has been received by the service provider.
- The file must be a running update of all data for the season. (i.e. the file must include all previous records as well as the new information being provided to DFO).
- The vessel master shall arrange for the service provider to send updated hail reports to DFO during the course of the week if requested to do so.

File Naming Conventions: Oyster_Act_Hail_2021

The following information shall be recorded for each fishing activity report:

FIELD NAME	DESCRIPTION	FIELD TYPE/SIZE
HAIL_OUT_NUM	Hail out number at start of trip	Number
CALL_DATE	Date call made	Short Date (month/day/year, e.g. 12/31/13)
CALL_TIME	Time call made	Short Time (e.g. 23:59)
CALLER_NAME	Name of caller	Text
LICENCE_NUMBER	Licence number	Number
LICENCE HOLDER_NAME	Licence holder's name	Text
TRIP_STATUS	Trip Status ¹	Text
TRIP_TYPE	Type of Trip ²	Text
PFMA	PFMA ³	Number
PFM_SUB_AREA	PFM Subarea ³	Number
BEACH NUMBER	Beach Number from IFMP	Number
COMMENTS	Comments	Memo
HAIL_OP	Hail Operator	Memo
VESSEL NAME	Name of Vessel Used (if available)	Text

¹ TRIP STATUS
START
END
LOCATION CHANGE
UPDATE
CANCEL

² TRIP TYPE
COMMERCIAL
COMMERCIAL W/ SURVEYS
SURVEYS

³ Areas and Subareas are described in the Pacific Fishery Management Area Regulation. The hail operator shall provide additional sub-areas and beach numbers intended to be fished during the same trip.

Annex 2 - Pacific Oyster Harvest Logbook Program (Paper) Data Specifications



Project Name:	PacFish Information Management Framework
Document Title:	DFO Data Transfer Specifications: Harvest Logbooks
File Number:	
Author:	Fisheries Management
Organization:	Fisheries and Oceans Canada
Version:	1.0
Date:	September 29, 2016

This document provides information on the data requirements and specifications for programs collecting data for transfer to Fisheries and Oceans Canada, Pacific Region. The intended audience is both DFO staff and external groups involved in collecting, transferring or managing fisheries data, including Service Providers hired by harvesters or harvester associations to support compliance with Conditions of Licence.

Fishery(s): Commercial Pacific Oyster (code – PACOYST)

Fishery Season: 2021

Data Collection Program Name: Pacific Oyster Harvest Log Program (paper-based)

Associated Fishery Data Service:

Data Transfer Requirements

Format: MS Access 2010 (or earlier version) database file following the prescribed data transfer format (below) + hardcopy (paper) from which electronic data were transcribed.

- A separate file must be created for each calendar year.
- Hardcopy (paper) must be separated by calendar year.
- Hardcopy (paper) must be accompanied by a batch summary report, consisting of a listing of the licence numbers contained in the batch, sorted in ascending order, with a count of records associated with each licence number. The total number of records associated with the batch must also be provided.

Conduit: Data transfer to DFO to be effected via the DFO Contractor Data Exchange FTP site or email. Service Provider is to notify the resource manager via email each time a file is posted to an FTP site.

Medium: In the absence of data transfer via FTP, an acceptable physical medium is a Windows compatible mini CD. The CD must be accompanied by a batch summary report (described above).

Hardcopy delivery: All deliveries of hardcopy and physical media must be via courier service, in-person or by an approved alternative. Hardcopy logbooks must be submitted

to the Department at the address below. Licence holders are responsible for ensuring delivery of the physical hard copy of their logs to the Department within 21 days following the end of the month in which fishing occurred. The mailing address is:

Fisheries and Oceans Canada
Guy Parker
3225 Stephenson Point Road
Nanaimo, BC V9T 1K3

Timeliness: An electronic copy must be provided to the Department by January 31, 2022.

Data Ownership: All data submitted becomes the exclusive property of Fisheries and Oceans Canada.

File Naming Conventions: Files should be named such that the Service Provider, Fishery, Origin (paper-based [P]) Unique Batch number and year (YYYY) are all present in the file name (e.g. ABCCo_Pacific_oyster_P_B42_2021).

Special Requirements:

- The electronic version must be a true and accurate transcription of the hardcopy data. Each record will represent, at a minimum, one day's harvest from a single harvest beach.
- The file submitted must consist of only one table), with the fields and field characteristics as shown in the 'DATA TRANSFER FORMAT' section in this document. Regardless of the table design and relationships defined by the external group or Service Provider system for proprietary purposes, data transferred to DFO must be extracted in a manner which conforms to the design described in the 'DATA TRANSFER FORMAT' section.
- The file must be a running update of all data for the season (i.e. the file must include all previous records as well as the new information being provided to DFO).

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Data Transfer Format

More extensive descriptions of data fields marked with an asterisk are available following the table.

Field Name	Description	Mandatory?	Field Type/Size	Value if N/A or Unknown	Validation Rules
LICENCE_NUM	Licence Number	Yes	Integer		
FIN	Vessel Master Fisher Identification Number (FIN)	Yes	Long Integer	Null	
YEAR	Year of fishing event	Yes	Integer – 4 digits		
MONTH	Month of fishing event	Yes	Integer or byte		1-12
DAY	Day of fishing event	Yes	Integer or byte		Valid calendar day (1-31)
STAT_AREA	*Statistical Area (Pacific Fishery Management Area; PFMA)		Integer or byte	0	Valid PFM Area from PacFish Data Standard list
SUB_AREA	*Statistical Sub-area (PFM sub-area)		Integer or byte	0	Valid PFM Sub-area from PacFish Data Standard list
NAME_BEACH	Common name of harvest beach location	Yes	Text – 40 characters	U	
SPECIES_CODE	* Species Code	Yes	Text – 3 characters		Valid PacCode from PacFish Data Standard list
NUM_CONTAINERS	Number of containers	Yes	Integer	0	
WEIGHT	Weight of Total landings	Yes	Integer	0	
WEIGHT_UNIT	*Weight Unit	Yes	Text – 1 character	U	
PBS_CODE	*Remarks Code		Integer or byte	0	
REC_STATUS	*Status of Record	Yes	Integer or byte		

Statistical Area / Sub-Area

This is the Pacific Fisheries Management Area (PFMA) and Sub-Area as specified in the *Fisheries Act*, Pacific Fishery Management Area regulations.

Species Codes

Use the following codes for Pacific oyster being reported.

<u>Species</u>	<u>Species</u>	<u>Code</u>
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Crassostrea gigas	69F	
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Weight Unit

Enter ‘P’ for weights reported in Pounds, or ‘K’ for Kilograms, ‘U’ if Unknown.

Remarks Code

Use code 99 to indicate that the data entry person has a problem (interpretation or other) with the record. Data entry person is to use pencil to write ‘99’ in the REMARKS column of the paper log and include a sticky note affixed to the log page with a brief description of the issue. The sticky

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note must project up from the page such that it is easily seen. Example problems: “handwriting hard to interpret”, “damage to page”, etc.

Occasionally Shellfish FDS staff will enter a numeric code in the Remarks field of the harvest log (identified by red pen). These codes are to be transcribed to the electronic version of the data.

Annex 3 - Harvest Hail Reporting Specifications



Project Name:	PacFISH Information Management Framework
Document Title	DFO Data Transfer Specifications: Harvest Reporting Hail Programs
Author:	DFO
Organization:	Fisheries and Oceans Canada
Date:	August 31, 2016

This document provides information on the data requirements and specifications for programs collecting data for transfer to Fisheries and Oceans Canada, Pacific Region. The intended audience is both DFO staff and external groups involved in collecting, transferring or managing fisheries data. All data submitted becomes the exclusive property of Fisheries and Oceans Canada

Fishery(s): Commercial Pacific Oyster (code – PACOYST)

Fishery Season: 2021

Data Collection Program Name: Harvest Report Hail

Associated Fishery Data Manager: Resource Management – Invertebrates, Pacific Region

Rationale: This hail program is integral to the following activities:

Monitoring and tracking fishing activity

Tracking and monitoring harvest against beach and individual licence quotas

Data Transfer Requirements

Format: Microsoft Excel (2010 or earlier versions)

Medium: DFO ftp site or Email to Local Area Oyster Manager

Timeliness: The vessel master shall arrange to have a fishing harvest hail report entered into the DFO database by the close of business every Monday:

- All data shall be made available to DFO no more than 7 days after the data has been received by the service provider.
- The file must be a running update of all data for the season. (i.e. the file must include all previous records as well as the new information being provided to DFO).
- The vessel master shall arrange for the service provider to send updated Harvest Reports to DFO during the course of the week if requested to do so.

File Naming Conventions: Oyster_Harvest_Hail_2021

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The following information shall be recorded for each fishing activity report:

FIELD NAME	DESCRIPTION	FIELD TYPE/SIZE
HAIL_NUM	Hail Number	Number
HAIL_OUT_NUM	Fishing activity hail out number	Number
CALL_DATE	Date call made	Short Date (month/day/year, e.g. 12/31/13)
CALL_TIME	Time call made	Short Time (e.g. 23:59)
CALLER_NAME	Name of caller	Text
LICENCE_NUMBER	Licence number	Number
LICENCE HOLDER_NAME	Licence holder's name	Text
TRIP_STATUS	Trip Status ¹	Text
TRIP_TYPE	Type of Trip ²	Text
PFMA	PFMA ³	Number
PFM_SUB_AREA	PFM Subarea ³	Number
BEACH NUMBER	Beach Number from IFMP	Number
HARVEST_AMT	Trip amount (lb)	Number
REMAIN_QUOTA	Remaining quota on licence (lb)	Number
COMMENTS	Comments	Memo
HAIL_OP	Hail Operator	Memo

¹ TRIP STATUS
START
END
LOCATION CHANGE
UPDATE
CANCEL

² TRIP TYPE
COMMERCIAL
COMMERCIAL W/ SURVEYS
SURVEYS

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³ Areas and Subareas are described in the Pacific Fishery Management Area Regulation. The hail operator shall provide additional sub-areas and beach numbers intended to be fished during the same trip.

WEEKLY SUMMARY REPORTS

Licence holders will ensure that the Department receives a weekly fishery summary by facsimile or email transmission. The summary will include the following information in tabular form:

- Table of landings by Licence Area showing, **for each licence area**: landings for the period (week); cumulative landings; number of licences fishing.
- Table of landings by Beach (Quota) Management Area showing, **for each beach (quota) area**: landings for the period (week); cumulative landings; remaining area quota; number of licences fishing.
- Table of landings by “ZWO” and “FZWO” Licence Tab Number, showing, **for each tab**: name; Areas and Subareas fished; landings for the period (week); cumulative landings; remaining quota on licence.

These weekly summaries are to be sent to:

Guy Parker
Fisheries and Oceans Canada
Phone: (250) 756-7163

APPENDIX 12: EXAMPLE OF PACIFIC OYSTER TAG

To increase traceability of product, harvesters must attach water-proof tags to their bags or containers of oysters. All information as outlined in the requirements under the conditions of licence should be included on the tags. In addition, it is recommended to transcribe the Variation Order Number from the fishery notice that announces the opening onto the tag so as to provide harvesters and plant operators with additional verification that product is coming out of areas that have been opened by CFIA and DFO.

Harvesters are responsible for producing their own tags for the fishery.

Example of Tag:

Harvester Name:	_____
Oyster Licence No. :	Harvest Date: _____
Commercial Oyster Harvest Site:	_____
Pacific Fisheries Management Area:	Subarea: _____
Licence Holder's Name:	_____

The container tags must be waterproof and provide the following information written in water resistant ink:

- Harvester's Name;
- Licence Holder's Name
- Oyster Licence number;
- Harvest date;
- Commercial Oyster Harvest Site (fishery quota area); and
- Pacific Fisheries Management Subarea (example: Subarea 24-4).