



Fisheries and Oceans  
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**PACIFIC REGION  
INTEGRATED FISHERIES MANAGEMENT PLAN SUMMARY**

**INTERTIDAL CLAMS**

**JANUARY 1, 2016 TO DECEMBER 31, 2018**



The purpose of this Integrated Fisheries Management Plan (IFMP) summary is to provide a brief overview of the information found in the full IFMP. This document also serves to communicate the basic information on the fishery and its management to DFO 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. The full IFMP is available on request.

This IFMP summary 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 reasons, 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 an 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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*Signature and title of DFO approval authority*

## General Overview/Introduction

## IFMP Section 1

The Intertidal Clam Integrated Fisheries Management Plan (IFMP) is a three year plan covering the period January 1, 2016 to December 31, 2018. This plan pertains to four species of intertidal clam: Manila clam (*Venerupis philipinarum*), native littleneck clam (*Leukoma staminea*), butter clam (*Saxidomus gigantea*), and varnish (savoury) clam (*Nutallia obscurata*), with the current most important target species being the manila clam. This IFMP does not include the joint management plans with the Council of the Haida Nation for the commercial harvest of razor clams (*Siliqua patula*) or the Heiltsuk Tribal Council for the commercial harvest of Manila, littleneck and butter clam fisheries in specific areas of the North and Central Coasts. The management of geoduck (*Panopea generosa*), horse clams (*Tresus spp.*) and wild Pacific oysters (*Crassostrea gigas*) are covered in separate plans. Integrated Management of Aquaculture Plans (IMAP), when completed, will provide an overview of management approaches for shellfish aquaculture activities within the Pacific Region.

Four species of intertidal clams (butter, littleneck, Manila and razor clam) comprise the major portion of landings in commercial and recreational fisheries. Intertidal clams are harvested by hand digging only during low tide cycles. Although the commercial clam fishery began before the turn of the century, landings were not reliably recorded until 1951. Manila clams were introduced inadvertently in the early 1900's along with the introduction of Pacific oysters (*Crassostrea gigas*). The target species in the fishery was historically butter clams, however since 1971 strong markets and initially higher prices for littleneck and Manila clams have focused the intertidal fishery on these two species. Recently the focus has been almost exclusively on Manila clams. Landings of butter clams have been low in recent years because of the high cost of processing and a shift in demand toward fresh steamer clams.

### Type of Fishery and Participants

The intertidal clam fishery is small in relation to many other British Columbia fisheries, however it is important to coastal communities and provides needed employment to many people. Furthermore, intertidal clams are a traditional food source for First Nations and are widely used in the recreational fishery.

#### Commercial

The commercial clam fishery is composed of 220 Z2 and 579 Z2ACL (Aboriginal Commercial Licence) licence holders. Z2ACL licences are held by various First Nations which subsequently distribute them to members. Z2 and Z2ACL licence holders are required to renew commercial clam licences annually. In addition to the commercial clam licences, the holder is required to be registered as a commercial fish harvester and have a Fisher's Registration Card (FRC).

#### Recreational

A recreational fishery occurs coast-wide where areas are open for harvest. A British Columbia Tidal Waters Sport Fishing Licence is required for the recreational harvest of all species of fish including shellfish. See Appendix 3 Recreational Harvest Plan for details. Tidal Waters Fishing Licences can be purchase at many tackle stores or online by using the Fisheries & Oceans Canada website.

#### First Nations

First Nations' harvest for Food Social and Ceremonial purposes may occur coast-wide where areas are open for harvest. The number of First Nation harvesters is unknown.

#### Depuration

The depuration fishery is part of the commercial intertidal clam fishery, conducted under specific licences at registered Depuration Plants. Access to beaches requires stock assessment, notification and reporting requirements that are different than the commercial competitive fishery and often occur during times when there are no clam harvest openings.

#### Aquaculture

Intertidal clams are also accessed commercially through aquaculture operations. These are managed independent of the wild commercial fishery.

## **Stock Assessment, Science & Traditional Knowledge**

### **IFMP Section 2/3**

Clams have separate sexes and are broadcast spawners, synchronously releasing gametes into the water column, where fertilization occurs. For Manila clams, maturation occurs between 20-25 mm in length, or approximately 1-3 years of age and spawning occurs from June to September in the Strait of Georgia (Gillespie et al. 2012). Temperatures of 12-13°C are required for gonadal development, and temperatures of 15°C are required for spawning.

Harvestable wild clam stocks are dependent on recruitment that can vary widely from year to year. There is currently no assessment program that measures stock strength on all the beaches that are harvested in the fishery. The stock assessment program identifies biomass on specific beaches in the depuration fishery and Aboriginal pilot fisheries with a goal of determining maximum sustainable harvest rates. Few commercial beaches have been assessed on a regular basis with a goal of determining stock dynamics and population characteristics. The main conservation tool in this fishery is the minimum size limit. In addition, for commercial fisheries the openings are managed based on comparison of annual catches in each area and the reported catch per unit effort compared to the total catch of the commercial fishery openings

## **Economic Profile of the Fishery**

### **IFMP Section 4**

BC exports most of the seafood it produces, and the value of the intertidal clam fishery is vulnerable to foreign price fluctuations, currency exchange rates, and market competition. Wild clam market prices peaked in 2002 reaching as high as \$1.84 a pound. The average price paid to the commercial harvesters in 2014 was \$1.35 per pound. The landings of Manila, littleneck and butter clams combined have declined from (1,357 tonnes) to (363 tonnes) from 2002 to 2014.

Recreational fishing may occur to provide food for personal use, as a leisure activity, or as a combination of the two. The recreational community includes local residents, multi-species charter operators and lodges, and visiting anglers and boaters. Most (74%) are BC residents.. , with the remainder divided between Canadians from outside BC (12%) and visitors to Canada (14%). These activities provide a range of social, cultural, and health benefits to the participants as well as contribute directly and indirectly to economic activity. The national Survey of Recreational Fishing in Canada , conducted every five years, provides an estimate of individual expenditures and major purchases for recreational fishing. Typically, BC's tidal water recreational fishery has been the third largest recreational fishery in Canada in terms of direct expenditures and major purchases . Resident anglers, who make up the majority of anglers in BC's tidal waters, had the largest expenditures, at \$562.8 million in 2010 with non-resident direct expenditures (including fishing packages) and major purchases totalling \$143First Nations are interested in economic opportunities. There are 579 Z2ACLs that are issued to various First Nations in British Columbia. The Z2ACLs can be issued to interested First Nation members on an annual basis.

First Nations who have reserves fronting beaches with clam resources and are interested in commercial opportunities may also apply to enter into an agreement with DFO for the purpose of a Communal Commercial Harvest Strategy. These communal commercial harvests may occur where there is a viable clam beach fronting the reserve. Stock assessment must be carried out prior to a commercial harvest. The guidelines for stock assessment are the same as those established for the depuration fishery without the need for a depuration plan. If the beach is contaminated, the plan must follow the depuration guidelines.

## **Access and Allocation**

### **IFMP Section 7**

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

The commercial fishery is limited entry, with seasonal and area closures, minimum size limits. In addition, a survey-based total allowable catch for butter clams has been instituted on Seal Island in Area 14.

The recreational daily limit for all clam species combined is 75 per day. Species-specific daily limits are included within the 75 clam aggregate limit; daily limits by species are: 3 geoducks, 6 horse clams, 12 razor clams (except in PFMA 1-5 where the daily limit is 50 razor clams), 25 butter clams, 25 softshell clams, and/or 25 cockles. Possession limits are two-times the daily limit.

There are several non-commercial harvest areas throughout the coast. These areas are open for First Nations and recreational harvesting only. Descriptions of these areas are provided in the Commercial Harvest Plan, Appendix 1.

In addition to current North Coast opportunities, DFO, the SFAB, and First Nations are discussing options for an expanded North Coast sampling program that will facilitate, where practical, additional harvest opportunities.

To date, few limits have been placed on First Nations' harvest for food, social and ceremonial purposes. Some communal licences are issued which provide for a maximum daily quota of 75-100 lb. per day per person. The Chief and Council may authorize additional catch where required.

### **Shared Stewardship Arrangements**

### **IFMP Section 9**

The Department continues to support the development of licence area committees and provide opportunity for increased shared decision-making.

The Area F Community Management Board is comprised of representatives from local First Nations, stakeholders, area harvesters, federal and provincial representatives' for the purpose of providing input for the management of the fishery in clam management Area F. The board operates under terms of reference with elected members.

### **Governance Process**

### **IFMP Section 1**

The intertidal clam fishery is governed by the Fisheries Act (R.S., 1985, c. F-14) and regulations made thereunder, including the *Fishery (General) Regulations* (e.g., conditions of licence), the *Pacific Fishery Regulations* (e.g., open times), the *British Columbia Sport Fishing Regulations* (1996), the *Aboriginal Communal Fishing Licences Regulations*, the *Management of Contaminated Fishery Regulations* and the *Pacific Aquaculture Regulations*. Areas and Subareas are described in the *Pacific Fishery Management Area Regulations*.

**Management Issues, Objectives and Measures**

**IFMP Sections 5, 6 and 8**

#	Management Issue	Objectives	Management Measure
1	<p>Stock Status: Abundance estimates are not available for individual beaches or clam management areas</p>	<p>Future efforts may be required to explore options for improved assessment frameworks for the fishery.</p>	<p>The delivery of the commercial fishery will be assessed by performance measures including the number of days fished, landings compared to previous years, input from representatives at Clam Sectoral Committee meetings and other DFO program measures and assessments</p>
2	<p>Economic viability of the commercial clam fishery. These issues include the loss of beach access as a result of the expansion of intertidal aquaculture tenures, treaty settlements, water quality concerns, and increasing recreational use</p>	<p>Work with licence eligibility holders to develop solutions to these issues and adapt the fishery accordingly</p>	<p>The Department will continue to open commercial fisheries in each area as long as the relative stock strength warrants continued harvests and the fishery is manageable.</p>
3	<p>Clam Eligibility Nomination: The main issue remaining to be resolved following Clam Reform is whether the re-nomination of individual Z2 licence eligibilities should be permitted.</p>	<p>To develop a plan on where to take the issue of clam licence nominations or transferability of licences.</p>	<p>The Department will consult with the industry for purposes of making decisions on nominations of clam licences</p>

4	<p>Catch Reporting:</p> <p>Currently, fish slips are used as an indication of effort over all the commercial landings. In addition, landings are recorded by the fishery manager after each fishery and are now collated through in-season and end-season reports from buyers and processors. The data is provided in an inconsistent manner and a more standardized approach is needed to ensure long-term sustainability of the fishery.</p>	<p>Work with industry for the purpose of standardizing catch information.</p>	<p>Continue to use fish slip information for year end reporting and develop a standardized approach for in season reporting.</p>
5	<p>Limited information on recreational shellfish harvest, including clams, harvest information</p>	<p>Meet conservation objectives and ensure healthy and productive fisheries and ecosystems.</p>	<p>Catch monitoring programs for all recreationally-caught fish are being developed in collaboration with recreational fishery organizations.</p>
6	<p>First Nations' concerns over the impact of commercial harvest on their ability to harvest for food, social and ceremonial (FSC) purposes.</p>	<p>To work with First Nations to ensure their needs for FSC access to clams.</p>	<p>The Department is consulting with First Nations throughout coastal BC on a more comprehensive approach to gathering catch data by negotiating agreed-upon protocols outlined in the Fisheries Agreement and/or communal licences.</p>

7	<p>Fishery Monitoring: Monitoring the fishery is difficult due to the vast number of beaches and remote areas that are involved</p>	<p>The goal for C&amp;P is to prevent the harvest of contaminated clams except under very strict harvest plans as set out under the authority of the <i>Management of Contaminated Fisheries Regulations and the Food Inspection Act</i></p>	<p>Patrols of contaminated beaches prior to and during the open fishery are done to prevent contaminated product from entering the market. This is undertaken by C&amp;P Officers by vehicle, foot, vessels, and/or aircraft.</p>
8	<p>The European green crab (<i>Carcinus maenas</i>) is an introduced species that has been found throughout the West Coast of Vancouver Island. There are concerns for potential impact on clam resources</p>	<p>Meet conservation objectives and ensure healthy and productive fisheries and ecosystems.</p>	<p>Management measures have been placed on the intertidal clam fishery to mitigate the spread of green crab and research is ongoing to assess this potential pathway for green crab to enter the Strait of Georgia.</p>

**Compliance Plan****IFMP Section 10**

Conservation and Protection (C&P) staff will pursue opportunities to monitor and enforce this fishery, in conjunction with the monitoring and enforcement priorities directed by senior management in the Pacific Region.

**Performance Review****IFMP Section 11**

An evaluation of improvements to the fishery monitoring and catch reporting mechanisms for all sectors will be conducted.

Catch and effort data from the fishery will be consolidated and reviewed within the context of examining potential effects on stock structure and status.

The delivery of the commercial fishery will be assessed by performance measures including the number of days fished, landed value compared to previous years, input from representatives at Clam Sectoral Committee meetings and other DFO program measures and assessments.

First Nations presently holding communal commercial licence eligibilities will be invited to comment on their experience and satisfaction within the commercial clam fishery.

Interactions with the recreational fishing representatives of the SFAB, their recommendations and action taken in response by DFO will be described.

For additional information on this IFMP Summary or to request an electronic version of the full IFMP, please contact David Fogtmann at 250-339-3799 or [David.Fogtmann@dfo-mpo.gc.ca](mailto:David.Fogtmann@dfo-mpo.gc.ca)