PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

PACIFIC OYSTERS

(Crassostrea gigas)

MARCH 1, 2019 TO FEBRUARY 28, 2020

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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ATTACHMENTS:

1. OVERVIEW

1.1. Introduction

This IFMP for Pacific Oysters covers the period March 1, 2019 to February 28, 2020.

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 licenced 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 ("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 2018, 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

Aboriginal harvest of oysters for food, social and ceremonial (FSC) 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: http://www.nnkn.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 Yuułuʔiłʔatḥ 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: www.aadnc-aandc.gc.ca/eng/1397050017650/1397050094605

T'aaq- wiihak First Nations -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 T'aaq-wiihak First Nations) - have Aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of Geoduck. DFO is working with the Five Nations to implement a Fishery Management Plan ("FMP") for their fishing, by March 31, 2019. The FMP could lead to in-season management changes. DFO will make every effort to advise stakeholders of any such changes in advance of changes being implemented.

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 licenses 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*. 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 licencing, 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 Nation's harvest for FSC 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, 2019 to February 28, 2020 for this season. The actual commercial fishery opening time is scheduled to run from March 1, 2019 to May 31, 2019; and then re-open again from September 15, 2019 to November 15, 2019; 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 2018 a limited number of biomass surveys were conducted at some of the existing commercial harvest sites on the coast.

Survey works conducted by industry-funded biologists have 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).

DFO also worked with the Tla'amin First Nation in the summer of 2017 and 2018 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, 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 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. Socio-Economic Profile

There is insufficient data to conduct a socio-economic analysis for this fishery. As more data becomes available from the fishery an analysis will be prepared.

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 (2014-2018). The industry assessment programs for this fishery are still in early development. Quotas for the commercial fishery in 2019 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 2019 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

At this time there is no formal commercial industry association. However, harvesters have committed to ongoing funding of stock assessment work on harvest beaches. Harvesters are expected to fund stock assessment work on one (1) out of every five (5) of the commercial harvest beaches identified in the IFMP annually.

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

There are no new emerging issues for enforcement other than those already highlighted in the Compliance Plan section of this IFMP.

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 the following

species may have habitat that may be concurrent with the location of current or future harvest sites.

Olympia Oyster

Olympia Oysters (Ostrea lurida, previously Ostrea chonchaphila) are listed as a species of Special Concern under SARA. This species is the only native oyster along the west coast of Canada. Currently the population is apparently stable but is lower than historic levels. A further decline may reoccur due to rapidly expanding farming of non-native oysters, pressure from recreational and commercial activities, and continued introduction of exotic species of oysters.

The COSEWIC Assessment and Status Report on the Olympia Oyster prepared in 2011 lists the presence of Pacific Oyster as a possible threat to the Olympia Oyster recovery. Olympia Oyster larvae are reported to settle disproportionally in areas of high densities of oyster shells. In areas with large Pacific Oyster populations and shell, Olympia Oyster larvae settle on the Pacific Oyster shell which is located high in the intertidal zone. Olympia Oyster larvae are unable to survive high in the intertidal zone due to the increased exposure, and are reported to suffer increased over-all mortality as a result.

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 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

In 1997, the Government of Canada enacted the *Oceans Act*. 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 B.C. 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 processes.

Canada's Marine and Coastal Areas Conservation Mandate:

In October 2017, the Government of Canada announced that it had reached its first milestone of protecting 5% of marine and coastal areas. The federal government remains committed to protecting 10% of Canada's marine and coastal areas by 2020. The 2020 target is both a domestic target (Canada's Biodiversity Target 1) and an international target as reflected in the Convention on Biological Diversity's Aichi Target 11 and the United Nations General Assembly's 2030 Agenda for Sustainable Development under Goal 14. The 2017 and 2020 targets are collectively referred to as Canada's marine conservation targets. More information on the background and drivers for Canada's marine conservation targets is available http://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html.

To meet this 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 online at: http://www.dfo-mpo.gc.ca/oceans/mpa-zpm-aoi-si-eng.html

On the Pacific Coast, between now and 2020, Canada will be:

- Advancing work towards developing management plans for the newly established marine National Wildlife Area in the Scott Islands under the *Canada Wildlife Act* and the Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA;

- Exploring opportunities for establishing new, large *Oceans Act* MPAs in pristine offshore areas;

- Exploring opportunities to establish additional *Oceans Act* MPAs in areas under pressure from human activities through advancing MPA network development in the Northern Shelf Bioregion;

- Identifying existing and establishing new "other effective area-based conservation measures" based on advice provided by the CSAS (such as fisheries closures), particularly to protect sensitive sponge and coral concentrations; and

- Examining how to facilitate the designation process for *Oceans Act* MPAs, without sacrificing science or the public's opportunity to provide input.

For more information about Canada's plan to reach Marine Conservation Targets visit: www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html

Oyster fishing takes place in a limited area and does not overlap with established MPAs under the *Oceans Act*, National Marine Conservation Areas under the *National Marine Conservation Areas Act*, the Northern Shelf Bioregion, Pacific North Coast Integrated Management Area or the Scott Islands marine National Wildlife Area.

The *Oceans Act* mandates DFO's Minister with leading and coordinating the development and implementation of a national network of marine protected areas (MPAs). Nationally, MPA Network planning is proceeding in four priority bioregions under the National Framework for Canada's Network of Marine Protected Areas, including the Northern Shelf Bioregion (NSB). The NSB extends from the top of Vancouver Island (Quadra Island/ Bute Inlet) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as PNCIMA.

In the Pacific region, the Department and other federal agencies are collaborating with the Government of B.C. and Pacific North Coast First Nations to develop a MPA network for the NSB. The planning process in the NSB is guided by the Canada-BC MPA Network Strategy (2014) and the National Framework for Canada's Network of Marine Protected Areas. Stakeholders and local governments are participating in the planning process through advisory committees at regional and sub-regional scales, workshops, and sector meetings.

Through the Network Action Plan, the MPA Network planning process will identify areas for protection. These areas will be established and implemented on a priority basis through a variety of legislative or regulatory tools.

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

Rockfish Conservation Areas (RCAs) have been prioritized for review as potential "other effective area-based conservation measures" that may contribute to Canada's Marine Conservation Target in 2020.

Information about RCAs is available at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.html

More information about Canada's Plan to reach Marine Conservation Targets is available at: www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html

More information on Pacific MPAs and integrated management planning under Canada's Oceans Act is available at: http://www.pac.dfo-mpo.gc.ca/oceans/index-eng.html

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 is prohibited. Please see Appendix 10 of this IFMP for descriptions of these closures.

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

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-cnnmca/dgs-ssg

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.

5. OBJECTIVES

5.1. National

DFO aims to:

- Meet conservation objectives and ensure healthy and productive fisheries and ecosystems;
- 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 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 harvest the available biomass on a sustainable basis and to manage the fishery 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%.
- 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 Treaty 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 collection 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

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.

T'aaq-wiihak First Nations - have Aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of Geoduck. DFO is working with the Five Nations to implement a Fishery Management Plan ("FMP") for their fishing, by March 31, 2019. The FMP could lead to in-season management changes. DFO will make every effort to advise stakeholders of any such changes in advance of changes being implemented.

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: http://www.maanulth.ca/downloads/treaty/2010_maa-nulth_final_agreement_english.pdf

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.nnkn.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: http://www.aadnc-aandc.gc.ca/eng/1497963332876/1497963451118

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 15 in the shell (or 0.5 L shucked) per day; the possession limit is twice the daily limit. The daily limit in PFMAs 1 to 11 is zero.

Due to concerns raised by some First Nations and local governments over increased recreational oyster harvesting on certain beaches, the Department is consulting with the Sport Fish Advisory Board regarding possible amendments to the daily limit for this fishery.

6.3. Commercial

The coast-wide commercial Total Allowable Catch (TAC) in the standard fishery for 2019/20 is 737,300 lb (335,136 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 detail 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.	*Pacific Fishery Regulations* (PFR) Section (S) 22, PFR S 25, *Fishery General Regulations* (FGR) 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.	*Management of Contaminated Shellfish Regulations* (MCSR) S 3	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.	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 Treaty 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 *Pacific Fishery Management Area Regulations*. 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 *Aboriginal Communal Fishing Licences Regulations* for participation in the general commercial fishery.
communal licence	A licence issued to First Nations organizations under Section 4 of the *Aboriginal Communal Fishing Licences Regulations*, pursuant to the *Fisheries Act*, 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.
Species at Risk Act (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: 2019/20 WILD PACIFIC OYSTER COMMERCIAL HARVEST PLAN

TABLE OF CONTENTS

1. MANAGEMENT HIGHLIGHTS AND CHANGES FOR 2019/20

- **Area Licencing:** The licence area selection process for 2019 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 2.8.
- **Fishing Season:** The 2019/20 fishing season is scheduled to include two separate harvest periods. The first commercial opening is tentatively scheduled to occur on March 1, 2019 and close May 31, 2019. The second commercial opening is tentatively scheduled to occur on September 15, 2019 and close November 15, 2019. The WCVI season will be extended by one month, and close December 15, 2019. Harvesters are reminded to check the DFO fishery notice system for official openings and closures prior to fishing.
- **Total Allowable Catch:** The total allowable catch (TAC) for the 2019/20 season has been set at 335,136 kg (737,300 lb). A total of 239,454 kg (526,800 lb) is allocated to the ECVI, and 95,681 kg (210,500 lb) allocated to the WCVI. See Sections 4.6. and 4.7.
- **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 10,975 lb. See Section 4.3.
- **Harvest Locations:** A total of 25 quota harvest sites have been approved for harvest in the 2019 fishing season. A full list of the harvest sites opening for commercial harvest is provided in Section 4.4.4.
- **Harvest Boundary Adjustment at Mouat Bay:** The harvest boundary for Mouat Bay has been adjusted. See Section 4.4.4.
- **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 4.4.4.
- **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 4.5.3.

- **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 2019 season is D&D Pacific Fisheries Ltd. Contact information: 1-604-886-4819.
- 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.
- In addition to fishing opportunities for Food, Social and Ceremonial (FSC) purposes (or domestic purposes for treaty First Nations), five Nuu-chah-nulth First Nations located on the WCVI - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have Aboriginal rights to fish within their Fishing Territories and to sell that fish, with the exception of Geoduck. DFO is working with the Five Nations to implement a Fishery Management Plan ("FMP") for their fishing, by March 31, 2019. The FMP could lead to in-season management changes. DFO will make every effort to advise stakeholders of any such changes in advance of changes being implemented.

2. LICENCE REQUIREMENTS

2.1. Commercial Licencing

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

All fish harvesters/Licence Holders/vessel owners are now 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.

2.2. 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.

2.3. Licence Renewal Fees

The commercial Pacific Oyster licence (ZWO) renewal fee is $30, and the FRC fee is $60.00. There is no annual licence renewal fee for communal commercial category FZWO licence.

2.4. Licence Application and 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. Any 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.

2.5. 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.

2.6. 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 eligbility
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.

2.7. 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).

2.8. 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 4.4.4.) 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.

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. 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:

  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. 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.

3.1.1. 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 Provincial 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.

3.1.2. Biotoxin 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:

www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html

3.2. 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 Transport Canada's Regulations for 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.

3.3. 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.

3.4. Seasonal Area Closures (check DFO website and Fisheries 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 to ensure that inadvertent harvest of Olympia Oysters is avoided. Olympia Oysters (*Ostrea lurida*, previously *Ostrea chonchaphila*) are listed 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 2019 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 10,975 lb.

4.4. Fishing Areas and Openings

4.4.1. Growing Water Surveys (Environment and Climate Change Canada)

Check to ensure that the area is open prior to harvesting any bivalves.

See the internet for more information:

www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html

or, call our toll-free number 1-866-431-3474.

Closures may be implemented on short notice in the event of changes to contamination status and/or following the Spring (May) and Fall (October) Pacific Region Interdepartmental Shellfish Committee (PRISC) meetings. Harvesters should always check before harvesting.

4.4.2. Biotoxin Monitoring (Canadian Food Inspection Agency)

Areas will be opened and fished according to protocols required by the Biotoxin 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 or Domoic Acid Poisoning) 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:

http://www.inspection.gc.ca/english/fssa/fispoi/csspccsme.shtml

4.4.3. Open Times (Fisheries & Oceans Canada)

The commercial Pacific Oyster fishery is tentatively scheduled to open at 00:01 hours March 1, 2019, biotoxin monitoring permitting. The commercial fishing season will close

effective 23:59 hours May 31, 2019. 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 15, 2019 and remain open until November 15, 2019. The WCVI season will be extended by one month and close on December 15, 2019. Again, harvest sites will close in-season as the beach quota for that specific beach is achieved. DFO may consider extending the closing dates. 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.
www.notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm

4.4.4. 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.

4.4.4.1. 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 $50^0$11.978' north latitude and $125^0$05.081' west longitude to a point at $50^0$11.906' north latitude and $125^0$05.418' west longitude. [NAD83] [Bird Cove]

4.4.4.2. Area 15

Harvest Area: Myrtle Rocks -- That portion of Subarea 15-1 inside a line drawn from a point at $49^0$47.725' north latitude and $124^0$28.851' west longitude to a point at $49^0$47.555' north latitude and $124^0$28.972' west longitude, then to a point at $49^0$47.371' north latitude and $124^0$28.33' west longitude, then to a point at $49^0$47.577' north latitude and $124^0$28.093' west longitude, and thence running along the shoreline back to the point of commencement. [NAD83] [Myrtle Rocks]

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 latitude 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 $49^0$56.498’ north latitude and $124^0$47.367’ west longitude, thence to a point at 49^0 57.028’ north latitude and $124^0$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 latitude 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 $49^0$56.962’ north latitude and $124^0$45.715’ west longitude, thence to a point at 49^0 56.342’ north latitude and $124^0$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 $124^0$56.649’ west longitude and west of the meridian passing through $124^0$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 $50^0$11.645’ north latitude and $124^0$36.486’ west longitude to a point at $50^0$11.645’ north latitude and $124^0$36.934’ west longitude, thence to a point at $50^0$10.500’ north latitude and $124^0$38.070’ west longitude, thence to a point at $50^0$10.500’ north latitude and $124^0$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 $50^0$07.062’ north latitude and $124^0$42.477’ west longitude to a point at $50^0$07.283’ north latitude and $124^0$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 $49^0$55.508’ north latitude and 124^0 40.028’ west longitude to a point at $49^0$54.901’ north latitude and $124^0$40.098’ west longitude, then to a point at

$49^0$54.954’ north latitude and 124^0 38.831’, and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Atrevida Reef]

4.4.4.3. 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 $49^0$50.319’ north latitude and $124^0$04.752’ west longitude, then to a point at $49^0$48.847’ north latitude and $124^0$05.261’ west longitude, then to a point at $49^0$48.14’ north latitude and 124^0 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 $49^0$48.843’ north latitude and $124^0$05.111’ west longitude, then to a point at $49^0$49.077’ north latitude and $124^0$05.113’ west longitude, then to a point at $49^0$49.079’ north latitude and $124^0$04.834’ west longitude, then to a point at $49^0$48.868’ north latitude and $124^0$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 $49^0$39.596’ north latitude and $123^0$49.112’ west longitude to a point at $49^0$39.924’ north latitude and $123^0$49.766’ west longitude, then to a point at $49^0$39.914’ north latitude and $123^0$49.889’, and thence along the foreshore of British Columbia mainland back to the point of commencement. [NAD83] [Storm Bay]

Harvest Area: Sechelt Inlet Part A – Those waters and intertidal foreshore of Subarea 16-6 inside a line running from $49^0$42.335’ north latitude and $123^0$51.49’ west longitude to a point at $49^0$42.283’ north latitude and $123^0$51.551’ west longitude, then to a point at $49^0$41.783’ north latitude and $123^0$50.972’, then to a point at $49^0$41.795’ north latitude and

123^{0}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^{0}42.132’ north latitude and 123^{0}53.395’ west longitude to a point at 49^{0}41.83’ north latitude and 123^{0}53.239’ west longitude, and thence along the foreshore of Sechelt Peninsula back to the point of commencement. [NAD83] [Sechelt Inlet Part B]

4.4.4.4. 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^{0}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^{0}01.251’ north latitude and 125^{0}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 latitude 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 latitude to a point at 49°02.207’ north latitude and 125°20.657’ west longitude, thence to a point at 49^{0}01.746’ north latitude and 125^{0} 19.971’ west longitude, thence to a point at 49^{0}01.871’ north latitude and 125^{0}19.437’ west longitude, and thence along the foreshore of Vancouver Island back to the point of commencement. [NAD83] [Toquaht Part A (formerly Toquart 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 latitude to a point at 48°59.414’ north latitude and 125°21.365’ west longitude, thence to a point at 48^{0}59.611’ north latitude and 125^{0}21.177’ west longitude, thence to a point at 48^{0}59.667’ north latitude and 125^{0}20.926’ west longitude, thence to a point at 48^{0}59.437’ north latitude and 125^{0}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^{0}59.154’ north latitude and 125^{0}20.372’ west longitude, thence to a point at 48^{0}58.901’ north latitude and 125^{0}20.761’ west longitude, thence to a point at 48^{0}58.92’ north latitude and 125^{0}21.01’ west longitude, thence to a point at 48^{0}59.006’ north latitude and 125^{0}21.09’ west longitude, and thence along the foreshore back to the point of commencement. [NAD83] [Toquaht Part B (formerly Toquart 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 latitude to a point at 49°00.265' north latitude and 125°20.842' west longitude, thence to a point at $49^0$00.082' north latitude and 125^0 19.986' west longitude, thence to a point at 48^0 59.562' north latitude and $125^0$19.861' west longitude, thence to a point at $48^0$59.52' north latitude and $125^0$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 Toquart Bay)]

4.4.4.5. AREA 25

Harvest Area: Tlupana Inlet – Those waters and intertidal foreshore of Subarea 25-5 known as Tlupana Inlet inside a line running from $49^0$47.588' north latitude and 126^0 29.415' west longitude to a point at $49^0$46.748' north latitude and 126^0 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 $49^0$44.555' north latitude and $126^0$31.159' west longitude to a point at $49^0$44.814' north latitude and $126^0$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 $49^0$44.175' north latitude and $126^0$30.224' west longitude to a point at $49^0$43.962' north latitude and $126^0$29.798' west longitude, to a point at 49^0 44.025' north latitude and $126^0$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 $49^0$38.655' north latitude and $126^0$27.751' west longitude to a point at $49^0$38.325' north latitude and $126^0$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 section 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 2019 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. Harvesters who hail to fish at a harvest location for multiple consecutive days without leaving to off-load their product may hail their harvest information on the day in which they leave the harvest site to off-load the product. 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 Biotoxin 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 2019 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 2019/20 wild Pacific Oyster quota for the ECVI waters is 526,800 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: 2019/20 Pacific Oyster Harvest Sites and Quotas - ECVI Waters

Site	Harvest Site Name	PFMA / Description	Quota (lb)
5031	Bird Cove	13-17	3,600
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
5053	Myrtle Rocks	15-1	115,000
5058	Seaford	15-5	50,000
5061	Smelt Bay	13-15	16,000
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)			**526,800**
**Note: Tenedos Bay - Seasonal water quality closures in place due to summer boating traffic.*			

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

In addition to fishing opportunities for FSC purposes (or domestic purposes for treaty First Nations), five Nuu-chah-nulth First Nations located on the WCVI - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) - have Aboriginal rights to fish within their Fishing Territories and to sell that fish, with the exception of Geoduck. DFO is working with the Five Nations to implement a Fishery Management Plan ("FMP") for their fishing, by March 31, 2019. The FMP could lead to in-season management changes. DFO will make every effort to advise stakeholders of any such changes in advance of changes being implemented.

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

Table 2: 2019/20 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	138000
6007	Pipestem Inlet (Part A, B, & C combined)	23-10	33000
5043	Hisnit (Part A & B)	25-4	15,500
5118	Mooyah Bay	25-3	9000
7003	Tlapana Inlet	25-5	15000
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 2019/20 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
- 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).

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).

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 2019/20 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 2019/20 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 oysters shall be in containers that are tagged. The tags must be waterproof on which the following information shall be written with water resistant ink:

- Licence Number
- Harvest date
- Oyster Beach Name
- Pacific Fishery Management Area and Subarea, i.e. 24-4

5.2.3. 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.

5.3. 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 co-ordinates 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

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.

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 of Pacific Oysters

The *B.C. Provincial Fish and Seafood Act* 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.

APPENDIX 2: 2019/20 WILD PACIFIC OYSTER FIRST NATIONS HARVEST PLAN

1. OPEN TIMES AND AREAS

Aboriginal harvest for food, social and ceremonial (FSC) 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. Two Types of Contamination Closures

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/biotox/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/biotox/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.

2.1.2. 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/biotox/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. 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.

2.3. 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 Transport Canada's Regulations for 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.

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 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.nnkn.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 Yuułuʔiłʔatḥ 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:

www.aadnc-aandc.gc.ca/eng/1397050017650/1397050094605

APPENDIX 3: 2019/20 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

The regulations for recreational fishing are summarized online in the British Columbia Tidal Waters Sport Fishing Guide, which lists 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.

Supporting Sustainable Fisheries - Catch Reporting and the Internet Recreational Effort and Catch (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. Commonly, recreational harvesters may be requested by a Fishery Officer or designated DFO representative at the dock, or through a creel survey, or through an internet survey, to provide important catch and 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 for 2018, survey participants will be 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: http://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. Two Types of Contamination Closures

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/biotox/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/biotox/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/biotox/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. 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 Transport Canada's Regulations for 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.

3.3. 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.

3.4. 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 fifteen (15) in the shell, or 0.5 L shucked.
- The daily limit in Areas 1 to 11 is zero.

The Department is consulting with the Sport Fish Advisory Board regarding possible amendments to the daily limits for this fishery.

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 be followed during harvesting. This minimum size limit is recommended in order to avoid inadvertently harvesting Olympia Oysters. Olympia Oysters are listed 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.

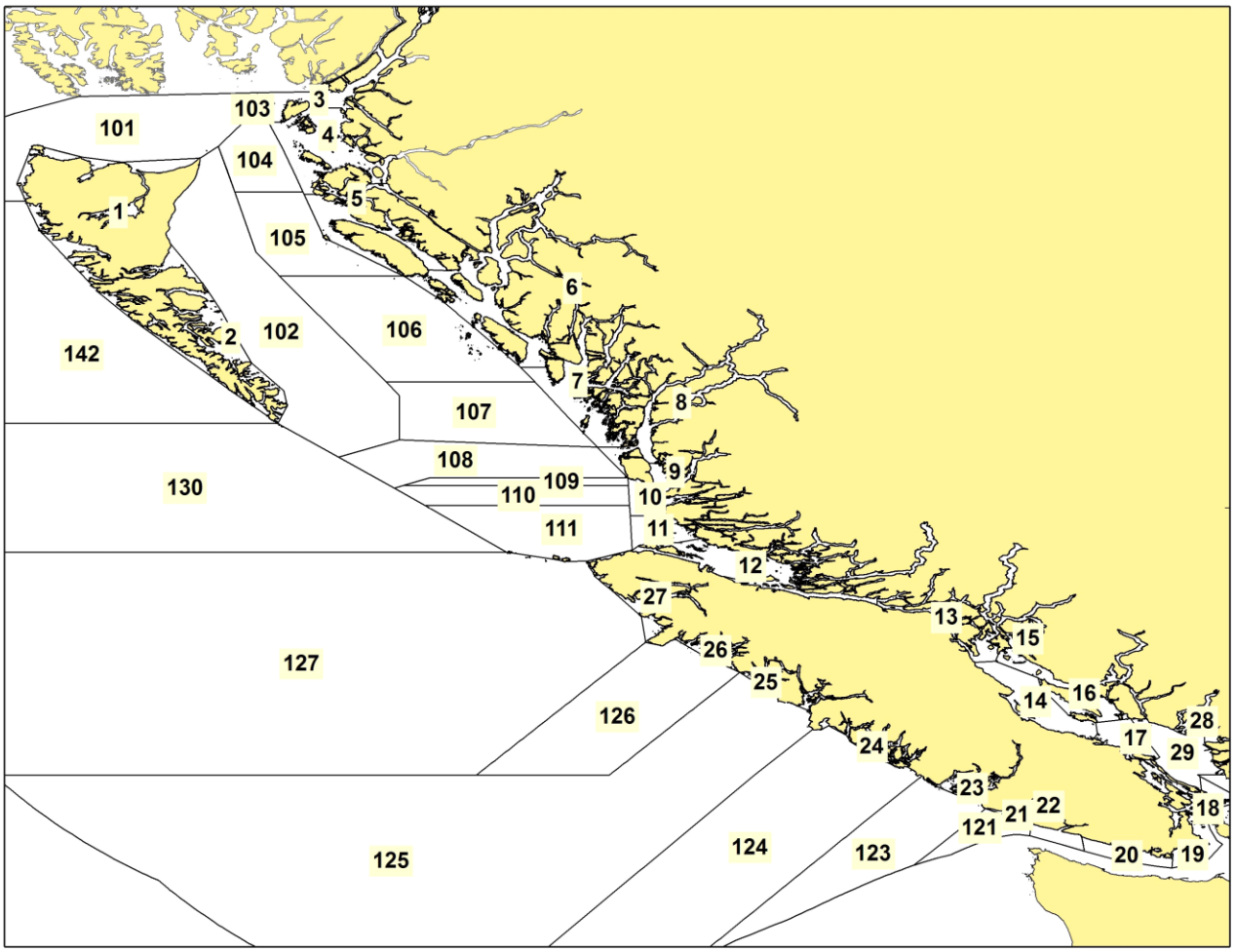
As of 2013 recreational harvesters are required, as a condition of the Tidal Waters Sport Fishing Licence, to report information on their recreational fishing activity and catch to DFO representatives when requested. Commonly, recreational harvesters may be requested by a Fishery Officer or designated 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 PFMAs 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.

Note: The red areas on some of the maps identify summer seasonal 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, PSP 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 April 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 (no harvesting for any purpose) are in place for all waters within:

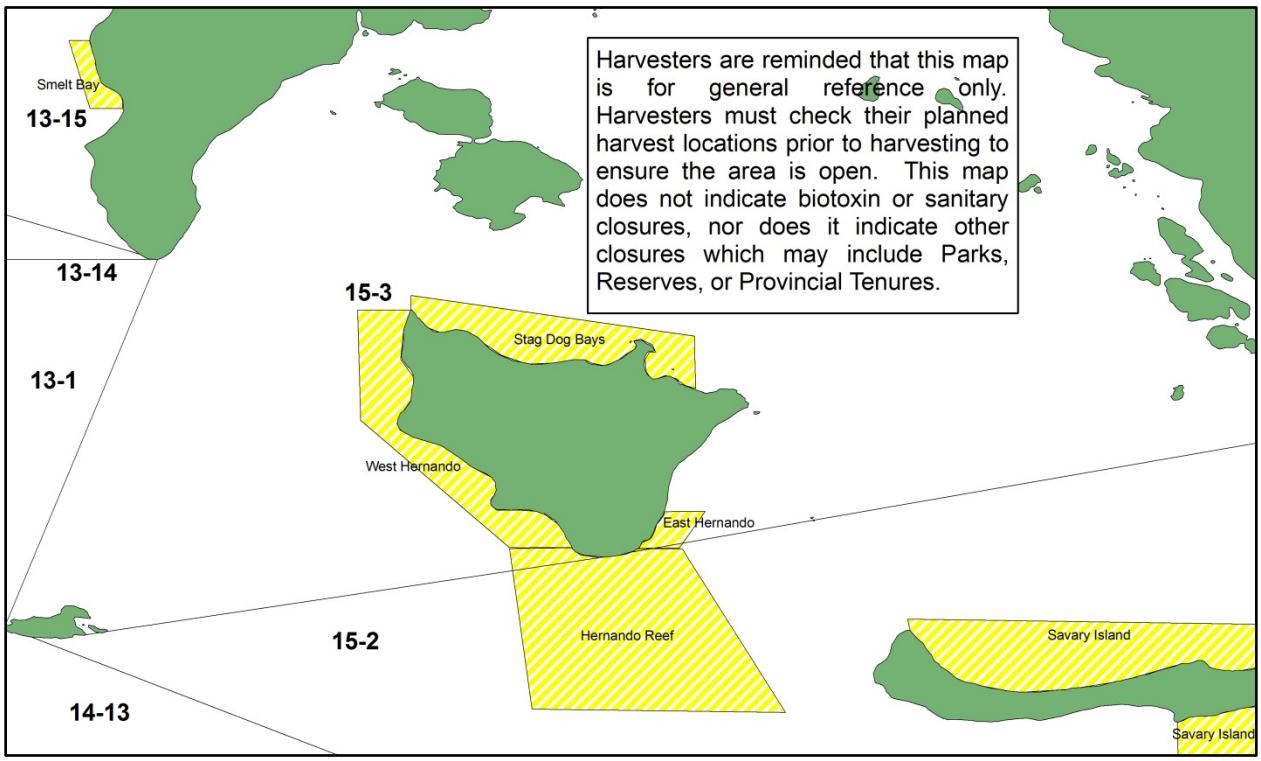
1. 300 m radius around industrial, municipal and sewage treatment plant outfall discharges;

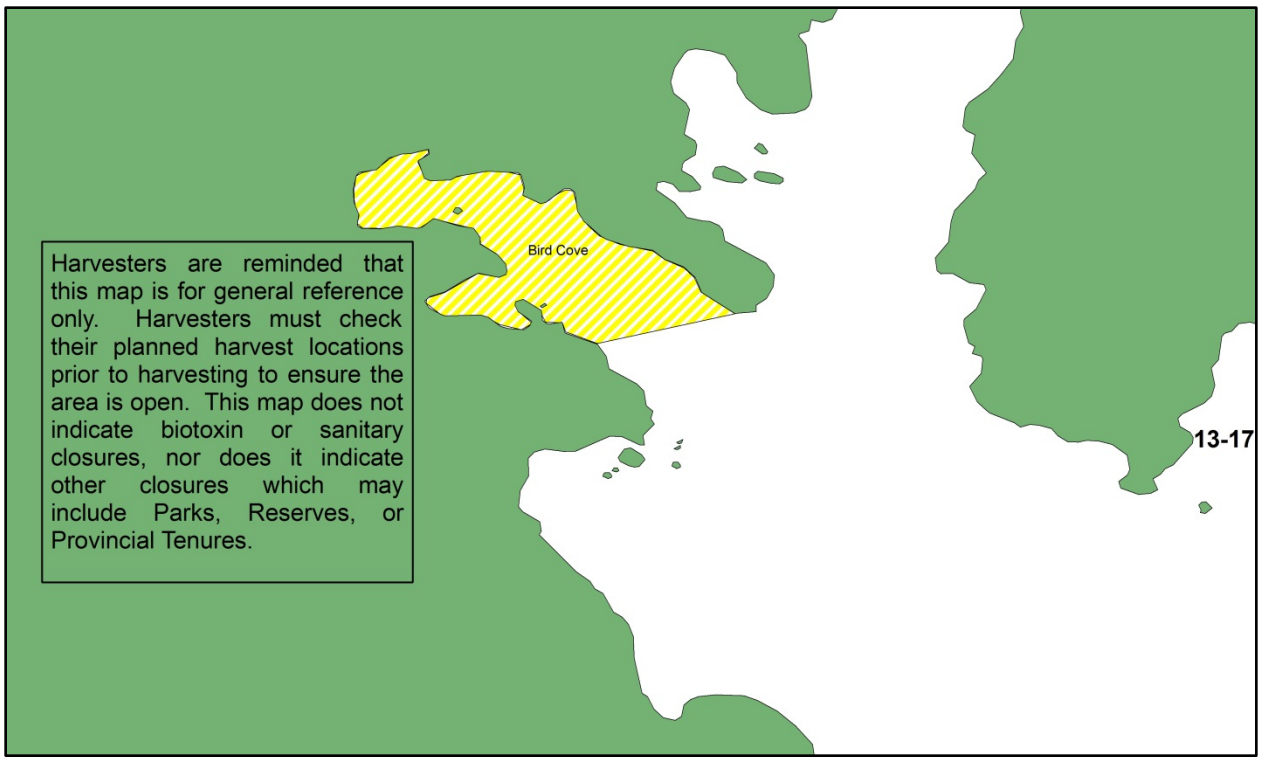
2. 125 m radius of any:
   (i) Marina;
   (ii) ferry wharf;
   (iii) any floating living accommodation facility, other than a floating living accommodation described in subsection (3); or
   (iv) any finfish net pen, other than a finfish net pen described in subsection (4).

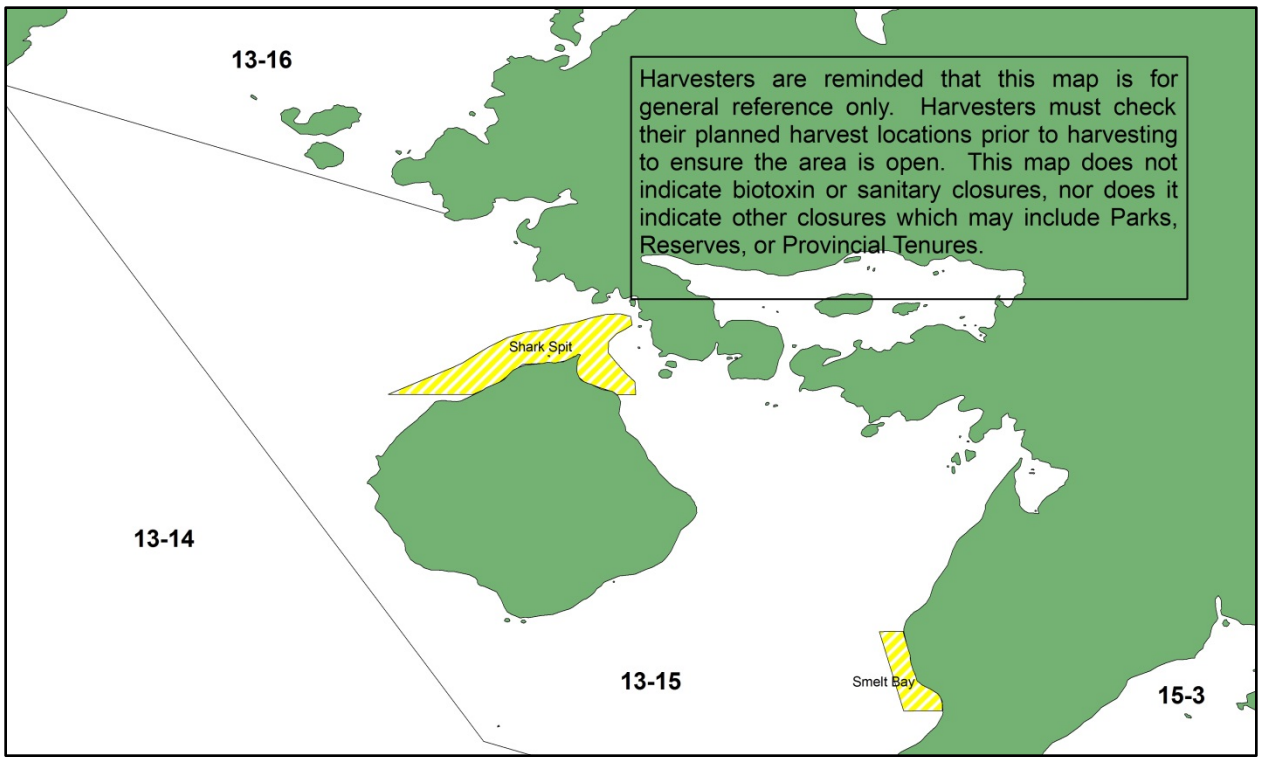
3. 25 m radius of any floating living accommodation facility located within a shellfish aquaculture tenure where a zero-discharge and appropriate waste management plan is a condition of the Aquaculture Licence and is approved by the Regional Interdepartmental Committee; and
4. Zero (0) metres of any finfish net pen within an aquaculture tenure where an Integrated Multi-Trophic Aquaculture Management Plan approved by the Regional Interdepartmental Committee is in operation.

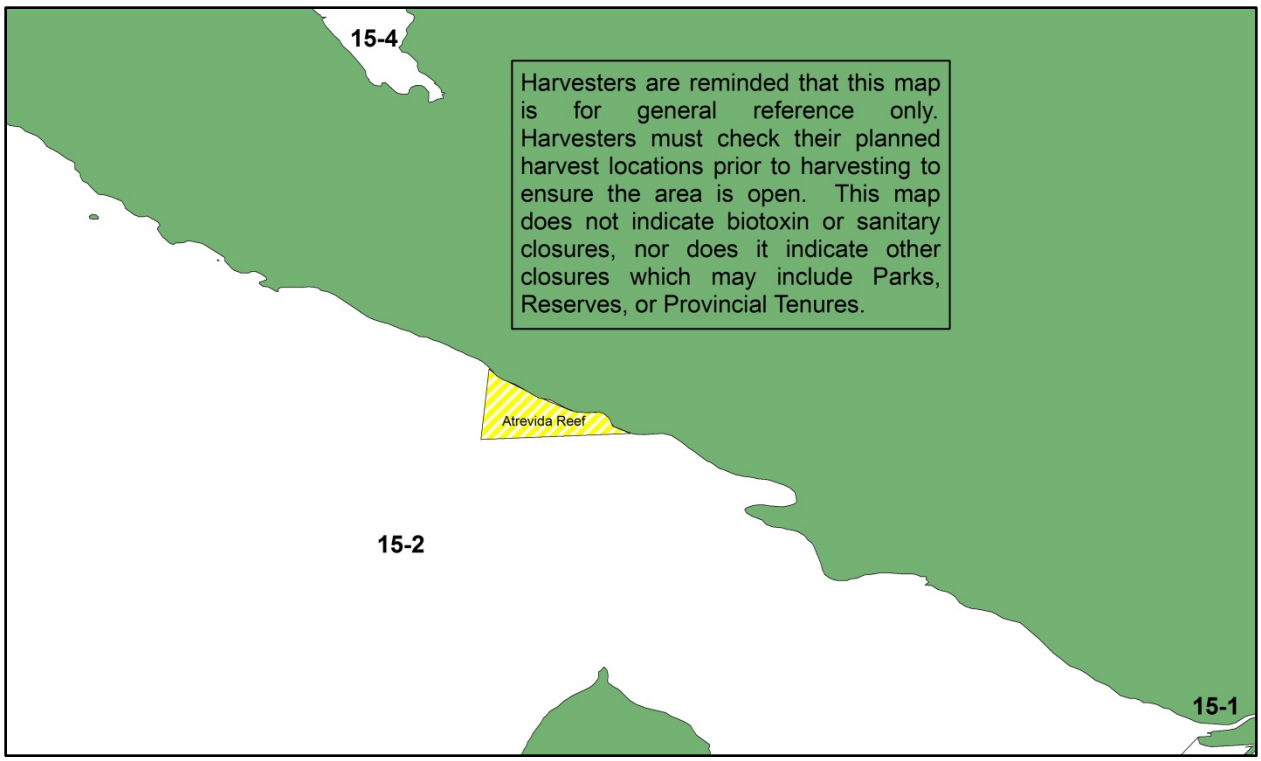
2.3. Aquaculture Leases and Sites

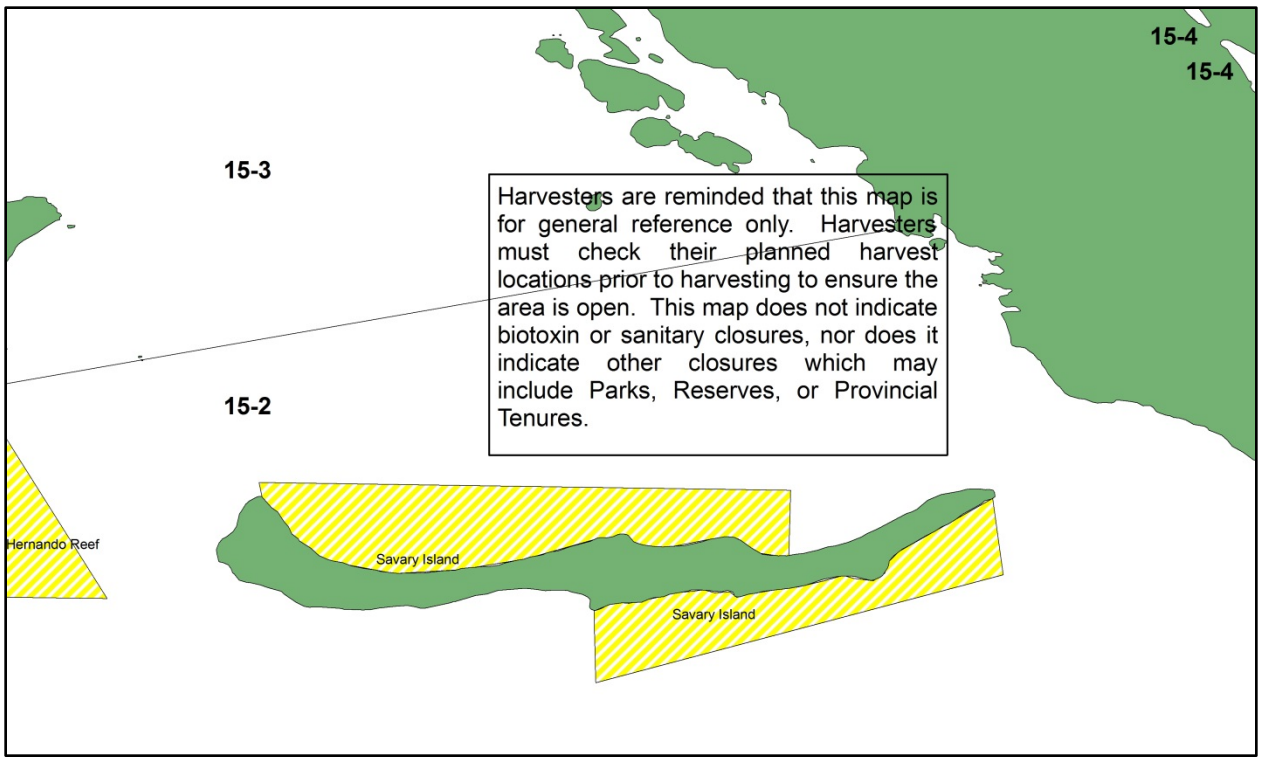
Harvesters are advised to observe the boundaries of any intertidal tenures. Harvesting on any tenures is prohibited under this fishery unless authorized by the tenure holder.

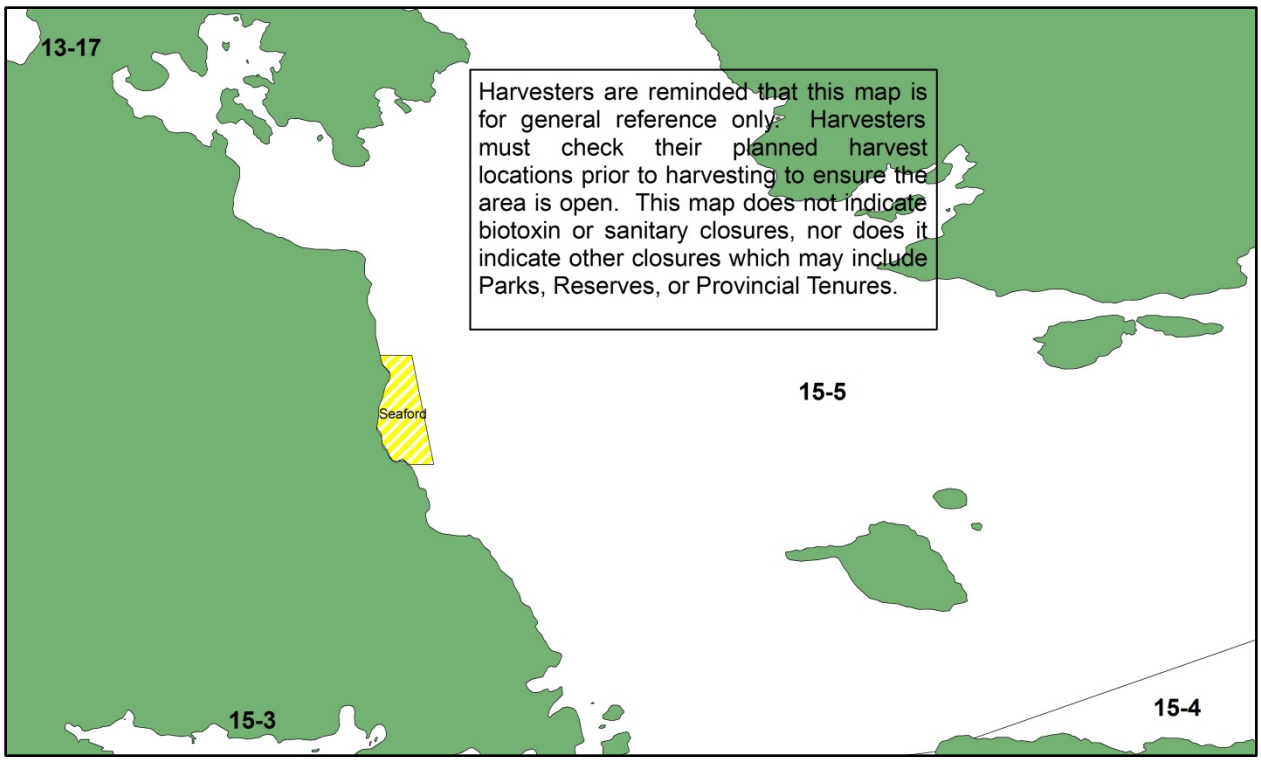

Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Smelt Bay
13-15
13-14
13-1
15-3
Stag Dog Bays
West Hernando
East Hernando
15-2
Hernando Reef
Savary Island
Savary Island
14-13

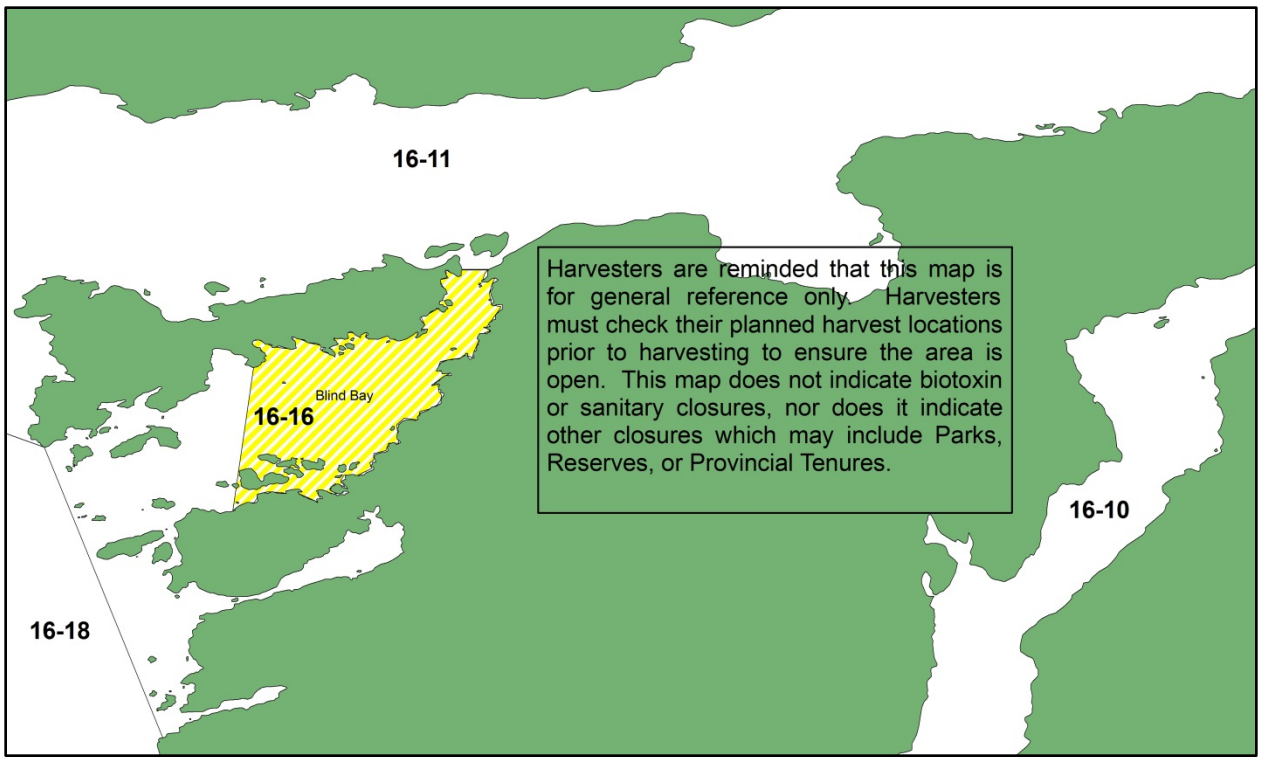

Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Bird Cove
13-17

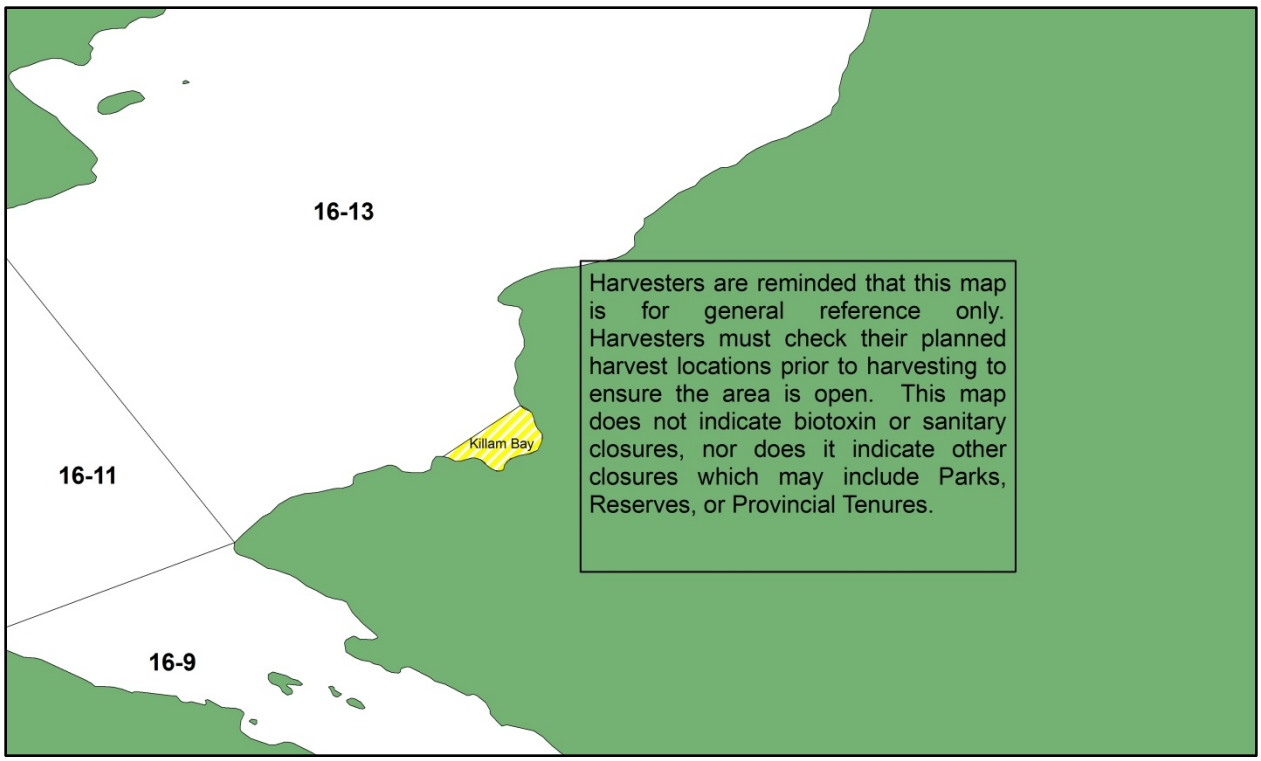

13-16
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Shark Spit
13-14
13-15
Smelt Bay
15-3

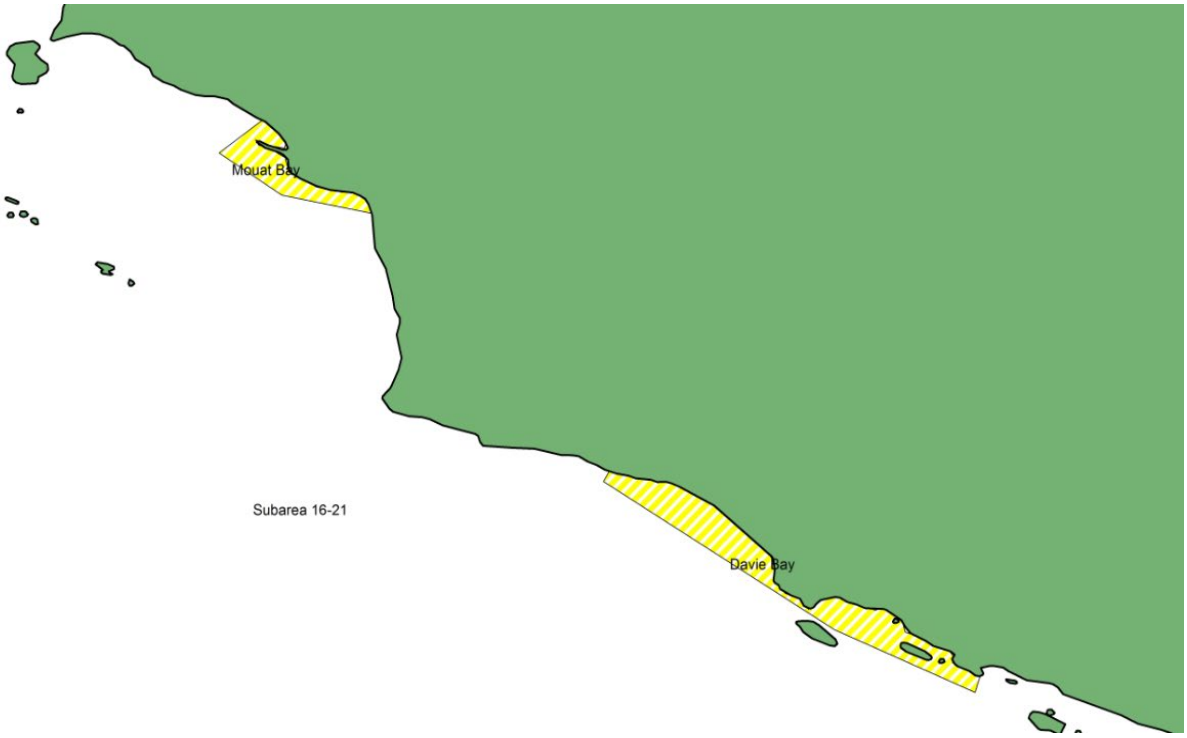

15-4
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Atrevida Reef
15-2
15-1

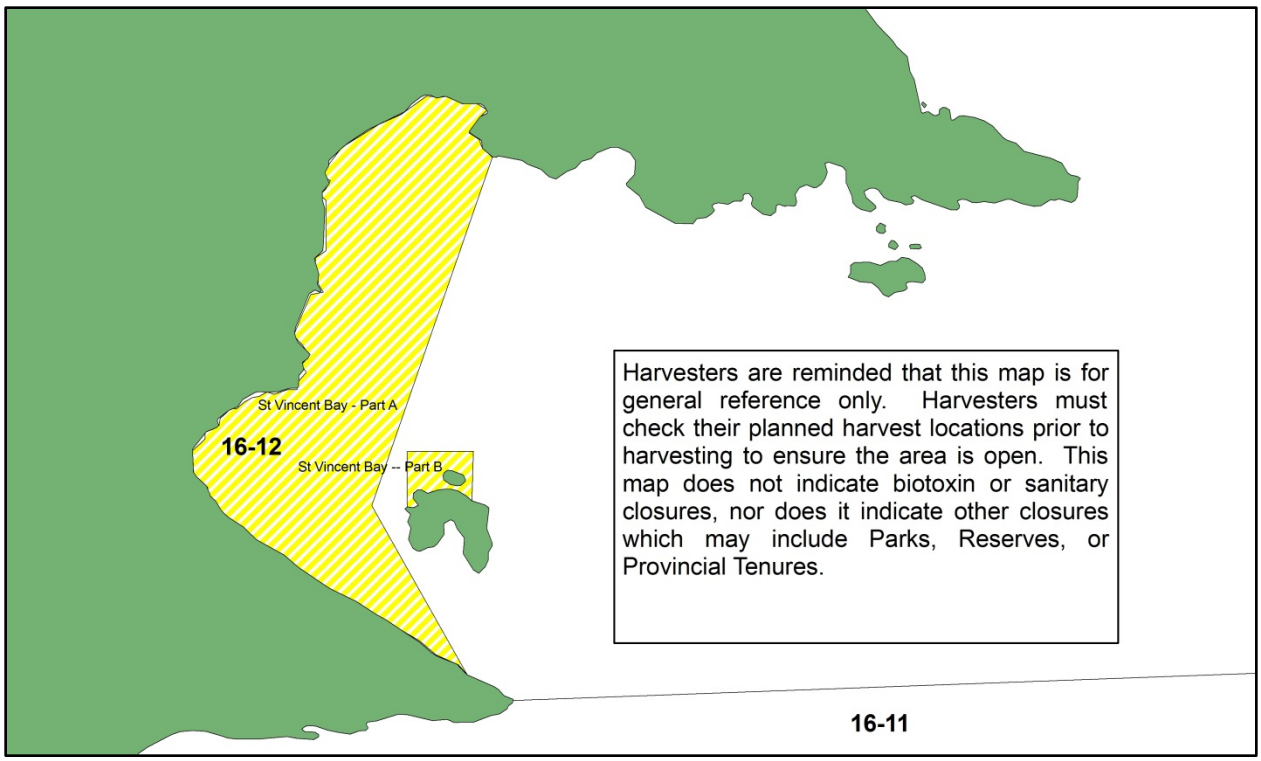

15-4
15-4
15-3
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
15-2
Hernando Reef
Savary Island
Savary Island

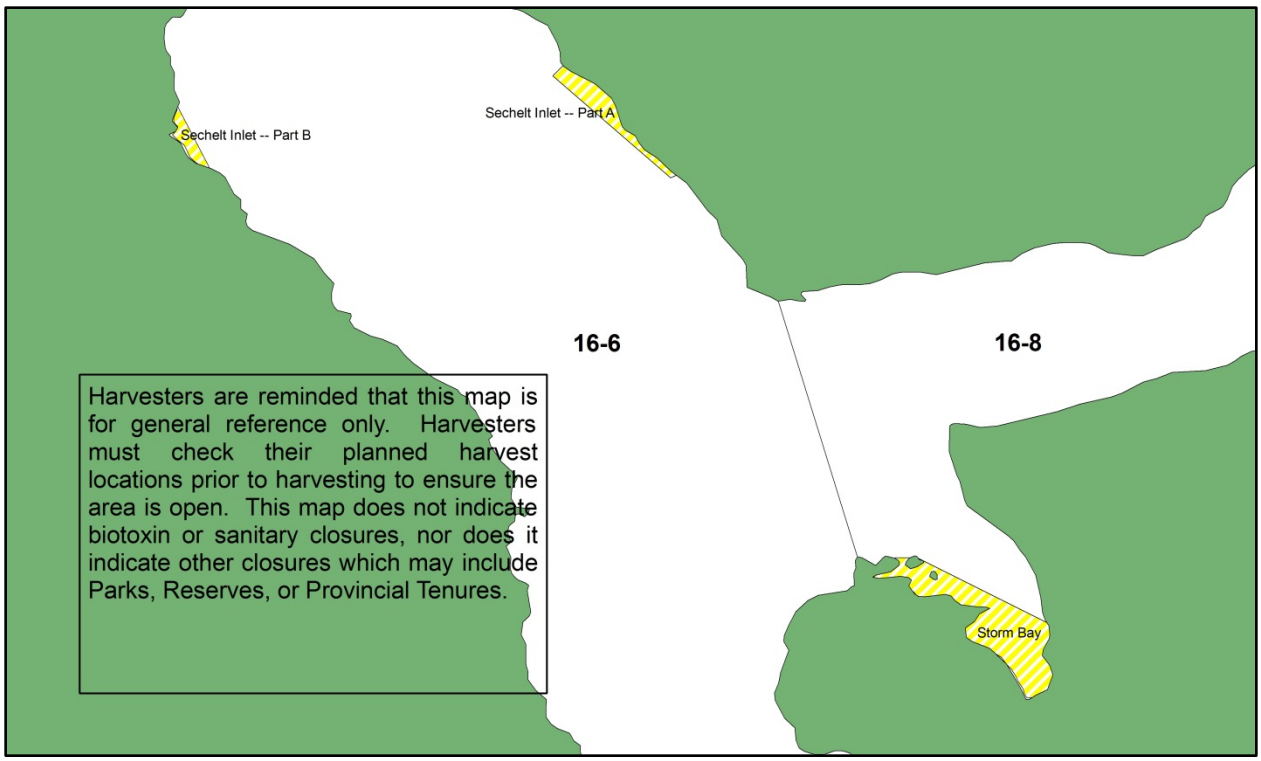

13-17
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Seaford
15-5
15-3
15-4

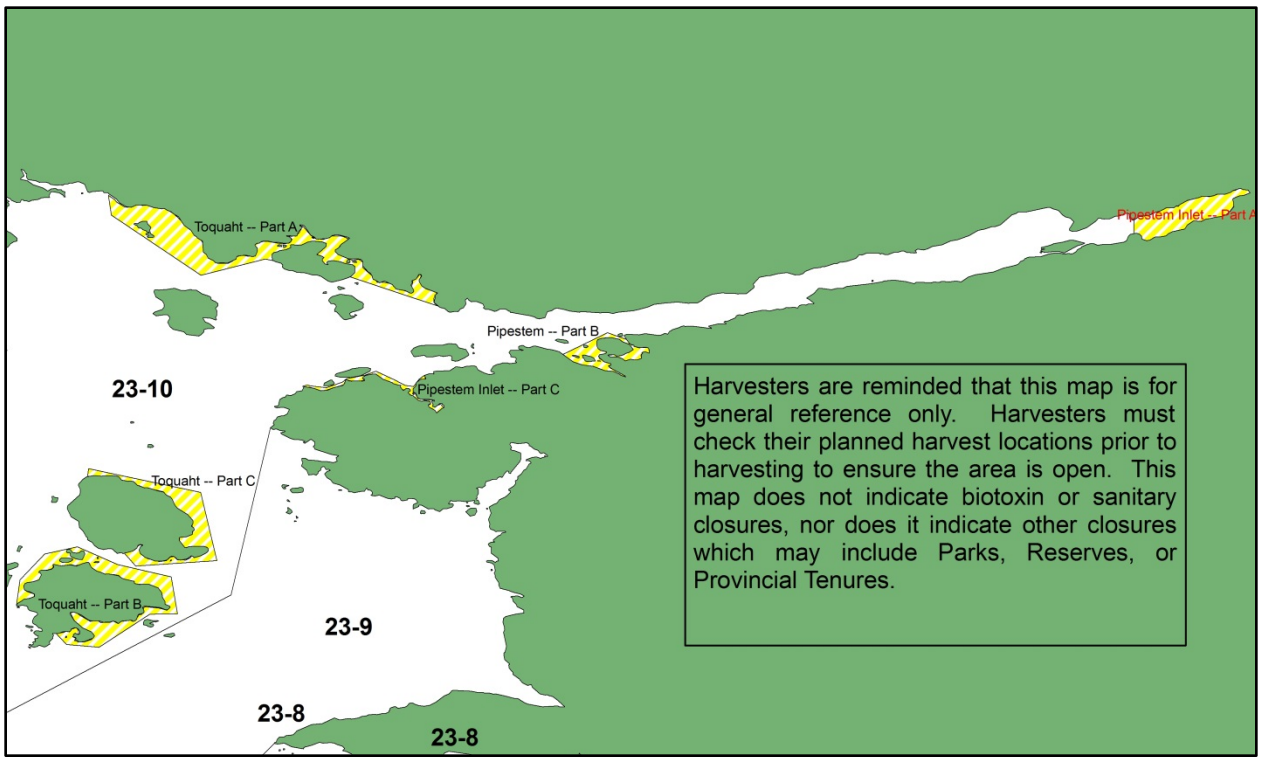

16-11
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Blind Bay
16-16
16-10
16-18

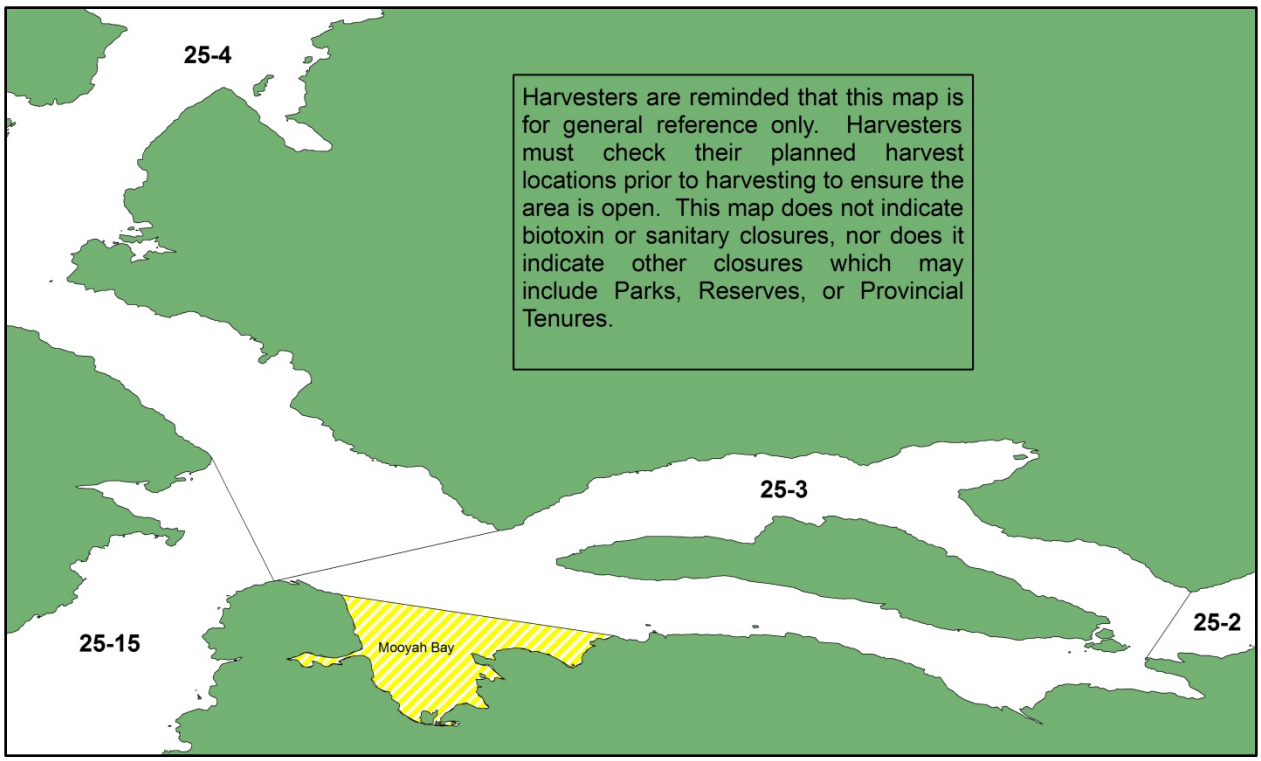

16-13
16-11
16-9
Killam Bay
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.

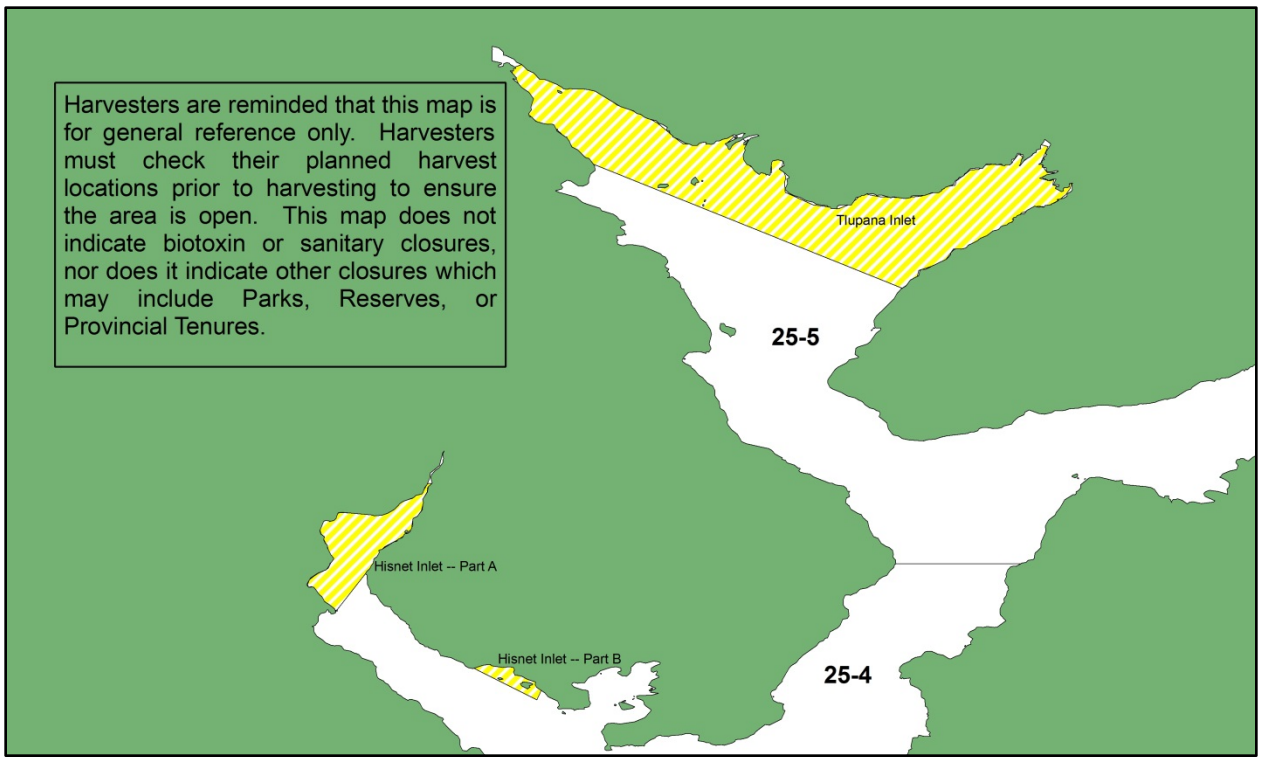

Mouat Bay
Subarea 16-21
Davie Bay


St Vincent Bay - Part A
16-12
St Vincent Bay -- Part B
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
16-11


Sechelt Inlet -- Part B
Sechelt Inlet -- Part A
16-6
16-8
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Storm Bay


Toquaht -- Part A
Pipestem Inlet -- Part A
Pipestem -- Part B
23-10
Pipestem Inlet -- Part C
Toquaht -- Part C
Toquaht -- Part B
23-9
23-8
23-8
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.


25-4
Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
25-3
25-2
25-15
Mooyah Bay


Harvesters are reminded that this map is for general reference only. Harvesters must check their planned harvest locations prior to harvesting to ensure the area is open. This map does not indicate biotoxin or sanitary closures, nor does it indicate other closures which may include Parks, Reserves, or Provincial Tenures.
Tlupana Inlet
25-5
Hisnet Inlet -- Part A
Hisnet Inlet -- Part B
25-4

APPENDIX 6: EXAMPLE CONDITIONS OF LICENCE

2019/2020 CONDITIONS OF PACIFIC OYSTER LICENCE – **FOR GENERAL REFERENCE ONLY**
Licence Period: March 1, 20xx to February 28, 20XX

This document is provided for general reference only as part of the IFMP – harvesters should refer to the actual conditions of licence issued with their commercial licence as the final valid conditions of licence.

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 CONDITIONS OF LICENCE

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 or tagged with the following information;

(a) Licence number;
(b) Harvest date;
(c) Harvester's name;
(d) Beach name or location where harvesting occurred; and
(e) Subarea (example: Subarea 24-4).

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

(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. Sale:

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.

7. 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. Hails must be made not less than 24 hours prior to harvesting:
(a) Licence holder's name and licence number;
(b) beach 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

(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. 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) beach 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 7(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.

8. 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 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

9. 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.

(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.

10. 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.

11. 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.

12. Fisher’s Registration Card:

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

13. Wet Storage of harvested product:

The licence holder shall not wet-store any harvested oysters originating from the West Coast of Vancouver Island (Pacific Fisheries Management Areas 20 to 27) in locations within Pacific Fisheries Management Areas 1 to 19 unless written approval has been received from the CFIA.

Wet storage of product shall occur only on licensed tenures.

Note: Information on applications for wet storage is available from:
Canadian Food Inspection Agency

APPENDIX 6: EXAMPLE CONDITIONS OF LICENCE

457 East Stanford Avenue, Parksville, BC, V9P 1V7
Phone: 250-248-4772; Fax: 250-248-6776

14. 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.

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	Jeff Johansen	(604) 666-3869
Resource Manager	Guy Parker	(250) 756-7163
Regional Recreational Fisheries Co-ordinator	Carole Eros	(604) 666-3271
Resource Manager – Canadian Shellfish Sanitation Coordinator	Elysha Gordon	(250) 756-7192
North Coast Area, Areas 1 to 10	General Inquiries	(250) 627-3499
417 2nd Avenue West	Fax	(250) 627-3427
Prince Rupert, BC V8J 1G8		
Resource Management Biologist	Steven Groves	(250) 627-3455
Resource Manager - First Nations Fisheries	Kristen Wong	(250) 799-5620
South Coast Area, Areas 11 to 26	General Inquiries	(250) 756-7270
3225 Stephenson Point Road	Fax	(250) 756-7162
Nanaimo, BC V9T 1K3		
Resource Manager - First Nations Fisheries	Paul Preston	(250) 720-8941
	Kevin Conley	(250) 756-7196
Resource Manager - Recreational Fisheries	Brad Beaith	(250) 756-7190
Lower Fraser Area, Areas 28 and 29	General Inquiries	(604) 666-8266
Unit 3, 100 Annacis Parkway	Fax	(604) 666-7112
Delta, BC V3M 6A2		
Resource Management Biologist	Anna Magera	(604) 916-6743
Resource Manager - First Nations Fisheries	Brian Matts	(604) 666-2096
Resource Manager - Recreational Fisheries	Barbara Mueller	(604) 666-2370

Conservation and Protection

Enforcement Plan	Linda Higgins	(250) 754-0221

Science Branch

Pacific Biological Station	Ken Fong	(250) 756-7368
Hammond Bay Road		
Nanaimo, BC V9R 5K6		

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.Aquaculture@dfo-mpo.gc.ca	
Regional Manager	Brenda McCorquodale	(250) 949-6434
Shellfish Coordinator	Gabrielle Kosmider	(250) 754-0404
Chief, Conservation and Protection	Clair Doucette	(250) 618-8985

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

Darah Gibson
Industry Specialist – Marine Fisheries Seafood
Sector Development Branch
808 Douglas Street
Victoria, B.C. V8W 2B6
(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
Ed Bereziak	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. 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, crew training, 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/Safe on the Wheel Course
Fish Safe – Safest Catch Program – **FREE** for BC commercial fishers
First Aid training
Radio Operators Course
Fishing Masters Certificate training
Small Vessel Operators Certificate training
Publications:

- 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)
- Gearing Up for Safety – WorkSafeBC
- Safe At Sea DVD Series – Fish Safe
- Stability Handbook – Safe at Sea and Safest Catch – DVD Series

- Safest Catch Log Book
- Safety Quick

For further information see: www.tc.gc.ca/eng/marinesafety/menu.htm
www.fishsafebc.com
www.worksafebc.com

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 drills 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 also to correct ballasting. Fish harvesters must be familiar with their vessel's centre of gravity, the effect of liquid free surfaces on stability (i.e. 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 reputable 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. Examples of detailed documentation include: engine room procedures; maintenance schedules to ensure watertight integrity; and, instructions for regular practice of emergency drills.

The *Fishing Vessel Safety Regulations* currently require, with certain exceptions, a full stability assessment for vessels between 15 and 150 gross tons that do not exceed 24.4 metres in length and include fishing vessels involved in the catch of herring or capelin. 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, the following fishing vessels must successfully undergo a stability assessment by a competent person:

- A new fishing vessel that has a hull length of more than 9 m;
- 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 vessels 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.

A fishing vessel that is not required to undergo a stability assessment shall have 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. 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 one, or to receive guidance on obtaining competent assessor.

In 2008, TC is updating SSB No. 01/2008, 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 effected 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 - *Craig and Justin,* M12W0054 – *Jessie G,* M12W0062 - *Pacific Siren,* M14P0121 – *Five Star,* M15P0286 – *Caledonian,* M16A0140 – *C19496NB*, M17C0061 – *Emma Joan* and *M*17P0052 – *Miss Cory.*
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 Regulation (OHSR) require owners of fishing vessels to provide documentation on board, readily accessible to crew members, which describes vessel characteristics, including stability.

In 2013, Fish Safe developed a code of best practices for the food and bait herring fishery and the prawn fishery: 'Food and Bait – Best Practice Reminders'; 'Prawn Industry - Best Industry Recommended 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 – Cell phone: (604) 739-0540 - 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.

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) require 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 with the crew for the established procedures.

Between 2011 and 2015 the TSB investigated 17 fishing vessel accidents which resulted in 17 fatalities. The reports 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)

WorkSafeBC currently requires workers who are employed under conditions which involve a risk of drowning to wear a PFD or lifejacket with sufficient buoyancy to keep the worker's head above water. Where there is a risk of entering the water, the use of a PFD will prepare a crew member to remain afloat, to survive the effects of cold shock, reduce the need to swim and give rescuers time to respond.

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.

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.

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 MCTS and DSC can be obtained by contacting a local Coast Guard MCTS centre (located in **Victoria or Prince Rupert** or from the Coast Guard website:
www.ccg-gcc.gc.ca/Pacific).

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 (250) 363-8904 or from the Coast Guard website: http://www.ccg-gcc.gc.ca/eng/CCG/Home.

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. WORKSAFE BC

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, 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, and personal flotation devices (PFDs). Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.

Additionally, Part 3 of the *WCA* defines the roles and responsibilities of owners, employers, supervisors and workers. (Fishing vessel masters are considered to be employers under the *WCA*)

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
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, Industry and Labour Services, at (604) 233-4062 or by email: tom.pawlowski@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.

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
Program Manager
Fish Safe
#100, 12051 Horseshoe Way
Richmond, BC V7A 4V4

Cell: (604) 739-0540
Office: (604) 261-9700
Email: ryan@fishsafebc.com
www.fishsafebc.com

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 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 released one investigation report:

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

In 2018 the TSB 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.

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 fishers 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 fishers still don't wear them. Regulations currently require that PFDs be worn only if fishers identify a risk, however; you never know when you could end up in the water. So the TSB is recommending to TC and WorksafeBC 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.

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.tsb.gc.ca/eng/surveillance-watchlist/marine/2018/marine.asp

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.

Glenn Budden, Investigator, Marine - Fishing Vessels
Transportation Safety Board of Canada
4 - 3071 No. 5 Road
Richmond, BC, V6X 2T4
Telephone: 604-666-2712
Cell: (604) 619-6090
Email: glenn.budden@tsb.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 nominations were once again requested for commercial representatives to serve on the committee. A total of five seats were available for commercial representatives on the Sectoral Committee in 2017. 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 at the Sectoral Committee for representatives from First Nations, BC Ministry of Agriculture and Lands, 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 or MAFF) for review and comment prior to the IFMP being finalized and approved by the Department.

APPENDIX 10: POST-SEASON REVIEW

During the 2017/18 season 25 commercial harvest sites were approved in the Integrated Fisheries Management Plan (IFMP) for commercial harvest. Twenty-three (23) 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 183,900 lb of product was harvested out of the coast wide Total Allowable Catch (TAC) of 800,400 lb.

The 2017/18 season was the third 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, 2017 until May 31, 2017; and then re-opened for a second opening from September 15, 2017 to November 15, 2017. None 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 2017/18 season. This program was carried out by the service provider selected for the season by licence holders, D&D Pacific Fisheries Ltd.
- No reports of sickness or serious health problems, due to wild commercial Pacific Oyster harvest, were recorded by DFO during the 2017/18 season.
- Recreational harvest opportunities were provided in most South Coast areas year-round, in areas with the approved water-quality and biotoxin monitoring in place. No management changes to the recreational harvest rules or regulations were made during the 2017/18 season. Opportunities for harvesting continued under the recreational sport fishing licence.

Pacific Oyster Objectives:

- During 2017 field season, four commercial harvest site beaches had survey work conducted on them. These surveys were conducted in PFMA 15 and 16 at Atrevida Reef, Sechelt Inlet, Storm Bay and Savary Island.
- 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 reached or exceeded their harvest limit during the 2017/18 season.

APPENDIX 11: REPORTING STANDARDS

Pacific Oyster Commercial Fishery
Monitoring and Catch Reporting Program Standards
For the Licence Year 2019/20

TABLE OF CONTENTS

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 2019/20 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 2019/20 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 2019/20 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 2019/20 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 2019/20 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.). 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 license 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 Appendix 3. The licence holder shall arrange to have all data outlined in Appendix 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

The collection of biological stock assessment data on oyster populations is required for each beach or harvest location included in the fishing plan. Individual beaches will be scheduled for surveys on a five (5) year rotational basis with the surveys phased in over the coming years. Licence holders are responsible to make arrangements for assessments to be conducted, analyzed, and the data provided to DFO. Of all the beaches included in the fishing plan, it is expected that approximately 1 out of every 5 beaches will be surveyed annually. A five year survey schedule will be drafted in consultation with stakeholders.

The intention 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	Ken Fong	(250) 756-7368
Resource Manager	Guy Parker	(250) 756-7163
Aquaculture Management	Gabrielle Kosmider	(250) 754-0404

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: 2019
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_2019

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

[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: 2019
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, 2019.

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_2019).

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).

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.

Species	Species	Code
Crassostrea gigas		69F

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

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: 2019
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_2019

REPORTING STANDARDS

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

[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