

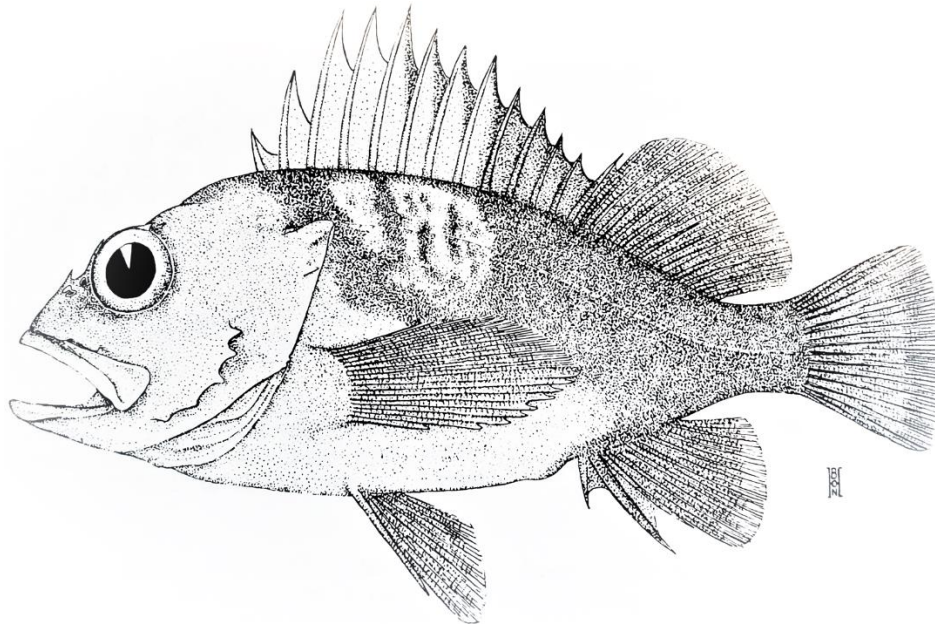
PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

GROUNDFISH

EFFECTIVE FEBRUARY 21, 2022

VERSION 3.0



Quillback Rockfish (*Sebastes maliger*)



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canada

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This Integrated Fisheries Management Plan is intended for general purposes only. Where there is a discrepancy between the Integrated Fisheries Management Plan and the regulations, the regulations are the final authority. A description of Areas and Subareas referenced in this Integrated Fisheries Management 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 Groundfish fisheries 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) 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*, *Species At Risk Act*, and *Oceans 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*, *Species At Risk Act*, and *Oceans Act*.

Where DFO is responsible for implementing obligations under treaty and reconciliation 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.

This IFMP is a living document that will be subjected to a review annually for updates, with input from interested parties. Any changes required within a given fishing season will continue to be made as needed.

IFMP documents are available from the DFO Pacific Region Internet site:
<http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html>.

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1. OVERVIEW OF THE FISHERY

1.1. History

Each year Fisheries and Oceans Canada (DFO) provides opportunities to First Nations for Food, Social and Ceremonial (FSC) purposes (or domestic purposes for First Nations with modern treaties), and the commercial and recreational fisheries to harvest groundfish. First Nations have been harvesting groundfish since time immemorial. Commercial and recreational fisheries on the Pacific Coast of Canada have long harvested groundfish. Groundfish serve as a source of food, they provide jobs, income, and enjoyment for individuals, businesses, and coastal communities and they play key roles in natural ecosystems.

1.2. Type of Fishery and Participants

1.2.1. First Nations

In the 1990 Sparrow decision, the Supreme Court of Canada found that where an Indigenous group has an Indigenous right to fish for Food, Social, and Ceremonial (FSC) purposes, it takes priority, after conservation, over other uses of the resource. Fisheries are authorized via a Communal Licence issued by the Department under the *Aboriginal Communal Fishing Licences Regulations*.

Five Nuu-chah-nulth First Nations located on the west coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) – have aboriginal rights to fish for any species, with the exception of Geoduck, within their Fishing Territories and to sell that fish.

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

For additional information regarding indigenous fisheries, refer to section 6.1.1.

1.2.2. Recreational

A recreational fishery may occur where authorized by a valid Tidal Waters Sport Fishing licence, which is required for the recreational harvest of all species of fish.

Approximately 300,000 Tidal Waters Sport Fishing licences are sold each year. Tidal Waters Sport Fishing Licences can be purchased online by using the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html>

1.2.3. Commercial

There are seven distinct commercial groundfish sectors: Groundfish trawl, Halibut, Sablefish, Inside Rockfish, Outside Rockfish, Lingcod, and Dogfish fisheries that are

managed according to the measures set out in this management plan. The management of these sector groups is integrated, with all groups subject to 100% at-sea monitoring and 100% dockside monitoring, individual vessel accountability for all catch (both retained and released), individual transferable quotas (ITQ), and reallocation of these quotas between vessels and fisheries to cover catch of non-directed species. There are approximately 250 active commercial groundfish vessels. Information on licensed vessels is available online at the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.htm>.

First Nations have communal access to commercial opportunities through communal commercial licences acquired through the Allocation Transfer Program (ATP) and Pacific Integrated Commercial Fisheries Initiative (PICFI). Some fisheries access associated with communal commercial licences/quota issued to the Five Nations (or entities they are part of) has been offered for the right-based sale fishery. Consultations with the Five Nations about this access is ongoing for the 2022/23 FMP. This could result in in-season changes regarding the issuance of these licences and/or quota.

The Maa-nulth have an allocation for commercial groundfish fishing outside of the Treaty as identified in the “Maa-nulth First Nation Harvest Agreement”. The allocations in the Harvest Agreement do not affirm Indigenous or Treaty rights. These licences are fished in a manner that is comparable to the general commercial fishery.

1.2.4. Aquaculture

The aquaculture industry may apply to access, by scientific licence, the wild groundfish resource to assist industry broodstock development (growth and diversification). There are currently three aquaculture operations that have been issued scientific licences to access wild Sablefish for broodstock. More information on the Sablefish broodstock access can be found in Appendix 7 to this IFMP.

1.3. Location of Fishery

This Integrated Fisheries Management Plan (IFMP) addresses groundfish fisheries occurring in waters of the Pacific Ocean off the west coast of Canada.

1.4. Commercial Fishing Areas

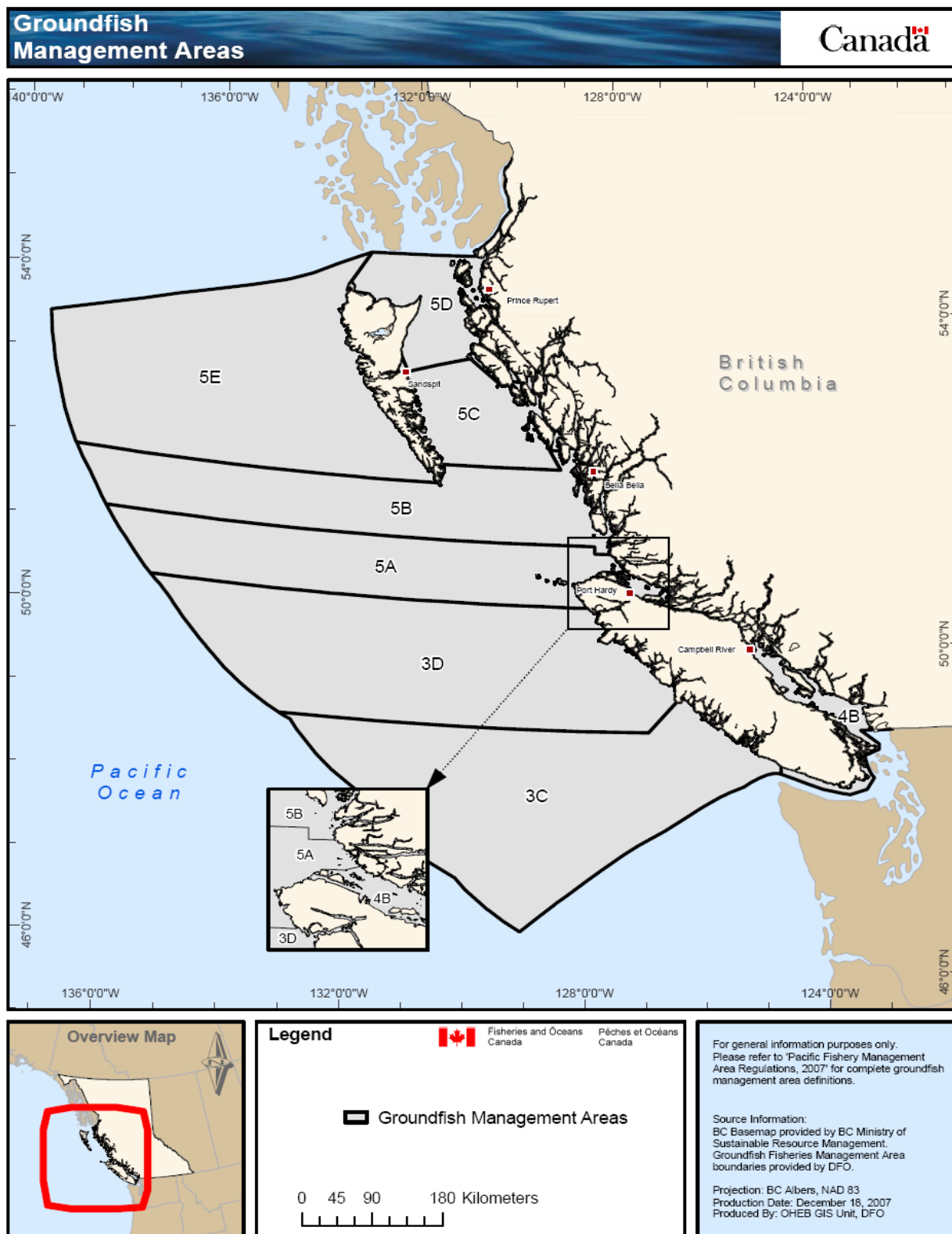
Name	Area/Subarea
3C	Areas 21, 23, 24, 121, 123, and Subareas 124-1 to 124-3 and 125-6.
3D	Areas 25, 26, 126 and Subareas 27-2 to 27-11, 124-4, 125-1 to 125-5, 127-1 and 127-2.
4B	Areas 13 to 20, 28 and 29 and Subareas 12-1 to 12-13, 12-15 to 12-48.
5A	Areas 11, 111 and Subareas 12-14, 27-1, 127-3, 127-4 and 130-1.
5B	Areas 7 to 10, 108 to 110 and Subareas 102-3, 107-2, 107-3, 130-2 and that portion of 130-3 that lies south of the parallel passing through 51 degrees, 56 minutes north latitude)
5C	Areas 6, 106 and Subareas 2-1 to 2-19, 102-2 and 105-2 and 107-1.

Name	Area/Subarea
5D	Areas 3 to 5, 103, 104 and Subareas 1-2 to 1-5 and 101-4 to 101-10, 102-1 and 105-1.
5E	Area 142 and Subareas 1-1 and 2-31 to 2-100 and 101-1 to 101-3 and that portion of Subarea 130-3 that lies north of the parallel passing through 51 degrees 56 minutes north latitude

Specific information on the management area boundary descriptions (latitudes and longitudes) can be found in the *Pacific Fishery Management Area Regulations, 2007* (SOR/2007-77). These regulations can be found at:

<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2007-77/index.html>.

1.4.1. Commercial Groundfish Management Area Map



1.5. Governance

- The *Fisheries Act* and the regulations made thereunder.
 - Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing Groundfish Management Areas.
 - 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).
 - The *Aboriginal Communal Fishing Licences Regulations* (1993).
- The *Oceans Act*.
- The *Species at Risk Act*.
- The *Coastal Fisheries Protection Act*.

In addition to these legislation and regulatory tools, DFO's Sustainable Fisheries Framework provides the policy basis for ensuring that Canadian fisheries support conservation and sustainable use of resources. The framework:

- establishes a precautionary approach to fisheries management;
- provides the basis for an ecosystem approach to fisheries management;
- includes tools to monitor and assess environmentally sustainable initiatives; &
- combines new and evolving fisheries management policies with current ones.

Along with existing economic and shared stewardship policies, the Framework will help DFO meet objectives for long-term sustainability, economic prosperity, and improved governance. Further information can be found at the DFO website:

<http://www.dfo-mpo.gc.ca/reports-rapports/regs/policies-politiques-eng.htm>

Several advisory committees and subcommittees have been established to provide advice to the Department on management of groundfish fisheries. Terms of reference, membership and meeting minutes for the Halibut Advisory Board (HAB), Groundfish Trawl Advisory Committee (GTAC), Sablefish Advisory Committee (SAC), Groundfish Hook and Line Subcommittee (GHLSC), the Commercial Industry Caucus (CIC), and the Groundfish Integrated Advisory Board (GIAB) can be found on the Internet at: <http://www.pac.dfo-mpo.gc.ca/consultation/ground-fond/index-eng.html>. For a list of members please see Appendix 12.

DFO engages in a variety of consultation, engagement and collaborative harvest planning processes with First Nations which advise DFO on groundfish management. These exchanges and involvement may include bilateral consultations, advisory processes, management boards, technical groups and other roundtable forums. Consulting 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 Indigenous groups.

The Sport Fishing Advisory Board (SFAB) provides advice to the Department on matters relating to the recreational fishery. More information on this advisory board can be found

on the Internet at: <http://www.pac.dfo-mpo.gc.ca/consultation/smon/sfab-ccps/index-eng.html>.

1.6. Approval Process

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

2. RESOURCE MANAGEMENT GOAL

To sustainably manage groundfish fisheries and to work with harvesters, and coastal and Indigenous communities to enable their continued prosperity from fish and seafood.

This goal and the [Departmental Plan](#) is intended to support DFO’s mandate commitments. The management priorities described below are keys areas of focus that will align our activities with these goals over the long term.

Priority	Management measures
<p>Implement a fisheries program that uses scientific evidence, the precautionary principle, and takes into account climate change when making decisions affecting fish stocks and ecosystem management.</p>	<p>Continue to implement the peer-reviewed Management Procedure Framework for British Columbia groundfish species to generate status assessments in a more timely manner. See section 3.3.1 for additional information.</p> <p>Continue to support Collaborative Agreements between DFO and partners to support groundfish science activities through the allocation of fish to finance the activities, consistent with the authority granted to the Minister in the <i>Fisheries Act</i>. See section 1.5 and the harvest plan appendices for additional information.</p> <p>For the 2022/23 fishing season, where a Groundfish trawl Option A quota observed trip does not include an at sea observer, one hundred (100) per cent at-sea monitoring shall be achieved through an improved EM system. See Appendix 8 for additional information.</p> <p>Continue to utilize established integrated fisheries planning and advisory processes described in Appendix 12, as well as the Canadian Science Advisory Secretariat process.</p>

Priority	Management measures
<p>Consistent with regulation and policy under a renewed <i>Fisheries Act</i>, develop, implement, and monitor management measures to maintain major fish stocks at levels necessary to promote sustainable, stable, and prosperous fisheries.</p>	<p>Continue to develop and implement Precautionary Approach (PA) reference points and harvest control rules for priority fish stocks, as well as rebuilding plans for those stocks that are at or below their limit reference point. Specifically, Rebuilding Plans for Bocaccio and Yelloweye Rockfish have been developed and continue to be evaluated, as described in Appendix 9.</p> <p>Continue measures first implemented in 2019 for the protection of the Southern Resident Killer Whales, which include measures that reduce the threats of fisheries related interactions and disturbance. See section 5.1.6 for additional information.</p> <p>Continue development of a revised salmon bycatch monitoring program to better understand the potential impacts of bycatch in the groundfish trawl fishery on Pacific Salmon. Changes to catch monitoring and retention requirements are being developed in consultation with the fishery and implementation for the groundfish trawl fleet is targeted for 2022 or later. See Appendix 8.</p> <p>Develop and pilot in the 2022-2023, increased discard mortality relates to improve accountability and responsibility for Sablefish discards, beginning with discard mortality rates of legal, marketable Sablefish. Changes are under consideration for inclusion in the final version of this IFMP. The Ad Hoc Working Group is expected to begin discussions regarding the discard mortality of sub-legal Sablefish throughout the 2022/23 fishing season. See Appendix 7.</p>
<p>Support implementation of marine spatial planning initiatives</p>	<p>The Government of Canada, the Province of BC and 18 First Nations are working together to develop a Network of marine protected areas for the Northern Shelf Bioregion which extends from the top of Vancouver Island (Quadra Island/Bute Inlet) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as the Pacific North Coast Integrated Management Area</p>

Priority	Management measures
	<p>The Government of Canada, the Province of BC, and Indigenous Groups and organizations are also in the pre-planning phase, gathering information and data relevant to a marine spatial planning process in southern BC, which includes the Strait of Georgia and Southern Shelf Bioregions.</p> <p>These planning processes are being developed under the policy direction outlined in the National Framework for Canada’s Network of MPAs, the Canada-British Columbia MPA Network Strategy, and are informed by previously developed First Nation marine plans. See section 5.2.1.2 for additional information.</p> <p>DFO is also currently undertaking a multi-year review of the conservation effectiveness of Rockfish Conservation Areas (RCAs). Specific measures are described in section 5.1.6.</p>

3. STOCK ASSESSMENT, SCIENCE AND INDIGENOUS KNOWLEDGE

3.1. Biological Synopsis

In addition to work directed at providing stock assessments, DFO staff and contracted service providers conduct routine data collection and compilation as well as specialized research on the general biology of groundfish in support of stock assessment. The routine work includes:

- Collection and archiving of catch data from fisher logs, observer and electronic logs and unloading slips;
- Collection and archival of catch, biological and environmental data from at-sea research surveys;
- Collection of biological specimen data from dockside, and at-sea sampling; and
- Archiving of biological data collected from departmental and contract sources.

3.2. Stock Assessment

3.2.1. Groundfish Stock Assessment

Stock assessment and research programs involving groundfish are conducted by DFO and through cooperative research programs carried out in conjunction with industry associations. Stock assessment advice has been provided for over 70 commercially

caught groundfish stocks. Science personnel, in association with DFO fishery managers and groundfish user group representatives, establish assessment priorities and timing schedules for assessments. These programs are intended to support ongoing evaluation of management measures. Opportunities for stakeholder involvement and co-operative ventures in research and assessment activities are pursued.

During the 2021/22 fishery season, harvest advice for Yellowmouth Rockfish was presented for peer review and an updated Science Response for Bocaccio (last assessed in 2019) was completed. Harvest advice updates for outside Yelloweye Rockfish and Sablefish based on adopted management procedures were provided (section 6.1.6.4), as were updates for Pacific Hake and Halibut¹. In 2022/23 harvest advice is anticipated for Arrowtooth Flounder, Pacific Cod, Sablefish, Canary Rockfish, Quillback Rockfish (inside population) and outside Yelloweye Rockfish stocks.

Upon receipt of science advice and in consultation with Departmental advisory processes, new catch limits for the 2022/23 are under review for Sablefish. New catch limits for 2022/23 have been established for Bocaccio, outside Yelloweye and Yellowmouth Rockfish stocks.

Bocaccio Rockfish

Through the process of regular evaluation of the rebuilding plan, science advice on stock status and rebuilding strategies for Bocaccio was provided in December of 2019 and November of 2021.

The 2019 stock assessment, published in 2020, depicted a coastwide Bocaccio stock experiencing a nearly continuous decline from the start of the population reconstruction in 1935, interrupted only by a period of arrested decline spanning the years 1970-86 resulting from a few moderate recruitment events in 1969, 1976, and 1978. The decline resumed in 1987, continuing until an extremely large recruitment event occurred in 2016, estimated by the model to be 44 times the long-term average recruitment (5% and 95% quantiles: 30x, 58x). An updated Bocaccio assessment in 2021 estimated the 2016 recruitment event was bigger than previously thought, and the coastwide population has largely recovered with an 87% probability of being above $0.8 B_{MSY}$ at the end of 2021. A range of constant catch strategies from zero to 2,000 tonnes over a ten year period were explored. Under all strategies, there is a very high probability the biomass will continue to grow over the short term and be greater than B_{MSY} by 2025.

Harvest advice for the 2022/23 considered current stock status relative to the LRP and USR reference points, exploitation rates consistent with sustainable management and the anticipated increase in the biomass over the short term. Furthermore, an update to the assessment is planned in the fall of 2023 to continue the validation of the size of the 2016 cohort. Given these considerations and the science advice noted above, the 2022/23 mortality cap for Bocaccio will be increased to 1,800 t from 800 t as described in Appendix 9.

Yellowmouth Rockfish

This stock assessment was peer reviewed and accepted with revisions on September 9, 2021. Natural mortality (M) could not be credibly estimated using the Stock Synthesis model platform, largely due to the lack of contrast and the high relative errors in the survey biomass indices. Alternatively, a range of plausible M values was used as fixed estimates to construct five separate models. These were then combined into a composite base case to provide management advice.

The median (with 5th and 95th percentiles) female spawning biomass at the beginning of 2022 (B_{2022}) was estimated to be 0.69 (0.44, 1.08) of the equilibrium unfished female spawning biomass (B_0). Also, B_{2022} was estimated to be 2.39 (1.54, 3.73) times the equilibrium spawning biomass at maximum sustainable yield, B_{MSY} . There was an estimated probability of 1 that $B_{2022} > 0.4B_{MSY}$ and a probability of 1 that $B_{2022} > 0.8B_{MSY}$ (i.e., of being in the Healthy zone). The probability that the exploitation rate in 2021 was below that associated with MSY was 0.95 for the commercial fishery.

None of the M values used in the composite base case indicated that there was a sustainability issue with this stock. Even the lowest investigated value of $M=0.04$ returned a median estimate for B_{2022}/B_0 of 0.53 (0.38, 0.73) and for B_{2022}/B_{MSY} of 1.8 (1.3, 2.5). Consequently, the authors were reasonably confident that the YMR stock was in the Healthy zone and was likely to stay there for 5-10 years at current levels of catch (around 1000 to 1250 t/y). Unfortunately, the stock assessment's estimate of absolute stock size was uncertain, as was long-term yield. The median B_0 estimate from the composite base case (~26,000 t), along with the corresponding estimate of MSY (~1,000 t), were simply averages across five plausible values of M . Alternative model formulations that made different mathematical assumptions (such as ageing error or statistical distributions used to fit the age data) resulted in differing absolute stock size estimates while still fitting the available data. However, these alternative models generally agreed that current stock status lies in the Healthy zone.

Quillback Rockfish – inside and outside stocks

In the spring of 2021, DFO hosted a series of workshops to develop objectives for the Inside and Outside Quillback Rockfish stocks and will be used to evaluate management procedures as part of an updated stock assessment planned for 2022-23.. Information will be used in the ongoing analysis to update stock assessment advice through the Management Procedure Framework. Advice will hopefully be available in 2022-23.

3.2.2. Canadian Science Advisory Secretariat

Science is the basis for sound, evidence-based decision making. DFO Science Sector provides advice on the likelihood of achieving policy objectives under alternative management strategies and tactics. The Canadian Science Advisory Secretariat (CSAS) oversees the provision of all scientific advice required by operational client sectors within the Department (Fisheries Management, Ecosystems Management, and Policy). In the Pacific Region, science advisory processes are managed by the Centre for Science Advice Pacific (CSAP).

Scientific assessments and advice on the assessment and management of the Groundfish fisheries are peer reviewed annually in Regional Peer Review (RPR) meetings. Government and non-government individuals with knowledge and technical expertise pertaining to each RPR meeting are invited to contribute to the peer review and development of advice, based on the science presented. The schedule of CSAS meetings is available online at: <http://www.isdm-gdsi.gc.ca/csas-sccs/applications/events-evenements/index-eng.asp>. General information about the CSAS Policies, Procedures, Schedule and Publications can be found at: <http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm>.

Science advice, proceedings and stock assessments/scientific evaluations resulting from CSAS meetings are available online at: <http://www.meds-sdmm.dfo-mpo.gc.ca/csas-sccs/applications/Publications/index-eng.asp>.

3.2.3. Sustainable Fisheries Framework

The Sustainable Fisheries Framework is a toolbox of existing and new policies for DFO to sustainably manage Canadian fisheries by conserving fish stocks while supporting the industries that rely on healthy fish populations. The Sustainable Fisheries Framework provides planning and operational tools that allow these goals to be achieved in a clear, predictable, transparent, and inclusive manner, and provides the foundation for new conservation policies to implement the ecosystem and precautionary approaches to fisheries management. These policies include:

- *Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas;*
- *Policy on New Fisheries for Forage Species;*
- *A Fishery Decision-Making Framework Incorporating the Precautionary Approach;*
- *Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework: Growing Stocks out of the Critical Zone;*
- *Policy on Managing Bycatch;*
- *Ecological Risk Assessment Framework (ERAF) for Coldwater Corals and Sponge Dominated Communities; and*
- *Fishery Monitoring Policy.*

For more information on the Sustainable Fisheries Framework and its policies, please visit: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/overview-cadre-eng.htm>

As required under the SFF, DFO annually tracks the performance of major fish stocks that it manages through the Sustainability Survey for Fisheries. The fish stocks are selected for their economic, environmental and/or cultural importance. The vast majority of the landings from fisheries managed by DFO come from these fish stocks. The survey reports on DFO's progress to implement its SFF policies, which guide the management of Canada's fisheries, and on other information about these fish stocks. The results of previous Sustainability Surveys are available online: <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/index-en.html>

3.2.3.1. National Fishery Monitoring Policy and Catch Reporting

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

The Fishery Monitoring Policy is part of DFO's Sustainable Fisheries Framework and is available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm>

3.2.3.1.1. Precautionary Approach

The SFF includes a decision-making framework incorporating a precautionary approach to commercial, recreational, and food, social, and ceremonial fishing: <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.htm>

In general, the precautionary approach (PA) in fisheries management requires caution when scientific knowledge is uncertain. The absence of adequate scientific information should not result in postponed action or failure to take action to avoid the risk of 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 harvest strategies that:

- identify three stock status zones – Healthy, Cautious, and Critical – delineated by an upper stock reference point and a limit reference point;
- set the removal rate at which fish may be harvested within each stock status zone; and
- adjust the removal rate according to fish stock status (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 in the Healthy Zone, 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>

Amendments to the *Fisheries Act* (Bill C-68) were passed into legislation in 2019 and include new authorities to amend the *Fishery (General) Regulations* and requirements to maintain major fish stocks at sustainable levels, and develop and implement rebuilding plans for stocks that have declined to their critical zone. The proposed regulatory

amendments draw upon the 2013 *Guidance for the development of rebuilding plans under the Precautionary Approach Framework: Growing stocks out of the critical zone*.

Information on the regulatory proposal regarding fish stocks and rebuilding plans is available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/consultation/consult-maj-pri-eng.html>

The regulatory proposal was consulted on from December 2018 to March 2019 with pre-publication of the proposed regulation in Canada Gazette Part I on January 2, 2021. The regulation will come into effect upon publication in Canada Gazette Part II. The publication is available at: <https://gazette.gc.ca/rp-pr/p1/2021/2021-01-02/html/reg1-eng.html>

3.3. Science

3.3.1. Science Branch

A goal of the Fisheries and Oceans Canada Science Branch is to provide high quality knowledge, products and scientific advice on Canadian aquatic ecosystems and living resources, with a vision of safe, healthy, productive waters and aquatic ecosystems. Groundfish research surveys and stock assessments are undertaken collaboratively between DFO and the commercial groundfish fishing industry. DFO Science Branch staff from the Groundfish, Quantitative Assessment Methods, and Fisheries and Assessment Data Sections of the Stock Assessment and Research Division along with staff in the Ecosystems Sciences Division of Science Branch work with contractors, consultants and academics to generate harvest advice

3.3.2. Groundfish Monitoring and Assessment

3.3.2.1. Groundfish Multi-species hook and line surveys

The hook and line surveys program consists of two distinct components:

1. Inside waters hard bottom hook and line survey using a DFO research platform, staffed by DFO staff and;
2. Outside waters hard bottom hook and line survey supported through a use of fish agreement with Pacific Halibut Management Association (PHMA), staffed by contracted technicians.

Since 2003 the Inside waters research survey has been designed to cover the inside (Strait of Georgia) waters over two years, rotating between northern and southern portions. These surveys are conducted over hard bottom between 41 and 100 m in depth to determine the catch by species and to collect biological samples. These surveys were initiated in 2003 in Areas 12 and 13, and have alternated with more southern management areas since then.

In 2006, the Outside waters research survey was initiated by DFO in collaboration with the research committee of the Pacific Halibut Management Association (PHMA). This

survey is part of an effort to index groundfish populations in all areas of the coast. The survey grid developed for hard bottom areas are matched alongside those developed for the coastwide trawl surveys. Data from both the longline and trawl surveys provide coastwide abundance indices and ancillary biological data for the more commonly caught species and provide general distributional data for all the others.

Employing a depth-stratified random design, hard bottom areas coastwide are surveyed with longline gear over a two year period, alternating between northern and southern portions of Canada's Pacific coast. A target of 200 fishing sets are selected in each year and three commercial fishing vessels are chartered to fish in one of three areas within the northern or southern portion of the coast. The southern portion of the coast is scheduled to be surveyed in even years, and the northern portion of the coast in odd years.

3.3.2.2. Groundfish Trawl Multi-Species Surveys

Since 2003, a series of Groundfish Trawl Multi-species surveys have been conducted jointly between the Department and the groundfish industry through the Canadian Groundfish Research and Conservation Society (CGRCS). The purpose of the surveys is to gather fishery-independent data to provide usable relative abundance indices for as many benthic and near benthic fish species as is reasonable, along with supporting biological samples of size, sex, maturity and age composition.

This survey program is comprised of five area specific surveys. Three areas, the Strait of Georgia, the West Coast of Vancouver Island and Hecate Strait are surveyed using a DFO research vessel. The two remaining areas, Queen Charlotte Sound and the West Coast of Haida Gwaii are surveyed with chartered commercial fishing vessels supplied by industry through the CGRCS. Areas are surveyed on a biennial rotation with Queen Charlotte Sound and Hecate Strait being surveyed in odd years and the West Coast of Vancouver Island and the West Coast of Haida Gwaii being surveyed in even years. The Strait of Georgia is intended on a triennial rotation but been inconsistent.

These surveys employ a depth-stratified random design, target trawlable bottom coastwide and integrate with the longline hard bottom survey to provide comprehensive coverage between 50 and 500 m depth coastwide and up to 1,500 m depth on the West Coast of Haida Gwaii.

The West Coast of Vancouver Island survey was not completed during 2020 due to COVID-19. During 2021, Hecate Strait, Queen Charlotte Sound and the West Coast of Vancouver Island were all surveyed. In 2022, the West Coast of Vancouver Island and the West Coast of Haida Gwaii will be surveyed.

3.3.2.3. Sablefish Research and Assessment Survey Program

The Sablefish Research and Assessment Survey Program is undertaken in collaboration with the Canadian Sablefish Association and includes two primary components:

- A Randomized Tagging survey captures Sablefish for tagging and release following an area and depth stratified randomized survey design. The catch rate data are used to derive an index of stock abundance and are a primary input to the Sablefish management procedure. Tag-recoveries can be used for deriving estimates of gear selectivity, studying movement, and potentially for deriving a tagging-based index of abundance.
- An inlets survey captures Sablefish for tagging and release at standardized locations in four mainland inlet localities. As with the Randomized Tagging survey, tagged Sablefish captured during the survey are measured, re-tagged and released. The inlets survey was not completed in 2020 due to COVID-19 measures.

3.4. **Indigenous Knowledge**

In 2019, the *Fisheries Act* was amended to include provisions for where the Minister may, or shall consider provided Indigenous knowledge in making decisions pertaining to fisheries, fish and fish habitat, as well as provisions for the additional protection of that knowledge when shared in confidence.

The term Indigenous knowledge may not be universally used, and other terms such as Indigenous Knowledge Systems, Traditional Knowledge, Traditional Ecological Knowledge, or Aboriginal Traditional Knowledge, which all convey similar concepts, may be used instead.

Indigenous knowledge can inform and fill knowledge gaps related to the health of fish stocks, and aid decision making related to fisheries management. The Government of Canada and the scientific community acknowledge the need to access and incorporate Indigenous knowledge in meaningful and respectful ways. Work is underway at a National level to develop processes for how DFO receives Indigenous knowledge and applies it to inform decision making. This will include consideration of how to engage knowledge holders, and how to ensure that the knowledge can be shared and considered in a mutually acceptable manner by both knowledge holders and the broader community of First Nations, stakeholders, managers, and policy makers involved in the fisheries. This work will be an iterative process done in collaboration with First Nations, Indigenous groups and knowledge holders, to ensure protection of the knowledge provided.

4. **ECONOMIC, SOCIAL AND CULTURAL IMPORTANCE**

The purpose of this section is to provide a socio-economic overview of groundfish fisheries in British Columbia using available information. This summary addresses groundfish in the context of the Indigenous fisheries, the recreational fishery, and the commercial fishery including harvesting, processing, and export activity. The focus of this section is on the economic activity of the fisheries rather than measures of economic

value (i.e. consumer and producer surpluses). Where available, information on the social and cultural context of the fisheries has been included; these sections may be expanded in future years, as additional information is made available. The information from 2010 to 2020 is included, although the entire period is not covered in all instances due to data limitations. DFO recognizes the unique values of each of the fisheries described here. The overview provided by this profile is intended to help build a common understanding of the socio-economic dimensions of the fisheries rather than compare the fisheries.

4.1. **Indigenous Fisheries**

4.1.1. Food, Social, and Ceremonial Fisheries

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

The Aboriginal Fisheries Strategy (AFS) was implemented in 1992 to address several objectives related to First Nations and their access to the resource. These included:

- To provide a framework for the management of fishing by Indigenous groups for Food, Social and Ceremonial purposes.
- To provide Indigenous groups with an opportunity to participate in the management of fisheries, thereby improving conservation, management and enhancement of the resource.
- To contribute to the economic self-sufficiency of Indigenous communities.
- To provide a foundation for the development of self-government agreements and treaties.
- To improve the fisheries management skills and capacity of Indigenous groups.

AFS agreements may identify the amounts of species including groundfish that may be fished for FSC purposes, terms and conditions that will be included in the communal fishing licence, and fisheries management arrangements. Currently approximately 58 coastal First Nations are issued communal licences by the Minister that include groundfish for FSC purposes.

4.1.2. Five Nations Rights-Based Sale Fishery

Five Nuu-chah-nulth First Nations located on the west coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) – have aboriginal rights to fish for any species, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a

2021/22 Five Nations Multi-species Fishery Management Plan (FMP). The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. Feedback provided by the Five Nations during consultations was considered and incorporated into the 2021/22 FMP by DFO where possible.

The implementation of the Five Nations' right-based sale fishery continues to be an ongoing process. The 2021/22 FMP was developed to implement the right-based multi-species fishery to accommodate the Five Nations' Aboriginal rights consistent with the British Columbia Supreme Court's 2018 decision. On April 19, 2021, the British Columbia Court of Appeal released its decision in relation to the appeal brought forward by the Five Nations. As a result, the department has announced a number of in-season changes via fishery notice and has revised the 2021/22 FMP to reflect changes that have been made thus far. Further changes will be announced by fishery notice and/or in the 2022/23 FMP which will be available in the spring of 2022. For further information, see the revised 2021/22 FMP at: <https://waves-vagues.dfo-mpo.gc.ca/Library/41018588.pdf>

4.1.2.1. Modern Treaties & Self-government Agreements

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

Six modern treaties and self-government agreements (Nisga'a Final Agreement, Tsawwassen First Nation Final Agreement (TFA), Maa-nulth First Nations Final Agreement (MNA), Tla'amin Nation Final Agreement, Sechelt Self-government Act, and Westbank First Nation Self-government Agreement) have been ratified in British Columbia. The Maa-nulth treaty includes five Nuu-cha-nulth First Nations (Ka:'yu:k't'h/Che:k'tles7eth, Huu-ay-aht, Toquaht, Uchucklesaht, Ucluelet) and came into effect in April 2011; it provides for commercial groundfish in a Harvest Agreement. See Section 6.1.2. for more details.

4.1.3. Reconciliation Agreements

In addition to negotiating treaties, the Government of Canada and Indigenous peoples can also negotiate Recognition of Indigenous Rights and Self-Determination (RIRSD) agreements, to explore new ways of working together to advance the recognition of Indigenous rights and self-determination. These agreements are led by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). Since 2019, the Government of Canada entered into several agreements with First Nations that lay the foundation for incremental development and implementation of new arrangements for collaborative governance on fisheries and marine matters. See Section 6.1.2. for more details.

4.1.4. Social and Cultural Significance

Fisheries and the harvest and management of aquatic resources have particular importance to many Indigenous communities. Many Indigenous communities are located adjacent to key fishing sites, oceans and aquatic resources, and consider the management of these resources to be matters important to these communities. There are Indigenous groups who are seeking greater access to economic opportunities from aquatic resources as a potential driver for economic development in their communities; more stability in FSC fisheries; a greater role in the aquatic resource and oceans management decisions that affect them; and a greater role in stewardship, including stock assessment, oceans and habitat management, conservation and protection, and recovery strategy development and implementation.

4.2. Recreational Fishery

Recreational fishing is a leisure activity that may also provide food for personal use. These activities provide benefits to the individual participants as well as contribute directly and indirectly to the economy through fishery related expenditures. This section focuses primarily on economic activity rather than the economic benefits to individual anglers or businesses. Catch levels in the recreational groundfish fishery are managed using area specific openings and retention limits. There are no restrictions on the number of tidal water recreational licences.

4.2.1. Participation

Tidal water recreational licences permit access to all marine species, including many groundfish, under the conditions described in the BC Sport Fishing Guide. The number of tidal water licences sold for access in BC decreased from around 337,000 in 2003 to a low of 300,000 in 2008 where it remained until a sharp increase to about 343,000 in 2015 (Figure 1). The majority of the decline (2003-2008) was due to a decrease in the sale of licences to non-Canadian residents, while the increase (2008-2015) was due to increased sales to residents. From 2015 to 2019, the number of tidal water licences has remained relatively stable¹. During the 2019/20 and 2020/21 fishing season, the number of recreational licences sold saw a steep decline, likely due to COVID-19 travel restrictions.

¹ <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/Stats/99tocurrent-eng.html>

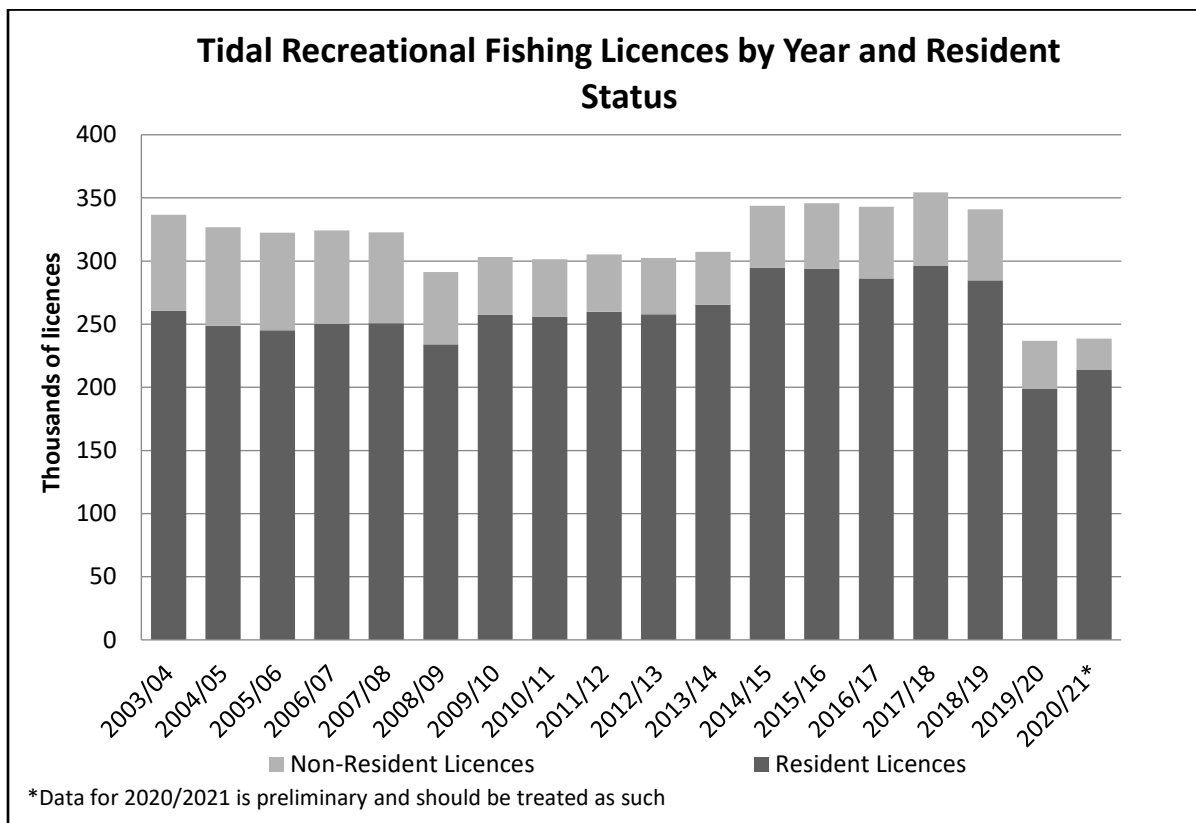


Figure 1. BC Tidal Water Recreational Fishing Licences by Canadian Resident Status, 2003/04-2020/21*. Source: DFO Internal Recreational Licensing data. ²

4.2.2. Economic Contribution

The contribution of the tidal waters recreational fishing sector (all species) to BC’s gross domestic product (GDP)³ in 2016 was estimated at \$422.8 Million in 2016 (the last year for which data is available) having seen an increase in growth of 91.5% since 2000⁴. The data from the 2015 National Survey of Recreational Fishing indicates that groundfish accounted for approximately 27% of total direct fishing expenditures and about 20% of major purchases attributed to fishing in BC.

Determining the contribution of the recreational fishing sector to the economy is complicated, as some, but not all, of the GDP, employment and revenue attributable to the industry is also part of the province’s tourism sector. Tourists are those people who travel 80 kilometres or more from their usual place of residence in order to participate in the activity. While many anglers live near the coast of BC and can participate without

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

³ Gross Domestic Product includes wages to labour, owner profits and earnings, return on capital investments, changes in inventories, and depreciation on capital.

⁴ [BC Stats. BC Fisheries and Aquaculture Sector, 2016 Edition, 2018.](#)

travelling far from home, others must travel to participate in the tidal water recreational fishery and are classified as tourists. Consequently, there is significant overlap in the economic values for the recreational fishing sector and the tourism sector. Approximately 27% of the overall recreational fishing sector’s contribution to GDP is the result of activities not directly related to fishing, but rather includes non-angling activities undertaken by tourist anglers (e.g. visiting a museum).

4.2.3. Social and Cultural Significance

There is a lack of data on the location of recreational fishing sector dependent employment, and thus it is not possible to comment on the social significance of the fishery. However, it is recognized that recreational fishing activities - in particular, providers of fishing packages - often occur in more remote locations, providing important direct and indirect employment opportunities in these communities.

Regional estimates of angler expenditures attributable to groundfish activity illustrate differences between regions (Figure 2). Total expenditures (direct and major purchases) on groundfish represented about 25% of total recreational expenditures (all species).

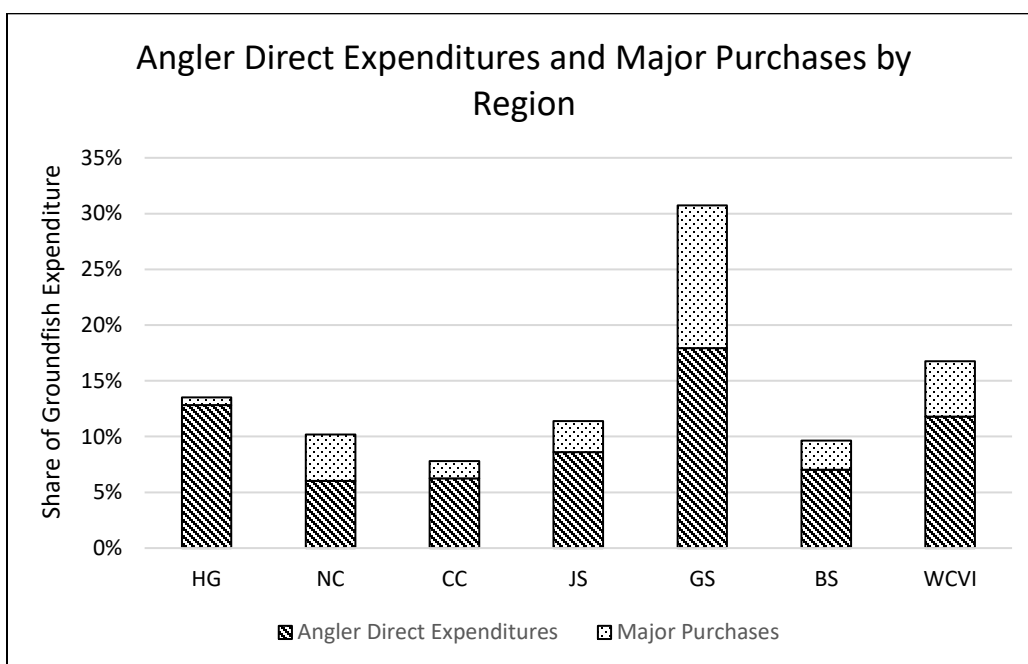


Figure 2. 2015 Angler Direct Expenditures and Major Purchase Expenditures for Groundfish (all groundfish) by Region (millions of 2019 dollars). Source: DFO internal analysis of National Survey of Recreational Fishing (2015).⁵ Note: HG = Haida Gwaii; NC = North Coast; CC = Central Coast; JS = Johnstone Strait; GS = Georgia Strait; BS = Barkley Sound; WCVI = West Coast Vancouver Island.

⁵ Additional information on the history and vision for recreational fisheries can be found in the document "Vision for Recreational Fisheries in BC:" https://sportfishing.bc.ca/wp-content/uploads/2016/12/recreational_fisheries_vision.pdf

4.3. Commercial Fishery

The economic activity generated from the commercial groundfish fishing sector includes harvesting, processing (including export activities) and the retail and distribution sectors. These activities provide benefits to the individual business owners as well as contribute directly and indirectly to the economy through expenditures on labour, supplies and services. This section is not able to address the activities associated with the retail and distribution sectors, which likely understates the economic activity associated with commercial harvest.

4.3.1. Participation

The number of active vessels, and thus presumably crew, involved in the harvest of groundfish has changed between 2010 and 2020. The number of active vessels has fluctuated slightly over the past decade, but ultimately has resulted in a steady decline from 356 vessels to 312 (Figure 3) from 2010 to 2020.

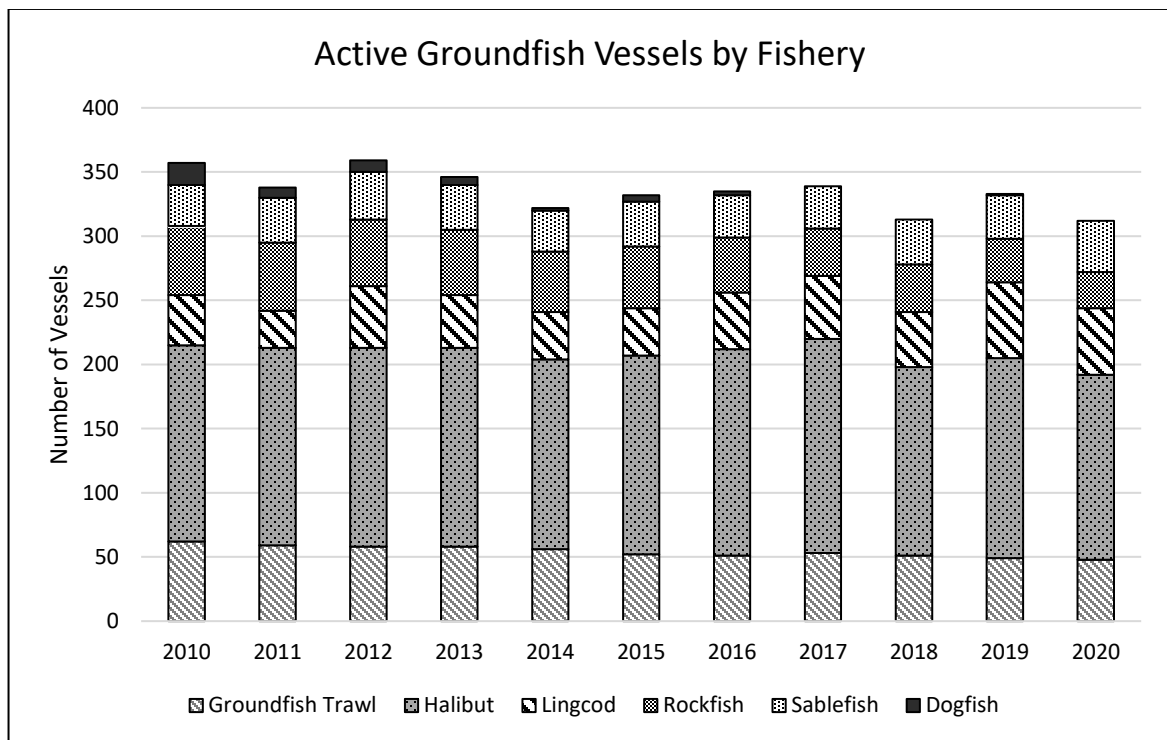


Figure 3. Active Groundfish Vessels by Fishery 2010-2020.

Source: DFO PacFish Database. Note: Some vessels fish multiple fisheries, thus may be represented more than once.

While groundfish vessels operate with between one and six individuals,⁶ it is not possible to estimate the number of unique individuals involved in the harvest of groundfish (e.g.

⁶ Nelson, S. 2011. Pacific Commercial Fishing Fleet: Financial Profiles for 2009. Prepared for Fisheries and Oceans Canada, Pacific Region. June. Pacific Commercial Fishing Fleets Financial Profiles Series, 2011-4. 160pp. Available at: <https://science-catalogue.canada.ca/record=4045420~S6>

owner-operators and hired captains and crew) and a change in the number of active vessels may not be associated with a change in full time equivalent employment.

Figure 4 below shows estimated wages paid out in 2020 by the processing industry to its employees (for select groundfish species). In 2020, hake processing brought the highest total value of wages paid out to groundfish processing sector employees (\$26.7 million). Hake remains one of the most important groundfish export species and the relatively high level of wages paid to the processing sector employees is associated with high volume of landings processed annually for export markets.⁷

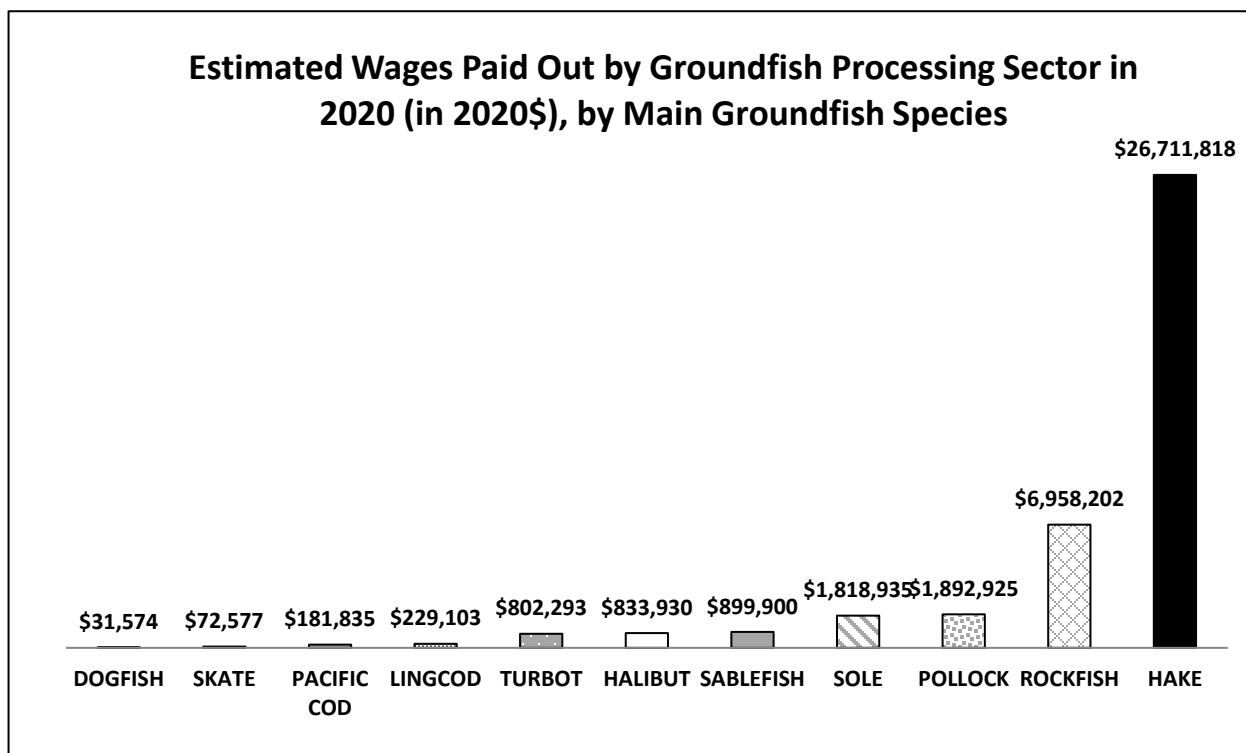


Figure 4. Estimated Wages Paid Out in the Groundfish Processing Sector in 2020 (in 2020\$), by Main Groundfish Species. Source: Dockside Monitoring Program (DMP) landings, sales slip prices and price adjustments based on information provided by GSGislason & Associates Ltd., 2017.

Indigenous participation in commercial groundfish fisheries may occur through communal commercial licences, or as organization (e.g. Commercial Fishing Enterprises) or individual ownership of licences and vessels. Information on individual ownership is not available. Communal commercial licences (F) identify communal Indigenous participation within commercial groundfish fisheries and allow Indigenous communities to designate vessels and individual fishers to carry out the fishing. The ATP and PICFI programs have been used by DFO to acquire commercial groundfish licence eligibilities

⁷ GS Gislason & Associates Ltd, 2017.

(K - Sablefish, L - Halibut, ZN - Rockfish, T - Trawl). The ATP and PICFI programs have also acquired and distributed more than 15.8% of the total Halibut quota, and more than 16.8 % of the Sablefish quota as well as small amounts of quota for most trawl species. In 2021, PICFI allocated groundfish licences and quota in agreements with 21 Commercial Fishing Enterprises.

4.3.2. Economic contribution

In 2020, the groundfish fisheries were the largest component of the fish harvesting sector and were responsible for approximately 79% of all BC wild seafood landings and about 34% of their total value. In terms of the processing labour intensity, in 2016 the groundfish fisheries provided about 49% of all direct processing employment hours.⁸

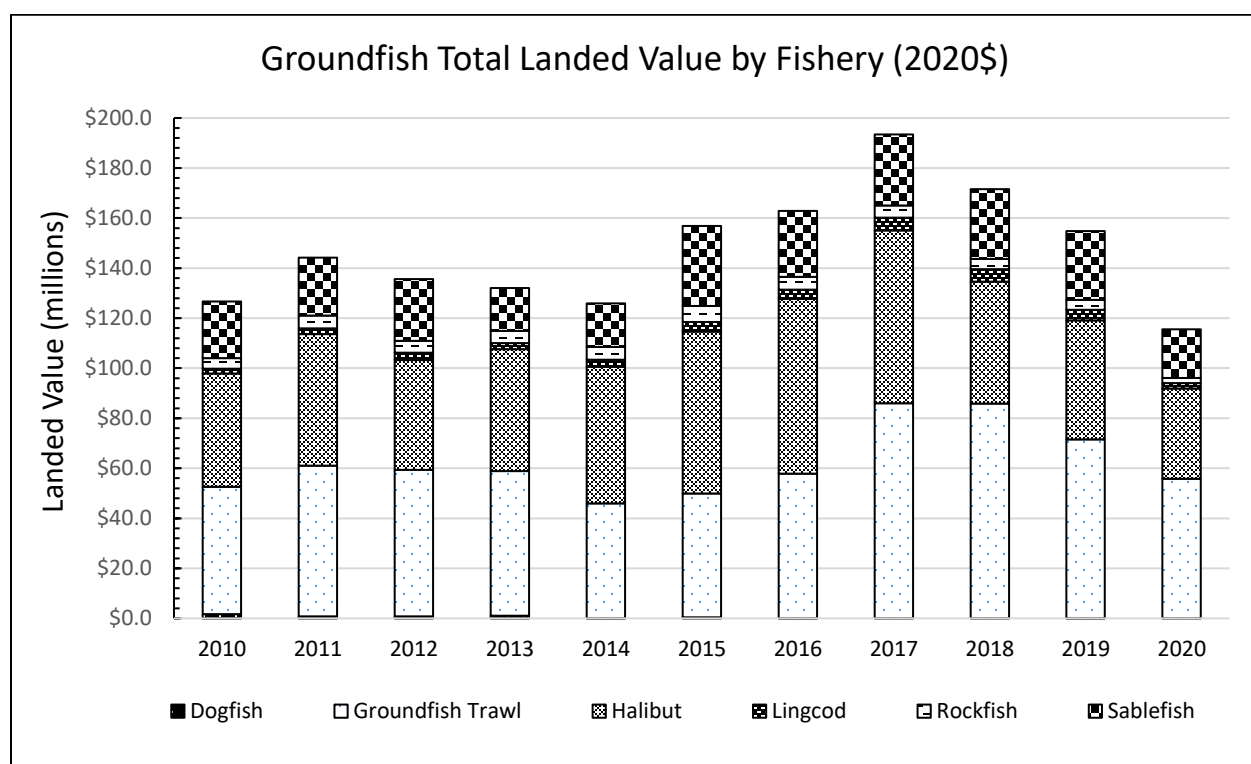


Figure 5. Groundfish Total Landed Value by Fishery 2010-2020 (in 2020\$). Source: The landed volume and value are calculated from the Dockside Monitoring Program landings, Groundfish Fishery Observations System and sales slip prices.

The real landed value of the groundfish fisheries was relatively stable between 2010 and 2013, and then increased by approximately 55% between 2014 and 2017. This increase was largely the result of an increase in prices in 2015 followed by an increase in total

⁸ GSGislason & Associates, August 2017 report and British Columbia Seafood Industry Year in Review. Various years. BC Ministry of Environment: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/statistics/industry-and-sector-profiles/year-in-review/bcseafood_yearinreview_2017.pdf.

landings (in weight) in subsequent years. The landed value of the groundfish peaked in 2017 at \$193.4 million and has since steadily declined to \$115.5 million in 2020. (Figure 5, Figure 6, Table 1).

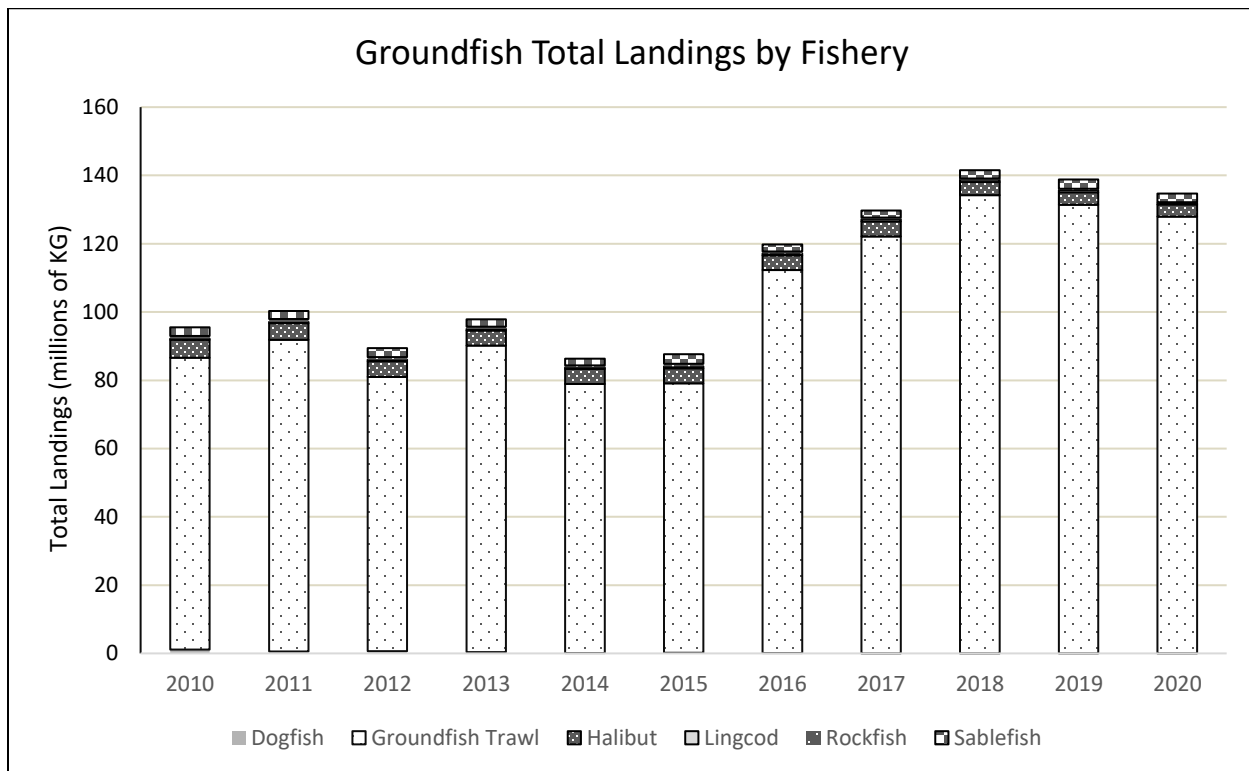


Figure 6. Groundfish Total Landed Volume by Fishery 2010-2020. Source: The landed volume and value are calculated from the Dockside Monitoring Program landings, Groundfish Fishery Observations System and sales slip prices.

The real wholesale value (Figure 7) of the groundfish fishery peaked in 2011. Aside from a short increase between 2014-2016, the fishery has generally seen a decrease in wholesale value since, falling from \$350M in 2011 to \$200M in 2020.

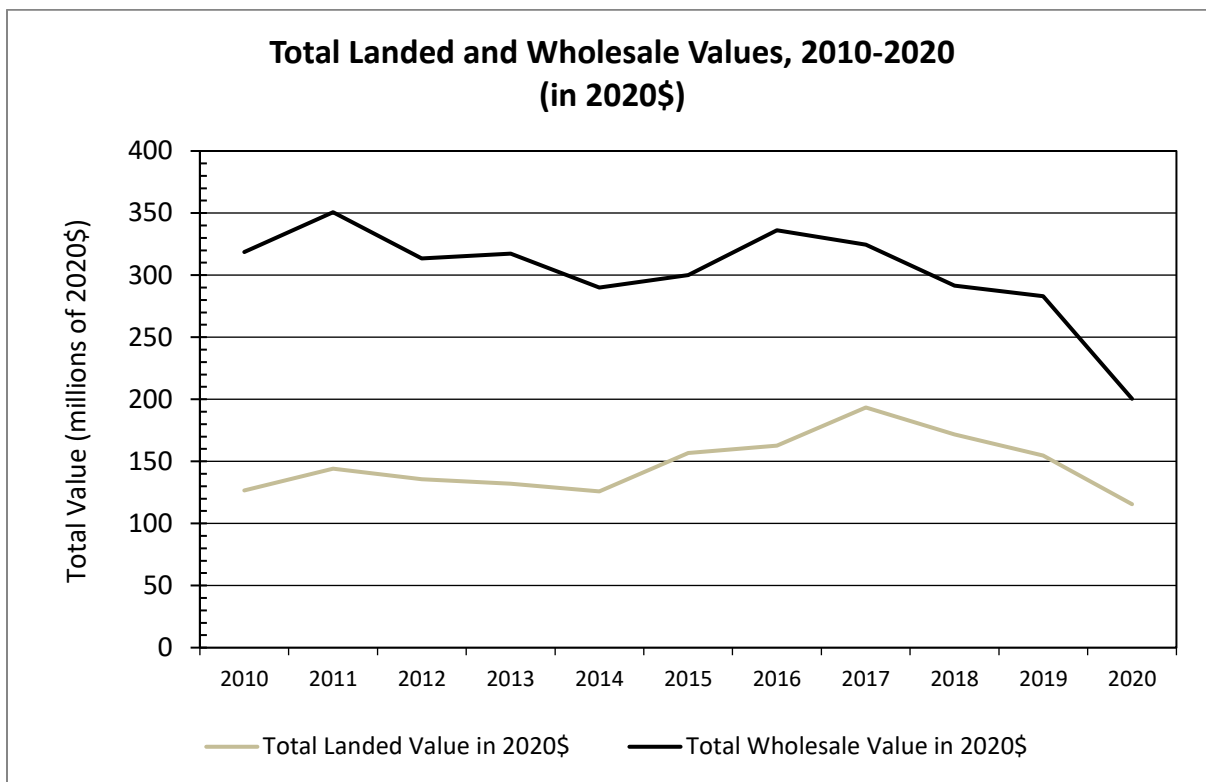


Figure 7. Total Landed and Wholesale Values, 2010-2020 (in 2020\$). Source: DFO Official Catch matched to the best available price from sales slips. Wholesale value from British Columbia Seafood Year in Review 2007-2018. The 2019 and 2020 wholesale value have been estimated based on the average ratio of past landed value to wholesale value.

The value of British Columbia’s groundfish export onto the international market has steadily increased over the years from \$135.6 million in 2010 to \$187.1 million in 2020. The increase in value was mainly due to an increase of the total quantity of groundfish being exported over the years, from 40.5 million KG to 69.2 million KG between 2010 and 2020. However, export prices also played a role, particularly Cod and Halibut prices, which increased from 2010 to 2016.

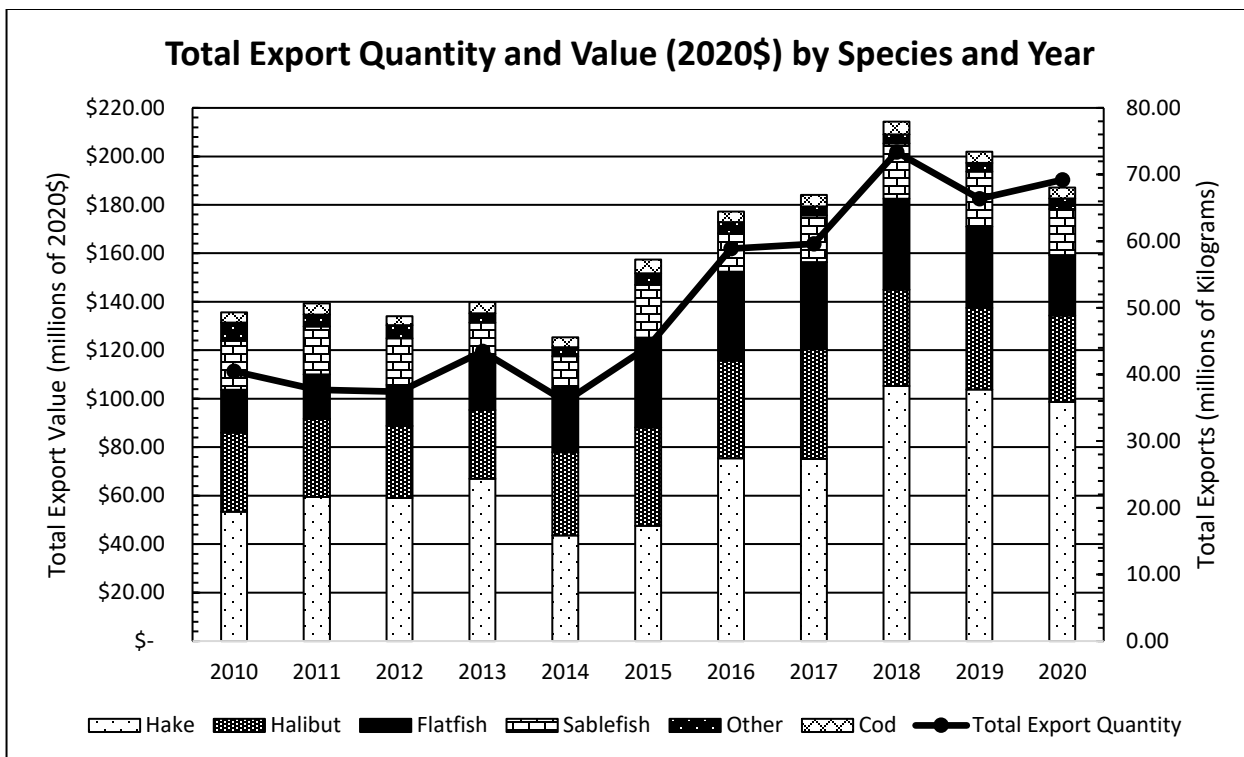


Figure 8. Total Groundfish Exports Quantity and Value by Species and Year, 2010-2020 (in 2020\$). Source: Statistics Canada. EXIM. Accessed October, 2021. Note: Other Groundfish species include Dogfish, Lingcod, Pollock and others.

In August 2014, the Russian Federation imposed an import ban on a range of food products including fish. The ban applied to products from Canada, the United States, Australia, the European Union and Norway. Between 2009 and 2013, groundfish exports from BC to Russia had increased by 104%, with Hake accounting for an average of 98% of the total value.

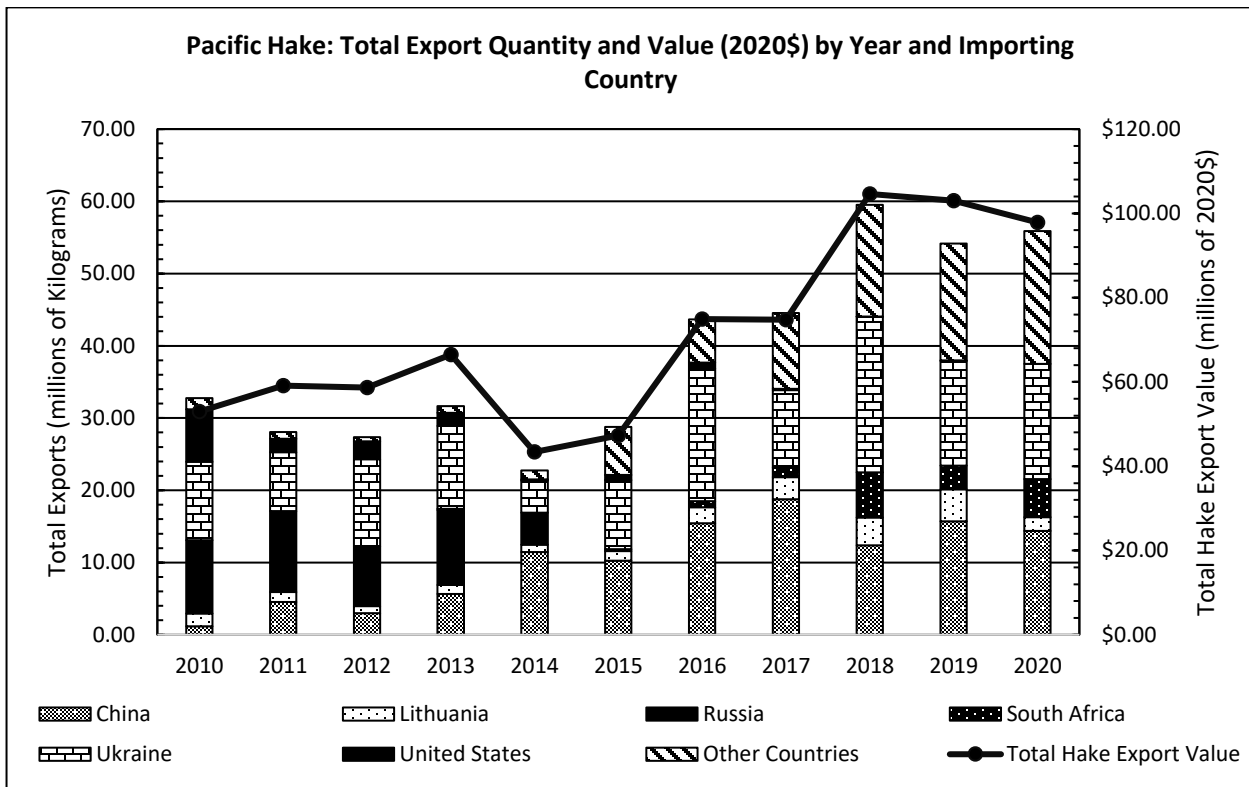


Figure 9. Total Volume of Hake Exports and Total Value of Hake Exports by Importing Country, 2010-2020 (in 2020\$). Source: Statistics Canada. EXIM. Accessed October, 2021.

Many of the commercial groundfish fisheries in BC have been managed using limited access and individual vessel-based quota, in some cases for decades. Integration of the groundfish fleets was formalized in 2009 after being initiated in 2006. Integration allows for a combination of temporary and permanent transfers of quota allocations between licences. In response, fishing vessel owners, including individuals and processors, have developed a range of business strategies that generally include licences in multiple fisheries.

Table 1. Summary of annual number of active vessels, and total annual revenue, by licence type (2015-2020). Total annual revenue in 2020\$.

Trawl						
	2015	2016	2017	2018	2019	2020
Active Vessels (#)	52	51	53	51	49	48
Total Revenue, per fishery in millions of 2020\$	49.51	57.78	86.00	85.84	71.52	55.79
% of total annual groundfish value	32%	36%	45%	51%	46%	48%
Halibut						
	2015	2016	2017	2018	2019	2020
Active Vessels (#)	155	161	167	147	156	144
Total Revenue, per fishery in millions of 2020\$	64.75	69.86	68.99	48.78	47.61	36.13
% of total annual groundfish value	41%	43%	36%	28%	31%	31%
Sablefish						
	2015	2016	2017	2018	2019	2020
Active Vessels (#)	35	33	33	35	34	40
Total Revenue, per fishery in millions of 2020\$	31.99	26.29	28.43	27.98	27.53	19.39
% of total annual groundfish value	20%	16%	14%	16%	18%	17%
Rockfish						
	2015	2016	2017	2018	2019	2020
Active Vessels (#)	52	47	40	39	36	28
Total Revenue, per fishery in millions of 2020\$	6.47	5.14	4.80	4.03	3.89	2.02
% of total annual groundfish value	4%	3%	2%	2%	2%	2%
Lingcod/Dogfish						
	2015	2016	2017	2018	2019	2020
Active Vessels (#)	42	47	49	43	60	52
Total Revenue, per fishery in millions of 2020\$	4.16	3.73	5.20	4.95	4.25	2.18
% of total annual groundfish value	3%	2%	3%	3%	3%	2%

Source: DFO estimates based on Dockside Monitoring Program landings, Groundfish fisheries Observations System and sales slip prices, DFO PacFish Database. Note: In any given year each vessel might fish one or more species as it might hold multiple licences. Also, in any given year a certain number of licences stay inactive.

For Indigenous communities and individuals, participation in commercial groundfish fisheries provides socio-economic benefits from revenues generated by leasing, profits from harvesting and employment-generated income.

4.3.3. Social and Cultural Significance

There is a lack of information on communities of residence for groundfish vessel masters and crew. Consequently, it is not possible to comment of the social significance of the groundfish harvesting sector to BC communities. In the case of processing employment, past work has suggested a strong correlation between the off-loading location of groundfish and processing employments. There are smaller centres for which commercial fishing and fish processing are integral elements of the local economy. In some locations, groundfish represents a significant component of processing employment.⁹

There is a long history of commercial groundfish fishing in British Columbia. This history has been documented by several authors, although the link between current culture and the historical significance is less documented.¹⁰ The commercial Halibut fishery harvested Halibut back to the 1880s, but the harvest was largely marketed in Seattle until the arrival of the railroad.¹¹ From small shipments east in 1888, the fishery grew until it accounted for over 80% of Canadian Halibut landings by the 1940s. Prince Rupert, labelled the “Halibut Capital of the World”, originally shipped via steamships but switched to rail in 1913, with dozens of rail cars of iced Halibut shipped each month.

The trawl fishery began with only a few nets in the early 1900s, with the otter trawl introduced in 1911. Initially most of the harvest was sold locally. The trawl fishery went through a number of periods of growth and decline, with growth during both World Wars. The World War II expansion was based largely on the development of the Dogfish liver oil market. The groundfish fisheries remain part of the BC coast¹², with expanded methods, and provide seafood for domestic and international markets.

5. OTHER GROUND FISH MANAGEMENT ISSUES

5.1. Depleted Species Concerns

5.1.1. Species at Risk

The *Species at Risk Act* (SARA) came into force in 2003. The purposes of the 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”. More information on SARA can be found at <https://www.registrelep-sararegistry.gc.ca>

⁹ Fraser and Associates. 2008. Linkages Between the Primary Fish Production and Fish Processing Sectors in British Columbia: Final phase 2 report. Prepared for the Department of Fisheries and Oceans, Pacific Region. Victoria, British Columbia.

¹⁰ For example: Forester, Joseph E. and Anne D. Forester. 1975. British Columbia’s Commercial Fishing History. Hancock House Publishers Ltd., Saanichton, BC.

¹¹ Forester, Joseph E. and Anne D. Forester. 1975. British Columbia’s Commercial Fishing History. Hancock House Publishers Ltd., Saanichton, BC.

¹² Robson, Peter A. and Michael Skog (editors). 1996. Working the Tides: A Portrait of Canada’s West Coast Fishery. Harbour Publishing, Madeira Park, BC.

In addition to the existing prohibitions under the *Fisheries Act*, under SARA it is illegal to kill, harm, harass, capture, take, possess, collect, buy, sell or trade any listed extirpated, endangered, or threatened animal or any part or derivative of an individual. These prohibitions apply unless a person is authorized, by a permit, licence or other similar document issued in accordance with SARA, to engage in an activity affecting the listed species, any part of its critical habitat or the residences of its individuals. Species listed as special concern are not included in these prohibitions.

Endangered, threatened, and special concern species in the Pacific region currently listed under SARA can be found at <http://www.dfo-mpo.gc.ca/species-especies/index-eng.htm>.

In the Pacific Region, the following SARA-listed species may be encountered in groundfish fisheries:

1. Basking Shark, Pacific population - Endangered
2. Blue Whale, Pacific population – Endangered
3. Bluntnose Sixgill Shark – Special Concern
4. Fin Whale, Pacific population– Threatened
5. Green Sturgeon – Special Concern
6. Grey Whale, Eastern North Pacific population – Special Concern
7. Harbour Porpoise, Pacific Ocean population – Special Concern
8. Humpback Whale, North Pacific population – Special Concern
9. Killer Whale, Northeast Pacific northern resident population – Threatened
10. Killer Whale, Northeast Pacific offshore population – Threatened
11. Killer Whale, Northeast Pacific southern resident population – Endangered
12. Killer Whale, Northeast Pacific transient population – Threatened
13. Leatherback Sea Turtle – Endangered
14. Longspine Thornyhead – Special Concern
15. North Pacific Right Whale – Endangered
16. Rougheye Rockfish Types I & II – Special Concern
17. Sea Otter – Special Concern
18. Sei Whale, Pacific population – Endangered
19. Steller Sea Lion – Special Concern
20. Tope (Soupfin) Shark – Special Concern
21. Yelloweye Rockfish, Pacific Ocean inside waters and outside waters populations – Special Concern

Additional marine species, including marine or anadromous species of fish designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) that are currently under consideration for listing under SARA include:

- Bocaccio Rockfish – Endangered
- Darkblotched Rockfish – Special Concern
- Quillback Rockfish – Threatened
- Yelloweye Rockfish, Outside Population – Threatened

- Yelloweye Rockfish, Inside Population – Threatened
- North Pacific Spiny Dogfish – Special Concern
- Eulachon, Fraser River Population – Endangered
- Eulachon, Central Pacific Coast Population – Endangered
- Eulachon, Nass/Skeena Population – Special Concern
- Grey Whale, Pacific Coast Feeding Group population – Endangered
- Grey Whale, Western Pacific population - Endangered
- Northern Fur Seal – Threatened
- Steelhead Trout
 - Chilcotin River DU – Endangered
 - Thompson River DU - Endangered
- Sockeye Salmon – Sakinaw DU – Endangered
- Fraser Sockeye Salmon
 - Bowron-ES DU – Endangered
 - Cultus-L DU – Endangered
 - Francois-Fraser-S DU – Special Concern
 - Harrison D/S-L DU – Special Concern
 - Harrison U/S-L DU – Endangered
 - Kamloops-ES DU – Special Concern
 - Lillooet-Harrison-L DU – Special Concern
 - Nahatlatch-ES DU – Special Concern
 - North Barriere-ES DU – Threatened
 - Quesnel-S DU – Endangered
 - Seton-L DU – Endangered
 - Takla-Trembleur-ES DU – Endangered
 - Takla-Trembleur-Stuart-S DU - Endangered
 - Taseko-ES DU – Endangered
 - Widgeon River-Type DU – Threatened
- Coho Salmon – Interior Fraser DU – Threatened
- Chinook Salmon – Okanagan DU – Endangere
- Southern BC Chinook Salmon
 - East Vancouver Island, Stream, Spring population – Endangered
 - Lower Fraser, Ocean, Fall population – Threatened
 - Lower Fraser Ocean Summer DU – Endangered
 - Lower Fraser, Stream, Spring population – Special Concern
 - Lower Fraser, Stream, Summer (Upper Pitt) population – Endangered
 - Lower Fraser, Stream, Summer population – Threatened
 - Middle Fraser, Stream, Fall population – Endangered
 - Middle Fraser, Stream, Summer population - Threatened
 - Middle Fraser, Stream, Spring (MFR+GStr) population – Threatened
 - Middle Fraser, Stream, Spring population – Endangered
 - North Thompson, Stream, Spring population – Endangered
 - North Thompson, Stream, Summer population – Endangered
 - South Thompson, Stream, Summer 1.2 population – Endangered
 - Upper Fraser, Steam, Spring population – Endangered
 - Southern Mainland-Boundary Bay Ocean Fall – Threatened

- Lower Fraser Ocean Summer - Endangered
- South Thompson Stream Summer 1.3 - Endangered
- Lower Thompson Stream Spring - Endangered
- East Vancouver Island Ocean Summer - Endangered
- East Vancouver Island Ocean Fall – Special Concern
- East Vancouver Island Ocean Summer DU – Endangered
- East Vancouver Island Ocean Fall DU – Special Concern
- West Vancouver Island Ocean Fall (South) - Threatened
- West Vancouver Island Ocean Fall (Nootka&Kyuquot) - Threatened

A species identification guide for Rockfish can be found here: <https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/identify-identifie-eng.html>

A species guide to distinguish between White and Green Sturgeon can be found here: <https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/identify-identifie-eng.html>

5.1.2. Shark Codes of Conduct

Of the fourteen shark species in Canadian Pacific waters, three are listed under SARA (see above). The Basking Shark (*Cetorhinus maximus*) is listed as Endangered, and the Bluntnose Sixgill Shark (*Hexanchus griseus*) and Tope Shark (*Galeorhinus galeus*) are species of Special Concern. In Canadian waters, the primary threats to these SARA-listed shark species have been identified as bycatch and entanglement. In order to address the conservation concerns with shark species, it is important that measures are taken to reduce the mortality of sharks resulting from these primary threats. As such, commercial fishing licences have been amended to include a Condition of Licence for Basking Sharks that specifies mitigation measures in accordance with SARA permit requirements.

Additionally, two 'Code of Conduct for Shark Encounters' documents have been developed to reduce the mortality of Basking Shark, as well as other Canadian Pacific shark species such as Bluntnose Sixgill and Tope Shark resulting from entanglement and bycatch in commercial, aquaculture, and recreational fisheries. These guidelines include boat handling procedures during visual encounters with Basking Sharks, as well as best practices for handling Canadian Pacific shark species during entanglement encounters. These documents have been posted online and can be found at the following URL links.

Code of Conduct for Basking Sharks:

<https://dfo-mpo.gc.ca/species-especies/publications/sharks/coc/coc-basking/index-eng.html>

Code of Conduct for Sharks:

<http://dfo-mpo.gc.ca/species-especies/publications/sharks/coc/coc-sharks/index-eng.html>

Industry has taken additional steps that complement these Codes of Conduct. The retention of sharks, other than North Pacific Spiny Dogfish, is prohibited in the Groundfish Hook and Line fisheries. Since the 2012/2013 season, the Groundfish trawl industry, in support of Fisheries and Oceans Canada's increased conservation efforts for

some elasmobranchs (particularly SARA-listed species), has supported a prohibition on the selling and retention of Pacific Basking Shark, Tope (Soupfin) Shark, and Bluntnose Sixgill Shark. DFO has also introduced a prohibition on shark finning. See harvest plan appendices for further details.

Most current encounters of these and other shark species are not targeted, and the groundfish trawl industry has worked with the Department to develop practical measures and protocols that may minimize encounters and mortality. These protocols can be found in the Groundfish Trawl Harvest Plan, which is Appendix 8 to this document.

5.1.3. Marine Mammal, Leatherback Sea Turtle and Basking Shark Sightings

The Department appreciates your assistance in tracking the sightings of live cetaceans (whales, dolphins and porpoises), sea turtles and Basking Sharks. While there are many whale species found in Pacific Canadian waters, sightings of Basking Shark and Leatherback Sea Turtles are infrequent. The collection of sighting data is useful to scientists in determining population size and species distribution and aids in recovery efforts under the Species at Risk Act (SARA).

To report whale or turtle sightings contact the BC Cetacean Sighting Network:

Toll free: 1.866.I.SAW.ONE (1-866-472-9663)

Email: sightings@ocean.org

Website: <http://wildwhales.org/>

App : WhaleReport

To report basking shark sightings contact the Basking Shark Sightings Network:

Toll free: 1-877-50-SHARK (1-877-507-4275)

Email: BaskingShark@dfo-mpo.gc.ca,

Website: www.pac.dfo-mpo.gc.ca/SharkSightings

Species identification guides for Sharks are available at <https://waves-vagues.dfo-mpo.gc.ca/Library/40757067.pdf>.

Guides to distinguish between pinnipeds, emphasizing differences between Steller and California Sea Lions can be found here: https://wildwhales.org/wp-content/uploads/2020/08/BCCSN_IDGuide_Pinniped_email.pdf, and between Sea and River Otters: https://wildwhales.org/wp-content/uploads/2020/05/BCCSN_IDGuide_Otters_vertical_4.pdf

Best practices to reduce entanglement and reporting an incident: <http://dev-public.rhq.pac.dfo-mpo.gc.ca/whales-baleines/docs/entanglements-empetrements-pub-eng.html>

Information on approach distances from Marine Mammal Regulations can be found here: <https://science-catalogue.canada.ca/record=4095974~S6>

5.1.4. Marine Mammal Incident Reporting Hotline

The Department is responsible for assisting marine mammals and sea turtles in distress. If your vessel strikes a whale, or if you observe an entangled, sick, injured, distressed, or dead marine mammal in B.C. waters, please contact the B.C. Marine Mammal Response Network Incident Reporting Hotline immediately:

1-800-465-4336 OR VHF CHANNEL 16

What to report:

- Your name and contact information
- Date and time of incident
- Species
- Animal alive/dead (animal condition)
- Nature of injury and supporting details (if possible)
- Location: Latitude/Longitude coordinates, landmarks
- Pictures/Video taken



5.1.5. Whale Depredation

Depredation (the removal of fish from fishing gear) by killer whales and sperm whales has been reported in the groundfish longline fishery in British Columbia and Alaska.

Depredation is a learned behaviour that can spread throughout whale social groups and once established is impossible to eliminate. It is critical that harvesters do not encourage this learning by allowing whales to associate obtaining fish with fishing activity; encouraging this behaviour will quickly lead to significant losses for harvesters. Depredation in commercial fisheries can also lead to increased likelihood of entanglement or injury to marine mammals.

The most important approach to prevent this from spreading is by NOT feeding whales directly or indirectly and not hauling gear in the vicinity of killer whales and sperm whales. It is prohibited to approach marine mammals to feed or attempt to feed them under s.7 of the *Marine Mammal Regulations*. Typically killer whales pass quickly through an area allowing fishing to resume. It is also recommended that you advise other fish harvesters in the area if you encounter depredation. Additional tips on avoiding depredation events can be found in the DFO Marine Mammal Bulletin #2: <http://www.pac.dfo-mpo.gc.ca/publications/marinemammals/depredation-4-2010-eng.pdf>

A useful depredation handout can be found at the BC Cetacean Sightings Network website: <https://wildwhales.org/threats/depredation/>

If you experience depredation by whales, please report the incident by email MarineMammals@pac.dfo-mpo.gc.ca or by calling (604) 666 9965. Reporting all incidents will assist DFO managers and fish harvesters in understanding this problem and help in developing strategies to avoid it.

5.1.6. Southern Resident Killer Whales - Management Measures to Address Reduced Prey Availability, and Physical and Acoustic Disturbance

The Government of Canada is taking important steps to protect and recover the Southern Resident Killer Whale population, in keeping with direction provided in *Species at Risk Act* (SARA) recovery documents. In May 2018, the Minister of Fisheries and Oceans and Minister of Environment and Climate Change determined the Southern Resident Killer Whale population faces imminent threats to its survival and recovery. Given the status of the population and ongoing threats to Southern Resident Killer Whale recovery, DFO implemented a number of measures from 2018 to 2021, including measures aimed at increasing prey availability and accessibility for Southern Resident Killer Whales - particularly Chinook salmon—and reducing threats related to physical and acoustic disturbance in key foraging areas.

Since 2018, Indigenous groups, the Indigenous and Multi-Stakeholder Advisory Group, Technical Working Groups and stakeholders have provided recommendations and feedback to Ministers and Departments on a range of measures (including measures related to increasing prey availability, sanctuaries, vessel disturbance [both noise and physical disturbance], and contaminants) to support Southern Resident Killer Whale recovery.

For the 2022 fishing season, the Department intends for actions for the 2022 season be implemented to coincide with the return of Southern Resident Killer Whales in typically greater numbers to Canadian Pacific waters.

The fishery management measures for the [2022 season](#) include Interim Sanctuary Zones in portions of Swiftsure Bank and off the coasts North Pender Island and Saturna Island prohibiting vessels from entering and fishing within their boundaries (with some exceptions) from June 1 to November 30, 2022.

These closures do not apply to individuals or vessels being used to fish for food, social or ceremonial purposes, or for domestic purposes pursuant to a treaty, under a license issued under the Aboriginal Communal Fishing License Regulations.

To address vessel disturbance in the presence of whales, a mandatory 400-metre vessel approach distance for all killer whales was put in place, and remains in effect until May 31, 2022 in southern BC coastal waters between Campbell River and just north of Ucluelet. The *Marine Mammal Regulations* apply year-round, and require maintaining a minimum 200 metre approach distance from all killer whales in Canadian Pacific waters other than those described above, and, 100 metres for other whales, porpoises and dolphins or 200 metres when the animal is in resting position or with a calf.

The Government of Canada is asking vessel operators to respect the following voluntary measures:

- Stop fishing (do not haul gear) within 1,000 metres of killer whales and let them pass;
- Reduce speed to less than 7 knots when within 1000m of the nearest marine mammal

- When safe to do so, turn off echo sounders and fish finders
- Place engine in neutral idle and allow animals to pass if your vessel is not in compliance with the approach distance regulations
- For more information on the best ways to help whales while on the water, when on both sides of the border, please visit: bewhalewise.org

For information regarding the Southern Resident Killer Whale management measures to support recovery, please contact the Marine Mammal Team (DFO.SRKW-ERS.MPO@dfo-mpo.gc.ca) or visit (<https://www.canada.ca/southern-resident-killer-whales>).

5.1.7. U.S. Marine Mammal Protection Act Provisions

In 2016, the U.S. published new regulations (80 FR 54390) pursuant to the *Marine Mammal Protection Act* which focus on the reduction of marine mammal bycatch in foreign commercial fishing operations. Under these regulations, harvesting nations intending to continue to export fish and fish products to the USA after January 1, 2023, must apply to the U.S. National Oceanic and Atmospheric Administration (NOAA) for a comparability finding for each of its commercial fisheries listed in the US List of Foreign Fisheries. The harvesting nation must demonstrate: 1) the prohibition of intentional mortality or serious injury of marine mammals in the course of commercial fishing operations; and 2) the implementation of a regulatory program comparable in effectiveness to the US, including mandatory reporting of marine mammal bycatch, monitoring programs and management/mitigation measures where appropriate.

Depending on information provided, foreign commercial fisheries that export fish and fish products to the United States can be classified as either “export” or “exempt” based on the frequency and likelihood of incidental mortality and serious injury of marine mammals.

DFO will continue to share information about the U.S. *Marine Mammal Protection Act* Import Provisions and the process for ensuring continued access to US markets. Further information can be found on the NOAA website, or by contacting the Regional Fisheries Coordinator or the DFO Marine Mammal Unit (MMU) (Contact: Lee Harber, Marine Mammal Advisor; Lee.Harber@dfo-mpo.gc.ca).

5.1.8. Rockfish Conservation Areas

There are 162 Rockfish Conservation Areas (RCAs) in British Columbia, covering roughly 4,350km² of the Canadian Pacific Coast. These areas are closed to a range of recreational and commercial fisheries to protect inshore rockfish and their habitat.

DFO is currently undertaking a multi-year review of the conservation effectiveness of RCAs, including meeting the national criteria and standards for marine refuges to better conserve sensitive areas and contribute towards Canada’s Marine Conservation Targets (MCT). To meet these standards, the risks to inshore rockfish, their habitat, and benthic communities will need to be avoided or mitigated. Peer-reviewed science advice also recommends that boundary changes to some RCAs will improve their spatial design by better capturing rockfish habitat features.

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

5.1.9. Bocaccio and Yelloweye Rockfish Rebuilding Plans

Based on science advice and DFO's policy document "Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework", the Department has established rebuilding plans for Bocaccio and Yelloweye Rockfish (Outside and Inside populations). The rebuilding plans, described in Appendix 9 of this IFMP, define rebuilding objectives and management measures to achieve those objectives. The rebuilding plans account for Indigenous fishing opportunities.

The Department has worked with fishing interests to develop measures that will reduce mortality and enable stock rebuilding. Please refer to Appendix 9, the harvest plans in the appendices of this IFMP, and relevant conditions of licence for further information on the measures being undertaken. Through the process of regular evaluation of the rebuilding plans, science advice on stock status and rebuilding strategies for Bocaccio and the Outside Yelloweye Rockfish population was peer-reviewed in autumn 2019 and published in 2020. Updated science advice for the Inside Yelloweye Rockfish stock was peer reviewed in the spring of 2020.

Science advice for both stocks of Yelloweye Rockfish sought to develop an adaptive, feedback-based framework for evaluating candidate management procedures against the rebuilding objectives. While the advice successfully developed stock assessment approaches and evaluated management measures against rebuilding objectives, further discussions with stakeholders and Indigenous groups are planned for 2022/23 to defined target biomass for the outside Yelloweye Rockfish stock given that the current conservation objectives of growing the stocks above the LRP have already been satisfied.

5.2. Oceans and Habitat Considerations

5.2.1. Oceans Act

The *Oceans Act* provides a foundation for an integrated and balanced national oceans policy framework supported by regional management and implementation strategies. The *Oceans Act* was amended in May 2019 to include interim protection measures, time limits for establishment, the precautionary principle, and to strengthen enforcement powers.

The *Oceans Act*, the *Canada Wildlife Act*, and the *National Marine Conservation Areas Act* have given rise to several initiatives on the BC 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. Other important mandate commitments that inform the implementation of spatial marine conservation efforts include the considerations under the *Fisheries Act*, Sustainable Fisheries Policy suite, and mandate commitments to the Blue Economy Strategy and Reconciliation with First Nations.

For more information on the *Oceans Act*, please visit the following site: <http://www.dfo-mpo.gc.ca/oceans/index-eng.html>

5.2.1.1. Canada's Marine and Coastal Areas Conservation Mandate

In August 2019, the Government of Canada surpassed its milestone of protecting 10% of Canada's marine and coastal areas by 2020, a target which is a reflection of Canada's United Nation Convention on Biological Diversity Aichi Targets commitments, collectively referred to as Canada's marine conservation targets. While many of these sites restrict some fishing activities, few prohibit all fishing activities. A list of the sites that count towards Canada's marine conservation targets can be found here:

<https://www.dfo-mpo.gc.ca/oceans/conservation/areas-zones/index-eng.html#MCTtable>

The Government of Canada further committed domestically to protecting 25% by 2025, and working towards 30% by 2030. More information on the background and drivers for Canada's marine conservation targets is available at: <http://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html>

To meet its marine conservation target, Canada is establishing Marine Protected Areas (MPAs) and other effective area-based conservation measures (other measures), in consultation with industry, non-governmental organizations, and other interested parties. An overview of these tools, including a description of the role of fisheries management measures that qualify as other measures is available at: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm-aoi-si-eng.html>

5.2.1.2. Pacific North Coast Integrated Management Area (PNCIMA)

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

The endorsement of the PNCIMA plan supports the Government of Canada's commitment to collaborative oceans management for the Pacific North Coast and provides a joint federal-provincial-First Nations planning framework for conservation and the management of human activities in the Pacific North Coast. One of the key priorities for the plan is the development of a marine protected area network.

The Pacific North Coast Integrated Management Area Plan is available at:
<https://www.dfo-mpo.gc.ca/oceans/management-gestion/index-eng.html>

5.2.1.3. Northern Shelf Bioregion Marine Protected Area Network

The Government of Canada, the Province of BC and 18 First Nations are working together to develop a Network of marine protected areas for the Northern Shelf Bioregion which extends from the top of Vancouver Island (Quadra Island/Bute Inlet) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as the Pacific North Coast Integrated Management Area. The planning process is being developed under the policy direction outlined in the National Framework for Canada's Network of MPAs, the Canada-British Columbia MPA Network Strategy, and is informed by previously developed First Nation marine plans. Considerations are underway with respect to next steps for the process, including timelines for consultation and engagement. The Department will share more information as it becomes available, anticipated later in 2022. More information on MPA Network Planning is available at:
<http://www.mpanetwork.ca>

5.2.1.4. Southern BC Marine Spatial Planning South

As part of a national marine spatial planning initiative, DFO is in pre-planning phase, collaborating with Indigenous groups and organizations, the Province of BC, and other federal departments (Transport Canada, Natural Resources Canada, Environment and Climate Change Canada, Parks Canada and others), to gather information and data relevant to a marine spatial planning process in southern BC, which includes the Strait of Georgia and Southern Shelf bioregions. The concept of marine spatial planning is to improve coordination across jurisdictions and activities in the marine space. Deliverables by 2023 include: recommendations for a trilateral governance model/approach, a Marine Atlas (working draft), and a Framework to inform future planning phases, including the development of a marine spatial plan. Harvesters can expect updates on this process in the future.

5.2.1.5. Marine Protected Areas (MPAs)

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

MPA regulations and management plans articulate any restrictions on activities taking place within the MPA, where applicable. More information on MPAs can be found at:
<http://www.dfo-mpo.gc.ca/oceans/conservation/areas-zones/index-eng.html>

5.2.1.5.1. Endeavour Hydrothermal Vents (EHV) MPA

The Endeavour Hydrothermal Vents Marine Protected Area (EHV MPA) was designated in 2003 with the objective of conserving the unique hydrothermal vent ecosystems. The

hydrothermal vents lie in waters 2,250 m deep 250 km southeast of Vancouver Island. For more information on the EHV MPA—including maps, boundaries, and restrictions to other fisheries or human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/endeavour/index-eng.html>.

5.2.1.5.2. SGaan Kinghlas-Bowie Seamount MPA

The SGaan Kinghlas – Bowie Seamount Marine Protected Area (SK-B MPA) was designated under the *Oceans Act* in 2008 and was established to conserve and protect the unique biodiversity and biological productivity of the area’s marine ecosystem. The SK-B MPA is cooperatively managed by DFO and the Council of the Haida Nation (CHN) through the SK-B Management Board, and the SK-B MPA Management Plan guides the conservation and protection of the MPA. The SK-B MPA is closed to all bottom-contact fishing activities. For more information on the SK-B MPA—including maps, boundaries, and restrictions to other fisheries or human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html>.

5.2.1.5.3. Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA

The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Marine Protected Area (Hecate MPA) was designated under the *Oceans Act* in February 2017 to conserve the biological diversity, structural habitat and ecosystem function of four glass sponge reefs off the coast of British Columbia. The Hecate MPA protects rare glass sponges from human activities that may break their silica (glass) structure, or may result in smothering through increased suspended sediment. Under the Hecate MPA Regulations, human activities are regulated/managed using three different management zone types:

- I. Core Protection Zones (CPZs) include the seabed and waters surrounding the glass sponge reefs. CPZs extend from the seabed to depths (below the sea surface) that vary depending on the Reef ; 100 m in Northern Reef, 120 m in the Central Reefs, 146 m in the Southern Reef). The CPZs also include the subsoil to a depth of 20 m below the seabed. CPZs are closed to anchoring and all fishing.
- II. Vertical Adaptive Management Zones (VAMZs) include water columns immediately above the CPZs, and each extends from that boundary to the sea surface. The VAMZs are closed to all commercial activities for groundfish.
- III. Adaptive Management Zones (AMZs) consist of the seabed, subsoil, and waters of the Hecate MPA that are not a part of the CPZs or VAMZs. The AMZs are closed to all commercial trawling and bottom-contact fishing activities for groundfish.

For more information on the Hecate MPA—including restrictions to other fisheries and human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html>.

5.2.1.5.4. Offshore Pacific Area of Interest & Fishery Closure

In May 2017, DFO announced the new Pacific Offshore Area of Interest (AOI) with the intention of making it one of Canada's largest Marine Protected Areas (MPAs) by 2022. The proposed MPA will provide protection to ecologically and biologically significant seamount and hydrothermal vent features within the Offshore Pacific Bioregion. Although the AOI has not yet been designated as an MPA, much of it is protected under the Offshore Pacific Seamounts and Vents Closure (Offshore Fishery Closure). For more information on the Offshore Fishery Closure—including maps, boundaries and restrictions to other fisheries—please visit: <https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/offshore-hauturiere-eng.html>.

5.2.1.6. National Marine Conservation Area Reserves (NMCARs)

5.2.1.6.1. Gwaii Haanas

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

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

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

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

The final zoning plan includes several areas of strict protection, where commercial and recreational fishing are prohibited. The zoning plan can be found at: <https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/%20info/%20consultations/gestion-management-2018>.

Refer to Fishery Notice 0536, released June 13, 2019 for a detailed description of the Strict Protection Zones and can be found at: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all

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

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

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

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

5.2.1.6.2. Southern Strait of Georgia National Marine Conservation Area Reserve

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. Parks Canada consultations on the feasibility assessment are ongoing. If the results of the feasibility assessment indicate that establishment of a NMCAR is practical and feasible, an establishment agreement between the Governments of Canada and British Columbia will be negotiated and an interim management plan

developed. If the NMCAR is determined to be feasible, further consultations related to establishment agreements and Indigenous rights will also take place with First Nations. Commercial and recreational fishing sectors, communities, landowners, recreation and environmental organizations and other stakeholders will also have opportunities to provide input to the development of the interim management plan.

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

5.2.1.6.3. Scott Islands Marine National Wildlife Area

The Scott Islands Marine National Wildlife Area (mNWA) is the first protected marine area established by Environment and Climate Change Canada (ECCC) under the *Canada Wildlife Act*. In support of the conservation objectives of the Scott Islands mNWA, DFO is consulting on new regulations under the Fisheries Act to restrict certain fisheries that pose a risk to seabirds. A Notice of Intent was published in Canada Gazette Part 1 in June 2018 indicating the proposed regulations would prohibit fishing for three key forage fish species that serve as a key food source for seabirds (Pacific sand lance, Pacific saury, and North Pacific krill) as well as groundfish bottom trawling (in portions of the mNWA consistent with existing commercial closures). The anticipated pre-publishing of the regulations in Canada Gazette 1 is expected to occur in 2022.

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

More information on the Scott Islands marine NWA can be found at: <https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/locations/scott-islands-marine.html>

The Scott Islands Protected Marine Area Regulations can be found at: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-119/index.html>

5.2.1.7. Strait of Georgia and Howe Sound Glass Sponge Reef Marine Refuges

17 marine refuges were established between 2016 and 2019 under the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative, which aims to protect glass sponge reefs from all bottom-contact fishing activities in alignment with DFO's Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas. All commercial, recreational and Indigenous Food, Social and Ceremonial (FSC) bottom-contact fishing activities for prawn, shrimp, crab and groundfish, are prohibited within the 17 marine refuges as well as the use of downrigger gear for recreational salmon trolling (restricted via Condition of Licence) are prohibited within the 17 marine refuges within Subareas 28-2 and 28-4 to protect Howe Sound glass sponge reefs. Prohibited fishing activities include:

- prawn and crab by trap;
- shrimp and groundfish by trawl;
- groundfish by hook and line; and

- use of downrigger gear in recreational salmon trolling.

In 2020, a DFO Canadian Science Advisory Secretariat publication confirmed the presence of five additional live sponge reefs and one dead reef in Howe Sound. As glass sponge reefs are slow growing and vulnerable to physical disturbances, the report suggested the reefs be closed to bottom-contact fishing. Between September 2020 and February 2021, DFO officials undertook consultation and engagement on proposed commercial and recreational and Indigenous FSC closures to invertebrate trap, groundfish trawl, groundfish hook and line, and the use of downriggers within the new sites with the aim of establishing marine refuges. Commercial and recreational bottom-contact fishery closures went into effect on January 17, 2022 within the five sites in portions of Subareas 28-1, 28-2 and 28-3 to protect these five additional Howe Sound glass sponge reefs. The use of downrigger gear in recreational salmon trolling will also be prohibited within the five sites and at one existing site (Queen Charlotte Channel) via a Condition of Licence, which will come into effect on April 1, 2022.

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

A description of the closures is provided on the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative website, here: <https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/closures-fermetures-eng.html>

5.2.1.8. Ghost Gear Initiative

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

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

- Canada committed to accelerating the implementation of the 2015 Oceans Plastics Charter; and,
- Strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.

These commitments were further strengthened in the Canada-Wide Action Plan on Zero Plastic Waste Phase 2 developed by the Canadian Council of Ministers of the Environment, available from: <https://ccme.ca/en/current-activities/waste>.

Conditions of Licence to Report Lost and Retrieved Gear

In the spring of 2020, it became a mandatory condition of licence for commercial harvesters to report lost and retrieved fishing gear. While the Department is taking a stewardship approach to ghost gear and working with harvesters to reduce the effects of

ghost fishing, the inclusion of the reporting requirement as a condition of licence means that not reporting lost and/or retrieved gear is now a chargeable offence. Lost gear can be reported through the online Fishing Gear Reporting System, available at: <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html>.

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

2020-2022, the DFO Ghost Gear Fund has provided over \$18 million in funding to projects falling under four pillars of activity:

- Abandoned, lost or otherwise discarded fishing gear (ALDFG) retrieval
- Responsible disposal
- Acquisition and piloting of currently available innovative technologies
- International leadership

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

5.2.1.9. Cold-Water Coral and Sponge Conservation Strategy

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

5.2.2. Habitat and Coral Protection Measures in the Groundfish Trawl Fishery

In 2012, the Canadian Groundfish Research and Conservation Society (on behalf of the British Columbia commercial groundfish trawl industry) and the Pacific Marine Conservation Caucus agreed to innovative management measures that restricted trawl fishing to provide protection of coral and sponge habitat off the west coast of Canada.

The objectives were:

- To reduce and manage the catch of corals and sponges by the British Columbia groundfish bottom trawl fishery;
- To reduce the impact of the British Columbia groundfish bottom trawl fishery on low energy and low productivity environments in deep waters off of the west coast of British Columbia;
- To ensure that the British Columbia groundfish bottom trawl fishery does not disproportionately affect any one particular benthic habitat type;

- To ensure that the British Columbia groundfish bottom trawl fishery is restricted to areas previously trawled between 1996-2011; and
- To improve the performance of the British Columbia groundfish bottom trawl fishery against habitat criteria used to evaluate the sustainability of fisheries.

Specific management measures adopted include:

- Freezing the footprint of groundfish bottom trawl activities;
- Establishing a combined habitat by-catch conservation limit (HBCL) for coral and sponges;
- Allocating the HBCL among groundfish trawl licence holders and allow for transferability within specified vessel caps with the groundfish trawl fleet; and
- The establishment of an encounter protocol for trawl tows where combined coral and sponge catch exceeds 20 kg in a single tow.

The Department accepted these management measures and implemented them on April 2, 2012 for the groundfish bottom trawl fishery. Areas open and closed to the trawl fleet as a result of these measures are outlined in Appendix 8 to this IFMP.

5.2.3. Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas

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

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

5.3. 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

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

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

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

6. ACCESS AND ALLOCATION

6.1. Access and Allocations

6.1.1. FSC Fisheries

DFO is committed to the recognition and implementation of Indigenous and treaty rights related to fisheries, oceans, aquatic habitat, and marine waterways in a manner consistent with section 35 of the Constitution Act, 1982, the United Nations Declaration on the Rights of Indigenous Peoples, and the federal Principles Respecting the Government of Canada's Relationship with Indigenous Peoples. DFO-CCG Reconciliation Strategy provides a guidance document to better understand why and how reconciliation informs the work of the Department. DFO's reconciliation strategy can be found at: <https://www.dfo-mpo.gc.ca/fisheries-peches/aboriginal-autochtones/reconciliation-eng.html>

Fish and marine resources are central to the culture, society, and well-being of First Nations and provide a critical connection to language, traditional knowledge, and health of communities. DFO remains committed to respecting First Nations' Aboriginal right to fish for Food, Social and Ceremonial (FSC) purposes, or domestic purposes under Treaty which has priority – after conservation – over other users of the resource.

The Aboriginal Fisheries Strategy (AFS) (described further in section 4.1.1.1) continues to be one of the principal mechanisms – in addition to Treaties and reconciliation agreements - to support access to Food, Social and Ceremonial fisheries, the development of relationships with First Nations including the consultation, planning and implementation of fisheries, and the development of capacity to undertake fisheries management, stock assessment, enhancement and habitat protection programs.

6.1.2. Canada and First Nation Long-term agreements:

6.1.2.1. Treaties and Reconciliation Agreements

There are four modern treaties in British Columbia with fisheries chapters - Nisga'a, Tsawwassen, Maa-nulth, and Tla'amin First Nations, along with historic treaties in British Columbia (Douglas Treaties and Treaty 8). Fisheries chapters in modern treaties may articulate a treaty fishing right for domestic purposes that are protected under Section 35 of the Constitution Act, 1982. Negotiated through a side agreement, some modern treaty First Nations have been provided commercial access through a Harvest Agreement outside of the constitutionally protected treaty.

First Nations along BC's coast harvest groundfish for FSC purposes under the *Aboriginal Communal Fishing Licences Regulations* or Treaty Harvest Agreements. In both cases, allocations are specified, and the fisheries are licensed and conducted under the authority of the Minister.

Under each treaty, Fisheries Operation Guidelines (FOGs) set out the operational principles, procedures and guidelines needed to assist Canada, the province of British Columbia, and the First Nations in implementing Fisheries Chapters of their respective treaties and managing Treaty fisheries on an annual basis. The FOGs provide guidance on how management decisions with respect to treaty fisheries will be made via the Joint Fisheries Committee (JFC), how abundance is estimated, biological and harvesting considerations, catch monitoring and reporting requirements, etc. Each year the JFC established under each treaty makes recommendations to the Minister on the issuance of specific 'Harvest Documents' to licence the fishery for Domestic harvests (for food, social or ceremonial purposes). Domestic fisheries will be exercised within geographic areas defined in each treaty.

More information on Treaties can be found at: <http://www.BCtreaty.net/>.

6.1.2.1.1. Maa-nulth fisheries

Maa-nulth Domestic fisheries

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 YuułuꞀiꞀꞀath First Nation on the west coast of Vancouver Island.

The domestic allocations for groundfish under the Maa-nulth First Nations Final Agreement are as follows:

1. Halibut: The Maa-nulth Fish Allocation for Halibut is 26,000 pounds (net weight, dressed, head off) plus 0.39% of the Halibut Canadian Total Allowable Catch (net weight, dressed, head off).
2. Rockfish: The Maa-nulth Fish Allocation of Rockfish is 11,250 pounds of whole fish, plus 2.46% of the Commercial Rockfish Outside Total Allowable Catch.
3. Groundfish: The Maa-nulth Fish Allocation of Groundfish is 13,000 pounds of whole fish.
4. Sablefish: The Maa-nulth Fish Allocation for Sablefish is 0.082% of the Sablefish Canadian Total Allowable Catch.

Other groundfish species are currently unallocated species under the terms of the treaty. Unallocated species may be harvested under a Maa-nulth First Nation Fishing Right in accordance with a Harvest Document.

Maa-nulth Commercial Fisheries

In addition to the allocation of fish for domestic purposes, Maa-nulth has an allocation for commercial catch outside of the Treaty as identified in the “Maa-nulth First Nation Harvest Agreement”. The allocations in the Harvest Agreement do not affirm Indigenous or Treaty rights. Fishing under the Harvest Agreement will be comparable to the requirements of the current commercial fishery.

Commercial groundfish allocations are expressed as limits (i.e., “up to” amounts) under the Harvest Agreement:

1. Halibut: up to 2% of the coastwide commercial Halibut TAC.
2. Rockfish: up to 2.6178% of the commercial ZN-Outside rockfish TACs.
3. Sablefish: up to 0.34% of the coastwide commercial sablefish TAC.

6.1.2.1.2. Tla’amin domestic fisheries

The domestic allocations for groundfish under the Tla’amin Nation Final Agreement are as follows:

1. In any year, the Tla’amin Fish Allocation for the aggregate of rockfish and Lingcod is a maximum of 5,000 lbs.
2. In any year, the Tla’amin Fish Allocation for all groundfish other than rockfish and Lingcod is a maximum of 1,000 lbs.

6.1.2.1.3. Tsawwassen and Nisga’a fisheries

Groundfish are currently unallocated species under the terms of the Tsawwassen and Nisga’a treaties. As authorised by their treaties, they may harvest groundfish for domestic purposes, subject to conservation, public health, or public safety, in their respective fishing areas under the terms of annual fishing plans signed off by the treaty nations and Canada.

6.1.2.2. Five Nations Multi-Species Fishery Management Plan

Five Nuu-chah-nulth First Nations located on the west coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the Five Nations) – have aboriginal rights to fish for any species, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Department has developed a 2021/22 Five Nations Multi-species Fishery Management Plan (FMP). The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. Feedback provided by the Five Nations during consultations was considered and incorporated into the 2021/22 FMP by DFO where possible.

The implementation of the Five Nations’ right-based sale fishery continues to be an ongoing process. The 2021/22 FMP was developed to implement the right-based multi-species fishery to accommodate the Five Nations’ Aboriginal rights consistent with the British Columbia Supreme Court’s 2018 decision. On April 19, 2021, the British Columbia Court of Appeal released its decision in relation to the appeal brought forward by the Five Nations. As a result, the department has announced a number of in-season changes via fishery notice and has revised the 2021/22 FMP to reflect changes that have been made thus far. Further changes will be announced by fishery notice and/or in the 2022/23 FMP which will be available in the spring of 2022. For further information, see the revised 2021/22 FMP at: <https://waves-vagues.dfo-mpo.gc.ca/Library/41018588.pdf>

6.1.2.3. Reconciliation Agreements

In addition to negotiating treaties, the Government of Canada and Indigenous Peoples can also negotiate reconciliation agreements, to explore new ways of working together to advance the recognition of Indigenous rights and self-determination. These agreements are typically Recognition of Indigenous Rights and Self-Determination (RIRSD) and are led by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). However, DFO can also negotiate Fisheries Resources Reconciliation Agreements directly with First Nations to advance reconciliation with First Nations.

As DFO and First Nations develop and implement new fisheries and collaborative governance arrangements, DFO works with these Nations to engage neighbouring First Nations and stakeholders (e.g. commercial and recreational sectors).

Since 2019, the Government of Canada has entered into several reconciliation agreements with First Nations that lay the foundation for incremental development and implementation of new arrangements for fisheries and collaborative fisheries governance.

These include the *Coastal First Nations Fisheries Resource Reconciliation Agreement* between Canada, the Haida Nation, Heiltsuk Nation, Kitsoo/Xai’xais First Nation, Metlakatla First Nation, Nuxalk Nation, Wuikinuxv Nation, Gitga’at First Nation, and Gitxaala Nation, and the *Haitcistut Incremental House Post Agreement* between the Heiltsuk Nation and Canada.

In 2021, the Government of Canada also signed framework agreements with the A-Tlegay Member Nations (We Wai Kai Nation, Wei Wai Kum First Nation, Kwiakah First Nation, Tlowitsis Nation, and K'ómoks First Nation) ([Reconciliation Framework Agreement for Fisheries Resources](#)) and the Haida Nation ([GayGahlda 'Changing Tide' framework](#)).

Information on Indigenous fisheries and reconciliation is available at:
<http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.html>

6.1.3. Recreational

Daily and possession limits are in place for recreational catch of groundfish species. Annual limits and size limits are also in place for several groundfish species such as Lingcod and Halibut. The Department consults annually with the Sport Fishing Advisory Board in order to establish daily and possession limits, as well as maximum lengths for Halibut, dependent on the Halibut Recreational Allocation, as described below.

There are several instances where total recreational catch is managed to specified amounts. Recreational fishing for Halibut is managed to an annual coastwide allocation. As a result of the Rockfish Conservation Strategy drafted in 2001, recreational catch of rockfish and Lingcod in the Strait of Georgia is also managed to stay within specified amounts, referred to as “management caps”. These arrangements are summarised below. Please also see section 8 of this IFMP.

6.1.3.1. Halibut Recreational Allocation

In February 2012 the Minister announced a change to the Halibut Allocation Policy. The 2003 policy, which provided 12% of the commercial-recreational Total Allowable Catch (TAC) to the recreational sector and 88% to the commercial sector, has been changed to allocate 15% of the commercial-recreational TAC to the recreational sector and 85% to the commercial sector. Please see Appendix 6 for the 2022 recreational Halibut allocation.

Since 2011, an optional experimental program has also been in place which allows interested recreational harvesters to temporarily transfer commercial halibut quota onto an experimental licence for the purposes of recreational fishing. This pilot program allows those who choose to participate the opportunity to fish for Halibut beyond the daily, possession, size, and annual limits or beyond the season closure date for the regular recreational Halibut fishery. In February 2012, the Minister announced that the Department would move forward with regulatory changes to continue this transfer mechanism for the long term.

More information regarding the Experimental Recreational Halibut Program can be found here: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/halibut-fletan/index-eng.html>

6.1.3.2. Strait of Georgia Rockfish and Lingcod Management Caps

In response to conservation concerns for inshore rockfish and Lingcod in the Strait of Georgia the Department implemented annual recreational fishery management caps intended to meet rebuilding objectives while providing opportunities to recreational anglers to retain rockfish and Lingcod. In 2002, an annual management cap of 20,000 pieces of rockfish was implemented in Areas 13 to 19, sub-Areas 12-1 to 12-13, 12-15 to 12-48, 20-5 to 20-7, and 29-5. In 2006, a lingcod management cap of 5,000 pieces was implemented and in 2009 it was increased to 7,000 pieces for the same areas. Areas 28 and the rest of Area 29 were closed to the retention of rockfish and Lingcod.

In order to keep the recreational fishery within these caps other management measures were introduced. By 2010, the management measures included daily and possession limits of 1 and 2 respectively for both Lingcod and rockfish, open times between May 1 and September 30, and an annual limit of 10 Lingcod. These management measures remain in effect, and the Department monitors catch against these caps on an annual basis by reviewing catch data gathered through fishery monitoring and catch reporting programs. For further information please read *Towards an Inshore Rockfish Conservation Plan* (<https://science-catalogue.canada.ca/record=4048707~S6>) and the *Management Framework for Strait of Georgia Lingcod* (<https://science-catalogue.canada.ca/record=4011856~S6>) .

6.1.4. Aquaculture

Fisheries and Oceans Canada supports the research and development of aquaculture sectors. The Department will provide the aquaculture industry with reasonable access, by scientific or access licenses, to the wild groundfish resource to assist in industry sustainability.

Requests for access to the wild resource will be reviewed based on the provision of detailed project proposals including specified criteria by the proponent (see details below). Decisions will be provided in writing to the applicant. DFO may require observers on vessels conducting collection trips and dockside monitoring of all fish harvested for aquaculture purposes at the vessel's own expense.

Applications for broodstock capture should include:

- a) Proposed time and location(s) where the brood will be captured.
- b) Name, vessel registration number (VRN) and licence number of the vessel to be used.
- c) Description and location of the facility where the fish are to be held (including aquaculture permit number if a culture facility).
- d) Section 56 Introductions and Transfers permit application number.
- e) Detailed project description.
- f) Detailed reporting framework.

More information can be found at: <http://www.pac.dfo-mpo.gc.ca/aquaculture/index-eng.html>.

Currently 0.1% of the Sablefish TAC is allocated to the aquaculture industry to support broodstock collection for sablefish aquaculture.

6.1.5. Annual Research Allocations

Allocations are made each year for research to account for the mortalities associated with survey catches within TACs. This includes the outside waters hard bottom hook and line survey, the International Pacific Halibut Commission longline standardized stock assessment survey, the trawl multi-species surveys, and the Sablefish trap survey. In some cases, allocations may also be made in excess of forecasted survey catches to support the costs of completing select science projects. These allocations are made based on the Minister's authority to allocate fish or fishing gear for the purpose of financing scientific and fisheries management activities that are described in a joint project agreement entered into with any person or body, or any federal or provincial minister, department, or agency.

In general, research allocations are deducted from the fish available to the commercial fishery, by sector, prior to the definition of commercial TACs used for the purposes of defining allocations on licences. Further details on the allocations of fish for financing scientific and management activities are identified in the relevant harvest plans appended to this plan.

Species	Trawl Surveys (tonnes)	Longline Surveys (tonnes)	Sablefish surveys, tagging, catch sampling (tonnes)	Total (tonnes)
Arrowtooth Flounder	15.5	0	0	15.5
Big Skate	0.3	0	0	0.3
Bocaccio Rockfish	2.8	0	0	2.8
Canary Rockfish	7.5	6.5	0	14.0
Copper, China, Tiger Rockfish	0.0	2.8	0	2.8
Dover Sole	6.4	0	0	6.4
English Sole	2.7	0	0	2.7
Lingcod	2.2	3.8	0	6.0
Longnose Skate	1.3	0	0	1.3
Longspine Thornyhead	0.4	0	0	0.4
Pacific Cod	1.9	1.2	0	3.1
Pacific Hake	4.8	0	0	4.8
Pacific Halibut*	1.4	27.2	0	28.6
Pacific Ocean Perch	116.3	0	0	116.3
Petrale Sole	1.8	0	0	1.8
Quillback Rockfish	0.0	5.8	0	5.8
Redbanded Rockfish	1.7	11.6	0	13.3
Redstripe Rockfish	14.6	0	0	14.6
Rock Sole	0.5	0	0	0.5

Rougheye/Blackspotted Rockfish	13.6	22.6	0	36.2
Sablefish	14.3	1	100	115.3
Shortraker Rockfish	0.7	5.4	0	6.1
Shortspine Thornyhead	6.9	0.9	0	7.8
Silvergray Rockfish	12.9	12.7	0	25.6
Spiny Dogfish	9.0	0	0	9.0
Walleye Pollock	0.9	0	0	0.9
Widow Rockfish	0.8	0	0	0.8
Yelloweye Rockfish	0.1	16.4	0	16.5
Yellowmouth Rockfish	7.2	3	0	10.2
Yellowtail Rockfish	5.7	2	0	7.7

*The Pacific Halibut amount for the groundfish trawl survey is part of the trawl fishery's Halibut bycatch mortality cap. The groundfish trawl fishery has a bycatch mortality cap of 454 tonnes that is not part of the allocated commercial TAC.

6.1.6. Commercial

The commercial TAC for various groundfish species are allocated between the different groundfish sectors. Formal discussions between the Hook and Line rockfish (category ZN licence), Halibut (category L licence) and Trawl (category T licence) sectors were initiated in 2000 to establish individual rockfish species allocations between the sectors to modify the 1997 adopted "92/8" Trawl/Hook and Line allocation. The agreed to allocation of groundfish species between the commercial sectors are as follows:

6.1.6.1. Rockfish Species

Species	Commercial Sector		
	T	ZN	L
Canary	87.70%	11.77%	0.53%
Longspine Thornyhead	95.35%	2.29%	2.36%
Pacific Ocean Perch	99.98%	0.02%	0.00%
Quillback	2.56%	87.97%	9.47%
Copper, China, Tiger	2.56%	87.97%	9.47%
Redbanded	50.00%	37.50%	12.5%
Redstripe	97.23%	2.77%	0.00%
Rougheye/Blackspotted	55.80%	41.17%	3.03%
Shortspine Thornyhead	95.40%	2.27%	2.33%
Shortraker	52.30%	43.92%	3.78%
Silvergray	88.43%	10.97%	0.60%
Widow	98.21%	1.79%	0.00%
Yelloweye	2.54%	64.34%	33.12%
Yellowmouth	96.77%	2.49%	0.74%
Yellowtail	98.91%	1.09%	0.00%

6.1.6.2. Non-quota Rockfish Species

Non-quota Species	Commercial Sector	
	T	L + ZN
Aurora Rockfish	90.00%	10.00%
Black Rockfish	14.00%	86.00%
Blue Rockfish	5.00%	95.00%
Brown Rockfish	5.00%	95.00%
Chillipepper Rockfish	65.00%	35.00%
Darkblotch Rockfish	99.00%	1.00%
Dusky Rockfish	50.00%	50.00%
Greenstripe Rockfish	96.00%	4.00%
Harlequin Rockfish	99.00%	1.00%
Bocaccio Rockfish ¹³	93.00%	7.00%
Rosethorn Rockfish	65.00%	35.00%
Sharpchin Rockfish	99.00%	1.00%
Shortbelly Rockfish	0.00%	100.00%
Splitnose Rockfish	99.00%	1.00%
Vermillion Rockfish	1.00%	99.00%

6.1.6.3. Other Groundfish

Species*	Commercial Sector	
	T	L + K + ZN + Sch II
Lingcod	74.00%	26.00%
Dogfish	32.00%	68.00%
Hake, pollock, Pacific cod & sole	100.00%	0.00%
Sablefish	8.75%	91.25%

*Halibut is not permitted for retention by trawl gear so there is no percentage of an allocation assigned to trawl.

Species		Commercial Sector						
		T	L	LC	ZN Inside	ZN Outside	K	DF
Longnose Skate	3CD	62.83%	14.19%	0.00%	0.00%	1.50%	11.26%	10.22%
	5AB	32.83%	48.49%	0.01%	0.00%	8.61%	9.47%	0.57%
	5CDE	20.28%	59.80%	0.00%	0.00%	8.53%	10.55%	0.84%
Big Skate	3CD	24.55%	26.72%	0.00%	0.00%	1.93%	4.16%	42.63%

¹³ Bocaccio is currently a quota species in the trawl fishery, but not in the Hook and Line fisheries.

	5AB	91.48%	5.97%	0.01%	0.00%	1.20%	0.72%	0.62%
	5CDE	92.07%	6.34%	0.00%	0.00%	0.56%	0.95%	0.08%

6.1.6.4. Commercial Total Allowable Catches

As a result of rounding, the TACs by management area do not sum to the sector totals for some species. For the exact TAC values, please contact the Groundfish Management Unit (Appendix 1). Portions of some of the TACs listed here will be allocated for research purposes. Portions of the ZN Outside TAC exclude amounts allocated for research purposes. Details of research allocations are found in the harvest plans included as appendices to the full IFMP document.

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
Yellowtail rockfish	3C	0	0	14*	0	1,224	0	0
	3D, 5A/B, 5C/D/E	0	0	47*	0	4,216	0	0
	Sector total	0	0	60*	0	5,440	0	0
Widow rockfish	Coastwide	0	0	46*	0	2,500	0	0
Canary rockfish	3C, 3D	1	0	30	0	615	0	0
	5A, 5B	2	0	51	0	241	0	0
	5C, 5D	1	0	24	0	97	0	0
	5E	1	0	25	0	12	0	0
	Sector total	6	0	129	0	965	0	0
Silvergray rockfish	3C/D	2	0	41	0	332	0	0
	5A/B	4	0	80	0	646	0	0
	5C/D	4	0	73	0	587	0	0
	5E	3	0	47	0	382	0	0
	Sector total	13	0	241	0	1,945	0	0

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
Pacific ocean perch	3C/D	0	0	0	0	750	0	0
	5A/B	0	0	0	0	1,687	0	0
	5C	0	0	0	0	1,555	0	0
	5D/E	0	0	0	0	1,200	0	0
	Sector total	0	0	1	0	5,192	0	0
Yellowmouth rockfish	3C	1	0	4	0	224	0	0
	3D, 5A/B	6	0	20	0	1160	0	0
	5C/D	4	0	13	0	702	0	0
	5E	7	0	24	0	333	0	0
	Sector total	19	0	62	0	2419	0	0
Rougheye/ Blackspotted rockfish	3CD5AB	9	0	117	0	167	0	0
	5CDE	24	0	313	0	446	0	0
	Sector total	33	0	430	0	614	0	0
Shortraker rockfish	Coastwide	9	0	102	0	126	0	0
Redstripe rockfish	3C/D, 5A/B/C	0	0	31*	0	1,150	0	0
	5D/E	0	0	12*	0	400	0	0
	Sector total	0	0	43*	0	1,550	0	0
Shortspine thornyheads	Coastwide	17	0	17	0	736	0	0

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
Longspine thornyheads	Coastwide	10	0	10	0	405	0	0
Redbanded rockfish	Coastwide	74	0	210	0	295	0	0
Yelloweye rockfish	3C, 3D, 5A	7	0	35	0	1	0	0
	5B	10	0	11	0	1	0	0
	5C, 5D	10	0	18	0	1	0	0
	5E	14	0	17	0	1	0	0
	4B	1	0	0	6	0	0	0
	Sector total	42	0	81	6	3	0	0
Quillback rockfish	3C, 3D, 5A	3	0	43	0	0	0	0
	5B	3	0	28	0	0	0	0
	5C, 5D	6	0	32	0	0	0	0
	5E	4	0	6	0	0	0	0
	4B	0	0	0	22	0	0	0
	Sector total	16	0	109	22	4	0	0
Copper, China and Tiger rockfish	3C, 3D, 5A	1	0	24	0	0	0	0
	5B	1	0	7	0	0	0	0
	5C, 5D	4	0	19	0	0	0	0
	5E	0.3	0	1	0	1	0	0

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
	4B	0	0	0	3	0	0	0
	Sector total	6.3	0	51	3	1	0	0
Bocaccio rockfish	Coastwide	0	0	0	0	1486	0	0
Pacific cod	3C/D	0	0	0	0	300	0	0
	5A/B	0	0	0	0	250	0	0
	5C/D/E	0	0	0	0	700	0	0
	Sector total	0	0	0	0	1,250	0	0
Dover sole	3C/D	0	0	0	0	1,375	0	0
	5C/D/E	0	0	0	0	1,100	0	0
	5A/B	0	0	0	0	598	0	0
	Sector total	0	0	0	0	3,073	0	0
Rock sole	3C/D	0	0	0	0	102	0	0
	5A/B	0	0	0	0	650	0	0
	5C/D	0	0	0	0	800	0	0
	Sector total	0	0	0	0	1,552	0	0
Lemon sole	3C/D, 5A/B	0	0	0	0	186	0	0
	5C/D/E	0	0	0	0	636	0	0
	Sector total	0	0	0	0	822	0	0

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
Petrale sole	Coastwide	0	0	0	0	900	0	0
Lingcod	3C	0	0	0	0	800	0	150
	3D	0	0	0	0	440	0	360
	5A, 5B	0	0	0	0	862	0	200
	5C, 5D, 5E	0	0	0	0	580	0	420
	4B	0	0	0	0	0	0	38**
	Coastwide total	0	0	0	0	2,572	0	1,168
Spiny Dogfish	3C, 3D, 5A, 5B, 5C, 5D, 5E	0	0	0	0	3,840	8,160	0
	4B	0	0	0	0	640	1,360	0
	Coastwide total	0	0	0	0	4,480	9,520	0
Sablefish	Coastwide	0	2,246	0	0	215	0	0
Pollock	Gulf	0	0	0	0	1,115	0	0
	3C, 3D (including Area 20)	0	0	0	0	4,000	0	0
	5A/B (includes Area 12)	0	0	0	0	2,500	0	0
	5C/D/E	0	0	0	0	1,320	0	0
	Coastwide total	0	0	0	0	4,935	0	0
Hake	Gulf	0	0	0	0	7,000	0	0

Species	Area	Halibut (tonnes)	Sablefish (tonnes)	ZN Outside (tonnes)	ZN Inside (tonnes)	Trawl (tonnes)	Dogfish (tonnes)	Lingcod (tonnes)
	Offshore ***	0	0	0	0	TBD	0	0
Halibut	Coastwide	2,555	0	0	0	454*****	0	0
Big skate	3C/D	13	2	1	0	12	21	0
	5A/B	22	3	4	0	341	2	0
	5C/D/E	39	6	3	0	561	1	0
	Sector total	74	11	8	0	914	24	0
Longnose skate	3C/D	20	16	2	0	88	14	0
	5A/B	47	9	8	0	32	1	0
	5C/D/E	51	9	7	0	18	1	0
	Sector total	168	48	25	0	138	22	0
Arrowtooth flounder	Coastwide	0	0	0	0	5,000	0	0

* This tonnage is not allocated to individual licence holders, nor is it transferable.

** The Lingcod coastwide total includes the 38 tonne allocation to cover 4B trip limits. This tonnage is not allocated to licence holders, nor is it transferable.

*** This is a notional TAC for initial licence issuance – The actual TAC will be announced in early April 2021.

****The groundfish trawl fishery has a bycatch mortality cap of 454 tonnes that is not part of the allocated commercial TAC. Halibut caught while fishing under the authority of a groundfish trawl licence cannot be retained and must be returned to the water as quickly as possible.

6.1.6.5. Commercial Species-Area Groups

All groundfish Hook and Line licence holders are permitted to hold quota for up to 42 species-area groups of holdings. Landings of other groundfish will be managed through trip limits or landings allowances. Additional species areas groups are in place for the groundfish trawl fishery and can be found in Appendix 8.

Pacific Halibut (Coastwide)	Silvergray Rockfish (5E)
Sablefish (Coastwide)	Yelloweye Rockfish (3C, 3D, 5A)
Lingcod (3D)	Yelloweye Rockfish (5B)
Lingcod (3C)	Yelloweye Rockfish (5C, 5D)
Lingcod (5A, 5B)	Yelloweye Rockfish (5E)
Lingcod (5C, 5D, 5E)	Yelloweye Rockfish (4B)
Dogfish (3C, 3D, 5A, 5B, 5C, 5D, 5E)	Quillback Rockfish (3C, 3D, 5A)
Dogfish (4B)	Quillback Rockfish (5B)
Big Skate (3C, 3D)	Quillback Rockfish (5C, 5D)
Big Skate (5A, 5B)	Quillback Rockfish (5E)
Big Skate (5C, 5D, 5E)	Quillback Rockfish (4B)
Longnose Skate (3C, 3D)	Copper, China and Tiger rockfish (3C, 3D, 5A)
Longnose Skate (5A, 5B)	Copper, China and Tiger rockfish (5B)
Longnose Skate (5C, 5D, 5E)	Copper, China and Tiger rockfish (5C, 5D)
Canary Rockfish (3C, 3D)	Copper, China and Tiger rockfish (5E)
Canary Rockfish (5A, 5B)	Copper, China and Tiger rockfish (4B)
Canary Rockfish (5C, 5D)	Rougheye / Blackspotted Rockfish (3CD5AB)
Canary Rockfish (5E)	Rougheye / Blackspotted Rockfish (5CDE)
Silvergray Rockfish (3C, 3D)	Redbanded Rockfish (Coastwide)
Silvergray Rockfish (5A, 5B)	Shortraker Rockfish (Coastwide)
Silvergray Rockfish (5C, 5D)	Shortspine Thornyhead (Coastwide)

6.1.6.6. Outgoing Commercial Sector Caps

The following caps are the amount of quota species, in pounds, permitted to leave a sector. These values represent initial caps established at the outset of the 2022/23 fishing season. The values can change regularly. On September 1, the outgoing caps will be removed in Hook and Line sectors for Canary, Shortraker, Shortspine Thornyhead, Redbanded, Rougheye/Blackspotted and Silvergray ockfish. On November 1, these caps will be removed in the trawl sector. Please consult the DFO website for the most current values: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/publications-eng.html>.

		Sector (Outgoing)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
Canary Rockfish	3C, 3D	2,309	No Limit	51,248	0	103,460	No Limit	No Limit
	5A, 5B	3,948	No Limit	87,632	0	50,706	No Limit	No Limit
	5C, 5D	1,830	No Limit	40,598	0	19,841	No Limit	No Limit
	5E	1,904	No Limit	42,378	0	7,111	No Limit	No Limit
Lingcod	3C	No Limit	No Limit	No Limit	0	226,367	No Limit	328,799
	3D	No Limit	No Limit	No Limit	0	93,699	No Limit	789,119
	5A, 5B	No Limit	No Limit	No Limit	0	351,680	No Limit	440,920
	5C, 5D, 5E	No Limit	No Limit	No Limit	0	443,835	No Limit	925,930
Pacific Halibut	Coastwide	893,863	No Limit	No Limit	No Limit	0	No Limit	No Limit
Quillback Rockfish	3C, 3D, 5A	5,691	No Limit	94,987	0	0	No Limit	No Limit
	5B	5,769	No Limit	10,000	0	0	No Limit	No Limit
	5C, 5D	14,147	No Limit	69,807	0	0	No Limit	No Limit

		Sector (Outgoing)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
	5E	7,933	No Limit	14,278	0	0	No Limit	No Limit
	4B	No Limit	0	0	2,677	0	0	0
Copper, China and Tiger rockfish	3C, 3D, 5A	3,201	No Limit	53,430	0	0	No Limit	No Limit
	5B	1,353	No Limit	14,586	0	0	No Limit	No Limit
	5C, 5D	8,670	No Limit	42,785	0	0	No Limit	No Limit
	5E	597	No Limit	1,075	0	0	No Limit	No Limit
	4B	No Limit	0	0	323	0	0	0
Rougheye/ Blackspotted Rockfish	3C, 3D, 5A, 5B	No Limit	No Limit	No Limit	No Limit	86,112	No Limit	No Limit
	5C, 5D, 5E	No Limit	No Limit	No Limit	No Limit	344,450	No Limit	No Limit
Sablefish	Coastwide	No Limit	590,127	No Limit	0	42,873	No Limit	No Limit
Shortraker Rockfish	Coastwide	19,301	No Limit	224,263	0	69,999	No Limit	No Limit
Shortspine Thornyhead	Coastwide	38,462	No Limit	37,496	0	381,843	No Limit	No Limit
Redbanded Rockfish	Coastwide	162,500	No Limit	487,500	0	585,000	No Limit	No Limit

		Sector (Outgoing)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
Silvergray Rockfish	3C, 3D	3,091	No Limit	56,519	0	23,104	No Limit	No Limit
	5A, 5B	6,031	No Limit	110,258	0	45,480	No Limit	No Limit
	5C, 5D	5,473	No Limit	100,066	0	40,697	No Limit	No Limit
	5E	3,560	No Limit	65,089	0	34,451	No Limit	No Limit
Spiny Dogfish	3C, 3D, 5A, 5B, 5C, 5D, 5E	No Limit	No Limit	No Limit	0	4,232,832	16,190,582	No Limit
	4B	No Limit	0	0	No Limit	1,269,850	25,000	0
Yelloweye Rockfish	3C, 3D, 5A	17,155	No Limit	84,744	0	0	No Limit	No Limit
	5B	37,232	No Limit	43,507	0	0	No Limit	No Limit
	5C, 5D	27,037	No Limit	47,684	0	0	No Limit	No Limit
	5E	42,909	No Limit	54,373	0	0	No Limit	No Limit
	4B	0	0	0	8,000	0	0	0
Big Skate	3C, 3D	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5A/B	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5C/D/E	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
Longnose Skate	3C, 3D	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5A/B	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5C/D/E	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit

6.1.6.7. Incoming Commercial Sector Caps

The following caps are the amount of quota species, by pounds, permitted to enter a sector. These values represent initial caps established at the outset of the 2022/23 fishing season. The values can change regularly. On September 1 of each season, the incoming commercial sector caps will be removed in Hook and Line sectors for Canary, Shortraker, Shortspine Thornyhead, Redbanded, Rougheye/Blackspotted and Silvergray rockfish. On November 1 of each season, these caps will be removed in the Trawl sector. Please consult the DFO website for the most current values: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/publications-eng.html>.

		Sector (Incoming)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
Canary Rockfish	3C, 3D	13,000	26,000	2,000	-	62,462	11,682	4,673
	5A, 5B	13,686	43,099	2,000	-	29,179	2,683	2,236
	5C, 5D	10,922	4,710	2,000	-	11,983	4,202	2,801
	5E	10,625	6,503	2,000	-	13,289	1,446	1,033
Lingcod	3C	73,353	62,347	60,000	0	144,613	100,000	30,000*
	3D	131,211	77,632	200,000	0	31,441	30,243	20,000*
	5A, 5B	256,192	84,119	250,000	0	95,244	32,045	75,000*
	5C, 5D, 5E	549,647	133,623	250,000	0	192,863	43,632	200,000*
Pacific Halibut	Coastwide	100,000	192,726	220,000	25,000	0	373,137	80,000
Quillback Rockfish	3C, 3D, 5A	38,400	1,920	5,760	0	0	19,200	4,660
	5B	16,200	810	4,610	0	0	2,430	1,829
	5C, 5D	31,000	1,240	8,680	0	0	1,612	5,036

		Sector (Incoming)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
	5E	13,950	1,860	5,344	0	0	279	542
	4B	No Limit	0	0	0	0	2,677	0
Copper, China and Tiger rockfish	3C, 3D, 5A	21,600	1,080	3,240	0	0	10,800	2,622
	5B	3,800	190	1,081	0	0	570	429
	5C, 5D	19,000	760	5,320	0	0	988	3,086
	5E	1,050	140	402	0	0	21	41
	4B	No Limit	0	0	0	0	0	323
Big Skate	3C, 3D	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5A, 5B	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5C, 5D, 5E	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
Longnose Skate	3C, 3D	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5A, 5B	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
	5C, 5D, 5E	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
Rougheye/ Blackspotted Rockfish	3C, 3D, 5A, 5B	No Limit	No Limit	No Limit	No Limit	65,034	No Limit	No Limit
	5C, 5D, 5E	No Limit	No Limit	No Limit	No Limit	260,137	No Limit	No Limit

		Sector (Incoming)						
Species	Area	Halibut (pounds)	Sablefish (pounds)	ZN Outside (pounds)	ZN Inside (pounds)	Trawl (pounds)	Dogfish (pounds)	Lingcod (pounds)
Sablefish	Coastwide	500,000	100,000	100,000*	0	200,000**	30,000	3,000
Shortraker Rockfish	Coastwide	160,000	200,000	70,548	-	45,390	10,000	200
Shortspine Thornyhead	Coastwide	379,124	300,000	114,640	0	32,268	10,000	200
Redbanded Rockfish	Coastwide	253,948	500,000	761,842	0	902,056	20,000	20,000
Silvergray Rockfish	3C, 3D	20,000	7,000	8,818	-	25,000	2,500	5,545
	5A, 5B	50,000	20,000	17,637	-	47,151	3,000	5,500
	5C, 5D	50,000	6,000	10,000	-	38,799	4,000	2,862
	5E	40,000	20,000	11,023	-	20,342	500	2,232
Spiny Dogfish	3C, 3D, 5A, 5B, 5C, 5D, 5E	5,000,000	2,000,000	400,000	0	189,388	4,232,832	0
	4B	272,311	0	0	25,000	0	972,539	0
Yelloweye Rockfish	3C, 3D, 5A	15,865	3,318	2,797	0	0	5,199	6,014
	5B	10,159	1,632	8,635	0	0	1,796	937
	5C, 5D	14,878	1,268	6,369	0	0	1,176	5,245
	5E	15,097	4,969	8,995	0	0	65	2,910
	4B	0	0	0	0	0	4,138	0

° Incoming Lingcod quota to the Lingcod sector must have originated from the Trawl sector.

* An additional 30,000 lbs of Sablefish for ZN Outside has been approved by the Commercial Industry Caucus for the 2022/23 season and may be implemented in-season.

** 50,000 lbs of the 200,000 lbs Sablefish incoming sector cap for Trawl has been approved by the Commercial Industry Caucus for the 2022/23 season only and will be reviewed prior to the start of the 2023/24 season..

7. COMMERCIAL MANAGEMENT MEASURES

It is important that all vessel owners, licence holders and harvesters thoroughly review this management plan and licence conditions prior to fishing.

7.1. Commercial Sector Groups

There are seven distinct commercial groundfish sector groups, Groundfish trawl (T), Halibut (L), Sablefish (K), Inside Rockfish (ZNI), Outside Rockfish (ZNO) and the Lingcod and Dogfish fisheries that are managed as separate fisheries using ITQs.

7.2. Individual Vessel Accountability and Responsibility

Accountability (documenting all catch in a fishing logbook) and responsibility (acquiring ITQ to account for mortality of all legal/marketable sized groundfish that are managed under species and area TACs as referenced in Section 6.1.6.4) are two key elements of the commercial management system. Vessels are individually accountable for their catch, both directed and non-directed. Subject to species, area, time and gear closures, along with vessel caps and trip limits, vessels will be permitted to land non-directed catch.

Other groundfish species not managed under species and area TACs will be managed under trip limits or will have no limits. Harvesters should reference licence conditions for more details. A vessel's catch is calculated by adding both landed weight and the estimated mortality of all catch either utilized at-sea or released at-sea. Hook and line and trap vessels landing fish in excess of the ITQ holdings identified in licence conditions and the allowable overage will be restricted from further fishing opportunities until such time as additional ITQ has been acquired.

DFO and the groundfish trawl industry agreed to a two-step approach to instil full responsibility for catch by eliminating the designation of catch as marketable and non-marketable for fish released at-sea. Since the 2011/12 season, there has been one hundred (100) percent responsibility of all species caught within the groundfish trawl fishing fleet. The objective is to ensure full accountability and responsibility for catch of all quota species while continuing to provide incentive for better utilization of catch, reduce at-sea releases and development of improved fishing practices.

7.3. Sector Caps

To ensure that harvesters have access to non-directed catch from other sectors, sector caps have been established that limit the amount of ITQ from one sector that may be accessed by any other sector. In addition, each sector has identified a quantity of ITQ that is permitted to leave the sector. The initial sector access caps and access provided are listed in Section 6.1.6.6 and Section 6.1.6.7. The figures in those sections can change regularly. Please consult the DFO website for the most current figures:
<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/publications-eng.html>

7.4. Reallocations of Individual Quota

Subject to annual species caps and sector holding caps, the temporary reallocations of ITQ between vessels and between commercial sectors will be permitted.

Permanent reallocations of ITQ are restricted to intra-sector reallocations. All temporary and permanent reallocations are subject to the individual sector rules. The Groundfish Management Unit (GMU) has worked to make the necessary changes to the Quota Management System to allow for permanent intra-sector reallocations for the remaining species. Permanent intra-sector reallocations will be permitted.

7.5. **Multiple Hail-outs**

A vessel may hail out for one directed commercial groundfish fishery only, except when hailing out for both Halibut and Sablefish fishing.

7.6. **At-Sea Monitoring**

Timely and accurate information on harvesting practices and the catch composition and location is essential to assess the status of fish stocks, ensure the conservation and long-term sustainability of fish resources, and assess the impact of the fisheries on other species of interest (e.g., sharks, marine mammals, seabirds). Effective monitoring and accurate catch reporting are integral to resource management, enforcement of fisheries rules and the development of effective management plans. Monitoring of all catch, both landed and at-sea releases is critical to sustainable fisheries management. At-sea monitoring encourages responsible fishing and provides information supportive of Canada's international obligations for fisheries.

Complete 100 percent monitoring on all commercial groundfish fishing trips is required to monitor at-sea releases and record fishing activity, location, date and time.

Trawl monitoring requirements can be found in the Groundfish Trawl Commercial Harvest Plan Appendix 8. Monitoring requirements for all commercial groundfish Hook and Line/Trap fisheries can be found in Appendix 2.

8. RECREATIONAL MANAGEMENT MEASURES

8.1. **Tidal Waters Sport Fishing Licence**

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 day, 3 day, or 5 day period, or as an annual licence, covering the period April 1 to March 31 the following year. The annual licence fee is not pro-rated for annual licences purchased mid-season. Fees depend on licence duration, age (senior, adult, juvenile) and residency status. Licences for juveniles (ages 15 and under) are free. Concessionary fees are not otherwise available.

Licences may be purchased online via the National Recreational Licensing System:
<http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html>.

Alternatively, licences may be purchased over the counter at Independent Access Providers (IAPs) in many areas (note that the IAP may charge an additional service fee). A list of

IAPs is available at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/iap-fai-eng.html>.

8.2. **Online Regulations**

The regulations for recreational fishing are summarized online in the British Columbia Tidal Waters Sport Fishing Guide, which lists open and closed times, catch limits, size limits (where applicable) and open/closed areas.

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.

The British Columbia Tidal Waters Sport Fishing Guide is available at:

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

To view or sign-up to receive Fishery Notice notifications by email is available at:

<http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm>

Local DFO fishery office contacts are available at:

<https://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html>

or call 604-666-0384 or email info@dfo-mpo.gc.ca

8.3. **Using mobile devices and the FishingBC App**

The FishingBC App, as developed by the Sport Fishing Institute of BC, may be downloaded to a mobile device to assist with having access to regulatory information for species, areas, fishing gear while out on the water (along with other functionality).

The DFO ‘Recreational Fishing in British Columbia’ website is the official site for regulatory information in the event of a discrepancy with the FishingBC App.

The FishingBC App may be downloaded at:

<http://www.fishingbcapp.ca/>

The DFO ‘Recreational Fishing in British Columbia’ website is available at:

<https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html>

8.4. **E-licences and Paper licences**

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

Please consider these licensing requirements before a fishing trip:

- For all recreational tidal waters fishers that do not have an electronic copy of their licence on their mobile device, they must still have a paper copy of their licence with proof of licence purchase to show to a fishery officer;
- For users of the FishingBC App, or on any electronic device, a pdf copy of your licence on the device is acceptable and must be immediately presented to a fishery officer. Please note catch recording requirements below;
- For all fishers retaining Chinook, Halibut, or Lingcod, even with an e-licence and catch details in the FishingBC App or in your mobile device, fishers must immediately record

- catch for these three species to either:
- a paper copy of your licence; or
 - your National Recreational Licensing System account (where internet access for your mobile device is available). It can be helpful to immediately take a screenshot of your catch records when you have internet access should you subsequently move out of cell range.
- Licence and catch records must be immediately available for inspection upon request of a fishery officer.

8.5. **Supporting Sustainable Fisheries - Catch Reporting**

The internet Recreational Effort and Catch (iREC) reporting program is an online program that has been collecting effort and catch information from Tidal Waters Sport Fishing licence holders since 2012. As of April 2020, all licences are selected for one month of iREC reporting program or the internet Annual Recreational Catch (iARC) program (see below). Licence holders are advised at time of licence purchase which program their licence has been selected for. The iREC website, a unique iREC access id and reporting deadline are printed on each licence and licence holders with a valid email address provided to the National Recreational Licensing system receive emails reminding them to complete their iREC reports. Providing complete and accurate information to the iREC or iARC reporting program when selected is a condition of licence (i.e. mandatory requirement).

The responses to the iREC reporting program are self-reported without direct data verification. Although the program design protects against certain biases, response data and resulting estimates are still subject to a variety of biases. In some cases, estimates may be bias-corrected based on comparison of iREC and creel estimates. The estimates are subject to revision based on review of the response data, consideration of alternative analytical methods and data from other sources.

The iREC reporting program is one of the sources that may be used in developing DFO official catch and effort estimates. The iREC reporting program methodology was peer reviewed and published by the Canadian Science Advisory Secretariat (CSAS) in 2015. This program provides monthly estimates of effort for 6 fishing methods and catch for over 80 species of sport caught finfish and invertebrates in all Pacific Fishery Management Areas based on responses by Tidal Waters Sport Fishing Licence holders. The recreational fishing methods covered by the iREC reporting program include boat-based angling, angling from shore, shellfish trapping from boat and shore, beach collecting, and diving. iREC estimates are used for methods and species not covered by the marine creel surveys, which cover only boat-based angling, and for months and areas not covered by marine creel surveys.

More information about the iREC reporting program is available at:
<http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/irec/index-eng.html>

8.6. **Internet Annual Recreational Catch (iARC) Reporting program**

A separate online reporting program - the internet Annual Recreational Catch (iARC) reporting program – is held at the end of the season to collect the catch records of Chinook,

Lingcod, and Halibut from Tidal Waters Sport Fishing Licence holders as written on their licence. This program has been running since 2014/15 and provides information for Chinook, Lingcod and Halibut on annual quota, annual and monthly catch estimates, and halibut length statistics.

More information about the iARC reporting program is available at:

<http://www.pac.dfompo.gc.ca/fm-gp/rec/irec/iarc-eng.html>

9. SHARED STEWARDSHIP ARRANGEMENTS

9.1. Commercial Industry

Several Collaborative Agreements (CA) currently exist between Fisheries and Oceans Canada and Wild Canadian Sablefish Ltd., the Canadian Groundfish Research and Conservation Society, and the Pacific Halibut Management Association. CAs are also being considered for 2022/23 between Fisheries and Oceans Canada and several partners to support groundfish science activities through the allocation of fish to finance the activities, consistent with the authority granted to the Minister in *Fisheries Act*.

9.2. Fisheries and Oceans Canada

The groundfish fisheries in British Columbia are managed through the Groundfish Management Unit. This includes seven Fisheries Management personnel directly involved in the management of this fishery. In addition, a groundfish stock assessment unit, located at the Pacific Biological Station contributes to annual stock assessments for groundfish species. Contributions to the IFMP are provided by Fisheries Management, the Science Branch, Conservation and Protection, Ecosystem Management Branch, the Pacific Fishery Licence Unit, the Treaty and Aboriginal Policy Directorate, and numerous others. A list of DFO contacts is provided in Appendix 1.

10. COMPLIANCE PLAN

10.1. Overview

The Conservation and Protection (C&P) Directorate, part of the Fisheries and Harbour Management Sector, promotes and maintains compliance with legislation, regulations, policies and management measures to achieve the conservation and sustainable use of Canada's aquatic resources and the protection of oceans, fish habitat and species at risk. C&P is comprised of three key programs areas:

- Program and Operational Readiness
- Enforcement Operations
- National Fisheries Intelligence Service (NFIS)

C&P continues to evolve into an intelligence-led organization which will assist in priority setting by identifying the greatest threats and risks to fisheries and developing appropriate strategies to address those threats and risks. C&P utilizes education, & stewardship;

monitoring & surveillance; and major case management to assist in the conservation and protection of the fishery resources.

Fishery Officers are stationed in the Pacific Region, which encompasses the province of British Columbia and Yukon Territory. They are designated under Section 5 of the *Fisheries Act* and have full enforcement powers and responsibilities outlined in the *Fisheries Act*, *Coastal Fisheries Protection Act*, *Oceans Act*, and *Species at Risk Act*. Fishery Officers are also designated, as peace officers under Section 2 the *Criminal Code of Canada*.

Third party At Sea and Dockside observers perform duties best described as “Observe, Record and Report.” Duties include the monitoring of fishing activities, collection of biological samples, recording of scientific data, monitoring of the landing of fish and verification by weight and species of the fish caught and retained. Observers, while performing a vital role, are not enforcement officers. Observers are designated by DFO’s Regional Director General and must carry proof of their designation in the form of a laminated card. Due to Covid no at-sea observers have been deployed to groundfish trawl vessels from April 2, 2020 to present. All Groundfish trawl vessels must have a fully functioning Electronic Monitoring (EM) System on board to meet the requirement of 100% at-sea monitoring.

DFO designated observers and the EM system reviewers fill out occurrence reports which are reviewed by C&P’s Groundfish Enforcement Coordinator and followed up on as necessary. All At Sea and Dockside observers have been designated as authorities by the Director of C&P under Section 63(1) of the *Fisheries Act*. It is an offense to make a false or misleading statement whether orally or in writing to an At Sea or Dockside observer.

Fishery officers conduct inspections both at-sea and dockside to verify compliance with licence conditions. Due to the complexity of the integrated groundfish management system, which includes a quota management system and a related licence amendment system, tracking of catch quantities is primarily performed administratively utilizing the fishing logbook, electronic monitoring video system, dockside monitoring program and the groundfish audit system.

10.2. Enforcement Priorities

- **Closed area fishing** in rockfish conservation areas, sponge reef marine protection areas, marine conservation areas, interim sanctuary zones and other permanent and in-season fishing closures.
- **Retention of groundfish caught, retained or possessed without licence authority.** Priority will be placed on occurrences where retention for the purpose of sale is indicated;
- **Unauthorized commercial/FSC (dual) fishing;**
- **Non-compliance with 100% at-sea and dockside monitoring programs** including hails, electronic monitoring systems, incomplete and inaccurate fishing logs, offloading catch without a dockside observer, removing some catch before dockside observer arrives and preventing dockside observer from checking hold, freezers and any other fish storage areas on vessel.
- **False and misleading statements to DFO designated observers**

- **Vessel Masters not providing all reasonable assistance** to DFO designated observers.
- **Owner or person in charge or in control of a fishing landing station** not providing the dockside observer with such assistance as is reasonably necessary to enable observer to perform their duties. This includes safe access to vessel, fish holds/freezers/other fish storage areas and adequate lighting.

10.3. Air Surveillance

Aerial surveillance resources are utilized throughout the year to ensure compliance with the *Fisheries Act*, regulations and licence conditions and other Acts and regulations. Flight reports, photographs, videos and other data collected from the surveillance flights are readily available to departmental managers and fishery officers through an internet-based flight information system.

Further development and implementation of groundfish training for Fishery Officers is planned.

REPORT FISHERIES VIOLATIONS TO:

DFO OBSERVE, REPORT, RECORD

Phone: 1-800-465-4336 (24/7 Line)

Email: DFO.ORR-ONS.MPO@dfo-mpo.gc.ca.

Please record: **W**hen, **W**here, **W**ho, **W**hat, **W**hy and **H**ow the illegal activity is occurring. (Note: If you wish to remain anonymous make this known to the radio operator).

DFO Groundfish Enforcement Coordinator:

Ann Bussell, Desk: 604-666-4162; Email: Ann.Bussell@dfo-mpo.gc.ca

Crime Stoppers: (anonymous way of reporting illegal activities). Information will be forwarded to the appropriate enforcement agency.

Phone: 1-800-222-8477 (24/7 Line) www.bccrimestoppers.com

11. IN-SEASON UPDATES

Important changes are made to the IFMP throughout the season. For announcements of in-season updates to the IFMP, please refer to:

- Pacific Region Integrated Fisheries Management Plans website at:
<http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html>
- Fishery Notice website at:
<http://www-ops2.pac.dfo-mpo.gc.ca/fns-sap/index-eng.cfm>

In-season sector catch and sector cap summaries are updated daily and may be found at:
<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/publications-eng.html>

The following revisions to the IFMP have occurred to date:

Version	Date of Issue	Summary of Changes
1.0	3 Dec 2021	Draft IFMP issued for consultation purposes.
2.0	14 Jan 2022	Draft IFMP updated in response to issues raised during consultation process and circulated for approvals
3.0	21 Feb 2022	Final IFMP approved by Regional Director General

12. GLOSSARY

Accountability	All harvesters are required to account for or accurately record all catch, both retained and released, for all species when fishing. As such, all catch becomes “accounted” for. Verification of accountability occurs through the monitoring program.
Area/Subarea	As in Section 2 of the <i>Pacific Fishery Management Area Regulations</i> , available through the Internet at: http://lois.justice.gc.ca/eng/regulations/SOR-93-54/section-2-20060322.html
CIC	Commercial Industry Caucus: A committee consisting of commercial groundfish vessel representatives and processors.
Communal Commercial Licence	Issued to First Nations organizations pursuant to the <i>Aboriginal Communal Fishing Licences Regulations</i> for participation in the general commercial fishery.
Communal Licence	Issued to First Nations organizations pursuant to the <i>Aboriginal Communal Fishing Licences Regulations</i> , to conduct fishing and related activities.
COSEWIC	Committee on the Status of Endangered Wildlife in Canada.
CSAP	Centre for Scientific Advice Pacific
CSAS	Canadian Science Advisory Secretariat
C&P	Conservation and Protection Branch
DMP	Dockside Monitoring Program: Program conducted by a company that has been designated by the Department, which verifies the species composition and landed weight of all fish landed from a commercial fishing vessel.
FSC	A fishery conducted by First Nations for Food, Social and Ceremonial purposes.

GIAB	Groundfish Integrated Advisory Board: a committee consisting of representatives from First Nations, commercial groundfish fisheries and unions, recreational fisheries, coastal communities, the province of British Columbia, and environmental non-governmental organizations.
Indigenous Knowledge	<p>There is no universal definition of Indigenous knowledge, and the composition of Indigenous knowledge is for Indigenous peoples to determine. Indigenous knowledge is intricately tied to Indigenous worldviews and ways of life, rather than knowledge in a western sense.</p> <p>The term Indigenous knowledge may not be universally used, and other terms such as Indigenous Knowledge Systems, Traditional Knowledge, Traditional Ecological Knowledge, or Aboriginal Traditional Knowledge, which all convey similar concepts, may be used instead. When working with Inuit, the term Inuit Qaujimajatuqangit (IQ) is more likely to be used than Indigenous knowledge. Similarly, when working with Métis knowledge holders, the term Métis Traditional Knowledge is more likely to be used than Indigenous knowledge. The term Indigenous knowledge is used throughout this document in line with the terminology in the <i>Fisheries Act</i>.</p>
ITQ	<p>Individual Transferable Quotas.</p> <p>The subdivision of a TAC into tradable shares to each commercial groundfish licence holder at the beginning of each season that are transferable between commercial groundfish licences (also referred to as Individual Vessel Quotas)</p>
LRP	Limit Reference Point: The stock status below which productivity is sufficiently impaired to cause serious harm to the resource, but above the level where extinction becomes a concern. At this point, there may also be resultant impacts to the ecosystem as a whole, associated species and long-term loss of fishing opportunities.
MSY	Maximum Sustainable Yield: The maximum use that a fishery resource can sustain without impairing its renewability through natural growth or replenishment.
Observer	An individual who has been designated as an observer by the Regional Director General for Pacific Region pursuant to Section 39 of the <i>Fishery (General) Regulations</i> .
RCA	Rockfish Conservation Area. An area that is closed for the protection of various inshore rockfish species to fishing activities that negatively impact rockfish.
Responsibility	For those species that have a TAC and ITQ, harvesters must acquire sufficient quota to cover the mortality of retained and released species.

SARA	<i>Species At Risk Act</i>
SFAB	Sport Fishing Advisory Board
TAC	Total allowable catch: The amount of catch that may be taken annually from a stock.
Tonne	Metric tonne, 1000 kg, or 2204.6 lbs.
Validation	The verification, by an observer, of the weight of fish landed.

13. APPENDICES

Appendix 1: DFO Contact Information

Appendix 2: Commercial Groundfish Hook and Line/Trap Monitoring Requirements (At-Sea and Dockside), Mortality Rates, and Size Limits

Appendix 3: Schedule II – Other Groundfish Species Commercial Harvest Plan

Appendix 4: Rockfish by Hook and Line (Inside ZN) Commercial Harvest Plan

Appendix 5: Rockfish by Hook and Line (Outside ZN) Commercial Harvest Plan

Appendix 6: Halibut Commercial Harvest Plan

Appendix 7: Sablefish Commercial Harvest Plan

Appendix 8: Groundfish Trawl Commercial Harvest Plan

Appendix 9: Rebuilding Plans for Groundfish Species

Appendix 10: Fishery Closures for Groundfish Hook and Line Fisheries

Appendix 11: Fishing Vessel Safety

Appendix 12: Groundfish Advisory Committee Contacts

Appendix 13: Fishing Hazards Advisory

Appendix 1: DFO Contact Information

Observe, Record and Report

1-800-465-4336

1-877-535-7307

National On-Line Licencing System (NOLS)

fishing-peche@dfo-mpo.gc.ca

Regional Headquarters, Groundfish Management Unit

A/Regional Resource Manager, Groundfish	Averil Lamont	604-366-0917
Trawl Coordinator	Deirdre Finn	236-330-4139
A/Sablefish/Hook and Line Coordinator	Gwyn Mason	236-334-7534
Halibut/Hook and Line Coordinator	Maureen Finn	604-666-3279
Fisheries Management Officer	Sulgi Drysdale	604-404-4975
Sustainability Coordinator	Rob Tadey	604-666-3991
Quota Officer	Sukriti Khanna	236-334-6269
Quota Officer	Anna Khan	604-666-5865
	Facsimile	604-666-8525

Regional Headquarters, Aboriginal Programs Directorate

A/ Director, Aboriginal Programs Directorate	Duncan Stephen	778-549-2861
Manager, Aboriginal Fisheries Strategy	Bev Carpenter	236-334-3507
Manager, Integrated Aboriginal Programs	Kelly Binning	604-360-6856
Manager, PICFI Enterprise Development	Ann Susnik	604-363-1647

Science

Regional Groundfish Science Contact	Steven Schut	250-204-0199
Regional Groundfish Science Data Contact	Bruce Patten	250-616-6358

Enforcement

Regional Groundfish Enforcement Co-ordinator		604-666-4162
Detachment Supervisor, Prince Rupert		250-627-3430
Detachment Supervisor, Queen Charlotte City		250-559-8580
Detachment Supervisor, Bella Coola/Bella Bella		250-799-5345
Detachment Supervisor, Campbell River/Port Hardy		250-850-5707
Detachment Supervisor, Port Alberni/West Coast		250-720-4450
Detachment Supervisor, Victoria		250-363-0240
Detachment Supervisor, Nanaimo		250-754-0210
Detachment Supervisor, Steveston		604-664-9251

Recreational Fisheries

Regional Manager, Recreational Fisheries	Greg Hornby	250-286-5886
East Coast Vancouver Island Recreational Fisheries Resource Manager	Erika Watkins	250-286-5882
Recreational Fisheries Advisor	Felix Markevicius	604-666-3637
A/Regional Recreational Fisheries Officer	Meghan Quon	
North Coast Recreational Fisheries Resource Manager	Darren Chow	250-627-3441
West Coast Vancouver Island Recreational Fisheries Resource Manager	Brad Beath	250-756-7190
Fraser and Interior Area Recreational Fisheries Resource Manager	Barbara Mueller	604-666-2370

Appendix 2: Commercial Groundfish Hook and Line/Trap Monitoring Requirements (At-Sea and Dockside), Mortality Rates, and Size Limits

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1. CATCH MONITORING

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

Mandatory 100 percent monitoring on all commercial groundfish hook and line and trap fishing trips will be required to provide a full and reliable accounting of all catches in these fisheries, both retained and released, and record fishing activity, location, date and time. This requirement may be met either through at-sea observer coverage or through the use of an Electronic Monitoring (EM) system on each trip. In addition, all landings must be validated through a dockside monitoring program.

1.1. Fishery Monitoring Policy

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

The Fishery Monitoring Policy is part of DFO’s Sustainable Fisheries Framework and is available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm>

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

The “Introduction to the Procedural Steps of Implementing the Fishery Monitoring Policy” is available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fmp-implementation-ppsp-mise-en-oeuvre-eng.htm>

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

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

In 2018, the Department drafted risk assessments for priority groundfish fisheries by gear type, including Hook and Line, and Trap for commercial and FSC dual fishing. The fishery risk (comprised of risk to main species, bycatch, and community and habitat) was identified as “high” for Hook and Line fisheries due to non-directed catch of COSEWIC-listed species (e.g., Yelloweye rockfish, Bocaccio rockfish), and requires a monitoring level of “Enhanced” to address the associated ecological risk. The fishery risk for commercial and FSC dual Trap fisheries was identified as “low”, commensurate with lower ecological risk to COSEWIC listed species. However, quota management in an integrated groundfish fishery compels the current, enhanced level of monitoring to remain in place.

As the Hook and Line, and Trap groundfish fisheries currently meet the enhanced target monitoring level prescribed by the risk assessments, no changes to the monitoring program are expected in this risk assessment cycle (approximately five years, provided there are no significant changes to the fishery before the regular reassessment).

2. AT SEA OBSERVER COVERAGE

Notwithstanding Section 13.3.2 in Appendix 8 that describes the suspension of the At-Sea Observer Program in response to health and safety concerns related to the COVID-19 global pandemic, under Section 46 of the *Fishery (General) Regulations*, the licence holder or master of a fishing vessel shall, at the request of the Regional Director General, permit an observer to go on board that vessel to perform the designated duties for the period of time specified and arrange for embarkation or disembarkation of the observer at the times and places specified. The vessel master shall provide all reasonable assistance to the observer.

Archipelago Marine Research Ltd. (AMR) is the designated service provider for at-sea observers for the groundfish fisheries. Contact AMR at 1-800-663-7152 to arrange for at-sea observer services or to inquire about costs of this service. Other vessel requirements are outlined in AMR’s services agreement that each vessel must complete before an observer is deployed.

3. ELECTRONIC MONITORING SYSTEM

The EM system allows for auditing, on a trip and set basis, the species caught, retained and released at sea. Using an EM system is an alternative to the requirement to carry an at-sea observer. Vessels that do not ensure that the EM system is functional for the entire trip, that the cameras have a clear view of the fishing area at all times, or that release rockfish at-sea, may be required on subsequent trips to carry an at-sea observer.

It is the responsibility of vessel owners / licence holders to arrange for fishery electronic monitoring services from a service provider approved by the Department. Archipelago Marine Research Ltd. (AMR) is the EM service provider currently approved by the Department.

3.1. **Organizational Requirements**

Vessel masters must arrange for service providers that meet the following organizational requirements.

Business Plan

Vessel masters must arrange for potential service providers to provide the Department a business plan that includes a description of the organization of the service provider company, its human resources, and its plan of operations, including but not necessarily restricted to:

1. Incorporation papers;
2. Evidence of the company's financial viability, through:
 - a) provision of the organization's financial statements; or
 - b) provision of a performance bond guaranteeing three months operation;
3. A company organization chart listing principals, officers, and employees including job descriptions and responsibilities;
4. An operational plan setting out operational procedures and equipment requirements that demonstrate the capacity to operate EM services on a continuous basis;
5. A human resources plan that demonstrates the capacity and expertise to provide EM services, that:
 - a) demonstrates capacity and expertise to manage technical projects or programs;
 - b) demonstrates capacity and expertise to manage a project which has a training component;
 - c) identifies individuals responsible for training and demonstrate that they have capacity and expertise to deliver training programs to adults.
6. A data quality system that ensures the integrity of the information collected and compiled, which includes:
 - a) a person responsible for the system and his or her duties;
 - b) the operating system and the manner in which the records are kept;
 - c) the control points, the verification procedures, and the process for correcting deficiencies in the system;
 - d) a system for maintaining a record of system failures that details the event and corrective actions taken.

7. A detailed training plan that will be delivered by the company or an independent training organization and a process for amending the plan when changes to legislation, regulation, or policy dictate new program requirements.

Insurance

The service provider must have Commercial General Liability insurance maintained in force throughout the duration of the period for which they are approved as an EM service provider, in an amount for a limit of liability not less than \$5,000,000 per accident or occurrence.

The service provider must maintain the required insurance coverage for the duration of the period for which they are an approved service provider. Compliance with the insurance requirements does not release the company from or reduce its liability as an approved service provider.

The service provider is responsible for deciding if additional insurance coverage is necessary to ensure compliance with any applicable law. Any additional insurance coverage is at the service provider's expense, and for its own benefit and protection.

The service provider must provide to DFO a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The service provider must, if requested by DFO, provide a certified true copy of all applicable insurance policies.

Security and technical capacity

Some of the data collected by EM systems and processed by service providers is Protected information. Each of the company's proposed individuals requiring access to Protected information, assets or work site(s) must meet the security requirement at the requisite level of Reliability Status, granted or approved by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

The company must provide the name of all individuals who will require access to Protected information, assets, or sensitive work sites.

To submit catch data to DFO via its Fisheries Operations System, the service provider must have internet access and security clearance to acquire user access to the Fisheries Operations System web services. The service provider must also acquire Secure Virtual Personal Network access (provided by DFO) which includes: (1) Public key infrastructure (PKI) credentials and client software, (2) SVPN client software, and (3) Citrix software or software compatible to client Microsoft Terminal Server. This enables submission of information technology bugs and issues via DFO software. DFO will work with approved service providers to support the connection of service providers to the Fisheries Operations System.

Upon receipt by DFO of the harvest data and fishing location information included in EM data, 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 prejudice the competitive position of the licence holder. Given this, service providers must demonstrate they have data management and

security systems capable of preserving the integrity, accuracy, and confidentiality of EM data. Protection measures, including but not necessarily limited to SSL encryption, must be in place for EM data transmitted by service providers to DFO.

Service providers must demonstrate how EM systems are both tamper resistant and capable of indicating when attempted tampering has occurred.

Arm's Length

Arm's length criteria ensure that there are no actual or perceived conflicts of interest between EM service providers and fishing enterprises. Upon approval, service providers must attest that:

- a) The service provider, its subcontractors or agents and their respective personnel assigned to or engaged for the performance of the work have not accepted and shall not accept any bribe, gift, benefit, or other inducement that would, in any way, cause a real or apparent conflict of interest;
- b) The service provider, its subcontractors or agents and their respective personnel assigned to or engaged for the performance of the work shall have no activities or relationships with any third parties, including fishing vessels owners and operators, that would render it or any of them unable to provide impartial information, assistance or advice to DFO, or affect or otherwise impair its or their objectivity in performing the work.

Should the service provider become aware of any such activity or relationship, bribe, gift, benefit, or other inducement, the service provider must undertake to immediately report the matter, in writing, to DFO.

Upon learning of any potential conflict of interest on the part of the service provider or any of its subcontractors or agents and their respective personnel assigned to or engaged for the performance of the work, DFO may direct the service provider, in writing, to take whatever steps that DFO, in its sole discretion, deems necessary and appropriate to resolve the potential conflict.

Companies must provide a notarized declaration that the company and its directors, principals, officers, shareholders, and employees, and those with any other financial interest in the company have no actual or perceived conflicts of interest with the fishing industry, and meet the arm's length criteria as described here, and explains how any such conflicts will be resolved.

3.2. Systems Requirements

Any electronic monitoring system must be approved by the Department and must include the following minimum specifications and component requirements:

- a) a video and sensor data-logging engine (control box), equipped with monitor and keyboard to verify correct power supply and EM system software and hardware performance, equipped with an external control to allow the user to manually insert time-stamped event markers into the sensor record;
- b) operating software to record imagery during fishing events;

- c) peripheral sensor devices suitable for fishing-deck work environment, including GPS, an electronic hydraulic pressure transducer, and a winch rotation sensor (where applicable);
- d) a minimum of two closed circuit television cameras, suitable for fishing-deck work environment, configured with an adjustable focal length lens to provide a clear view of the catch retrieval process and the measurement of released fish.
- e) have the sensor box connected to a monitor and keyboard to allow the user to view recorded EM imagery and conduct system checks to test system functionality.

Video images captured by the EM system shall meet the following minimum specifications:

- a) image files shall be viewable on Windows media player; if a non-standard Windows media player Codec is used, it shall be provided to Archipelago Marine Research Ltd. for image analysis;
- b) minimum resolution of 640 X 480 dpi and the ability to vary lens choice to ensure an appropriate field of view;
- c) imagery must have a burned-in caption showing vessel identifier, date, time and location;
- d) image files must capture 100% of each catch retrieval event, including a 10 to 30 minute run-on (depending on gear type) after each event;
- e) image frame rates shall be not less than 5 frames per second for catch retrieval imagery; and
- f) image quality must be sufficient to allow clear identification of species.

Sensor data captured by the EM system shall meet the following minimum specifications:

- a) Sensor data should be recorded to an ASCII file at a minimum frequency of once every 10 seconds;
- b) Sensor data format must meet the specifications outlined below:

Date,Time,UTCoffset,Lat,Latmin,Lon,Lonmin,Gpsok,Speed,Heading,Voltage,Saterr,
Video,Event,Drum,Pressure

080602,120041,-07.00,48,26.1305,123,23.7711,1,00.0,277,11.97,005,0,01,0,0

080602,120051,-07.00,48,26.1305,123,23.7711,1,00.0,257,11.95,005,0,00,0,0

080602,120101,-07.00,48,26.1305,123,23.7711,1,00.0,249,11.95,005,0,00,0,0

080602,120111,-07.00,48,26.1305,123,23.7711,1,00.0,252,11.95,005,0,00,0,0

Comma Delimited Data Format

The date, time, latitude, longitude, speed, heading and satellite error are all delivered by the GPS in National Marine Electronics Association (NMEA) 0183 Version 2.0 format. All data are numeric except the comma separators. Sensor sample interval is 10 seconds.

- 1) **DATE** – fixed width, 6 characters, YYMMDD

- 2) **TIME** – fixed width, 6 characters, HHMMDD, Pacific Standard Time year round.
- 3) **LAT** – Latitude degrees, fixed width, 2 characters
- 4) **LATMIN** – Latitude minutes, fixed width 6 characters including decimal point with 3 decimal characters
- 5) **LON** – Longitude degrees, fixed with 3 characters
- 6) **LONMIN** – Longitude minutes, fixed width 6 characters including decimal point with 3 decimal characters
- 7) **SPD** – Speed knots, fixed width 4 characters including decimal point with 1 decimal character
- 8) **HDG** – Heading degrees, fixed width 3 characters
- 9) **SATERR** – Estimated horizontal position error in metres (radius), fixed width, 3 characters. The horizontal position error (HPE) is delivered in the NMEA 0183 – GPS data stream
- 10) **VIDEO** – Video on/off, fixed width, single character (0 or 1)
- 11) **EVENT** – Operator initiated event marker, fixed width, 1 character (0 or 1)
- 12) **COUNT** – Rotation sensor – drum revolutions during sample interval, column width variable
- 13) **PRES** – Hydraulic pressure reading, pounds per square inch (PSI), column width variable.

3.3. Administrative and reporting requirements

Vessel masters must arrange for service providers that can meet the following minimum administrative and reporting requirements:

- a) data collected from the fishing logs shall be entered into DFO's Fisheries Operations System (FOS) within seven (7) days of collection;
- b) imagery viewing shall be completed to conduct audits of fishing logs (see section 12 below);
- c) results of the audit shall be used to produce a quota status report using FOS within five (5) days of the availability of a logbook and validation record in the FOS system (unless an audit has failed);
- d) where an audit has failed, results of the audit shall be used to produce a written report to DFO within five (5) days of the availability of a logbook and validation record in the FOS system;
- e) electronic records of all audits performed shall be maintained;
- f) video and sensor data shall be retained by the service provider responsible for conducting the audit:

- a. for at least 14 days after data has been reviewed to support audits of fishing logs and until a quota status report has been issued, where data review has not generated an occurrence report or audit failure, or
- b. for at least 30 days after data has been reviewed to support audits of fishing logs and until a quota status report has been issued or until DFO provides written indication that these data can be destroyed, where data review has generated an occurrence report or audit failure. The service provider will provide DFO 7 days advance notice before the 30 day period is up to allow DFO the opportunity to request the video and sensor data from the service provider for storage in DFO facilities or to provide permission to destroy the data;
- g) video and sensor data shall be provided to DFO upon DFO's request;
- h) audit reports shall be produced that are consistent with requirements set out in section 12 of this appendix, and any further guidance developed by the Commercial Industry Caucus (CIC) EM subcommittee;
- i) occurrence reports shall be produced for breaches of licence conditions within five (5) days of the availability of video and sensor data, a logbook, and validation record in the FOS system, consistent with requirements set out by the DFO Conservation and Protection branch;
- j) monthly reports shall be submitted to DFO using specified templates developed by DFO that include the audit results by fishery, number of vessels, number of trips, landed weight, audit reports, the total hours of EM services, and the total hours of data services provided;
- k) a year-end report shall be submitted to the CIC EM subcommittee summarizing fleet participation and performance, lessons learned, equipment performance, and any further content identified by the CIC EM subcommittee;
- l) meetings of the CIC EM subcommittee shall be attended regularly throughout each year.

3.4. Requirements prior to fishing when using EM:

The vessel master must make arrangements with an approved EM system service provider to install an EM system on board their vessel. The EM system must be functioning prior to hailing out. A functionality test confirming that the EM system is working must be completed by either the EM service provider or through the use of the User Enabled Services (UES) program. The FTCN must be recorded in the fishing log and is required to hail out.

- a) When hailing out, the vessel owner or master must provide the hail service provider with, in addition to the usual trip details, either an FTCN or the name and observer ID number of the embarking at sea groundfish observer for the trip.
- b) A hail out number will only be issued if either the FTCN (confirming a fully operational EM System) or the name of an embarking at sea observer is included in the hail information. The vessel must not depart port until a hail out number has been issued.

- c) A Quota Status Verification Number (QSVN) must also be provided at the time of hail, this number is to be recorded on the validation record at offload.
- d) Vessels must hail out to the designated hail service provider and must receive a hail out number prior to departing on the trip. The hail out number must be recorded in the fishing log. Hail out requirements are fully described in licence conditions.
- e) Archipelago Marine Research Ltd. (AMR), the EM service provider currently approved by the Department, also provides the UES program, a voluntary program that enables a skipper to manage aspects of the EM program that would traditionally be performed by an EM technician. For more information on eligibility and program guidelines, contact AMR.

3.5. **Requirements while fishing with EM:**

- a) Accurate recording of all fish caught and released in the fishing log is key to both accurate determination of catch and cost-effective fishing log audits. All halibut and sablefish caught and either retained or released must be accurately recorded by piece count and estimated weight in the fishing log. All other species must be accurately and fully recorded as piece counts. In addition, the set and haul details including fishing time and location must be accurately recorded.
- b) Where an EM system is in use on a vessel, the vessel master shall ensure all components of the system are fully operational during the entire fishing trip from the time the vessel leaves port until the vessel arrives at port to offload and the technician removes the trip information. The EM system shall be continuously powered and not turned off at any time. Vessels masters may also conduct periodic system functionality checks via monitor and keyboard. These checks record EM system performance and have it recorded with a time and date stamp on the system hard drive.
- c) If any or all of the EM system equipment becomes inoperative or malfunctions in any way, the vessel master shall immediately contact the EM system service provider. If the EM system cannot be repaired at sea, the vessel master shall stop fishing by hauling gear and returning to port as soon as possible. Trip data will be reviewed to ensure no fishing occurred after equipment failure. For Sablefish trap vessels, traps can be left in the water (for no more than four days) if the vessel is returning to port to repair the equipment and subsequently returning to the fishing grounds to complete the trip. If the EM system cannot be repaired at port, the vessel must hail-in as soon as possible.
- d) All rockfish species must be retained and landed. See appendices 3-7 for further details.
- e) EM system camera views must capture all fishing gear as it is retrieved from the water and all retained and released fish.
- f) Vessel operators and crew should avoid positioning themselves between the camera and the catch as this hampers accurate recording of catch during image review. All catch must be visible to the camera.

3.6. **Measurement grid**

- a) The use of a measurement grid is optional, however if the vessel master opts not to use a grid then all releases of lingcod, sablefish and halibut will be deemed legal size and all releases of dogfish will be deemed marketable and the appropriate mortality rates will be applied (see Section 7). The vessel master will then be responsible to acquire the necessary quota to address these.
- b) If a measurement grid is used then all sub-legal lingcod, sablefish, halibut and unmarketable dogfish must be held against the grid matching the specifications outlined below in (d). Vessel masters are reminded that fish are to be held against the measurement grid for at least three seconds before release without doing other activities (i.e. removing a hook). The calmer the fish, the easier they are to measure. The objective is to allow video viewers to visually gauge the length of the fish. If the grid is used improperly, the fish cannot be measured and the released fish will be deemed legal size.
- c) The exceptions to this are released halibut on a directed halibut trip, released dogfish on a directed dogfish trip, and released lingcod on a directed lingcod trip. On these trips all targeted species that are released at-sea will be assumed to be sub-legal or unmarketable and do not have to be measured. All levels of releases will be monitored in season to assess this requirement. See size limits in Section 10.
- d) Recommended measurement grid specifications:
 1. For vessels that choose to discard fish at the rail (Figure 1), or after the fish have come over the rail (Figure 2), measurement stations at the hauling area should have the following delineations:
 - i. Control Level
 - Green band above the bumper that has a height of 5cm and a width of 100cm
 - ii. Bumper
 - Raised material (e.g. existing rail or rubber or angle iron) at bottom of control level, it must be sufficient to act as a control point to hold the tip of the fish against
 - iii. Measurement Bands
 - Red band spanning 55-60cm from the bumper
 - White band spanning 60-65cm from the bumper
 - Yellow band spanning 65-75cm from the bumper
 - White band spanning 75-81cm from the bumper
 - Light green band spanning 81-91cm from the bumper
 - White band spanning 91-97cm from the bumper

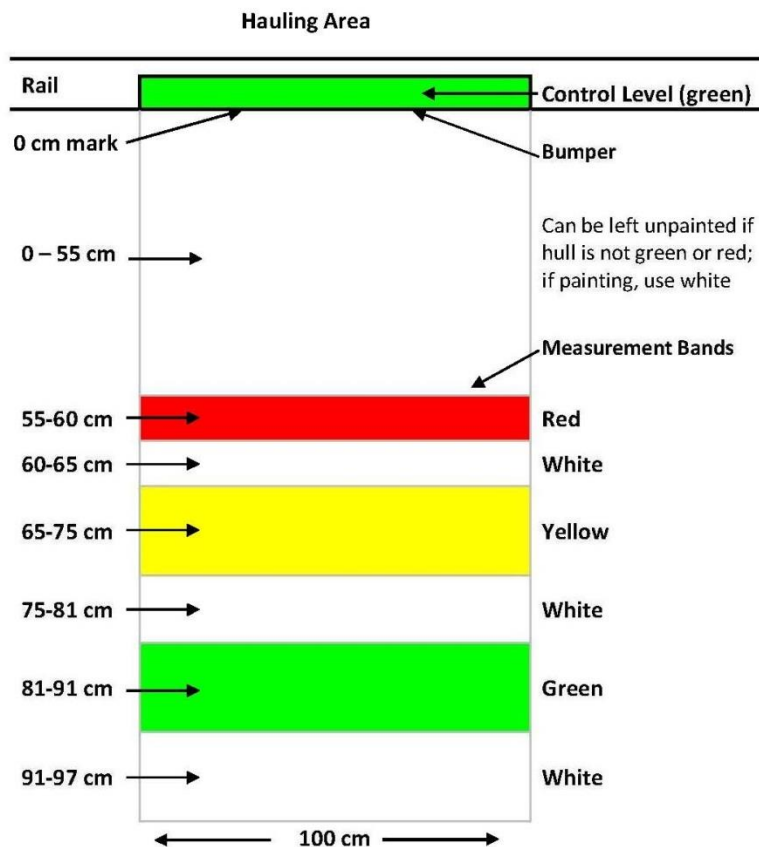


Figure 1. Measurement grid recommendations for vessels releasing at the rail.

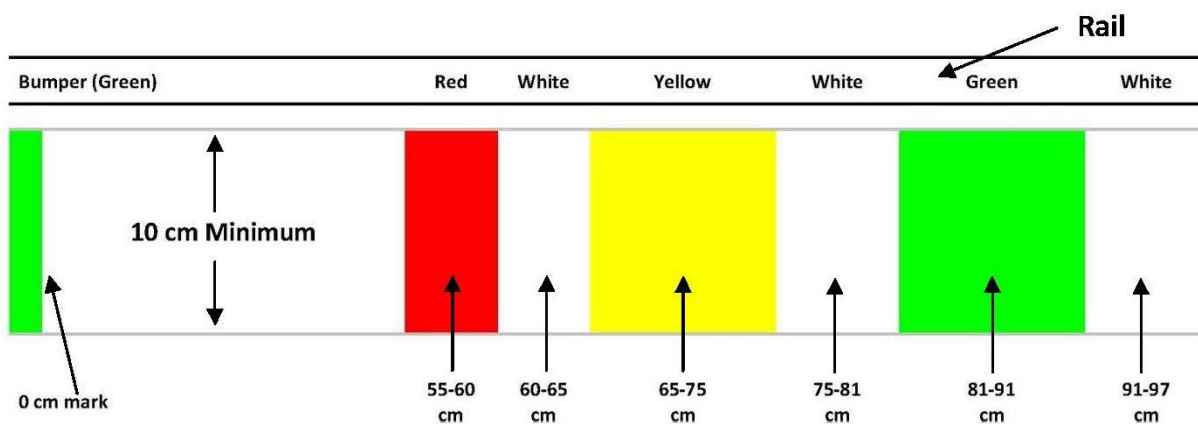


Figure 2. Measurement grid recommendations for vessels releasing after fish have come over the rail.

2. If a vessel does not have adequate freeboard for the bands on the side, infrastructure can be added above the rail at the hauling area (Figure 3).

The control level, bumper and any bands above the hull must be a minimum of 10 cm wide; any bands on the hull must meet the specifications stated above.

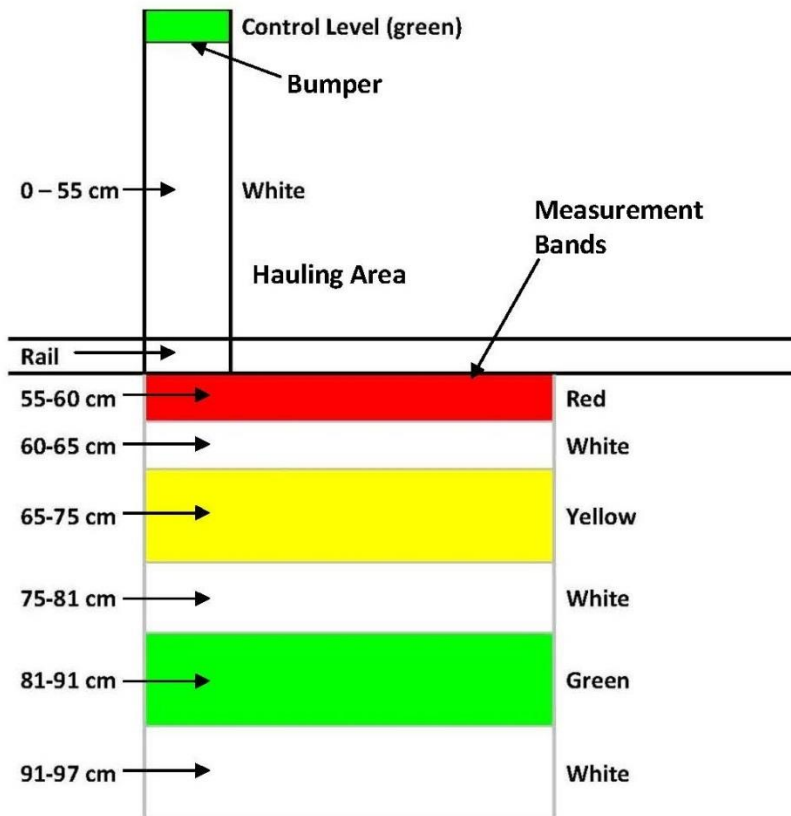


Figure 3. Measurement grid with infrastructure added for vessels without adequate freeboard.

3.7. Utilization Codes

Electronic monitoring video review protocols identify several categories of catch utilization assigned during video audit. Table 1 describes catch utilization codes that are assigned during video review by the Service Provider.

Table 1. Summary of catch utilization codes and definitions of each that are assigned to catch when video audits take place by the Service Provider.

Utilization	Definition
Retained Legal	Legal fish retained.
Retained Sub-legal	Sub-legal fish retained. May be determined during DMP.
Discarded Measured Legal	Fish held for 2 or more video frames, or 3 seconds, and assigned legal.

Discarded Measured Sub-legal	Fish held for 2 or more video frames, or 3 seconds, and assigned sub-legal.
Discarded Measured Size Undetermined	Valid attempt to measure, but auditor cannot determine size. <i>Designated legal.</i>
Discarded Measured Sub-legal Buffer	Valid attempt to measure, fish length in “buffer” zone.
Discarded Not Measured	No attempt to measure. <i>Designated legal.</i>
Discarded Lice-Damaged	Fish visibly damaged by sea lice or bite marks from predator.
Drop Off	Not “catch”. Crew did not have control of fish.
Discarded Throwback	Fish onboard, sizes determined, then discarded. Responsible for legal size fish.
Unknown	<i>Designated sub-legal.</i>

3.8. Evaluation

The performance of the service provider(s) in meeting the requirements of the EM program may be evaluated. Service providers failing to meet the minimum requirements outlined in this appendix may not be approved by DFO to perform those duties in subsequent years. Further, the EM requirements set out in this appendix will be subject to periodic review.

DFO is not responsible for third-party contracts or other arrangements between licence holders and service providers. It is the responsibility of licence holders to ensure that arrangements are in place for service providers to meet EM requirements.

As part of the evaluation process, DFO may assess performance against the requirements described in this document at various points within the fishing season. Feedback will be provided to the service provider(s) and licence holder representative(s). Any opportunities to improve performance will be documented during the first 8 months of the year. In the event that service providers are unable to reach a satisfactory level of performance in the EM program, they will be notified along with licence holder representative(s), prior to November 1 of each year that DFO will not approve their company to provide EM services in the following year.

EM service provision evaluation criteria:

- Success of EM data collection;
- Processing and delivery of logbook information within the specified timeframes;
- Documentation of equipment deficiencies /failures and repair;
- Rate of equipment deficiencies /failures and timeliness of equipment repair;

- Timeliness, completeness, and accuracy of trip audit reports, occurrence reports, quota status reports, monthly reports, and year-end report;
- Preservation of accuracy, integrity, and confidentiality of EM data;
- Adherence to arm's length and insurance criteria;
- Attendance at meetings of the CIC EM subcommittee.

4. INTEGRATED GROUND FISH FISHING LOG

The Integrated Groundfish Fishing Log is an electronic or paper log that meets the requirements of the Department and serves as the official catch record for a vessel for any given groundfish trip. Integrated Groundfish Fishing Logs, electronic or paper, are available from Archipelago Marine Research Ltd. It is the responsibility of the vessel owner or master to ensure that the Integrated Groundfish Fishing Log be completed fully and accurately. The Integrated Groundfish Fishing Log no later than 24 hours after midnight local time for each day fished, and prior to the landing of any fish taken under authority of this licence (see section 16 for examples).

Where a paper Integrated Groundfish Fishing Log is used:

- the white copy of the completed pages of the log will be collected by the groundfish dockside validator;
- following the landing of halibut, the yellow copies of the completed pages shall remain in the Logbook until removed by an International Pacific Halibut Commission employee or shall be mailed within seven (7) days of the vessel's final landing to:

International Pacific Halibut Commission
2320 West Commodore Way, Suite 300
Seattle, WA, United States
98199-1287

- the pink copy of the completed pages must be retained for a minimum period of two years.

Where an electronic Integrated Groundfish Fishing Log is used:

- copies shall be provided to Fisheries and Oceans Canada (c/o Archipelago Marine Research Ltd.), and the International Pacific Halibut Commission within seven (7) days of each landing; and
- a copy must be retained for a minimum period of two years.

5. HAIL PROGRAM

Prior to leaving port for a fishing trip, and prior to landing catch, the vessel masters must identify their intentions by way of hailing. Hail-out and hail-in reports may be made either via telephone, or electronically via the e-hail program, as described in the conditions of licence.

To hail via telephone, a vessel master shall contact the designated groundfish hail service provider, Archipelago Marine Research Ltd. (AMR), at 1-877-819-1888 (24 hours per day; seven days per week).

6. BAIT

Commercial fishers wishing to use licensed catch as bait may do so (with the exception of rockfish). All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait but must be retained and landed. Pacific cod landings are subject to a trip limit, (refer to licence conditions for details); however, any amount of Pacific cod caught can be used for bait provided that the fish is recorded in the logbook.

Octopus caught incidentally may be retained and used for bait but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed the average weight for that species (see Section 9).

7. DOCKSIDE MONITORING AND VALIDATION

7.1. Hail-in

Vessels must hail-in to the designated hail service provider prior to the landing of any fish. The landing of any species of fish cannot commence unless a groundfish dockside observer is present and has given permission to commence the landing. All requests for dockside observer services will be handled as quickly as possible; however, vessel masters are urged to provide as much advance notice as practical (e.g., 24 hours) to avoid delays. Response times will vary depending on many circumstances such as observer availability, time of hail and location of offload. Hail-in requirements are fully described in licence conditions.

7.2. Designated Landing Locations

All hook and line and trap groundfish species shall be landed only at the approved landing ports listed in the licence conditions. To get an estimate of costs and rates for different landing locations, contact AMR.

7.3. Landing

All fish landed must be separated, piece counted and weighed by individual species and by product type. The only exceptions to the piece count requirement are halibut, lingcod, dogfish and sablefish landed on directed trips.

Sub-sampling methods are set out in licence condition for species, (other than halibut and lingcod), where the landed weight is greater than 2,500 lbs.

All fish caught and retained must be landed at designated offloading locations and validated by a groundfish dockside observer using a dockside weight verification system. AMR is the designated service provider for this program, and will provide DFO designated groundfish dockside observers to verify individual vessel quota status. Specific requirements are included in conditions of licence.

The dockside monitoring program (DMP) is a cooperative process between vessel masters, processors and validators whereby all parties must work together to ensure the timely and accurate collection of catch landing data. Vessel masters are ultimately responsible to ensure the offload process meets the needs of all parties, in particular regarding piece counts. Should offload conditions (e.g. processing plant operations, lighting at the offload) inhibit the ability of the validator to conduct an accurate piece count, the observer is obliged to immediately bring this to the attention of both the plant foreman and the vessel master to have the issue resolved.

At the completion of an offload, vessel masters or a designate must review the validation record and sign off on the piece counts; acknowledging that piece counts are a key component of the audit process (Section 11). In the case where a discrepancy exists between the vessel master's count and the validation record, a recount may be requested.

Where a recount is carried out, it should be done in a way that minimizes impact and expense for the offloader. In those cases where the new counts are more than 5% out, AMR will not bill vessel for the extra time unless concerns regarding the validator's ability to carry out accurate piece counts were not addressed. If the recount of the species in question is completed and the new counts are within 5% of the original count, the costs of doing the extra time will be borne by the vessel and added to the Validation Record.

No fish may be offloaded at sea. No landing of any fish is to commence until a designated groundfish dockside observer is on-site and approves the commencement of the landing.

The observer will inspect fishholds, lazarettes, baitholds, and other areas where fish might be stored. With the exception of the directed Sablefish fishery (category K licence eligibility), after landing is completed the observer will inspect the fishholds, and the above-mentioned areas, to ensure that all fish on board have been landed. It is the responsibility of the vessel owner or master to provide safe access to the vessel's holds for inspection, and to ensure that the vessel does not leave the landing site prior to completion of the fishhold inspection by observer.

7.3.1. Partial Offloads

Vessels fishing under the authority of a category K licence eligibility are permitted to land only a portion of their catch during a "partial offload."

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip "legs" are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider's head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

Partial offloads are prohibited for Pacific Halibut.

Once landing commences all product on-board are to be landed and weighed on a scale approved by either Industry Canada or the State of Washington Weights and Measures.

The groundfish dockside observer will verify and record in the Groundfish Validation Log the weights and, where required, the pieces of all fish landed. Where commercially caught Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed. The observer will convert landed halibut weights to a net dressed, head-off weight. Rockfish and all other groundfish species will be converted to a round weight, using conversion factors set out in the conditions of licence.

The white copy of the completed pages from the Validation Record must remain with the groundfish dockside observer for subsequent keypunching and data entry. The yellow page must be delivered to the buyer or must accompany the load and be delivered to the buyer if the fish are trucked to the buyer.

The IPHC stock assessment is based on biological data obtained through port sampling, surveys and special projects. Since the 1930s, biologists have collected otoliths for ageing and lengths of fish. Under Section 48 of the *Fishery (General) Regulations*, the vessel master must make available for sampling any fish when requested by an authorized representative of the IPHC

7.3.2. Live Rockfish Landings: Sampling Protocol

In 2020, a sub-sampling protocol was adopted for implementation for all live-rockfish offloads to improve consistency at offloads, and minimize the time live fish spend out of water. These measures aim to address concerns regarding product mortality that can occur when sorting and enumerating fish at the dock. The protocol was developed in collaboration by the Department and members of the Groundfish Hook and Line Sub-Committee. More information regarding the live rockfish offload protocol can be found in Appendix 4 (section 8) and in Appendix 5 (section 9).

7.4. Halibut Tagging

All halibut landed in Canada including Canadian-caught halibut landed in the United States will be tagged. Under this program all halibut are tagged by the Department certified observer at the point of initial offloading with a unique serial number that will tie each fish to a particular offload. These numbers are recorded by the observer in the Validation Record completed for each landing.

The objectives of the program are twofold: to act as an enforcement tool to decrease the amount of illegally caught halibut entering the market, and to assist in marketing Canadian halibut as a distinct and high quality product.

7.5. Transport of validated fish

If the fish are to be transported to another location after landing, the vessel master should obtain a transit slip from the groundfish dockside observer, who will issue one transit slip for each vehicle or vessel transporting groundfish.

Vessels with validated fish onboard shall not engage in any commercial fishing until all validated fish have been removed from the vessel.

8. LOST AND FOUND GEAR REPORTING REQUIREMENTS

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to report on the gear type and amount, as well as the date, time and location that gear was lost or found. Harvesters are reminded that they are responsible for complying with all conditions of licence. Please refer to the IFMP Front Section 5.2.1.8 for more information and Appendix 2 for an example of the fishing log. If your fishing logs do not have the additional section on gear reporting requirements, please contact Archipelago Marine Research Ltd. to ensure you have the updated versions.

9. MORTALITY RATES

Vessels will be assessed mortality for legal/marketable sized fish released at-sea, for those species and areas for which a quota has been established. Mortality rates are set out below.

Gear		Lingcod	Sablefish	Dogfish	Rockfish	Halibut	Skates
Hook & Line	Jig	4%	100%	6%	100%	5%	10%
Hook & Line	Longline	4%	100%	6%	100%	16%	10%
Hook & Line	Troll	2%	15%	6%	100%	5%	10%
Trap		4%	100%	6%	100%	10%	10%

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and the proposal of measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and has updated the discard mortality rates for legal, marketable Sablefish for the 2022/23 fishing season to provide an incentive for harvesters to retain legal-sized, marketable Sablefish and reduce discarding of these fish in Groundfish fisheries. Details regarding the discard mortality rates are found in Section 9 of Appendix 2 of this IFMP.

Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

10. AVERAGE WEIGHTS

The mortality can be determined by calculating the mortality rate (as laid out above) by the predetermined average weights in pounds listed below. (For example a longline caught legal-sized released halibut would be $0.16 \times 21 \text{ lb.} = 3.4 \text{ lbs.}$)

Canary Rockfish	6	Quillback Rockfish	3	Shortspine Thornyhead	3
China Rockfish	3	Redbanded Rockfish	4	Silvergray Rockfish	5
Copper Rockfish	3	Rougheye/Blackspotted Rockfish	4	Spiny Dogfish	9
Lingcod	12	Sablefish	8	Tiger Rockfish	3
Pacific Halibut	21	Shorthead Rockfish	9	Yelloweye Rockfish	7
Big Skate	18	Longnose Skate	14		

Dogfish, Sablefish and ZN vessels that encounter halibut or lingcod as non-directed catch after their season closes will be responsible for the mortality of these species.

11. SIZE LIMITS

11.1. Halibut

No person shall catch and retain a halibut that head on is less than 32 inches (81.3 cm), measured in a straight line, passing over the pectoral fin, from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail or head off less than 24 inches (61.0 cm), measured in a straight line from the base of the pectoral fin at its most anterior point to the extreme end of the middle of the tail.

11.2. Lingcod

No person shall catch and retain a lingcod that head on is less than 65 cm in length, measured from the tip of the nose to the tip of the tail or head off is less than 50 cm in length, measured along the shortest length of the body to the tip of the tail.

11.3. Sablefish

No person shall catch and retain a Sablefish that is less than 55 cm in length, measured from the tip of the nose to the fork of the tail or where the head has been removed, 39 cm in length measured from the origin of the first dorsal fin to the fork of the tail.

11.4. Dogfish-Unmarketable

Dogfish that is less than 66 cm in length, may be released at-sea, and will not be deducted from IVQ holdings.

12. RESTRICTIONS

It is unlawful to have Pacific halibut on board taken by recreational fishing if there are any other fish on board the vessel destined for commercial use.

13. FISHING LOG AUDIT

At the time of landing the video and sensor data from the EM system will be removed from the EM system by the EM system service provider. Following every trip landing there will be an audit of the accuracy of the completed fishing log completed by a service provider approved by the Department. The audit uses the video data to confirm catch by species group, DMP piece counts to confirm retained catch, and the GPS and other sensor data to confirm location of fishing. Approved service providers for the audit will run a series of tests so that the following comparisons will be made:

- a) Fishing log total retained piece counts compared to DMP validation - to verify the accuracy of logbook with respect to landed and validated catch.
- b) Fishing log piece counts compared to EM Video - to compare the observed catches and releases against the fishing log record. Ten percent (10%) of all sets per trip (minimum 1 set) will be randomly selected for video review.
- c) Fishing log set start location, time, date and total number of fishing events compared to EM sensor data – to verify the accuracy of the logbook in relation to time, date and area of catch and number of fishing events.
- d) All test results produced from the audit are combined in a weighted average to produce a trip score to provide a single value ranging from 0 ('poor') through 10 ('good') to describe general audit results.
- e) Trip scores will be considered cumulatively in determining a vessel's annual score. Annual scores, ranging in value from 0 ('poor') through 10 ('good'), are determined by averaging a vessel's trip scores accrued over the past calendar year (i.e. irrespective of season) to provide a sense of a vessel's audit history.

After the audit is complete, the logbook and the DMP together form the official trip record.

Audits that are not within acceptable range may result in the following:

- a) Letters identifying unsuccessful tests, requests for additional information to explain discrepancies, and a delay in receiving catch details;
- b) Additional time required to resolve and correct fishing trip data at additional cost to the vessel;
- c) Complete (100%) review of all EM imagery data at additional cost to the vessel; and

- d) Catch detail being based on EM data rather than logbook data (logbook data is the default); and
- e) Requirement to take an at-sea observer (EM system is the default).

Sensor and video data gaps may prevent Quota Status Reports (QSRs) from being generated. Vessels are required to have the video running when hauling gear to enable a clear view of all catch and all releases. Sensor data gaps are flagged if the set start information is missing. The sensor data must cover all setting of gear for audit purposes; therefore if any sets are missed, the audit is sent to DFO for review.

While other sensor data gaps may not prevent a QSR from being issued (i.e. overnight or in transit), it remains the responsibility of conditions of licence require the vessel master to ensure a functioning and operational EM system for the entirety of a fishing trip. When sensor gaps occur on a trip, they should be noted in the log. If a vessel is experiencing technical difficulties with the EM system such that it may cause video or sensor data gaps while fishing, it is the vessel master's duty to inform AMR and resolve any issues prior to continuing fishing activity.

14. QUOTA STATUS REPORT

Following the completion of each offload and subsequent audit, the designated EM data analysis service provider will reconcile all catch information; both landed and discarded, versus current quota holdings and produce a quota status report (QSR). The QSR will be forwarded to the identified contact for the vessel. Vessel masters should be advised that it can take up to 5-7 days for completion of a QSR.

There may be a one trip allowance for vessels to clear excess overages for non-directed catch. Vessels that remain in an overage position for any species area group will be restricted from further fishing activity for that fishery for the remainder of the fishing year, or until such time that sufficient quota holdings are reallocated to the licence to cover any overages.

15. FISHER IDENTIFICATION NUMBERS

DFO has introduced unique Fisher Identification Numbers (FIN) that will be assigned to all Pacific commercial harvesters. Once a FIN has been assigned to a fisher, that individual will reference the FIN when identifying him or herself in subsequent business dealings with both the department and service contractors, completing the FIN field on logbooks, noting the FIN when hauling and landing catch, etc. A FIN will be automatically generated for fishers when their new

year's FRC licence is issued. Once the FIN is issued to a fish harvester it will not change from year to year.

16. FISH SLIPS

Vessel Masters must obtain copies of all fish slips from fish buyers and keep available copies when required by the Department. Vessel masters are required to ensure fish slip records are mailed directly to the Department no later than seven days after landing. Fish slips must be mailed to:

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

Any vessel masters selling fish to the public are reminded that they must obtain a Fisher Vendor Licence, available from any provincial government agent, and as licensed vendors they will be required to record all public fish sales on fish slips. All record keeping requirements for a Fisher Vendor Licence are in the [Fish and Seafood Licensing Regulation](#). Further provincial licensing information is available here: <https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/fisheries-and-aquaculture/seafood-industry-licensing>.

17. INTEGRATED GROUND FISH FISHING LOGBOOK

17.1 Example logbook page for trap gear

YEAR **2 0 1 2**

INTEGRATED GROUND FISH FISHING LOGBOOK

Vessel: Ground Fisher				FTCN:				DATE:											
VRN: 299999				Gear ID				HOOK TRAP ESCAPE RING											
Vessel Master: Joe Smith								Type		Size		Spacing (feet)		# per skate					
FIN: 123456		#Crew: 4		Trip #: 2		Trap		K		48		150		2		3(7/8)		S51	
Tab #1: K 99		Tab #2:																	
Hail Out #(s): 32700 332/																			
Hail In #(s): 3270 0339 /																			
Target Spp. Sablefish																			
Bait Spp. hake		Spp. Wt. 10																	
Bait Spp. squid		Spp. Wt. 2																	

Set/Haul		Set # 1		Haul # 1		Set/Haul		Set # 2		Haul # 2	
Gear/Skate Details		ID A	# Set 55	# Lost 0	Gear/Skate Details		ID A	# Set 60	# Lost 1		
Catch Area (GMU)		5D				Catch Area (GMU)		5D			
Set Start Date/Time		(mm/dd) 11/23		(hh:mm) 11:00		Set Start Date/Time		(mm/dd) 11/23		(hh:mm) 13:15	
Haul Start Date/Time		(mm/dd) 11/24		(hh:mm) 18:45		Haul Start Date/Time		(mm/dd) 11/24		(hh:mm) 22:00	
Haul End Date/Time		(mm/dd)		(hh:mm)		Haul End Date/Time		(mm/dd)		(hh:mm)	
Set Start Lat		5 4 1 3 . 7 5		Set Start Lat		5 4 1 5 . 6 1					
Set Start Long		1 3 0 4 7 . 8 2		Set Start Long		1 3 1 0 1 . 1 2					
Set End Lat		5 4 1 3 . 6 2		Set End Lat		5 4 1 5 . 0 9					
Set End Long		1 3 0 4 8 . 0 5		Set End Long		1 3 1 0 3 . 5 7					
Depth in fathoms		Start 142		Min 139		Depth in fathoms		Start 248		Min 245	
		End 165		Max 170				End 262		Max 268	

Species Name	Retained			Released			Species Name	Retained			Released		
	Weight	Pieces	Bait	Weight	Pieces	Liced		Weight	Pieces	Bait	Weight	Pieces	Liced
Halibut - Legal							Halibut - Legal				30	1	
Halibut - Sub-L	/	/	/	/	/	/	Halibut - Sub-L	/	/	/	/	/	/
Sablefish - Legal	1000	236					Sablefish - Legal	1150	268				
Sablefish - Sub-L	/	/	/	200	30		Sablefish - Sub-L	/	/	/	65	5	
Lingcod - Legal							Lingcod - Legal						
Lingcod - Sub-L	/	/	/	/	/	/	Lingcod - Sub-L	/	/	/	/	/	/
Dogfish - Mark							Dogfish - Mark						

Dogfish - UnMark					Dogfish - UnMark				
Species Name	Pieces	Bait	Pieces	Liced	Species Name	Pieces	Bait	Pieces	Liced
Yelloweye					Yelloweye				
Quillback					Quillback				
Rougheye	37				Rougheye	5			
SS Thornyhead			0	1	SS Thornyhead				
Redbanded					Redbanded	3			
Big Skate					Big Skate				
Longnose Skate			1		Longnose Skate				
Turbot			8		Turbot			29	
Pacific Cod					Pacific Cod				
Tagged Fish/Tag #(s): A0045026 Sablefish					A0040477 Sablefish				
IPHC USE:					Collected by:				
Comments: (Including marine mammal interactions, e.g. bycatch, collision, sightings of marine mammals entangled in fishing gear)									
Was gear lost or recovered? (circle one) Lost / Recovered					Which set did this occur in? 2				
Estimated amount of gear (e.g. # of skates): one trap					Haul #: 2				
Gear type: Trap					If recovered, was gear returned to land? Y / N				

White Copy - Observer Yellow copy - IPHC Pink Copy - Vessel Master Page ___ of ___

17.2 Example logbook page for longline gear

YEAR **2012**

INTEGRATED GROUND FISH FISHING LOGBOOK

Vessel: Groundfisher # 1				FTCN:				DATE:			
VRN: 12356				Gear ID				Length of Skate (feet)			
Vessel Master: Rob Smith											
FIN: 54321		#Crew: 4		Trip #: 13		HOOK/TRAP		ESCAPE RING			
Tab #1: LOOT		Tab #2: K09		Type	Size	Spacing (feet)	# per skate	# per trap	Diameter (inches)	Config.	
Hail Out #(s): 32900970 32700229		Hail In #(s): 32901046 32700252		A	SNAP	1850	BC 14	10	200		
Target Spp. Halibut/Sablefish				B							
Bait Spp. SQ		Spp. Wt. 8		C							
Bait Spp. HD		Spp. Wt. 8		D							

Set/Haul	Set # 1	Haul # 4	Set/Haul	Set # 2	Haul # 2	
Gear/Skate Details	ID A	# Set 4	# Lost	ID A	# Set 4	# Lost
Catch Area (GMU)	5C			5A		
Set Start Date/Time	(mm/dd) 04/22	(hh:mm) 06:13	Set Start Date/Time	(mm/dd) 04/24	(hh:mm) 15:21	
Haul Start Date/Time	(mm/dd) 04/22	(hh:mm) 13:56	Haul Start Date/Time	(mm/dd) 04/25	(hh:mm) 18:22	
Haul End Date/Time	(mm/dd)	(hh:mm)	Haul End Date/Time	(mm/dd)	(hh:mm)	
Set Start Lat		5 2 2 6 2 8	Set Start Lat		5 1 1 0 1 0	
Set Start Long		1 3 0 5 1 3 5	Set Start Long		1 2 9 3 0 5 0	
Set End Lat		5 2 3 2 1 9	Set End Lat		5 1 0 8 0 0	
Set End Long		1 3 0 5 0 0 0	Set End Long		1 2 9 4 0 1 0	
Depth in fathoms	Start 44	Min 33	Depth in fathoms	Start 100	Min 80	
	End 60	Max 64		End 120	Max 120	

Species Name	Retained			Released			Species Name	Retained			Released		
	Weight	Pieces	Bait	Weight	Pieces	Liced		Weight	Pieces	Bait	Weight	Pieces	Liced
Halibut - Legal	600	28				4	Halibut - Legal	100	4				
Halibut - Sub-L	/	/	/				Halibut - Sub-L	/	/	/			
Sablefish - Legal					5		Sablefish - Legal	1000	125				
Sablefish - Sub-L	/	/	/				Sablefish - Sub-L	/	/	/	200	30	
Lingcod - Legal	100	10					Lingcod - Legal						
Lingcod - Sub-L	/	/	/				Lingcod - Sub-L	/	/	/			
Dogfish - Mark							Dogfish - Mark					13	
Dogfish - UnMark							Dogfish - UnMark						

Species Name	Pieces	Bait	Pieces	Liced	Species Name	Pieces	Bait	Pieces	Liced
Yelloweye	17				Yelloweye				
Quillback					Quillback				
Rougheye	3				Rougheye	13			
SS Thornyhead					SS Thornyhead				
Redbanded					Redbanded	10			
Big Skate			3		Big Skate			10	
Longnose Skate					Longnose Skate				
Turbot		10			Turbot				
Pacific Cod	15	2			Pacific Cod				
Canary	4				Shortraker	26			2

Tagged Fish/Tag #(s): Sablefish A00731637, A00 744 833

IPHC USE: Collected by:

Comments: (Including marine mammal interactions, e.g. bycatch, collision, sightings of marine mammals entangled in fishing gear)

Was gear lost or recovered? (circle one) Lost / Recovered	Which set did this occur in? 1
Estimated amount of gear (e.g. # of skates): half a skate	Haul #: 4
Gear type: skate	If recovered, was gear returned to land? Y / N

Appendix 3: Schedule II – Other Groundfish Species Commercial Harvest Plan

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1. MANAGEMENT UPDATES & CHANGES FOR 2022/2023

1.1. In-Season Changes/Updates

In-season updates are available on the Fishery Notice website at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial.

In-season Sector Catch and Sector Cap summaries are updated daily and can be found at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/publications-eng.html>

1.2. Lost and Found Gear Reporting Requirements

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, new conditions have been added to licence conditions beginning in the 2020/2021 season, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to report on the gear type and amount, as well as the date, time and location that gear was lost or found in the Integrated Groundfish Fishing Log. Harvesters are required to use the Fishing Log to report on lost/found gear. Please refer to the front section 5.2.1.8 for more information and appendix 2 for an example of the Fishing Log. If your Fishing Logs do not have the additional section on gear reporting requirements, please contact Archipelago Marine Research Ltd. to ensure you have the updated versions.

1.3. Sablefish Discard Mortality

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and to propose measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and has updated the discard mortality rates for legal, marketable Sablefish for the 2022/23 fishing season to provide an incentive for harvesters to retain legal-sized, marketable Sablefish and reduce discarding of these fish in Groundfish fisheries. Details regarding the discard mortality rates to be implemented in 2022/23 will be found in Section 9 of Appendix 2 of this IFMP.

Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

1.4. Southern Resident Killer Whales – Fisheries Management Measures

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.5. Pacific Groundfish Integrated Fishery Website

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

1.6. Partial Offloads

Harvesters are reminded that when hailed on a combination Sablefish/Halibut trip, all Pacific Halibut must be offloaded at the final offload as partial offloads are prohibited for commercially caught Pacific Halibut. Vessels fishing under the authority of a Sablefish licence eligibility are permitted to land only a portion of their catch during a “partial offload”.

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip “legs” are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider’s head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

1.7. Pilot 800 Line/Circle Tow Bottom Trawl Closure & Seasonal Expansion

The seasonal expansion of the 800-line/Circle Tow closure has been extended from November 1, 2021 - March 31, 2022 due to a continued lack of new science advice for Arrowtooth Flounder. The closure continues to be an interim management measure that is intended for the short-term and will be re-evaluated during the 2022/23 fishing season.

Please refer to Section 6.8.11 of Appendix 9 (Trawl appendix) for more information.

2. SPECIES

Lingcod (*Ophiodon elongates*)
Spiny Dogfish (*Squalus suckleyi*)
Rockfish (*Sebastes sp.*) and Longspine/Shortspine Thornyheads (*Sebastolobus sp.*)
Halibut (*Hippoglossus stenolepis*)
Sablefish (*Anoplopoma fimbria*)
Skate (*Rajidae*)
Sole and Flounder (*Pleuronectiformes* other than *Hippoglossus stenolepis*)
Pacific cod (*Gadus macrocephalus*)

3. GEAR

Fishing for Schedule II – Other Species is permitted by hook and line gear, specifically longline, jig, and troll. When conducting a directed Lingcod trip only troll and jig gear is permitted; directed fishing for Lingcod with longline gear is not permitted.

4. QUOTAS AND OPEN TIMES

4.1. Open Times

With the exception of those seasonal and permanent closures noted in this plan, or closures announced in-season, the 2022/2023 fishery will commence 00:01 hours, February 21, 2022 and close at 23:59 hours, February 20, 2023. Following the closure of the fishery, all fish caught under the authority of a Schedule II licence eligibility must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours, February 27, 2023.

The retention of Lingcod by hook and line gear in outside waters (see section 4.2) will be permitted from April 1, 2022 to 23:59 hours November 14, 2022. The retention of Lingcod by hook and line gear in inside waters (see section 4.2) will be permitted from May 1, 2022 to 23:59 hours November 14, 2022. Accordingly, all Lingcod must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours local time, November 21, 2022.

The retention of Halibut by hook and line gear will be permitted from 12:00 hours, TBD. The directed Halibut fishery will close at 12:00 hours, TBD. Accordingly, all Halibut must be landed and validated by a DFO-designated groundfish dockside observer no later than 12:00 hours, TBD.

To allow an orderly opening for the 2022 Pacific Halibut season, variation orders are issued to close three areas (Langara Island, Cape St. James, and North Triangle) for 72 hours prior to the opening of the Pacific Halibut season. The variation orders close the fisheries Skate, Sole, Flounder and Spiny Dogfish by hook and line, Pacific Cod by hook and line, rockfish by hook and line, and Sablefish by longline. Please review all variation orders prior to fishing.

4.2. Fishing Areas

4.2.1. Lingcod Outside

Subject to closures described in Appendix 10 of this IFMP and variation orders, commercial Lingcod fishing is permitted to be carried out in Groundfish Management Areas 3C, 3D, 5A, 5B, 5C, 5D, and 5E, effective April 1, except areas:

1. Subareas 2-1 and 2-63 to 2-68; and that portion of Subarea 2-69 inside a line
 - that begins at Fame Point 53°17.060' N 132°42.415' W
 - then to 53°17.060' N 132°43.800' W
 - then to 53°16.350'N 132°44.700' W
 - then abutting the boundary of 53°15.208'N 132°43.597' W
 - Subarea 2-68
 - then to Hunter Point 53°15.208'N 132°42.984' W

4.2.2. Lingcod Inside

Subject to closures described in Appendix 10 of this IFMP and variation orders, commercial Lingcod fishing is permitted to be carried out in Groundfish Management Area 4B, effective May 1, except areas:

Areas 13 to 20, 22, 28 and 29.

4.2.3. Dogfish and other Schedule II species

Subject to closures described in Appendix 10 of this IFMP and variation orders, commercial Dogfish and other Schedule II species fishing is permitted to be carried out in Groundfish Management Areas 3C, 3D, 5A, 5B, 5C, 5D, 5E, and 4B, except areas:

1. Areas 22 and 28.
2. Subareas 2-1 and 2-63 to 2-68; and that portion of Subarea 2-69 inside a line
 - that begins at Fame Point 53°17.060' N 132°42.415' W
 - then to 53°17.060' N 132°43.800' W
 - then to 53°16.350'N 132°44.700' W
 - then abutting the boundary of 53°15.208'N 132°43.597' W
 - Subarea 2-68
 - then to Hunter Point 53°15.208'N 132°42.984' W
3. Subareas 13-2 to 13-9, 13-11 and 13-27.
4. Subareas 14-11 and 14-14.
5. Subareas 16-3 and 16-4.
6. Subareas 17-7 and 17-14.
7. Subarea 18-8.
8. Subareas 19-1 and 19-6.
9. Subareas 20-6 and 20-7.
10. Subareas 29-7 to 29-17.

4.3. Halibut Landing Requirements

Where Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed.

4.4. **Prohibition on Shark Finning**

DFO prohibited the practice of finning of dogfish and sharks off the west coast of Canada beginning in the 2012 fishing season. Though not a common practice in Canada, this action is in response to international concerns with fish handling practices in other jurisdictions, where the fins of sharks are removed at-sea and the remainder of the shark, sometimes still alive, is discarded overboard.

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

4.5. **Total Allowable Catch**

The total allowable catch is reported in section 6 of this IFMP.

5. **LICENSING**

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

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

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

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

5.1. **Licence Category**

A commercial Schedule II Species (category C), communal commercial Schedule II Species (category FC) or any vessel based licence with Schedule II Species privileges is required to commercially harvest Schedule II - Other Species.

“Schedule II” refers to Schedule II, Part II of the *Pacific Fishery Regulations, 1993*. Category C licence eligibilities are limited entry and vessel based. Category FC licence eligibilities are limited entry and party based; an Indigenous group is the licence eligibility holder and the eligibility must be designated to a commercially registered fishing vessel that meets established length restrictions.

Vessels fishing under the authority of a Schedule II - Other Species licence may also be designated to fish under the authority of a category Z licence.

5.2. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by the Consumer Price Index (CPI) published by Statistics Canada.

The commercial Schedule II Species (Category C) licence renewal fee for 2022-2023 may be found under the header, Licence Renewal Fees on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html#commercial>.

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

5.3. Licence Issuance

Renewal of a Schedule II Species Category C licence and payment of the licence renewal fee must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category C licence eligibilities not renewed by February 20th of the current fishing year will cease and licence issuance requests will be unable to be considered in the future.

Prior to annual licence issuance of a communal commercial Schedule II Species licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Prior to annual application, vessel owner(s)/licence eligibility holders are required to:

- a) Meet any Ministerial conditions placed on the licence eligibility.
- b) Ensure any conditions of the previous year’s licence are met.
- c) Ensure the designated vessel’s overall length does not exceed the maximum vessel length of the category FC licence eligibility.

To avoid delays, please ensure the payment and vessel designation information is submitted all at the same time through the Submit a Request menu selection within the NOLS when renewing a communal commercial licence.

5.4. Licence Amendments

The Schedule II Species licence eligibility must be issued for the year prior to the processing of a request for licence amendment or reallocation of Individual Transferable Quota (ITQ).

The vessel owner/licence eligibility holder or an authorized representative must request and receive a 2022/2023 licence amendment from the Groundfish Management Unit, prior to fishing. The amendment outlines the total amount of fish by species, that the vessel can land for the fishing season. Without this amendment, the vessel is not permitted to catch, retain or land any fish.

Licence Amendment Request Forms and other applicable Groundfish forms are available online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/form-eng.html>

5.5. Licence Documents

Schedule II Species licence documents are valid from the date of issue to February 20, 2023.

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

5.6. Vessel Replacement

The owner(s) of a category C licensed vessel may make an application to replace the commercial fishing vessel by completing an Application to Replace a Commercial Vessel form. Both the replacement vessel and the vessel being replaced must have a survey on file with the Pacific Fishery Licence Unit (PFLU) or submitted with the vessel replacement application. Vessels must be surveyed according to the Department guidelines.

The replacement vessel may not exceed the overall length of the vessel being replaced.

A vessel may hold only one Schedule II Species licence eligibility.

A Schedule II Species licence eligibility may not be combined with other vessel based licence eligibilities, except where the Integrated Fishery Management Plan (IFMP) for that species allows. Where a replacing vessel is eligible for a Schedule II Species licence, it must be surrendered to the department or placed on another vessel prior to the placement of vessel based licence eligibility on the vessel. A request for exemption from this requirement must be submitted in writing to the Groundfish Management Unit.

The Application to Replace a Commercial Vessel form is available at <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/forms/repl-rempl-comm-vess-bat-eng.html>.

Communal commercial licences are not eligible for vessel replacement.

If you require further discussion or information on the above mentioned vessel replacement policies, please contact the Pacific Fishery Licence Unit.

Should a married Halibut or Sablefish licence eligibility be permanently placed on a vessel holding a Schedule II Species (category C) licence eligibility, the category C licence eligibility will be permanently retired.

The applicable form to retire the category C licence eligibility may be obtained by submitting a request through the National Online Licensing System. Instructions are available at www.dfo-mpo.gc.ca/fm-gp/sdc-cps/products-produits/request-demande-eng.htm.

When the placement is temporary, then the category C licence eligibility is held until the Halibut or Sablefish licence eligibility is permanently placed on another vessel.

5.7. Temporary Vessel Replacement

An application for a temporary vessel replacement may be made where a vessel has been declared a loss or the vessel is out of service due to an accident or unforeseen damage. Vessels that are in disrepair at the time of purchase, have engine problems, or have encountered delays in annual maintenance or rebuilding do not qualify for a temporary replacement.

Written confirmation from an insurance company, shipyard, or marine engineer explaining why the vessel is inoperative must be submitted to the Pacific Fishery Licence Unit when declaring the vessel a total loss.

Temporary replacement vessel may not exceed the overall vessel length plus 10 per cent of the Schedule II Species vessel.

For further information on vessel replacement policies, please contact the Pacific Fishery Licence Unit by telephone at 1-877-535-7307 or email at fishing-peche@dfo-mpo.gc.ca.

6. BAIT

Commercial fishers wishing to use licensed catch as bait may do so, with the exception of rockfish. All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait, and must be retained and landed.

While hauled out on a directed Lingcod or Dogfish trip octopus caught incidentally may be retained and used for bait, but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed an average weight for that species as defined in Appendix 2 of the IFMP.

7. LINGCOD INDIVIDUAL TRANSFERABLE QUOTAS (ITQ)

7.1. Licence Issuance

Renewal of a Category C licence and payment of the fees must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category C licenses not renewed by February 20, 2023 will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a communal commercial licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Prior to annual licence issuance, vessel owners/licence eligibility holders are required to:

- a) Meet any Ministerial conditions placed on the licence eligibility.
- b) Ensure any conditions of the previous year’s licence such as completion and submission of fishing logbooks is met and accepted by the Groundfish Management Unit (GMU).
- c) Ensure the designated vessel’s overall length does not exceed the maximum vessel length of the category FC licence eligibility.

To avoid delays, please ensure the payment and vessel designation information is submitted all at the same time through the Submit a Request menu selection within the NOLS when renewing a communal commercial licence.

7.2. Species Area Groups

Lingcod will be managed by the following management areas: 3C, 3D, 5A/B, 5C/D/E and 4B. ITQ may not be re-allocated from one area to another.

7.3. Annual ITQ Caps

7.3.1. TAC Holdings Permanent Quota Cap

All Schedule II licences will have annual ITQ caps for permanent quota. The total amount of permanent quota holdings may not exceed the quota caps listed below.

Species	Areas	TAC Holdings Cap (pounds)
Lingcod	3C	16,534
Lingcod	3D	39,682
Lingcod	5A, 5B	22,008
Lingcod	5C, 5D, 5E	45,841
Lingcod	Coastwide	74,440

7.3.2. Licence Species Temporary and Permanent Quota Caps (Directed Species)

All Schedule II licences will have annual ITQ caps for some of their directed and non-directed catch. A licence may only hold up to a maximum of 10% of the area TAC for Lingcod, and up to a maximum of 5% of the overall TAC for Lingcod. Temporary and permanent reallocations will be permitted up to the species caps listed below.

Species	Areas	Licence Species Cap (pounds)
Lingcod	3C	33,069

Lingcod	3D	79,366
Lingcod	5A, 5B	44,017
Lingcod	5C, 5D, 5E	91,683
Lingcod	Coastwide	124,560

7.3.3. Quota Holdings Caps (Non-Directed Species)

Species	Areas	Quota Holdings Cap (% of Lingcod ITQ)
Canary rockfish	Coastwide	2.00
Spiny Dogfish	Coastwide	1.00
Halibut	Coastwide	15.00
Silvergray rockfish	Coastwide	2.00
Quillback rockfish	Coastwide	2.00
Copper, China and Tiger rockfish	Coastwide	2.00
Yelloweye rockfish	Coastwide	2.00
Redbanded rockfish	Coastwide	2.00

7.3.4. Quota Landings Caps

Species	Areas	Quota Landings Cap
Yelloweye rockfish	Coastwide	Cap increases in 400 blocks up to 2,491, once a 400 block is caught

7.3.5. Sector Holdings Caps

A licence may hold up to 25% Lingcod quota from the Trawl sector, as a percentage of the licence's total coastwide Lingcod holdings.

7.4. Trip Limits

While hailed out on a directed Lingcod (Schedule II) fishing trip the following trip limits apply for species listed in the table below:

Species	Trip Limit (pounds)
Pacific Cod	500
Other Rockfish (as set out in Appendix 1 in the conditions of licence)	500 (under 10,000 lbs of Lingcod landed) 750 (greater than 10,000 lbs of Lingcod landed)
*Big Skate	0
*Longnose Skate	0
Sole and Flounder	No limit

*Retention of Big and Longnose Skate is not permitted while hailed out on a directed Lingcod trip

7.5. Fishing Restrictions for ITQ Excess Overage

Licence eligibilities that exceed their total Lingcod ITQ by area by more than 10%, or 100 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ by area for non-directed species by more than 30%, or 100 pounds, whichever is greater, are defined as being in a state of excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licenses that do not reconcile overages by February 20, 2023, will carry overages into the new season (see section 7.6). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until temporary reallocations for the 2022/2023 season are processed in mid-March, 2022.

7.6. Rules for Carryover of ITQ Overage and Underage

7.6.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total Lingcod ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

7.6.2. Carryover of Non-direct Species ITQ Underage

Licence eligibilities with non-directed species (except Dogfish) catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

Licence eligibilities with Dogfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Dogfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

7.6.3. Carryover of Lingcod and Non-Directed ITQ Overage

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility's ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

Quota reallocation request forms and signature authorization forms are available at: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>
For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca.

7.7. Research Allocation

The Hook and Line Groundfish Association have agreed to set aside a portion of the Lingcod commercial allocation in order to support the 2022 hard bottom longline survey. The table below indicates the amount of Lingcod allocated for the survey.

Lingcod	Groundfish Management Area	Allocation (pounds)
	3C	2,433
	3D	5,837
	5AB	0
	5CDE	0

7.8. Retention of Lingcod by Salmon Troll

All vessels wishing to retain any amount of Lingcod must have their fish validated through the established dockside monitoring program. In addition to this, any vessel wishing to land Lingcod must hold or acquire sufficient quota to do so.

Requirements include the following (less than 500 lbs of Lingcod per landing):

- Vessel must have sufficient ITQ
- Transportation requirement – all Lingcod must be transported by the licensed vessel either directly to land or to a fish pen
- Hail in and hail out requirements through the designated service provider
- Specific locations and times at which landing of fish is permitted
- Landing requirements – the landing of any fish of any species is not permitted unless a designated observer is present to authorize the commencement of weight verification.

Vessels wishing to retain and land **more than 500 lbs** of Lingcod per landing must, in addition to all of the above, meet the electronic monitoring requirements (see Appendix 2).

8. DOGFISH INDIVIDUAL TRANSFERABLE QUOTAS (ITQ)

8.1. Species Area Groups

Dogfish will be managed by the following management areas: 3C/D 5A/B/C/D/E, and 4B. ITQ may not be re-allocated from one area to the other.

8.2. Annual ITQ Caps

8.2.1. TAC Holdings Permanent Quota Caps

All Schedule II licences will have annual TAC holding caps for permanent quota. The total amount of permanent quota a licence may hold will not exceed the holding caps listed below.

Species	Areas	TAC Holdings Cap (pounds)
Dogfish	3C,3D,5A,5B,5C,5D,5E	600,670
Dogfish	4B	100,111
Big Skate	Coastwide	7,000
Longnose Skate	Coastwide	6,500

8.2.2. Licence Species Temporary and Permanent Quota Caps (Directed Species)

All Schedule II licences will have annual ITQ caps for some of their directed and non-directed species. Temporary and permanent reallocations combined up to the species caps listed below will be a permitted.

Species	Areas	Licence Species Cap (pounds)
Dogfish	Coastwide	1,500,000*
Big Skate	Coastwide	30,000
Longnose Skate	Coastwide	20,000

*Vessels whose initial quota allocation exceeds this amount will be allowed to hold ITQ up to the initial allocation.

8.2.3. Quota Holdings Caps (Non-Directed Species)

Species	Areas	Quota Holdings Cap (% of Dogfish ITQ)
Canary rockfish	Coastwide	0.50
Halibut ¹	Coastwide	5.80
Lingcod	Coastwide	3.00
Rougheye/Blackspotted rockfish	Coastwide	0.50
Sablefish ²	Coastwide	1.00
Silvergray rockfish	Coastwide	0.50
Shorthead rockfish	Coastwide	0.08
Shortspine Thornyhead	Coastwide	1.00
Quillback rockfish	3C, 3D, 5A, 5B, 5C, 5D, 5E	0.50 (of Dogfish coastwide ITQ)
Quillback rockfish	4B	0.25 (of Dogfish 4B ITQ)
China, Copper and Tiger rockfish	3C, 3D, 5A, 5B, 5C, 5D, 5E	0.50 (of Dogfish coastwide ITQ)
China, Copper and Tiger rockfish	4B	0.25 (of Dogfish 4B ITQ)
Yelloweye rockfish ³	3C, 3D, 5A, 5B, 5C, 5D, 5E	0.33 (of Dogfish coastwide ITQ)
Yelloweye rockfish	4B	1.00 (of Dogfish 4B ITQ)

Species	Areas	Quota Holdings Cap (% of Dogfish ITQ)
Redbanded rockfish	Coastwide	2.00

¹Halibut is also capped by a Quota Landings cap. A licence will be limited by the most restrictive cap.

²Sablefish is also capped by a Quota Landings cap. A licence will be limited by the most restrictive cap.

³Yelloweye is also capped by a Quota Landings cap. A licence will be limited by the most restrictive catch.

8.2.4. Quota Landings Caps (Non-Directed)

Species	Areas	Quota Landings Cap (pounds)			
Halibut ^o	Coastwide	10,000 if < 100,000 lbs of Dogfish landed	20,000 if < 200,000 lbs of Dogfish landed	30,000 if < 300,000 lbs of Dogfish landed	40,000 if < 400,000 lbs of Dogfish landed ^v
Sablefish	Coastwide	4,000 if < 100,000 lbs of Dogfish landed	8,000 if < 200,000 lbs of Dogfish landed	12,000 if < 300,000 lbs of Dogfish landed	16,000 if < 400,000 lbs of Dogfish landed
Yelloweye [*]	3C, 3D, 5A, 5B, 5C, 5D, 5E	1,320 if < 250,000 lbs of Dogfish landed	2,000 if < 600,000 lbs of Dogfish landed	2,640 if < 800,000 lbs of Dogfish landed	3,300 if < 1,000,000 lbs of Dogfish landed [†]

^vHalibut allocations can continue to occur in blocks up to 10,000 lbs for every 200,000 lbs of Dogfish landed.

^oHalibut is also capped by a Quota Holdings cap. A licence will be limited by the most restrictive cap

[∞]Sablefish is also capped by a Quota Holdings cap. A licence will be limited by the most restrictive cap

[†]Yelloweye allocations can continue to occur in blocks up to 1,000 lbs for every 200,000 lbs of Dogfish landed, up to a total of 1,500,000 lbs of Dogfish landed.

^{*}Yelloweye is also capped by a Quota Holdings cap of 0.5%. A licence will be limited by the most restrictive cap.

8.3. Trip Limits

For non-directed species of groundfish caught while fishing Dogfish the following trip limits will apply:

Species	Trip Limit (pounds)
Pacific Cod	500
Lingcod (4B)	400
Other Rockfish (as set out in Appendix 1 of the conditions of licence)	Greater of 500 lbs or 2% of Dogfish landed per trip
Sole and Flounder	No limit
Skate (4B)	6,000

8.4. Fishing Restrictions for ITQ Excess Overage

Licence eligibilities that exceed their total Dogfish ITQ by area by more than 10%, or 5,000 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ by area for non-directed species by more than 30%, or 100 pounds, whichever is greater, are defined as being in a state of excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licenses that do not reconcile overages by February 20, 2023, will carry overages into the new season (see section 8.6 of this harvest plan). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until temporary reallocations for the 2023/2024 season are processed in mid-March, 2023.

8.5. Rules for Carryover of ITQ Overage and Underage

8.5.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught Dogfish and Halibut ITQ up to 10% of their total ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

8.5.2. Carryover of Non-directed Species ITQ Underage

Licence eligibilities with non-directed species (rockfish, Sablefish and Lingcod) catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

8.5.3. Carryover of Directed and Non-Directed Species ITQ Overage

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility's ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

Quota reallocation request forms and signature authorization forms are available at:
<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca.

9. REALLOCATION PROCEDURES

9.1. Reallocation of Directed and Non-Directed Species ITQ

The following guidelines for the reallocation of directed and non-directed species ITQ will be in effect for the 2022/2023 Lingcod and Dogfish fisheries.

- 9.1.1. Subject to annual ITQ caps and sector caps, upon application, licence eligibility holders will be permitted to make unlimited temporary reallocations of directed and non-directed species ITQs. A “Temporary Reallocation Request for Integrated Groundfish Fisheries” must be faxed to the GMU and, if approved, a licence amendment will be issued to reflect new ITQ amounts. The most current licence amendment must be onboard when fishing.
- 9.1.2. The 2022/2023 licence must be issued prior to any ITQ being reallocated.
- 9.1.3. Request for temporary reallocation for the 2022/2023 season must be received by 16:00 hours Pacific Time on February 20, 2023 in order to be processed.
- 9.1.4. Requests for permanent reallocation of ITQ must be received by 16:00 hours local time on February 2, 2023 in order to be processed
- 9.1.5. Permanent reallocations of ITQ will be expressed as a percentage of the TAC, and will be added to the receiving licence eligibility’s percentage of the TAC.
- 9.1.6. For permanent ITQ reallocations, all vessel owners/licence eligibility holders of record must complete and sign a “Permanent Reallocation Request for Integrated Groundfish Fisheries.” For temporary reallocations of ITQ only one owner or the licence eligibility holder is required to sign the “Temporary Reallocation Request for Integrated Groundfish Fisheries” form.
- 9.1.7. ITQ that has already been caught or deemed “fished” cannot be reallocated.
- 9.1.8. The minimum quantity of ITQ that may be reallocated is one pound.
- 9.1.9. Temporary reallocations are only valid for the current fishing season.
- 9.1.10. Reallocations for the 2022/2023 season will not be processed until 08:00 hours local time March 15, 2022.

Quota reallocation request forms and signature authorization forms are available at:

<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca.

10. DUAL FISHING

Dual fishing means fishing for commercial and First Nation Food, Social, and Ceremonial purposes on the same fishing trip. Dual fishing is authorized through licence conditions for commercial groundfish fisheries. Vessel masters considering dual fishing are responsible for reviewing their licence conditions to ensure they are aware of the dual fishing requirements.

Before hailing-out on a dual fishing trip, the vessel master must obtain a dual fishing designation certificate from a designating First Nation that has a communal licence authorizing the harvest of groundfish. The designation certificate must contain all of the information set out in the conditions of licence. If any of the information is missing the designation certificate will not be considered valid and the vessel master cannot dual fish. A designation certificate template is available on the DFO website: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

Aboriginal organizations may issue their own designation certificate as long as the required information is included.

When hailing-out, the vessel master must notify the hail service provider that they will be dual fishing, provide the name of the First Nation that issued the designation certificate, and provide the unique designation certificate identification number. The vessel master must carry the designation certificate on board the vessel at all times during the fishing trip.

All retained fish, including both commercial and FSC catch, must be recorded in the “retained” column of the Integrated Groundfish Fishing Logbook. Additionally, fish retained as FSC catch must be separated out and recorded by set and by species in the “comments” section of the Integrated Groundfish Fishing Logbook.

When hailing-in, the vessel master must provide an estimate, by species, of the weight of fish caught under the authority of the designation certificate. Unless the designating First Nation requests to have the FSC fish landed and validated at a different location, all fish from the trip must be landed at the same place and validated by a designated groundfish dockside observer. At the time of offload, the vessel master must provide a valid designation certificate to the dockside observer. If one is not provided, all catch from the trip will be considered commercial catch until the completion of a review by the Groundfish Management Unit and discussion with the vessel master. Furthermore, if FSC fish are landed at a different location than the commercial catch, an FSC validation record containing the verified weight and the number of pieces by species must be completed by a fisheries representative of the designating First Nation organization. The vessel master must obtain a copy of the FSC validation record and provide it to the designated groundfish dockside monitor at the time of the commercial offload.

11. CLOSURES

Please refer to Appendix 10 of this IFMP for commercial groundfish hook and line fishery closures.

Appendix 4: Rockfish by Hook and Line (Inside ZN) Commercial Harvest Plan

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1. MANAGEMENT UPDATES & CHANGES FOR 2022/2023

1.1. In-Season Changes/Updates

In-season updates are available on the Fishery Notice website at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial.

In-season Sector Catch and Sector Cap summaries are updated daily and can be found at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/publications-eng.html>

1.2. Lost and Found Gear Reporting Requirements

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, new conditions have been added to licence conditions beginning in the 2020/2021 season, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to report on the gear type and amount, as well as the date, time and location that gear was lost or found in the Integrated Groundfish Fishing Log. Harvesters are required to use the Fishing Log to report on lost/found gear. Please refer to the front section 5.2.1.8 for more information and appendix 2 for an example of the Fishing Log. If your Fishing Logs do not have the additional section on gear reporting requirements, please contact Archipelago Marine Research Ltd. to ensure you have the updated versions.

1.3. Sablefish Discard Mortality

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and to propose measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and has updated the discard mortality rates for legal, marketable Sablefish for the 2022/23 fishing season to provide an incentive for harvesters to retain legal-sized, marketable Sablefish and reduce discarding of these fish in Groundfish fisheries. Details regarding the discard mortality rates to be implemented in 2022/23 will be found in Section 9 of Appendix 2 of this IFMP.

Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

1.4. **Southern Resident Killer Whales – Fisheries Management Measures**

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.5. **Pacific Groundfish Integrated Fishery Website**

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

1.6. **Partial Offloads**

Harvesters are reminded that when hailed on a combination Sablefish/Halibut trip, all Pacific Halibut must be offloaded at the final offload as partial offloads are prohibited for commercially caught Pacific Halibut. Vessels fishing under the authority of a Sablefish licence eligibility are permitted to land only a portion of their catch during a “partial offload”.

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip “legs” are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider’s head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

1.7. **Pilot 800 Line/Circle Tow Bottom Trawl Closure & Seasonal Expansion**

The seasonal expansion of the 800-line/Circle Tow closure has been extended from November 1, 2021 - March 31, 2022 due to a continued lack of new science advice for Arrowtooth Flounder. The closure continues to be an interim management measure that is intended for the short-term and will be re-evaluated during the 2022/23 fishing season.

Please refer to Section 6.8.11 of Appendix 9 (Trawl appendix) for more information.

2. SPECIES

Rockfish (*Sebastes sp.*) and Longspine/Shortspine Thornyheads (*Sebastolobus sp.*)
Halibut (*Hippoglossus stenolepis*)
Lingcod (*Ophiodon elongates*)
Spiny Dogfish (*Squalus suckleyi*)
Skate (*Rajidae*)
Sole and Flounder (*Pleuronectiformes* other than *Hippoglossus stenolepis*)
Pacific cod (*Gadus macrocephalus*)
Greenlings (*Hexagrammos sp.*)

3. GEAR

Fishing under a category ZN is permitted to occur by hook and line gear, specifically longline, jig, and troll.

4. QUOTAS AND OPEN TIMES

4.1. Open Times

With the exception of those seasonal and permanent closures noted in this plan, or closures announced in-season, the 2022/23 Rockfish by Hook and Line (Inside ZN) fishery will commence 00:01 hours, February 21, 2022 and close at 23:59 hours, February 20, 2023. Following the closure of the fishery, all fish caught under the authority of a Rockfish by Hook and Line (Inside ZN) licence eligibility must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours, February 27, 2023.

The retention of Halibut by hook and line gear will be permitted from 12:00 hours, TBD. The directed Halibut fishery will close at 12:00 hours, TBD. Accordingly, all Halibut must be landed and validated by a DFO-designated groundfish dockside observer no later than 12:00 hours, TBD.

4.2. Fishing Areas

Subject to closures described in Appendix 10 of this IFMP and variation orders, commercial fishing for Rockfish by Hook and Line (Inside ZN) is permitted to be carried out in Groundfish Management Areas 4B, defined as areas:

Areas 13 to 20, 28, 29 and Subareas 12-1 to 12-13, 12-15 to 12-48. Areas and Subareas are described in the *Pacific Fishery Management Area Regulations, 2007*.

4.3. Halibut Landing Requirements

Where Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed.

4.4. Prohibition on Shark Finning

DFO prohibited the practice of finning of dogfish and sharks off the west coast of Canada beginning in the 2012 fishing season. Though not a common practice in Canada, this action is in response to international concerns with fish handling practices in other jurisdictions, where the fins of sharks are removed at-sea and the remainder of the shark, sometimes still alive, is discarded overboard.

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

4.5. **Total Allowable Catch**

The total allowable catch is reported in section 6 of this IFMP.

5. **LICENSING**

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

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

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

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

5.1. **Licence Category**

A commercial Rockfish (category ZN) or communal commercial Rockfish (category FZN) licence eligibility is limited entry and party based.

5.2. **Licence Renewal Fees**

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by Consumer Price Index (CPI) published by Statistics Canada.

The commercial Rockfish Species (Category ZN) licence renewal fee for 2022/2023 may be found under the header, Licence Renewal Fees on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html#commercial>

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

5.3. Licence Issuance

Renewal of a Rockfish Category ZN licence eligibility and payment of the licence renewal fee must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category ZN licence eligibilities not renewed by February 20 of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a commercial or communal commercial Rockfish licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Vessels may be designated with up to 8 Inside Rockfish licences at one time during a season.

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

- a) Meet any Ministerial conditions placed on licence eligibility.
- b) Indicate through the National Online Licensing System if you do not intend to harvest under the authority of the Rockfish licence eligibility in 2022.
- c) Ensure any conditions of the previous year's licence have been met.
- d) Designate a registered commercial fishing vessel that is eligible for any vessel based licence (i.e.) Salmon, Schedule II Species, Geoduck, Sablefish, Halibut, Crab, Shrimp by Trawl and Prawn and Shrimp by Trap, a valid communal commercial licence or a valid Salmon category NAG licence, through the National Online Licensing System.
- e) Designated vessels may not exceed the maximum vessel length (MVL) of the initial licence designated, unless issued as Option N. The MVL will be waived for any additional designated inside Rockfish licences.

To avoid delays in licence issuance, please ensure the payment, option selection and designated vessel information is submitted all at the same time through the Submit a Request menu selection within the National Online Licensing System, when renewing the licence eligibility.

5.4. Licence Options

The designated vessel may not exceed the Maximum Vessel Length (MVL) of the initial inside Rockfish licence designated, however, the option to participate in the directed Rockfish fishery may be made for each additional inside Rockfish licence designated to the vessel, at the time of licence issuance.

Should the licence eligibility holder select the option to not participate in the directed Rockfish fishery, the designated vessel may exceed the MVL of the Rockfish licence eligibility. The designated vessel will then reallocate Rockfish quota to other licence eligibilities.

If the selection has been made to not participate in the directed Rockfish fishery at the beginning of the season, the licence eligibility holder may choose to change to the option to participate at a later date, as long as the vessel meets all the length requirements, where applicable.

Option selection for each Rockfish licence may be done by navigating to the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

5.5. Licence Amendments

The Rockfish licence eligibility must be issued for the year prior to the processing of a request for licence amendment or reallocation of Individual Transferable Quota (ITQ).

The licence eligibility holder or an authorized representative must request and receive a 2022/2023 licence amendment from the Groundfish Management Unit, prior to fishing. The amendment outlines the total amount of fish by species, that the vessel can land for the fishing season. Without this amendment, the vessel is not permitted to catch, retain or land any fish.

Licence Amendment Request Forms and other applicable Groundfish forms are available online at: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/index-eng.html>

5.6. Licence Documents

Rockfish licence documents are valid from the date of issue to February 20, 2023.

Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the licence eligibility holders account via the National Online Licensing System.

5.7. Vessel Redesignations

Redesignation of Rockfish licences are permitted at any time during the year, provided that all Conditions of Licence has been met.

Prior to a redesignation being processed, licence eligibility holders must:

- Designate a registered Canadian commercial vessel.
- Ensure the designated vessel holds a vessel based licence eligibility (as listed above) and does not exceed the Maximum Vessel Length (MVL) of the licence eligibility to be redesignated. MVL will be waived if issued as Option N.

Request for redesignation must be submitted by the licence eligibility holder through the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

5.8. Licence Eligibility Nominations

Rockfish category ZN licence eligibilities may be nominated from one party to another. Licence eligibility holders may indicate their intention to no longer apply for a Rockfish licence by completing a Nomination for Category Z Licence Eligibility form provided by Fisheries and Oceans Canada. Where such an intention is stated, the Minister may consider issuance of the licence to a person nominated by the previous licence eligibility holder.

The Nomination for Category Z Licence Eligibility form is available online at <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html> or by contacting the Pacific Fishery Licence Unit (PFLU) by phone at 1-877-535-7307 or via e-mail at fishing-peche@dfo-mpo.gc.ca.

Communal commercial Rockfish category FZN licence eligibilities may not be nominated.

6. BAIT

Commercial fishers wishing to use licensed catch as bait may do so, with the exception of rockfish. All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait, and must be retained and landed.

Octopus caught incidentally may be retained and used for bait under authority of a Rockfish licence eligibility, but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed an average weight for that species as defined in Appendix 2 of the IFMP.

7. ROCKFISH INDIVIDUAL TRANSFERABLE QUOTAS (ITQ)

7.1. Annual ITQ Caps

All ZN licences will have annual ITQ caps for some of their directed and non-directed catch. Reallocations up to the species caps listed below will be a permitted.

7.1.1. TAC Holdings Permanent Quota Caps

All ZN Inside licences will have annual ITQ caps for permanent quota. The total amount of permanent reallocations of quota may not exceed the quota caps listed below.

Species	Areas	TAC Holdings Cap (pounds)
Quillback rockfish	4B	4,180
Copper, China and Tiger rockfish	4B	504
Yelloweye rockfish	4B	1,091

7.1.2. Licence Species Temporary and Permanent Quota Caps (Directed Species)

Species	Areas	Licence Species Cap (pounds)
Quillback rockfish	4B	15,162
Copper, China and Tiger rockfish	4B	1,931
Yelloweye rockfish	4B	4,095

7.1.3. Quota Holdings Caps (Non-Directed Species)

Species	Areas	Licence Species Cap (pounds)
Spiny Dogfish	4B	1,250
Halibut	Coastwide	3,500

7.1.4. Stacking Licences

ITQ will automatically be reallocated to the initial rockfish licence designated to the vessel. Vessels may be designated with up to 8 inside rockfish licences, however, only one inside rockfish licence per vessel may hold ITQ.

7.2. Trip Limits

For some species of groundfish caught while hailed out on a directed rockfish fishing trip (Inside ZN) the following trip limits will apply:

Species	Trip Limit (pounds)
Halibut	800
Kelp Greenlings	Must be equal to or less than the total of Quillback, Copper, China, Tiger that is landed
Lingcod (4B)	400
Other Rockfish	Must be equal to or less than the total of Quillback, Copper, China, Tiger that is landed
Pacific Cod	150
Skate	50
Sole and Flounder	No limit

7.3. Fishing Restrictions for ITQ Excess Overages

Licence eligibilities that exceed their total Rockfish ITQ by area by more than 10%, or 100 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ by area for non-directed species by more than 10%, or 100 pounds, whichever is greater, are defined as being in a state of excess overage.

Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licenses that do not reconcile overages by February 20, 2023, will carry overages into the new season (see section 6.5.2 of this harvest plan). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until temporary reallocations for the 2023/2024 season are processed in mid-March.

7.4. Reallocation of Directed and Non-Directed Species ITQ

The following guidelines for the reallocation of directed and non-directed species ITQ will be in effect for the 2022/2023 ZN fishery.

- 7.4.1. Subject to annual ITQ caps and sector caps, upon application, licence eligibility holders will be permitted to make unlimited temporary reallocations of directed and non-directed species ITQs. A “Temporary Reallocation Request for Integrated Groundfish Fisheries” must be faxed to the GMU and, if approved, a licence amendment will be issued to reflect new ITQ amounts. The most current licence amendment must be onboard when fishing.
- 7.4.2. The 2022/2023 ZN licence must be issued prior to any ITQ being reallocated.
- 7.4.3. Request for temporary reallocation requests for the 2022/2023 season must be received by 16:00 hours Pacific Time on February 20, 2023 in order to be processed.
- 7.4.4. Requests for permanent reallocation of ITQ must be received by 16:00 hours local time on February 2, 2023 in order to be processed.
- 7.4.5. Permanent reallocations of ITQ will be expressed as a percentage of the TAC, and will be added to the receiving licence eligibility’s percentage of the TAC.
- 7.4.6. For permanent ITQ reallocations, the licence eligibility holder(s) of record must complete and sign a “Permanent Reallocation Request for Rockfish Inside IVQ.” For temporary reallocations of ITQ only one licence eligibility holder is required to sign the “Temporary Reallocation Request for Integrated Groundfish Fisheries” form.
- 7.4.7. ITQ that has already been caught or deemed “fished” cannot be reallocated.
- 7.4.8. The minimum quantity of ITQ that may be reallocated is one pound.
- 7.4.9. Temporary reallocations are only valid for the current fishing season.
- 7.4.10. Reallocations for the 2022/2023 season will not be processed until 8:00 hours local time March 15, 2022.

7.5. Rules for Carryover of ITQ Overage and Underage

- 7.5.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with Rockfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Rockfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2022/2023. Any amount above the 10% will be forgone.

7.5.2. Carryover of Non-Directed Species ITQ Underage

Licence eligibilities with non-directed species catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

7.5.3. Carryover of Directed and Non-Directed Species ITQ Overage

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility's ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

Quota reallocation request forms and signature authorization forms are available at:

<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca.

8. LIVE ROCKFISH OFFLOAD SAMPLING PROTOCOL

In 2020, a sub-sampling protocol was adopted for implementation for all live-rockfish offloads to improve consistency at offloads, and minimize the time live fish spend out of water. These measures aim to address concerns regarding product mortality that can occur when sorting and enumerating fish at the dock. The protocol was developed in collaboration by the Department and members of the Groundfish Hook and Line Sub-Committee.

The following procedures apply to all live rockfish offloads where there is enough fish to meet the sampling requirements. The major species in a live offload, such as Copper and Quillback, may be sampled whenever one of the following are true according to the skipper's estimate:

- More than 100 pieces (roughly 200 lbs) of each major species are expected to be offloaded and the species are fully sorted; Or,
- More than 250 pieces (roughly 500 lbs) of either Copper or Quillback are expected to be offloaded and the species remain mixed.

When sampling is conducted, the major species may be sorted, or remain mixed. A minimum of 20% or 50 pieces of each of the major species (whichever is greater) will be sampled. Sampling will be permitted for major offload species such as Copper and Quillback, however, minor species such as Tiger and China must continue to be sorted, counted, and weighed by species.

9. DUAL FISHING

Dual fishing means fishing for commercial and First Nation Food, Social, and Ceremonial purposes on the same fishing trip. Dual fishing is authorized through licence conditions for commercial groundfish fisheries. Vessel masters considering dual fishing are responsible for reviewing their licence conditions to ensure they are aware of the dual fishing requirements.

Before hailing-out on a dual fishing trip, the vessel master must obtain a dual fishing designation certificate from a designating First Nation that has a communal licence authorizing the harvest of groundfish. The designation certificate must contain all of the information set out in the conditions of licence. If any of the information is missing the designation certificate will not be considered valid and the vessel master cannot dual fish. A designation certificate template is available on the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>.

Aboriginal organizations may issue their own designation certificate as long as the required information is included.

When hailing-out, the vessel master must notify the hail service provider that they will be dual fishing, provide the name of the First Nation that issued the designation certificate, and provide the unique designation certificate identification number. The vessel master must carry the designation certificate on board the vessel at all times during the fishing trip.

All retained fish, including both commercial and FSC catch, must be recorded in the “retained” column of the Integrated Groundfish Fishing Logbook. Additionally, fish retained as FSC catch must be separated out and recorded by set and by species in the “comments” section of the Integrated Groundfish Fishing Logbook.

When hailing-in, the vessel master must provide an estimate, by species, of the weight of fish caught under the authority of the designation certificate. Unless the designating First Nation requests to have the FSC fish landed and validated at a different location, all fish from the trip must be landed at the same place and validated by a designated groundfish dockside observer. At the time of offload, the vessel master must provide a valid designation certificate to the dockside observer. If one is not provided, all catch from the trip will be considered commercial catch until the completion of a review by the Groundfish Management Unit and discussion with the vessel master. Furthermore, if FSC fish are landed at a different location than the commercial catch, an FSC validation record containing the verified weight and the number of pieces by species must be completed by a fisheries representative of the designating First Nation organization. The vessel master must obtain a copy of the FSC validation record and provide it to the designated groundfish dockside monitor at the time of the commercial offload.

10. CLOSURES

Please refer to Appendix 10 of this IFMP for commercial groundfish hook and line fishery closures.

Appendix 5: Rockfish by Hook and Line (Outside ZN) Commercial Harvest Plan

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Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

1.4. **Southern Resident Killer Whales – Fisheries Management Measures**

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.5. **Pacific Groundfish Integrated Fishery Website**

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

1.6. **Partial Offloads**

Harvesters are reminded that when hailed on a combination Sablefish/Halibut trip, all Pacific Halibut must be offloaded at the final offload as partial offloads are prohibited for commercially caught Pacific Halibut. Vessels fishing under the authority of a Sablefish licence eligibility are permitted to land only a portion of their catch during a “partial offload”.

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip “legs” are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider’s head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

1.7. **Pilot 800 Line/Circle Tow Bottom Trawl Closure & Seasonal Expansion**

The seasonal expansion of the 800-line/Circle Tow closure has been extended from November 1, 2021 - March 31, 2022 due to a continued lack of new science advice for Arrowtooth Flounder. The closure continues to be an interim management measure that is intended for the short-term and will be re-evaluated during the 2022/23 fishing season.

Please refer to Section 6.8.11 of Appendix 9 (Trawl appendix) for more information.

2. SPECIES

Rockfish (*Sebastes sp.*) and Longspine/Shortspine Thornyheads (*Sebastolobus sp.*)

Halibut (*Hippoglossus stenolepis*)

Lingcod (*Ophiodon elongates*)

Spiny Dogfish (*Squalus suckleyi*)

Sablefish (*Anoplopoma fimbria*)

Skate (*Rajidae*)

Sole and Flounder (*Pleuronectiformes other than Hippoglossus stenolepis*)

Pacific cod (*Gadus macrocephalus*)

Greenlings (*Hexagrammos sp.*)

3. GEAR

Fishing under a category ZN is permitted to occur by hook and line gear, specifically longline, jig, and troll.

4. QUOTAS AND OPEN TIMES

4.1. Open Times

With the exception of those seasonal and permanent closures noted in this plan, or closures announced in-season, the 2022/23 Rockfish by Hook and Line (Outside ZN) fishery will commence 00:01 hours, February 21, 2022 and close at 23:59 hours, February 20, 2023.

Following the closure of the fishery, all fish caught under the authority of a Rockfish by Hook and Line (Outside ZN) licence eligibility must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours, February 27, 2023.

The retention of Lingcod by hook and line gear will be permitted from April 1, 2022 to 23:59 hours November 14, 2022. Accordingly, all Lingcod must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours local time, November 21, 2022.

The retention of Halibut by hook and line gear will be permitted from 12:00 hours, TBD. The directed Halibut fishery will close at 12:00 hours, TBD. Accordingly, all Halibut must be landed and validated by a DFO-designated groundfish dockside observer no later than 12:00 hours, TBD.

To allow an orderly opening for the 2022 Pacific Halibut season, variation orders are issued to close three areas (Langara Island, Cape St. James, and North Triangle) for 72 hours prior to the opening of the Pacific Halibut season. The variation orders close the fisheries Skate, Sole, Flounder and Spiny Dogfish by hook and line, Pacific Cod by hook and line, rockfish by hook and line, and Sablefish by longline. Please review all variation orders prior to fishing.

4.2. Fishing Areas

Subject to closures described in Appendix 10 of this IFMP and variation orders, commercial fishing for Rockfish by Hook and Line (Outside ZN) is permitted to be carried out in Groundfish Management Areas 3C, 3D, 5A, 5B, 5C, 5D, and 5E. Halibut Landing Requirements

Where Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed.

4.3. **Prohibition on Shark Finning**

DFO prohibited the practice of finning of dogfish and sharks off the west coast of Canada beginning in the 2012 fishing season. Though not a common practice in Canada, this action is in response to international concerns with fish handling practices in other jurisdictions, where the fins of sharks are removal at-sea and the remainder of the shark, sometimes still alive, is discarded overboard.

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

4.4. **Total Allowable Catch**

The total allowable catch is reported in section 6 of this IFMP.

5. **LICENSING**

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

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

Training materials, including step-by-step guides and a detailed user training manual, are available online (<http://www.dfo-mpo.gc.ca/FM-GP/SDC-CPS/licence-permis-eng.htm>) to guide users of the system in completing their licensing transactions. The Department also provides client support and assistance on how to use the system via e-mail at fishing-peche@dfompo.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.

5.1. **Licence Category**

A commercial Rockfish (category ZN) or a communal commercial Rockfish (category FZN) licence eligibility is limited entry and party based.

5.2. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by Consumer Price Index (CPI) published by Statistics Canada.

The commercial Rockfish (Category ZN) licence renewal fee for 2022-2023 may be found under the header, Licence Renewal Fees on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/fees-frais-22-23-eng.html>

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

5.3. Licence Issuance

Renewal of a Rockfish Category ZN licence eligibility and payment of the licence renewal fee must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category ZN licence eligibilities not renewed by February 20 of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a commercial or communal commercial Rockfish licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Vessels may not be designated with more than one Outside Rockfish licences during a season.

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

- a) Meet any Ministerial conditions placed on licence eligibility.
- b) Indicate through the National Online Licensing System if you do not intend to harvest under the authority of the rockfish licence eligibility in 2022.
- c) Ensure any conditions of the previous year's licence are met.
- d) Designate a registered commercial fishing vessel that is eligible for any vessel based licence (i.e.) Salmon, Schedule II Species, Geoduck, Sablefish, Halibut, Crab, Shrimp by Trawl and Prawn and Shrimp by Trap, a valid communal commercial licence or a valid Salmon category NAG licence through the National Online Licensing System.
- e) Designated vessels may not exceed the maximum vessel length (MVL) of the outside Rockfish licence designated, unless issued as Option N.

To avoid delays, please ensure the payment, vessel designation and option information is submitted all at the same time through the Submit a Request menu selection within the NOLS, when renewing the licence eligibility.

5.4. Licence Options

The designated vessel may not exceed the Maximum Vessel Length (MVL) of the outside Rockfish licence designated, even when an initial inside Rockfish licence has already been designated to the vessel; unless the option to not participate (i.e. Option N) in the directed Rockfish fishery is made at the time of licence issuance.

Should the licence eligibility holder select the option to not participate in the directed Rockfish fishery, the designated vessel may exceed the MVL of the Rockfish licence eligibility. The designated vessel will then reallocate Rockfish quota to other licence eligibilities.

If the selection has been made to not participate in the directed Rockfish fishery at the beginning of the season, the licence eligibility holder may choose to change to the option to participate at a later date, as long as the vessel meets all the length requirements, where applicable.

Option selection for each Rockfish licence may be done by navigating to the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

5.5. Licence Amendments

The Rockfish licence eligibility must be issued for the year prior to the processing of a request for licence amendment or reallocation of Individual Transferable Quota (ITQ).

The licence eligibility holder or an authorized representative must request and receive a 2022/2023 licence amendment from the Groundfish Management Unit, prior to fishing. The amendment outlines the total amount of fish by species, that the vessel can land for the fishing season. Without this amendment, the vessel is not permitted to catch, retain or land any fish.

Licence Amendment Request Forms and other applicable Groundfish forms are available online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

5.6. Licence Documents

Rockfish licence documents are valid from the date of issue to February 20, 2023.

Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the licence eligibility holders account via the National Online Licensing System.

5.7. Vessel Redesignations

Redesignation of Rockfish licences are permitted at any time during the year, provided that all Conditions of Licence has been met

Prior to a redesignation being processed, licence eligibility holders must:

- Designate a registered Canadian commercial vessel.
- Ensure the designated vessel holds a vessel based licence eligibility (as listed above) and does not exceed the Maximum Vessel Length (MVL) of the licence eligibility to be redesignated. MVL will be waived if issued as Option N.

Request for redesignation must be submitted by the licence eligibility holder through the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS).

Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

5.8. Licence Eligibility Nominations

Rockfish category ZN licence eligibilities may be nominated from one party to another. Licence eligibility holders may indicate their intention to no longer apply for a Rockfish licence by completing a Nomination for Category Z Licence Eligibility form provided by Fisheries and Oceans Canada. Where such an intention is stated, the Minister may consider issuance of the licence to a person nominated by the previous licence eligibility holder.

The Nomination for Category Z Licence Eligibility form is available online at <http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html> or by contacting the Pacific Fishery Licence Unit by phone at 1-877-535-7307 or via e-mail at fishing-peche@dfo-mpo.gc.ca.

Communal commercial Rockfish category FZN licence eligibilities may not be nominated.

6. BAIT

Commercial fishers wishing to use licensed catch as bait may do so, with the exception of rockfish. All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait, and must be retained and landed.

Octopus caught incidentally may be retained and used for bait under authority of a Rockfish licence eligibility, but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed an average weight for that species as defined in Appendix 2 of the IFMP.

7. RESEARCH ALLOCATION

To support rockfish research the Groundfish Hook and Line Sub Committee (GHLSC) has agreed to set aside five percent of the allocations for research purposes.

The following table indicates the 2022/2023 outside rockfish research allocation. Note that Yelloweye Rockfish mortality is accounted for in the Yelloweye rebuilding plan noted in Appendix 9.

Species/Aggregate	Quota (tonnes)
Quillback rockfish	5.8
Copper, China and Tiger rockfish	2.8
Silvergray rockfish	12.7
Canary rockfish	6.5
Redbanded rockfish	11.6
Rougheye/Blackspotted rockfish	22.6
Shorthead rockfish	5.4
Yellowmouth rockfish	3.0
Yellowtail rockfish	2.0
Shortspine Thornyheads	0.9

8. ROCKFISH INDIVIDUAL TRANSFERABLE QUOTAS (ITQ)

8.1. Annual ITQ Caps

8.1.1. TAC Holdings Permanent Quota Caps

All ZN Outside licences will have annual ITQ caps for permanent quota. The total amount of permanent reallocations of quota may not exceed the quota caps listed below.

Species	Areas	TAC Holdings Cap (pounds)
Yelloweye rockfish	3C/D, 5A	1,329
	5B	688
	5C/D	742
	5E	860
Quillback rockfish	3C/D, 5A	2,488
	5B	1,629
	5C/D	1,824
	5E	371
Copper, China and Tiger rockfish	3C/D, 5A	1,401
	5B	382
	5C/D	1,123
	5E	28
Canary rockfish	3C/D	1,071
	5A/B	1,831
	5C/D	848
	5E	885
Silvergray rockfish	3C/D	2,373
	5A/B	4,630
	5C/D	4,202

Species	Areas	TAC Holdings Cap (pounds)
	5E	2,733
Shorthead rockfish	Coastwide	5,874
Redbanded rockfish	Coastwide	10,529
Rougheye/Blackspotted rockfish	Coastwide	26,031
Shortspine Thornyhead	Coastwide	980
Big skate	Coastwide	300
Longnose skate	Coastwide	1,000

8.1.2. Licence Species Temporary and Permanent Quota Caps (Directed Species)

All ZN licences will have annual ITQ caps for some of their directed and non-directed catch. Temporary and permanent reallocations combined up to the species caps listed below will be permitted.

Species	Areas	Licence Species Cap (pounds)
Canary rockfish	Coastwide	10,000
Redbanded rockfish	Coastwide	80,000
Rougheye/Blackspotted rockfish	Coastwide	200,000
Silvergray rockfish	Coastwide	30,000
Shorthead rockfish	Coastwide	100,000
Shortspine Thornyhead	Coastwide	10,000
Quillback,	Coastwide	22,500
China, Copper and Tiger rockfish	Coastwide	15,000
Yelloweye rockfish	Coastwide	10,000

8.1.3. Quota Holdings Caps (Non-Directed Species)

Species	Areas	Licence Species Cap (pounds)
Dogfish	Coastwide	100,000
Sablefish	Coastwide	15,000
Big skate	Coastwide	10,000
Longnose	Coastwide	15,000

8.1.4. Quota Landings Caps (Non-Directed Species)

Species	Areas	Quota Landings Cap (pounds)				
		7,500 lbs if < 20,000 lbs of quota rockfish landed	10,000 lbs if between 20,000- 40,000 lbs of quota rockfish landed	15,000 lbs if between 40,000- 60,000 lbs. of quota rockfish landed	20,000 lbs if > 60,000 lbs of quota rockfish landed	30,000 lbs if > 100,000 lbs of quota rockfish landed
Halibut	Coastwide					
Lingcod	Coastwide	7,500 lbs if < 8,000 lbs of quota rockfish landed	10,000 lbs if between 8,000- 20,000 lbs of quota rockfish landed	15,000 lbs if between 20,000- 40,000 lbs of quota rockfish landed	20,000 lbs if between 40,000- 60,000 lbs of quota rockfish landed	25,000 lbs if > 60,000 lbs of quota rockfish landed
Sablefish	Coastwide	5,000 lbs if < 20,000 lbs of quota rockfish landed	10,000 lbs if between 20,000- 40,000 lbs of quota rockfish landed	15,000 lbs if > 40,000 lbs of quota rockfish landed		

8.2. Trip Limits

For some species of groundfish caught while fishing Rockfish by Hook and Line (Outside ZN) fishery there will be trip limits:

Species	Trip Limit (pounds)
Black Rockfish	1,000
Kelp Greenlings	500
Other Rockfish	5,000
Pacific Cod	500
Sole and Flounder	No limit

8.3. Fishing Restrictions for ITQ Excess Coverage

Licence eligibilities that exceed their total Rockfish ITQ by area by more than 30%, or 100 pounds, whichever is greater, are defined as being in excess coverage. Licence eligibilities in excess coverage will be restricted from further fishing activity for the remainder of the fishing

year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ by area for non-directed species by more than 30%, or 100 pounds, whichever is greater, are defined as being in a state of excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licenses that do not reconcile overages by February 20, 2023, will carry overages into the new season (see section 7.6.2 of this harvest plan). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until temporary reallocations for the 2022/2023 season are processed in mid-March.

8.4. Reallocation of Directed and Non-Directed Species ITQ

The following guidelines for the reallocation of directed and non-directed species ITQ will be in effect for the 2022/23 ZN fishery.

- 8.4.1. Subject to annual ITQ caps and sector caps, upon application, licence eligibility holders will be permitted to make unlimited temporary reallocations of directed and non-directed species ITQs. A “Temporary Reallocation Request for Integrated Groundfish Fisheries” form must be completed and submitted to the GMU and, if approved, a licence amendment will be issued to reflect new ITQ amounts. The most current licence amendment must be on board when fishing.
- 8.4.2. The 2022/2023 ZN licence must be issued prior to any ITQ being reallocated.
- 8.4.3. Request for temporary reallocation requests for the 2022/2023 season must be received by 16:00 hours Pacific Time on February 20, 2023 in order to be processed.
- 8.4.4. For permanent ITQ reallocations, licence eligibility holder(s) of record must complete and sign a “Permanent Reallocation Request for Integrated Groundfish Fisheries.” For temporary reallocations of ITQ only one licence eligibility holder is required to sign the “Temporary Reallocation Request for Integrated Groundfish Fisheries” form.
- 8.4.5. Requests for permanent reallocation of ITQ must be received by 16:00 hours local time on February 2, 2023 in order to be processed.
- 8.4.6. Permanent reallocations of ITQ will be expressed as a percentage of the TAC, and will be added to the receiving licence eligibility’s percentage of the TAC.
- 8.4.7. ITQ that has already been caught or deemed “fished” cannot be reallocated.
- 8.4.8. The minimum quantity of ITQ that may be reallocated is one pound.
- 8.4.9. Temporary reallocations are only valid for the current fishing season.
- 8.4.10. Reallocations for the 2022/2023 season will not be processed until 8:00 hours local time March 15, 2022.

8.5. Rules for Carryover of ITQ Overage and Underage

8.5.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with Rockfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total Rockfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

8.5.2. Carryover of Non-Directed Species ITQ Underage

Licence eligibilities with non-directed species (except Dogfish) catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

Licence eligibilities with Dogfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Dogfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

8.5.3. Carryover of Directed and Non-Directed Species ITQ Overage

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility's ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

Quota reallocation request forms and signature authorization forms are available at:
<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca

9. LIVE ROCKFISH OFFLOAD SAMPLING PROTOCOL

In 2020, a sub-sampling protocol was adopted for implementation for all live-rockfish offloads to improve consistency at offloads, and minimize the time live fish spend out of water. These measures aim to address concerns regarding product mortality that can occur when sorting and enumerating fish at the dock. The protocol was developed in collaboration by the Department and members of the Groundfish Hook and Line Sub-Committee.

The following procedures apply to all live rockfish offloads where there is enough fish to meet the sampling requirements. The major species in a live offload, such as Copper and Quillback, may be sampled whenever one of the following are true according to the skipper's estimate:

- More than 100 pieces (roughly 200 lbs) of each major species are expected to be offloaded and the species are fully sorted; Or,

- More than 250 pieces (roughly 500 lbs) of either Copper or Quillback are expected to be offloaded and the species remain mixed.

When sampling is conducted, the major species may be sorted, or remain mixed. A minimum of 20% or 50 pieces of each of the major species (whichever is greater) will be sampled. Sampling will be permitted for major offload species such as Copper and Quillback, however, minor species such as Tiger and China must continue to be sorted, counted, and weighed by species.

10. DUAL FISHING

Dual fishing means fishing for commercial and First Nation Food, Social, and Ceremonial purposes on the same fishing trip. Dual fishing is authorized through licence conditions for commercial groundfish fisheries. Vessel masters considering dual fishing are responsible for reviewing their licence conditions to ensure they are aware of the dual fishing requirements.

Before hailing-out on a dual fishing trip, the vessel master must obtain a dual fishing designation certificate from a designating First Nation that has a communal licence authorizing the harvest of groundfish. The designation certificate must contain all of the information set out in the conditions of licence. If any of the information is missing the designation certificate will not be considered valid and the vessel master cannot dual fish. A designation certificate template is available on the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>.

Aboriginal organizations may issue their own designation certificate as long as the required information is included.

When hailing-out, the vessel master must notify the hail service provider that they will be dual fishing, provide the name of the First Nation that issued the designation certificate, and provide the unique designation certificate identification number. The vessel master must carry the designation certificate on board the vessel at all times during the fishing trip.

All retained fish, including both commercial and FSC catch, must be recorded in the “retained” column of the Integrated Groundfish Fishing Logbook. Additionally, fish retained as FSC catch must be separated out and recorded by set and by species in the “comments” section of the Integrated Groundfish Fishing Logbook.

When hailing-in, the vessel master must provide an estimate, by species, of the weight of fish caught under the authority of the designation certificate. Unless the designating First Nation requests to have the FSC fish landed and validated at a different location, all fish from the trip must be landed at the same place and validated by a designated groundfish dockside observer. At the time of offload, the vessel master must provide a valid designation certificate to the dockside observer. If one is not provided, all catch from the trip will be considered commercial catch until the completion of a review by the Groundfish Management Unit and discussion with the vessel master. Furthermore, if FSC fish are landed at a different location than the commercial catch, an FSC validation record containing the verified weight and the number of pieces by species must be completed by a fisheries representative of the designating First Nation organization. The

vessel master must obtain a copy of the FSC validation record and provide it to the designated groundfish dockside monitor at the time of the commercial offload.

11. CLOSURES

Please refer to Appendix 10 of this IFMP for commercial groundfish hook and line fishery closures.

Appendix 6: Halibut Commercial Harvest Plan

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1. MANAGEMENT UPDATES & CHANGES FOR 2022/2023

1.1. In-Season Changes/Updates

In-season updates are available on the Fishery Notice website at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial.

In-season Sector Catch and Sector Cap summaries are updated daily and can be found at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/publications-eng.html>

1.2. Lost and Found Gear Reporting Requirements

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, new conditions have been added to licence conditions beginning in the 2020/2021 season, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to report on the gear type and amount, as well as the date, time and location that gear was lost or found in the Integrated Groundfish Fishing Log. Harvesters are required to use the Fishing Log to report on lost/found gear. Please refer to the front section 5.2.1.8 for more information and appendix 2 for an example of the Fishing Log. If your Fishing Logs do not have the additional section on gear reporting requirements, please contact Archipelago Marine Research Ltd. to ensure you have the updated versions.

1.3. Sablefish Discard Mortality

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and to propose measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and has updated the discard mortality rates for legal, marketable Sablefish for the 2022/23 fishing season to provide an incentive for harvesters to retain legal-sized, marketable Sablefish and reduce discarding of these fish in Groundfish fisheries. Details regarding the discard mortality rates to be implemented in 2022/23 will be found in Section 9 of Appendix 2 of this IFMP.

Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

1.4. Southern Resident Killer Whales – Fisheries Management Measures

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.5. **Pacific Groundfish Integrated Fishery Website**

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

1.6. **Partial Offloads**

Harvesters are reminded that when hailed on a combination Sablefish/Halibut trip, all Pacific Halibut must be offloaded at the final offload as partial offloads are prohibited for commercially caught Pacific Halibut. Vessels fishing under the authority of a Sablefish licence eligibility are permitted to land only a portion of their catch during a “partial offload”.

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip “legs” are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider’s head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

1.7. **Pilot 800 Line/Circle Tow Bottom Trawl Closure & Seasonal Expansion**

The seasonal expansion of the 800-line/Circle Tow closure has been extended from November 1, 2021 - March 31, 2022 due to a continued lack of new science advice for Arrowtooth Flounder. The closure continues to be an interim management measure that is intended for the short-term and will be re-evaluated during the 2022/23 fishing season.

Please refer to Section 6.8.6 of Appendix 8 (Trawl appendix) for more information.

2. **SPECIES**

The following species are permitted to be retained under Part 1 and Schedule II, Part 2 of a valid Halibut licence eligibility with the appropriate amendment.

Halibut (*Hippoglossus stenolepis*)
Rockfish (*Sebastes spp. and Sebastolobus spp.*)
Lingcod (*Ophiodon elongates*)
Spiny Dogfish (*Squalus suckleyi*)
Sablefish (*Anoplopoma fimbria*)
Skate (*Rajidae*)
Sole and Flounder (*Pleuronectiformes*, other than *Hippoglossus stenolepis*)
Pacific Cod (*Gadus macrocephalus*)

3. GEAR

Hook and line gear.

No longline gear shall be left set and/or unattended during a vessel's return to port. Vessel masters shall retrieve, and have on board, all longline gear prior to delivering their catch to port.

4. QUOTAS AND OPEN TIMES

4.1. Open Times

The 2022 Halibut fishery will commence at 12:00 hours, March 6 and will close at 12:00 hours, December 7, 2022. Following the closure of the fishery, all fish caught under the authority of a Halibut licence eligibility, must be landed and validated by a DFO-designated groundfish dockside observer no later than 12:00 hours, December 14, 2022.

To allow an orderly opening for the 2022 Pacific Halibut season, variation orders are issued to close three areas (Langara Island, Cape St. James, and North Triangle) for 72 hours prior to the opening of the Pacific Halibut season. The variation orders close the fisheries for Skate, Sole, Flounder and Spiny Dogfish by Hook and Line, Pacific Cod by Hook and Line, Rockfish by Hook and Line, and Sablefish by Longline. Please review all variation orders prior to fishing.

The retention of Lingcod by hook and line gear will be permitted from 00:01 April 1 to 23:59 hours November 14, 2022. Accordingly, all Lingcod must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours, November 21, 2022.

4.2. Fishing Areas

Subject to closures described in Appendix 10 of this IFMP and variation orders, the waters in which commercial Halibut fishing is permitted to be carried out are:

Areas 1 to 11, 21, 23 to 27, 101 to 111, 121, 123 to 127, 130, 142, Subarea 12-14,
(Groundfish Management Areas 3C, 3D, 5A, 5B, 5C, 5D, and 5E).

To harvest Pacific Halibut in subareas 12-1 to 12-13, 12-15 to 12-48, 19-3 to 19-5 and Area 20 (Groundfish Management Area 4B), an amendment to the Halibut conditions of licence is required from the Halibut Coordinator; please see section 6.1 of this harvest plan.

Subject to variations orders, while fishing only under authority of a Halibut licence eligibility legal-sized Sablefish may be retained from any area or subarea open to fishing under the authority of a Halibut commercial licence eligibility, except Groundfish Management Area 4B.

When hailed out on a combination Halibut and Sablefish trip, a vessel can only fish in areas open to directed Sablefish fishing (see section 8 of this harvest plan).

4.3. Halibut Landing Requirements

Where Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed.

4.4. Commercial and Recreational Total Allowable Catch

For 2022, the International Pacific Halibut Commission (IPHC) recommended a Canadian commercial and recreational catch limit of 3041.37 tonnes (all Halibut weights are fresh, dressed, head-off weight) for IPHC regulatory area 2B, Canada's Pacific waters.

For commercial/recreational allocation purposes, the total allowable catch (TAC) was adjusted to 3150.23 tonnes to include recreational discard mortality, and commercial discard mortality of fish over 66 cm in length. Discard mortality is defined as the incidental mortality from the directed fisheries due to regulatory discards, mandatory or voluntary release of halibut, and from lost or abandoned fishing gear. The amount of commercial and recreational discard mortality is estimated annually via the IPHC stock assessment process. The adjusted TAC is allocated between the commercial (85%) and the recreational (15%) fisheries, and the commercial and recreational discard mortality is removed from the commercial and recreational allocations, respectively.

Section 10 of the *Fisheries Act* permits the Minister of Fisheries and Oceans to allocate fish for the purpose of financing scientific and fisheries management activities. In 2022, up to 27.22 tonnes of Halibut has been notionally allocated from the commercial TAC to support a synoptic longline survey.

In 2022 the Halibut TAC (fresh, dressed, head-off weight) has been allocated as:

Food, Social, and Ceremonial*	183.71 tonnes	405,000 pounds
Use of Fish allocation for longline synoptic survey and IPHC survey technician	27.22 tonnes	60,000 pounds
Commercial TAC **	2,555.23 tonnes	5,633,250 pounds
Recreational TAC	458.93 tonnes	1,011,750 pounds
Total Allowable Catch ***	3,225.09 tonnes	7,110,000 pounds

* Excludes treaty allocations relinquished from the commercial TAC totalling 12.6 tonnes.

** Includes treaty allocations relinquished from the commercial TAC totalling 12.6 tonnes. These treaty allocations are not available to the commercial fishery.

*** Excludes carryover of overages and underages from the previous season (see section 6.7 of this harvest plan). Excludes permitted Halibut mortality from the groundfish Trawl fishery (see appendix 8 of the IFMP).

5. LICENSING

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

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

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

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

5.1. Licence Category

A commercial Halibut (category L) or communal commercial Halibut (category FL) licence eligibility is required to participate in the directed commercial Pacific Halibut fishery.

Category L Halibut eligibilities are limited entry and vessel-based. Category FL eligibilities are limited entry and party-based; a First Nations group is the licence eligibility holder and the eligibility must be designated to a commercially registered fishing vessel that meets established length restrictions.

Vessels authorized to fish under the authority of a Halibut licence eligibility are also permitted to catch and retain other groundfish species by hook and line gear as outlined in conditions of licence. These vessels are also permitted to catch and retain species described in Schedule II, Part 2 of the *Pacific Fishery Regulations*, 1993, catch and retain other groundfish species, transport non-groundfish species caught by other vessels and be designated to fish under the authority of a category Z licence.

5.2. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by the Consumer Price Index (CPI) published by Statistics Canada.

The commercial Halibut Species (Category L) licence renewal may be found on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/fees-frais-22-23-eng.html>. There is no annual licence renewal fee for communal commercial category FL licences.

5.3. Licence Issuance

Renewal of a category L licence and payment of the fees must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is

carried out. Those category L licenses not renewed by February 20 of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a communal commercial licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the ‘Submit a Request’ menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Prior to annual licence issuance, vessel owners/licence eligibility holders are required to:

- a) Meet any Ministerial conditions placed on the licence eligibility.
- b) Ensure any conditions of the previous year’s licence are met.
- c) The designated vessel’s overall length does not exceed the maximum vessel length of the category FL licence eligibility.

To avoid delays, please ensure the payment and vessel designation information is submitted all at the same time through the Submit a Request menu selection within the NOLS, when renewing a communal commercial licence.

5.4. Licence Amendment

The Halibut licence eligibility must be issued prior to the processing of a request for licence amendment or reallocation of ITQ. The vessel owner/master must have on board a valid Halibut licence amendment prior to fishing.

This amendment outlines the total amount of fish by species that the vessel can land for the fishing season. Without this amendment the vessel is not permitted to catch, retain or land any fish.

A “Request for Licence Amendment” must be completed by the vessel owner/licence eligibility holder or the designated agent and faxed to the Groundfish Management Unit at 1-866-561-5729. Request forms and all other applicable forms are available online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/form-eng.htm>

5.5. Licence Documents

Halibut licence eligibilities are valid from the date of issue to February 20, 2023.

Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the NOLS.

5.6. Vessel Replacement

The owner(s) of a category L licensed Halibut vessel may make an application to replace the commercial fishing vessel. Both the replacement vessel and the vessel being replaced must have

a survey on file with the Pacific Fishery Licence Unit (PFLU) or submitted with the vessel replacement application. Vessels must be surveyed according to the Department guidelines.

Communal commercial licenses are not eligible for vessel replacement as the licence eligibility is party based.

A single category L Halibut licence eligibility may be placed on a vessel that does not hold another vessel based licence eligibility up to the overall length (OAL) of the original vessel, the vessel licensed as at January 31, 1993; otherwise known as the Original Vessel Length (OVL).

A single category L Halibut licence eligibility may be placed on a vessel that holds another vessel based licence eligibility, up to the maximum vessel length (MVL) of the Halibut licence eligibility; the MVL being the length of the original vessel licensed as at January 31, 1993, plus 25 feet.

A category L Halibut licence eligibility may be separated from other licence eligibilities and placed on a vessel that does not exceed the MVL, as long as the replacing vessel holds another vessel-based licence eligibility with Schedule II species privileges.

In circumstances where the intention is to make the category L licence eligibility a standalone licence and the replacing vessel has a category C, Schedule II species licence eligibility, the C licence eligibility is relinquished (permanently retired), except when the placement is temporary, then the C licence eligibility is held until the Halibut licence eligibility is permanently placed on a vessel. The option of relinquishing a schedule II species licence may only be utilized when it is the intention to separate a halibut licence from a married situation in order to become a standalone halibut licence.

When a Schedule II licence eligibility is relinquished from a vessel with an OAL less than the MVL but greater than the OAL of the vessel licensed as at January 31, 1993, in future, the licence eligibility may be placed on an unlicensed vessel up to the OAL of the vessel that relinquished the C licence eligibility. There is no change to the MVL for the Halibut licence eligibility.

A category L Halibut licence eligibility held on a vessel, in combination with another vessel based licence, may be placed on a vessel that does not exceed the MVL, so long as it is within the vessel replacement rules associated with the another vessel based licence also being replaced.

Where the replacement vessel is unlicensed, a category L Halibut licence eligibility held on a vessel, in combination with another vessel based licence (such as Groundfish by Trawl and/or Sablefish), may be placed on a vessel that does not exceed the OVL. As the replacement vessel is unlicensed, a category C licence eligibility must be relinquished (permanently retired).

Vessels may hold more than one Halibut licence eligibility in a year, but not at the same time.

Vessels may not fish Halibut under the authority of more than one licence eligibility a year.

When vessel owners wish to swap two married Halibut licence eligibilities, neither licence may exceed the MVL assigned to the licence eligibility.

Vessel owners wishing to request a permanent or temporary vessel replacement for a commercial Halibut licence eligibilities must apply to a PFLU.

5.7. Temporary Vessel Replacement

The temporary placement of category L Halibut licence eligibilities is only allowed when the vessel to be replaced becomes a total loss.

Temporary replacement vessels may not have harvested Halibut in the current fishing year and may not exceed the MVL of the category L licence eligibility.

If a category L Halibut licence eligibility is temporarily split from other vessel licence eligibilities, the remaining eligibilities may not be placed on a third vessel.

For further information on vessel replacement policies, please contact a PFLU by telephone at 1-877-535-7307 or email at fishing-peche@dfo-mpo.gc.ca.

6. SECTOR RULES

6.1. 4B (Strait of Georgia) Halibut Fishery

Those vessels wishing to participate in this fishery are required to apply for an amendment to the Halibut conditions of licence by contacting the Halibut Coordinator.

Vessels participating in a directed Halibut fishery in area 4B are accountable for all species and are responsible for any Pacific Halibut, Spiny Dogfish, Yelloweye Rockfish, and Quillback Rockfish, and Copper, China and Tiger Rockfish caught while fishing area 4B.

A non-transferable allocation of Yelloweye Rockfish is provided to vessels who apply to fish Halibut in area 4B waters, thus area 4B fishers are not required to acquire quota to cover the catch of Yelloweye. However, vessels are restricted to annual caps of 200 pounds (round weight) of Yelloweye in area 4B.

Subject to variation orders, while fishing under authority of a Halibut licence legal-sized Sablefish may not be retained from Groundfish Management Area 4B.

No vessel may hold quota holdings in excess of the annual ITQ caps.

6.1.1. Licence Species Temporary Quota Caps

Species	Areas	Licence Species Cap (fresh, round pounds)
Quillback Rockfish	4B	178
Copper, China, and Tiger Rockfish	4B	22
Dogfish	4B	1,000

Vessels fishing Halibut in 4B are subject to trip limits for:

- (1) Canary rockfish, Silvergray rockfish, Redbanded rockfish, Rougheyeye/Blackspotted rockfish, Shortraker rockfish, Shortspine thornyheads, and other rockfish (as set out in Appendix 1 of the commercial Halibut conditions of licence): the quantity of rockfish landed shall not exceed 50 pounds (23 kg) (fresh, round pounds).
- (2) Lingcod caught and retained from areas 12-1 to 12-13, and 12-15 to 12-48, in any one fishing trip shall not exceed 400 pounds (181 kg) (fresh, round pounds). Lingcod may not be retained from any other area.

The Department will closely monitor the fishing activity in the 4B area, and if the Yelloweye TAC for Area 4B is reached, the fishery in this area will be closed. Once individual vessels have reached their annual limits they will be restricted from further directed Halibut fishing in Area 4B for the remainder of the season.

6.2. **Rockfish ITQ**

Each Halibut licence eligibility is allocated ITQ by area for the following rockfish species: Yelloweye, Quillback, Copper, China and Tiger, Canary, Silvergray, Rougheyeye/Blackspotted, Redbanded, Shortraker, and Shortspine Thornyhead. Rockfish ITQ are calculated by multiplying the Halibut sector's species' area TAC by a licence eligibility's Halibut permanent ITQ percentage at the start of the season (before any Halibut overage/underage is added). Rockfish ITQ will be subject to temporary reallocation guidelines and ITQ caps outlined below.

6.3. **Annual ITQ Caps**

All Halibut licence eligibilities are subject to annual ITQ caps for directed and non-directed species. Temporary reallocations of ITQ, up to the ITQ caps listed below, will be permitted. No vessel may hold quota holdings in excess of the annual ITQ caps. Note: please see section 6.1.1 of this appendix for quota caps applicable to area 4B.

6.3.1. **Licence Species Temporary Quota Caps**

Species	Areas	Licence Species Cap (fresh, round pounds)
Quillback Rockfish	Coastwide	10,000
Copper, China and Tiger Rockfish (total)	Coastwide	5,000
Silvergray Rockfish	Coastwide	8,000
Canary Rockfish	Coastwide	3,500
Longnose Skate	Coastwide	8,000
Big Skate	Coastwide	5,000

6.3.2. Licence Species Permanent Quota Caps

Species	Areas	Licence Species Cap (fresh, round pounds)
Longnose Skate	Coastwide	5,561
Big Skate	Coastwide	2,533

6.3.3. Quota Landings Temporary Quota Caps

Species	Areas	Quota Landings Caps (fresh, round pounds)
Yelloweye Rockfish	Coastwide	3,000 if 0 < Halibut* landed < 28,166
		6,000 if 28,166 < Halibut* landed
		Cap increases in 1,500 blocks up to 6,000, once a 1,500 block is caught
Shortraker Rockfish	Coastwide	8,000 if 0 < Halibut* landed < 28,166
		16,000 if 28,166 < Halibut* landed < 56,333
		20,000 if > 56,333 of Halibut* landed
		Cap increases in 2,000 blocks up to 20,000, once a 2,000 block is caught
Redbanded Rockfish	Coastwide	Cap increases in 4,000 blocks up to 24,000, once a 4,000 block is caught
Rougeye/Blackspotted Rockfish	Coastwide	Cap increases in 8,000 blocks up to 60,000, once a 8,000 block is caught
Shortspine Thornyhead	Coastwide	Cap increases in 4,000 blocks up to 16,000, once a 4,000 block is caught
Lingcod	Coastwide	Cap increases in 5,000 blocks up to 30,000, once a 5,000 block is caught

Species	Areas	Quota Landings Caps (fresh, round pounds)	
Sablefish	Coastwide	8,360 if 0 < Halibut* landed < 28,166	14,250 if > 28,166 < Halibut* landed < 56,333

*Fresh, dressed, head-off weight

Note: 28,166 = 0.5% of Commercial Halibut TAC; 56,333 = 1.0% of commercial Halibut TAC

6.3.4. TAC Holdings Quota Caps

The maximum quantity of Halibut ITQ that can be held by a vessel is 1.0 percent of the season’s TAC (including both permanent and temporary transfers, but not including any carryover of ITQ underage from the previous year). However, vessels that fished greater than 1.0% of the TAC in any year from 1993 to 1998 are allowed to hold quota up to their individual maximum. With the 2022/2023 commercial TAC of 2,555.23 tonnes (5,633,250 pounds), the maximum poundage that may be held in permanent and temporary quota by a vessel for 2022/2023 is 25.55 tonnes (56,333 pounds). Underages are excluded from the maximum TAC Holdings Quota Cap.

The minimum quantity of Halibut ITQ that must be held permanently by a vessel is 0.011494% of the commercial Halibut TAC. With the 2022/2023 commercial TAC of 2,555.23 tonnes (5,633,250 pounds), the minimum poundage that must be permanently held by a vessel for 2022/2023 is 0.29 tonnes (647) pounds). The minimum can be temporarily reallocated during the year.

6.4. Trip Limits

Trip limits for non-directed species of groundfish caught while fishing Halibut:

Species	Trip Limit (fresh, round pounds)
“Other Rockfish,” as set out in Appendix 1 in the conditions of licence:	5,000 pounds
Pacific cod	500 pounds
Sole and flounder	No limit

6.5. Fishing Restriction for exceeding an ITQ

Licence eligibilities that exceed their uncaught ITQ for Halibut as of the vessel’s last trip by more than 10%, or 400 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ by area for non-directed species by more than 30%, or 100 pounds, whichever is greater, are defined as being in a state of excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licenses that do not reconcile overages by February 20, 2022, will carry overages into the new season (see section 6.7.3. of this harvest plan). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until temporary reallocations for the 2023/2024 season are processed in mid-March of 2023 (see section 6.6.7 of this harvest plan).

6.6. Reallocation of Directed and Non-Directed Species ITQ

The following guidelines for the reallocation of directed and non-directed species ITQ are in effect for the 2022/2023 fishery.

- 6.6.1. Subject to annual ITQ caps and sector caps, upon application, licence eligibility holders will be permitted to make unlimited temporary reallocations of directed and non-directed species ITQs. A “Temporary Reallocation Request for Integrated Groundfish Fisheries” must be completed and submitted to the GMU and, if approved, a licence amendment will be issued to reflect new ITQ amounts. The most current licence amendment must be onboard when fishing.
- 6.6.2. For permanent Halibut ITQ reallocations, all vessel owners/licence eligibility holders on record must complete and sign a “Permanent Reallocation Request for Integrated Groundfish Fisheries.” For temporary reallocations of ITQ only one owner or the licence eligibility holder is required to sign the “Temporary Reallocation Request for Integrated Groundfish Fisheries” form.
- 6.6.3. If the vessel owner is a company or First Nations group, only an authorized signing authority may sign the application. A copy of either a “Confirmation of Signing Authorities” or an “Amendment to Confirmation of Signing Authorities” listing the signing authorities must be on file with the GMU.
- 6.6.4. The 2022 Halibut licence eligibility must be issued prior to any ITQ being reallocated.
- 6.6.5. Requests for permanent reallocation of Halibut ITQ must be received by GMU by 16:00 hours local time on February 2, 2023 in order to be processed.
- 6.6.6. Requests for temporary reallocation of directed and non-directed species ITQ must be received by GMU by 16:00 hours local time on February 20, 2023 in order to be processed. Temporary reallocations of directed and non-directed species ITQ are only valid for the current fishing season.
- 6.6.7. Reallocations for the 2022/2023 season will not be processed until 8:00 hours local time March 15, 2022.

- 6.6.8. ITQ that has already been caught or deemed “fished” cannot be reallocated.
- 6.6.9. Permanent reallocations of ITQ will be expressed as a percentage of the TAC, and will be added to the receiving licence eligibility’s percentage of the TAC.
- 6.6.10. The minimum quantity of ITQ that may be reallocated is one pound.
- 6.6.11. Temporary reallocations are only valid for the current fishing season.

6.7. **Rules for Carryover of Quota Overage and Underage**

6.7.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with Halibut catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Halibut ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

6.7.2. Carryover of Non-Directed Species ITQ Underage

Licence eligibilities with non-directed species (except Dogfish) catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

Licence eligibilities with Dogfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Dogfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

6.7.3. Carryover of ITQ Overages

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility’s ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

Quota reallocation request forms and signature authorization forms are available at:
<https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/form/index-eng.html>

For licence status reports (LSR) and quota reallocation inquiry, contact either of the Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca.

6.8. **Prohibition on Shark Finning**

DFO prohibited the practice of finning of dogfish and sharks off the west coast of Canada beginning in the 2012 fishing season. Though not a common practice in Canada, this action is in response to international concerns with fish handling practices in other jurisdictions, where the fins of sharks are removed at-sea and the remainder of the shark, sometimes still alive, is discarded overboard.

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

7. BAIT

Commercial fishers wishing to use licensed catch as bait may do so, with the exception of rockfish. All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait, and must be retained and landed.

Octopus caught incidentally may be retained and used for bait under authority of a Halibut licence eligibility, but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed an average weight for that species as defined in Appendix 2 of the IFMP.

8. COMBINED HALIBUT AND SABLEFISH FISHING

Vessels conducting combined Halibut and Sablefish trips will be required to identify their intentions at the time of hail-out and will receive two hail-out numbers.

Those vessels conducting combination Halibut and Sablefish trips may assign directed and non-directed quota species catch to either their L licence eligibility or their K licence eligibility as long as they are within the quota caps for that fishery. This includes splitting catch for the same species between the two licence eligibility types if so desired. It is the responsibility of the vessel master at the time of offload to communicate this to the dockside observer. Trip limit allowances for quota species will be determined using the licence eligibility that the landed catch is assigned to. Trip limit allowances for all non-quota species will be determined using the Sablefish licence eligibility only.

If fishing on a combination trip the vessel may only fish in areas open to directed Sablefish fishing (see section 4.2 and section 11 of Appendix 7 for the waters in which commercial Sablefish fishing is permitted to occur).

9. DUAL FISHING

Dual fishing means fishing for commercial and First Nation Food, Social, and Ceremonial purposes on the same fishing trip. Dual fishing is authorized through licence conditions for commercial groundfish fisheries. Vessel masters considering dual fishing are responsible for reviewing their licence conditions to ensure they are aware of the dual fishing requirements.

Before hailing-out on a dual fishing trip, the vessel master must obtain a dual fishing designation certificate from a designating First Nation that has a communal licence authorizing the harvest of groundfish. The designation certificate must contain all of the information set out in the conditions of licence. If any of the information is missing the designation certificate will not be considered valid and the vessel master cannot dual fish.

A designation certificate template is available on the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>. Aboriginal organizations may issue their own designation certificate as long as the required information is included.

When hailing-out, the vessel master must notify the hail service provider that they will be dual fishing, provide the name of the First Nation that issued the designation certificate, and provide the unique designation certificate identification number. The vessel master must carry the designation certificate on board the vessel at all times during the fishing trip. The vessel master must record, by set and by species, the fish retained under the authority of the designation certificate. This information must be recorded in the comments section and the retained column of the Integrated Groundfish Fishing Log.

All retained fish, including both commercial and FSC catch, must be recorded in the “retained” column of the Integrated Groundfish Fishing Logbook. Additionally, fish retained as FSC catch must be separated out and recorded by set and by species in the “comments” section of the Integrated Groundfish Fishing Logbook.

When hailing-in, the vessel master must provide an estimate, by species, of the weight of fish caught under the authority of the designation certificate. Unless the designating First Nation requests to have the FSC fish landed and validated at a different location, all fish from the trip must be landed at the same place and validated by a designated groundfish dockside observer. At the time of offload, the vessel master must provide a valid designation certificate to the dockside observer. If one is not provided, all catch from the trip will be considered commercial catch until the completion of a review by the Groundfish Management Unit and discussion with the vessel master. Furthermore, if FSC fish are landed at a different location than the commercial catch, an FSC validation record containing the verified weight and the number of pieces by species must be completed by a fisheries representative of the designating First Nation organization. The vessel master must obtain a copy of the FSC validation record and provide it to the designated groundfish dockside monitor at the time of the commercial offload.

10. RECREATIONAL FISHING

Fish harvesters are reminded that under Section 14 of the *British Columbia Sport Fishing Regulations, 1996*, it is unlawful to have Halibut on board taken by sport fishing if there are any other fish on board the vessel destined for commercial sale. For more details on the management of the recreational fishery, please refer to section 8 in the front section of the IFMP.

11. CLOSURES

Please refer to Appendix 10 of this IFMP for commercial groundfish hook and line fishery closures.

Appendix 7: Sablefish Commercial Harvest Plan

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1. MANAGEMENT UPDATES & CHANGES FOR 2022/2023

1.1. In-Season Changes/Updates

In-season updates are available on the Fishery Notice website at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial.

In-season Sector Catch and Sector Cap summaries are updated daily and can be found at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.htm>

1.2. Lost and Found Gear Reporting Requirements

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, new conditions have been added to licence conditions beginning in the 2020/2021 season, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to report on the gear type and amount, as well as the date, time and location that gear was lost or found in the Integrated Groundfish Fishing Log. Harvesters are required to use the Fishing Log to report on lost/found gear. Please refer to the front section 5.2.1.8 for more information and appendix 2 for an example of the Fishing Log. If your Fishing Logs do not have the additional section on gear reporting requirements, please contact Archipelago Marine Research Ltd. to ensure you have the updated versions.

1.3. Sablefish Discard Mortality

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and to propose measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and has updated the discard mortality rates for legal, marketable Sablefish for the 2022/23 fishing season to provide an incentive for harvesters to retain legal-sized, marketable Sablefish and reduce discarding of these fish in Groundfish fisheries. Details regarding the discard mortality rates to be implemented in 2022/23 will be found in Section 9 of Appendix 2 of this IFMP.

Discussions regarding sub-legal Sablefish are anticipated to take place throughout the 2022/23 fishing season.

1.4. Partial Offloads

Vessels fishing under the authority of a Sablefish licence eligibility are permitted to land only a portion of their catch during a “partial offload.”

A partial offload is a manner of fishing by which a vessel offloads some catch before returning to the fishing grounds for additional fishing. A maximum of two trip “legs” are permitted in a partial offload fishing trip, meaning fishing would occur in the following manner: hail out, fish, hail in, land some portion of catch, fish, hail in, land all catch, complete data processing (e.g. audit fishing log and issue Quota Status Report).

At the end of each partial offload, all logbook pages, validation records, and electronic monitoring data must be provided to the service provider. For vessels fishing with EM, a partial offload will require a hard drive exchange.

Trip limits are assessed at the end of the final hail-in, at the service provider’s head office (as opposed to on the dock as occurs for traditional offloads). Trip limits are based on all catch that occurred between the hail-out and the final hail-in.

Partial offloads are prohibited for Pacific Halibut. When hailed on a combination Sablefish/Halibut trip, all Pacific Halibut must be offloaded at the final offload.

1.5. Seamounts

Seamount fisheries within the Exclusive Economic Zone (EEZ) have been closed to bottom-contact fishing. The northern seamounts have been closed within SGaan Kinghlas – Bowie MPA, and the southern seamounts have been closed as part of the Offshore Pacific Area of Interest. Further details of these closures are outlined in Appendix 10 of the IFMP. Effective July 10, 2021, all vessels fishing in the CA will be required to have a satellite-based monitoring system that transmits VMS data in real-time, in addition to the monitoring requirements in the regular commercial Sablefish fishery. Further information can be found in section 12.1 of this Harvest Plan.

For vessels participating in the Sablefish seamount fishery, there will be an annual and monthly catch limits. Monthly limits are defined in the table below and are subject to the annual catch limit. If the annual catch limit has been achieved in-season (e.g. prior to September 30) all monthly fishing opportunities may not be issued. The 2022/2023 Sablefish annual catch limit for the seamount fishery is TBD (fresh, round weight).

1.6. Southern Resident Killer Whales – Fisheries Management Measures

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.7. Pacific Groundfish Integrated Fishery Website

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

2. SPECIES

The following species are permitted to be retained under Part 1 and Schedule II, Part 2 of a valid Sablefish licence eligibility with the appropriate amendment.

Sablefish (*Anoplopoma fimbria*)

Halibut (*Hippoglossus stenolepis*)

Rockfish (*Sebastes spp. and Sebastolobus spp.*)

Lingcod (*Ophiodon elongates*)

Spiny Dogfish (*Squalus suckleyi*)

Skate (*Rajidae*)

Sole and Flounder (*Pleuronectiformes*, other than *Hippoglossus stenolepis*)

Pacific cod (*Gadus macrocephalus*)

3. GEAR

Hook and line, and trap gear.

By regulation, no person shall fish for Sablefish with a trap, unless the trap has a side wall section that has been laced, sewn or otherwise secured by a single length of untreated natural fibre not larger than two millimetres in diameter and that, on deterioration or parting, produces in the side wall an opening with four sides, each of which is at least 20 centimetres in length.

No person shall fish for Sablefish with a trap unless the trap has in the side walls at least two escape openings each having an inside diameter of not less than 8.89 centimetres which creates an unrestricted exit out of the trap.

No person shall set a trap and leave the trap in the water for more than four consecutive days without lifting the trap from the water and removing all of the catch.

4. QUOTAS AND OPEN TIMES

4.1. Open Times

The 2022/23 Sablefish fishery will commence 00:01 hours, February 21, 2022 and close at 23:59 hours, February 20, 2023. Following the closure of the fishery, all fish caught under the authority of a Sablefish licence eligibility must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours, February 27, 2023.

No Halibut may be retained until the 2022 Halibut fishery commences at 12:00 hours March 6, 2022. The directed Halibut fishery will close at 11:59 hours December 7, 2022. Accordingly, all Halibut must be landed and validated by a DFO-designated groundfish dockside observer no later than 12:00 hours December 14, 2022.

The retention of Lingcod by hook and line gear will be permitted from April 1, 2022 to 23:59 hours November 14, 2022. Accordingly, all Lingcod must be landed and validated by a DFO-designated groundfish dockside observer no later than 23:59 hours local time, November 21, 2022.

To allow an orderly opening for the 2022 Pacific Halibut season, variation orders are issued to close three areas (Langara Island, Cape St. James, and North Triangle) for 72 hours prior to the opening of the Pacific Halibut season. The variation orders close the fisheries Skate, Sole, Flounder and Spiny Dogfish by hook and line, Pacific Cod by hook and line, rockfish by hook and line, and Sablefish by longline. Please review all variation orders prior to fishing.

4.2. **Fishing Areas**

Subject to closures described in Appendix 10 and variation orders, the waters in which commercial Sablefish fishing is permitted to be carried out are:

Areas: 1, 2, 101, 108 to 111, 121, 123 to 127, 130, 142, Sub-area 102-3 and that portion of Subarea 102-2 that lies southerly of a line from 52°10.00' north latitude and 130°57.395' west longitude to 52°27.020' north latitude and 130°16.621' west longitude (portions of Groundfish Management Areas 3C, 3D, 5A, 5B, 5C, 5D, and 5E).

When hailed out on a combination Halibut and Sablefish trip, a vessel can only fish in areas open to directed Sablefish fishing (see section 8 of this harvest plan).

While fishing under authority of a Halibut, Rockfish or a Schedule II species licence eligibility only, non-directed, legal-sized Sablefish caught may be retained from any area or subarea open to fishing under the authority of a Halibut, Rockfish or a Schedule II species commercial licence eligibility, except Groundfish Management Area 4B. Retention of Sablefish is also subject to closures described in section 11 of this harvest plan and variation orders.

4.3. **Halibut Landing Requirements**

Where Pacific Halibut is landed fresh, all Pacific Halibut catch shall be landed head-on. Where commercially caught Pacific Halibut is landed frozen, Pacific Halibut catch shall be landed head-on or head-off. All catch may continue to be landed dressed.

4.4. **Total Allowable Catch**

The 2022 coastwide Sablefish total allowable catch (TAC) is TBD (all Sablefish weights are fresh, round weight). Annual Sablefish TACs are guided by a simulation-tested fishery management procedure. The procedure (a) applies a surplus production model to a fishery-independent Sablefish trap survey index and Sablefish landings, and (b) converts outputs from the production model to a catch recommendation using a harvest control rule. The Sablefish management system contains the required policy elements and achieves the intent of DFO's *Fishery Decision Making Framework incorporating the Precautionary Approach*. From the

TAC, access is allocated for First Nation Food, Social, and Ceremonial (FSC) purposes, aquaculture broodstock collection, and research and management. Section 10 of the Fisheries Act permits the Minister of Fisheries and Oceans to allocate fish for the purpose of financing scientific and fisheries management activities.

After accounting for FSC and research, access is allocated to commercial sectors. Access totaling 0.1% of the commercial TAC is provided to the aquaculture industry for the collection of broodstock. In a manner similar to directed commercial groundfish fisheries (Appendix 2 of the groundfish IFMP), aquaculture access accounts for the mortality associated with the retention and release of Sablefish caught during the collection of broodstock. The balance of the TAC is allocated between the directed Sablefish fishery (91.25%) and the groundfish Trawl fishery (8.75%).

In 2022 the Sablefish TAC has been allocated as:

Food, Social, and Ceremonial	45.36 tonnes	100,000 pounds
Research; PHMA survey	1.0 tonnes	2,205 pounds
Use of Fish allocation; trap survey	100.0 tonnes	220,462 pounds
Use of Fish allocation; trawl survey	12.8 tonnes	228,219 pounds
Category K licence eligibility TAC	2,246.0 tonnes	4,951,545 pounds
Category T licence eligibility TAC	215.4 tonnes	474,806 pounds
Aquaculture broodstock collection	2.46 tonnes	5,432 pounds
Total Allowable Catch*		

*Excludes carryover of overages and underages from the previous season (see section 6.5 of this harvest plan).

5. LICENSING

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

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

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

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

5.1. Licence Category

A commercial Sablefish (category K) or a communal commercial Sablefish (category FK) licence eligibility is required to participate in the directed commercial Sablefish fishery.

Category K licence eligibilities are limited entry and vessel based. Category FK eligibilities are limited entry and party based; an Indigenous group is the licence eligibility holder and the eligibility must be designated to a commercially registered fishing vessel that meets established length restrictions.

Vessels authorized to fish under the authority of a Sablefish licence eligibility are also permitted to catch and retain other Groundfish species by hook and line gear, and trap gear as outlined in conditions of licence. These vessels are also permitted to catch and retain species described in Schedule II, Part 2 of the *Pacific Fishery Regulations, 1993*, catch and retain other Groundfish species, transport non-Groundfish species caught by other vessels and be designated to fish under the authority of a category Z licence.

5.2. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by the Consumer Price Index (CPI) published by Statistics Canada.

The commercial Sablefish Species (Category K) licence renewal fee for 2022-2023 may be found under the header, Licence Renewal Fees on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/fees-frais-22-23-eng.html>

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

5.3. Licence Issuance

Renewal of a Sablefish Category K licence and payment of the licence renewal fee must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category K licence eligibilities not renewed by February 20 of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a communal commercial Sablefish licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Prior to annual application, vessel owner(s)/licence eligibility holders are required to:

- a) Meet any Ministerial conditions placed on the licence eligibility.
- b) Ensure any conditions of the previous year's licence are met.
- c) the designated vessel's overall length does not exceed the maximum vessel length of the category FK licence eligibility.

To avoid delays, please ensure the payment and vessel designation information is submitted all at the same time through the Submit a Request menu selection within the NOLS when renewing a communal commercial licence.

5.4. **Licence Amendment**

The Sablefish licence eligibility must be issued for the year prior to the processing of a request for licence amendment or reallocation of Individual Transferable Quota (ITQ). The vessel owner/licence eligibility holder or authorized representative must request and receive a 2022/2023 a Sablefish licence amendment from the Groundfish Management Unit prior to fishing.

The amendment outlines the total amount of fish by species, that the vessel can land for the fishing season. Without this amendment, the vessel is not permitted to catch, retain or land any fish.

A “Request for Licence Amendment” must be completed by the vessel owner/licence eligibility holder or the designated agent and faxed to the Groundfish Management Unit at 1-866-561-5279. Licence Amendment Request forms and other applicable Groundfish forms are available online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/form-eng.htm>

5.5. **Licence Documents**

Sablefish licence documents are valid from the date of issue to February 20, 2023.

Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the NOLS.

5.6. **Vessel Replacement**

The owner(s) of a Sablefish category K licensed vessel may make an application to replace the commercial fishing vessel by completing an Application to Replace a Commercial Vessel form. Both the replacement vessel and the vessel being replaced must have a survey on file with the Pacific Fishery Licence Unit (PFLU) or submitted with the vessel replacement application. Vessels must be surveyed according to the Department guidelines.

Communal commercial category FK licenses are not eligible for vessel replacement as the licence eligibility is party based.

A single category K licence eligibility may be placed on a vessel that does not hold another vessel based licence eligibility as long as the replacing vessel does not exceed the overall length of the existing vessel.

A category K licence eligibility held on a vessel, in combination with another vessel based licence, may be placed on a vessel of any length, so long as it is within the vessel replacement rules associated with the another vessel based licence also being replaced.

A category K licence eligibility may be separated from any combination of married licence eligibilities as long as it is placed on another commercially licensed fishing vessel of any length, that holds a Salmon, Geoduck, Halibut, Crab, Shrimp Trawl, Groundfish Trawl or Prawn and Shrimp by Trap licence eligibility. Sablefish licence eligibilities may not be stacked.

In circumstances where the intention is to make the category K licence eligibility a standalone licence, and the replacing vessel holds a Schedule II Species (category C) licence eligibility, then the Schedule II Species licence eligibility must be permanently retired. The option of retiring a Schedule II Species licence eligibility may only be utilized when it is the intention to separate a commercial Sablefish licence from a married situation in order to become a standalone Sablefish licence.

Where the commercial Sablefish licence eligibility is temporarily placed on a vessel which holds a Schedule II Species licence eligibility, then the Schedule II Species licence will be expired for the duration of the time the Sablefish licence is temporarily placed.

Vessel owners wishing to make permanent or temporary vessel replacements for commercial Sablefish licence eligibilities must apply to a PFLU.

5.7. Temporary Vessel Replacement

An application for a temporary vessel replacement may be made where a vessel has been declared a loss or the vessel is out of service due to an accident or unforeseen damage. Vessels that are in disrepair at the time of purchase, have engine problems, or have encountered delays in annual maintenance or rebuilding do not qualify for a temporary replacement.

Written confirmation from an insurance company, shipyard, or marine engineer explaining why the vessel is inoperative must be submitted to the Pacific Fishery Licence Unit when declaring the vessel a total loss.

Temporary replacement vessels may not have harvested Sablefish in the current fishing year and may not exceed the overall vessel length plus 10 per cent of the category K vessel.

If a Sablefish licence eligibility is temporarily split from other vessel licence eligibilities, the remaining eligibilities may not be placed on a third vessel.

For further information on vessel replacement policies, please contact a PFLU by telephone at 1-877-535-7307 or email at fishing-peche@dfo-mpo.gc.ca.

6. SECTOR RULES

6.1. Annual ITQ Caps

All Sablefish licence eligibilities are subject to annual ITQ caps for directed and non-directed species. Temporary reallocations of ITQ, up to the ITQ caps listed below, will be permitted. No vessel may hold quota holdings in excess of the annual ITQ caps.

6.1.1. Licence Species Temporary Quota Caps

Species	Areas	Licence Species Cap (fresh, round pounds)
Halibut	Coastwide	56,333

Species	Areas	Licence Species Cap (fresh, round pounds)
Lingcod	Coastwide	33,772
Canary rockfish	Coastwide	14,542
Silvergray rockfish	Coastwide	9,836
Yelloweye rockfish	Coastwide	5,000
Quillback rockfish	Coastwide	1,459
Copper, China and Tiger rockfish (total)	Coastwide	486
Redbanded rockfish	Coastwide	50,000
Rougheye/Blackspotted rockfish	Coastwide	180,000
Shorthead rockfish	Coastwide	64,000
Shortspine Thornyhead	Coastwide	40,000
Longnose Skate	Coastwide	40,000
Big Skate	Coastwide	30,000

Note: 56,333 = 1.0% of commercial Halibut TAC

6.1.2. Licence Species Permanent Quota Caps

Species	Areas	Licence Species Cap (fresh, round pounds)
Longnose Skate	Coastwide	40,000
Big Skate	Coastwide	40,000

6.1.3. Quota Landings Temporary Quota Caps

Species	Areas	Quota Landings Caps (fresh, round pounds)
Halibut	Coastwide	Cap increases in 2,000 blocks up to 56,333, for every 10,000 Sablefish caught
Yelloweye rockfish	Coastwide	Cap increases in 2,000 blocks up to 5,000, for every 10,000 Sablefish caught
Quillback rockfish	Coastwide	Cap increases in 1,000 blocks up to 1,459, for every 5,000 Sablefish caught

Species	Areas	Quota Landings Caps (fresh, round pounds)
Lingcod	Coastwide	Caps increase in 7,500 blocks up to 33,772, for every 10,000 Sablefish caught

Note: 56,333 = 1.0% of commercial Halibut TAC

6.2. Trip Limits

Trip limits for non-directed species of groundfish caught while fishing Sablefish:

Species	Trip Limit (fresh, round pounds)
“Other Rockfish,” as set out in Appendix 1 in the conditions of licence	5,000 pounds
Pacific cod	500 pounds
Sole and Flounder	No limit

*When combined Halibut and Sablefish fishing, the permitted amount of Bocaccio is based on the combined landed weight of Halibut (fresh, dressed, head-off pounds) and Sablefish (round pounds).

6.3. Fishing Restrictions for Exceeding ITQ Species Caps

Licence eligibilities that exceed their total Sablefish ITQ by more than 10%, or 1,000 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that exceed their total ITQ for non-directed species by more than 30%, or 100 pounds, whichever is greater, are defined as being in excess overage. Licence eligibilities in excess overage will be restricted from further fishing activity for the remainder of the fishing year, or until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages.

Licence eligibilities that do not reconcile excess overages by February 20, 2023, will carry excess overages into the new season (see sections 6.5.3). If a licence eligibility remains in excess overage following initial allocations of ITQ, the licence eligibility will be restricted from fishing until such time that sufficient ITQ is reallocated to the licence eligibility to cover any overages. Note that temporary reallocations for the 2022/2023 season are first processed in mid-March (see section 6.4.7 of this harvest plan).

6.4. Reallocation of Directed and Non-Directed Species ITQ

The following guidelines for the reallocation of directed and non-directed species ITQ are in effect for the 2022/2023 fishery.

- 6.4.1. Subject to annual ITQ caps and sector caps, upon application, licence eligibility holders will be permitted to make unlimited temporary reallocations of directed and non-directed species ITQs. A “Temporary Reallocation Request for Integrated Groundfish Fisheries” must be completed and submitted to the GMU and, if approved, a licence amendment will be issued to reflect new ITQ amounts. The most current licence amendment must be onboard when fishing.
- 6.4.2. For permanent Sablefish ITQ reallocations, all vessel owners/licence eligibility holders on record must complete and sign a “Permanent Reallocation Request for Integrated Groundfish Fisheries.” For permanent reallocations, all signatures must be notarized. For temporary reallocations of ITQ only one owner or the licence eligibility holder is required to sign the “Temporary Reallocation Request for Integrated Groundfish Fisheries” form.
- 6.4.3. If the vessel owner is a company or First Nations group, only an authorized signing authority may sign the application. A copy of either a “Confirmation of Signing Authorities” or an “Amendment to Confirmation of Signing Authorities” listing the signing authorities must be on file with the GMU.
- 6.4.4. The 2022/2023 Sablefish licence eligibility must be issued prior to any ITQ being reallocated.
- 6.4.5. Requests for permanent reallocation of Sablefish ITQ must be received by GMU by 16:00 hours local time on February 2, 2023 in order to be processed.
- 6.4.6. Requests for temporary reallocation of directed and non-directed species ITQ must be received by GMU by 16:00 hours local time on February 20, 2023 in order to be processed. Temporary reallocations of directed and non-directed species ITQ are only valid for the current fishing season.
- 6.4.7. Reallocations for the 2022/2023 season will not be processed until 8:00 hours local time March 15, 2022.
- 6.4.8. ITQ that has already been caught or deemed “fished” cannot be reallocated.
- 6.4.9. Permanent reallocations of ITQ will be expressed as a percentage of the TAC, and will be added to the receiving licence eligibility’s percentage of the TAC.
- 6.4.10. The minimum quantity of ITQ that may be reallocated is one pound.
- 6.4.11. Temporary reallocations are only valid for the current fishing season.

6.5. Rules for Carryover of Quota Overage and Underage

6.5.1. Carryover of Directed Species ITQ Underage

Licence eligibilities with Sablefish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total Sablefish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone. The 30% carryover provision will be reviewed annually to ensure sustainability of the stock.

6.5.2. Carryover of Non-directed ITQ Underage

Licence eligibilities with non-directed species (except Dogfish) catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 30% of their total non-directed species ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 30% will be forgone.

Licence eligibilities with Dogfish catch less than ITQ, including reallocations made during the year, will be permitted to carryover uncaught ITQ up to 10% of their total Dogfish ITQ at the end of the fishing season. This equivalent poundage will be added to the licence ITQ in 2023/2024. Any amount above the 10% will be forgone.

6.5.3. Carryover of ITQ Overages

Licence eligibilities with catch in excess of ITQ, including reallocations made during the year, will have the overage deducted from the licence eligibility's ITQ in 2023/2024. ITQ to cover these overages will count against the ITQ caps during the season in which the ITQ is allocated to the licence eligibility.

6.6. Shark Finning Prohibitions

DFO prohibited the practice of finning of dogfish and sharks off the west coast of Canada beginning in the 2012 fishing season. Though not a common practice in Canada, this action is in response to international concerns with fish handling practices in other jurisdictions, where the fins of sharks are removal at-sea and the remainder of the shark, sometimes still alive, is discarded overboard.

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

7. BAIT

Commercial fishers wishing to use licensed catch as bait may do so, with the exception of rockfish. All such catch must be accurately recorded in the Integrated Groundfish Fishing Log. Rockfish may not be used as bait, and must be retained and landed.

Octopus caught incidentally may be retained and used for bait under authority of a Sablefish licence eligibility, but cannot be landed and sold.

If a quota species is used as bait, the vessel will be assessed an average weight for that species as defined in Appendix 2 of the IFMP.

8. COMBINED HALIBUT AND SABLEFISH FISHING

Vessels conducting combined Halibut and Sablefish trips are required to identify their intentions at the time of hail-out and will receive two hail-out numbers.

Those vessels conducting combination Halibut and Sablefish trips may assign directed and non-directed quota species catch to either their L licence eligibility or their K licence eligibility as long as they are within the sector caps for that fishery. This includes splitting catch for the same species between the two licence eligibility types if so desired. It is the responsibility of the vessel master at the time of offload to communicate this to the dockside observer. Trip limit allowances for quota species will be determined using the licence eligibility that the landed catch is assigned to. Trip limit allowances for all non-quota species will be determined using the Sablefish licence eligibility only.

If fishing on a combination trip, the vessel may only fish in areas open to directed Sablefish fishing (see section 4.2 and section 11 of this harvest plan for the waters in which commercial Sablefish fishing is permitted to occur).

9. DUAL FISHING

Dual fishing means fishing for commercial and First Nation Food, Social, and Ceremonial purposes on the same fishing trip. Dual fishing is authorized through licence conditions for commercial groundfish fisheries. Vessel masters considering dual fishing are responsible for reviewing their licence conditions to ensure they are aware of the dual fishing requirements.

Before hailing-out on a dual fishing trip, the vessel master must obtain a dual fishing designation certificate from a designating First Nation that has a communal licence authorizing the harvest of groundfish. The designation certificate must contain all of the information set out in the conditions of licence. If any of the information is missing the designation certificate will not be considered valid and the vessel master cannot dual fish.

A designation certificate template is available on the DFO website: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>. Aboriginal organizations may issue their own designation certificate as long as the required information is included.

When hailing-out, the vessel master must notify the hail service provider that they will be dual fishing, provide the name of the First Nation that issued the designation certificate, and provide the unique designation certificate identification number. The vessel master must carry the designation certificate on board the vessel at all times during the fishing trip. The vessel master must record, by set and by species, the fish retained under the authority of the designation certificate. This information must be recorded in the comments section and the retained column of the Integrated Groundfish Fishing Log.

All retained fish, including both commercial and FSC catch, must be recorded in the “retained” column of the Integrated Groundfish Fishing Logbook. Additionally, fish retained as FSC catch must be separated out and recorded by set and by species in the “comments” section of the Integrated Groundfish Fishing Logbook.

When hailing-in, the vessel master must provide an estimate, by species, of the weight of fish caught under the authority of the designation certificate. Unless the designating First Nation requests to have the FSC fish landed and validated at a different location, all fish from the trip must be landed at the same place and validated by a designated groundfish dockside observer. At the time of offload, the vessel master must provide a valid designation certificate to the dockside

observer. If one is not provided, all catch from the trip will be considered commercial catch until the completion of a review by the Groundfish Management Unit and discussion with the vessel master. Furthermore, if FSC fish are landed at a different location than the commercial catch, an FSC validation record containing the verified weight and the number of pieces by species must be completed by a fisheries representative of the designating First Nation organization. The vessel master must obtain a copy of the FSC validation record and provide it to the designated groundfish dockside monitor at the time of the commercial offload.

10. RECREATIONAL FISHING

Fishers are reminded that under Section 14 of the *British Columbia Sport Fishing Regulations, 1996*, it is unlawful to have Halibut on board taken by sport fishing if there are any other fish on board the vessel destined for commercial sale.

11. CLOSURES

Please refer to Appendix 10 of this IFMP for commercial groundfish hook and line fishery closures.

12. OFFSHORE SOUTHERN SEAMOUNT FISHERY

12.1. North Pacific Fisheries Commission

The North Pacific Fisheries Commission (NPFC) is a regional management fisheries organization (RFMO) established in 2015 to ensure the long-term protection and sustainable use of fisheries resources in its Convention Area (CA). Canada is a strong proponent of robust monitoring, compliance and surveillance (MCS) measures in RFMOs, including the NPFC, where it has been instrumental in developing key MCS regimes, such as High Seas Boarding and Inspection protocols. At the annual meeting held in late February 2021, under Canada's leadership, a Vessel Monitoring System (VMS) measure was adopted by the NPFC. An update on the development of this measure was presented to the Sablefish Advisory Committee in November 2018. The introduction of the VMS is an important measure to ensure the long-term sustainability of all fisheries covered by the NPFC, including Sablefish. As the southern seamount fishery is located in the NPFC CA, any vessels participating in this fishery are subject to the NPFC Conservation and Management Measures (CMMs), which can be found at www.npfc.int.

Effective July 10, 2021, all vessels fishing in the CA will be required to have a satellite-based monitoring system that transmits VMS data in real-time, in addition to the monitoring requirements in the regular commercial Sablefish fishery. For details regarding accepted VMS unit models and installation, please contact DFO.VMSSupport-SSNSoutien.MPO@DFO-MPO.gc.ca.

12.2. Open Times

One vessel per month from April 1 to September 30 is permitted to participate in the southern seamount fishery management area, located beyond the 200 nautical mile Exclusive Economic

Zone boundary. Seamount application forms will be emailed to licence eligibility holders early in the 2022 calendar year. A lottery draw of applicant licence eligibility holders will determine those vessels permitted to participate in the seamount fishery. If a vessel is selected for the seamount fishery but is unable to participate, the eligibility to participate in the seamount fishery cannot be transferred to another Sablefish licence eligibility holder. Rather, the opportunity to participate in the fishery must be declined and will be passed to the next vessel selected from the lottery process.

The southern seamount fishery is located in the North Pacific Fishery Commission (NPFC) Convention Area (CA), and as such, any vessels participating in this fishery are subject to the NPFC Conservation and Management Measures (CMMs), which can be found at www.npfc.int.

Successful applicants must apply for a Section 68 licence to fish in international waters. Please contact the Pacific Fishery Licence Unit (1-877-535-7307, fishing-peche@dfo-mpo.gc.ca) for details.

12.3. Gear and Monitoring Requirements

Trap gear is permitted in the southern seamount fishery. Vessels participating in the seamount fishery must adhere to all monitoring requirements as outlined in the IFMP, Appendix 2 and the conditions of licence, as well as the requirements set out by the NPFC. As NPFC requirements can change over time, participating vessels are encouraged to stay informed of these developments by visiting www.npfc.int.

12.4. Annual and Monthly Catch Limits

For vessels participating in the Sablefish seamount fishery, there will be an annual and monthly catch limits. Monthly limits are defined in the table below and are subject to the annual catch limit. If the annual catch limit has been achieved in-season (e.g. prior to September 30) all monthly fishing opportunities may not be issued. The 2022/2023 Sablefish annual catch limit for the seamount fishery is TBD tonnes (fresh, round weight).

Species	Monthly Vessel Limit (fresh, round tonnes)	Monthly Vessel Limit (fresh, round pounds)
Sablefish	34.0	75,000
Rougheye/Blackspotted rockfish	2.27	5,000
Other rockfish, sole and flounder	0.45	1,000

Appendix 8: Groundfish Trawl Commercial Harvest Plan

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1. MANAGEMENT CHANGES AND REMINDERS FOR 2022/2023

Following is a summary of reminders and changes adopted for the Groundfish trawl fishery for the 2022/2023 season following consultation with the Groundfish Trawl Advisory Committee (GTAC). Refer to the specific section within the plan for details of these changes.

1.1. In-Season Changes/Updates

In-season updates are available on the Fishery Notice website at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial.

In-season Sector Catch and Sector Cap summaries are updated daily and can be found at: <https://www.pac.dfo-mpo.gc.ca/fm-gp/groundfish-poissons-fond/publications-eng.html>

1.2. Sablefish Discard Mortality Rates

In February 2021, the Groundfish Management Unit of the Department directed the Sablefish Advisory Committee (SAC) and Groundfish Trawl Advisory Committee (GTAC) to form an ad hoc Working Group (WG) to improve measures to monitor and reduce Sablefish discard mortality, with the ability to solicit other advisory boards as required. The WG was tasked to achieve several goals regarding the collection of accurate catch data (retained and released) from the Sablefish and Trawl fisheries, the evaluation of catch data and discard mortality data collected by monitoring and scientific programs, and to provide information to SAC and GTAC for the development of proposed measures to reduce Sablefish discard mortality, beginning with a focus on legal-size Sablefish.

The WG produced a progress report in September 2021, and solicited feedback from the Commercial Industry Caucus and Groundfish advisory boards regarding the proposed recommendations. The Department received advice from all parties and updated the discard mortality rates for legal marketable Sablefish for the 2022/23 fishing season to better reflect actual mortality and to provide an incentive for vessel operators and crews to reduce discard mortality. Details regarding the hook and line/trap and trawl discard mortality rates to be implemented in 2022/23 can be found in Section 9 of Appendix 2 and Section 16.1 of Appendix 8, respectively.

Discussions regarding sub-legal Sablefish mortality are anticipated to take place throughout the 2022/23 fishing season.

1.3. Pilot 800 Line/Circle Tow Bottom Trawl Closure & Seasonal Expansion

The seasonal expansion of the 800-line/Circle Tow closure has been extended from November 1, 2021 - March 31, 2022 due to a continued lack of new science advice for arrowtooth flounder. The closure continues to be an interim management measure that is intended for the short-term and will be re-evaluated during the 2022/23 fishing season. See section 6.8.6 of this Harvest Plan for more details.

1.4. Electronic Monitoring (EM) Program for Vessels Hailing as Option A-Quota Observed

For the 2022/23 fishing season, where an independent at-sea observer is not deployed to vessels hailed out on Option A-quota observed trips, one hundred (100) per cent at-sea monitoring shall be achieved through the use of an improved EM system as part of the EM Program for Option A Trawl Vessels. An improved and more comprehensive EM program was implemented on August 15, 2021 and includes new standards where the accuracy of the fisher-reported logbook will be audited via a comparison against EM and DMP data. If an at-sea log does not meet these standards, EM data may be used in place of the at-sea log to provide the official catch record. See Section 13.3.2 of this Harvest Plan for more details.

1.5. Groundfish Trawl and Area A Crab Gentlemen’s Agreement

A shared access agreement between the Area A crab fleet and the groundfish trawl fleet for a portion of Northern Hecate Strait (east northeast of Rose Point and west of Butterworth Rock) is anticipated to continue during the 2022/23 fishing season. Terms of the 2022/23 agreement referred to in Section 6.13 of this Harvest Plan will be communicated in-season via a fishery notice.

1.6. Lost and Found Gear Reporting Requirements

As a signatory to the Global Ghost Gear Initiative, Canada has committed to implement new requirements on the reporting of lost and found fishing gear. Accordingly, new conditions have been added to licence conditions beginning in the 2020/2021 season, under the “Records that a vessel master shall keep” section of the conditions of licence. Harvesters are required to:

- a. report on the gear type and amount, as well as the date, time and location that gear was lost or found; and
- b. submit a form, which can be found at: <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html>

The Department will continue to collaborate with the third-party monitoring service provider and industry to ensure that Canada is meeting its domestic and international commitments.

1.7. Southern Resident Killer Whales – Fisheries Management Measures

Interim Sanctuary Zones prohibiting vessels from entering and fishing within portions of Swiftsure Bank and off the coasts of North Pender and Saturna Islands were implemented in 2021 to address acoustic and physical disturbance of Southern Resident Killer Whales. For the 2022/23 fishing season, the Department will be reviewing the 2021 fisheries management measures and discussing potential measures with Indigenous groups, the Southern Resident Killer Whale Prey Technical Working Group, the Indigenous Multi-Stakeholder Advisory Group, and with key stakeholder groups. Refer to the IFMP Front Section Section 5.1.6 for more information and fishery notices for in-season updates.

1.8. Improvements to Monitoring of Salmon Bycatch

To better understand the potential impacts of bycatch in the groundfish trawl fishery on at-risk populations of Pacific Salmon, changes to catch monitoring and retention requirements are being developed in consultation with the fishery. The objective of the revised monitoring procedures are to accurately estimate the number of salmon caught by species, and to representatively sample to determine exploitation rates on Chinook salmon. Development of the revised

monitoring program is ongoing and implementation for the groundfish trawl fleet is targeted for 2022 or later.

1.9. Offshore Pacific Hake Management Plan

Offshore Pacific hake management measures, including the Total allowable catch (TAC) for the 2022 season are not included in this document and will be released in-season in an addendum to this harvest plan.

1.10. Pacific Groundfish Integrated Fishery Website

For information of the Groundfish Fishery in the Pacific Region please visit our website at the following address: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/index-eng.html>

2. APPLICATION

The management strategies and harvest levels contained in this plan apply to vessels operating under the authority of a 2022/2023 groundfish trawl licence off the west coast of Canada.

3. OPEN TIMES

With the exception of those seasonal and permanent closures noted in this plan, or closures announced in-season the groundfish trawl fishery will be open from February 21, 2022 to February 20, 2023.

4. FISHING AREAS

Fishing is permitted coast wide with the exception of annual and season closures described in sections 5 and 6 below and those areas set out within in season variation orders issued by Fisheries and Oceans Canada. In-season changes are announced through the Fisheries Public Notices system that can be found at the Department's internet site: <http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm>

5. SPECIES CLOSURES

The following species closures (non-retention) are in effect.

5.1. Lingcod

Closed year-round in Areas 12 to 20 and 29, (includes all of Johnstone Strait, Strait of Georgia and Juan de Fuca Strait).

5.2. Rockfish

Closed year-round in Areas 12 to 20 and 29, (includes all of Johnstone Strait, Strait of Georgia and Juan de Fuca Strait).

6. SPATIAL CLOSURES

6.1. Gwaii Haanas National Marine Conservation Area

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. The zoning plan can be found at: <https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/info/consultations/gestion-management-2018>. The fishery notice, which describes the strict protection zones, can be found at: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all.

Refer to Fishery Notice 0536, released June 13, 2019 for a detailed description of the Strict Protection Zones and can be found at: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all

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

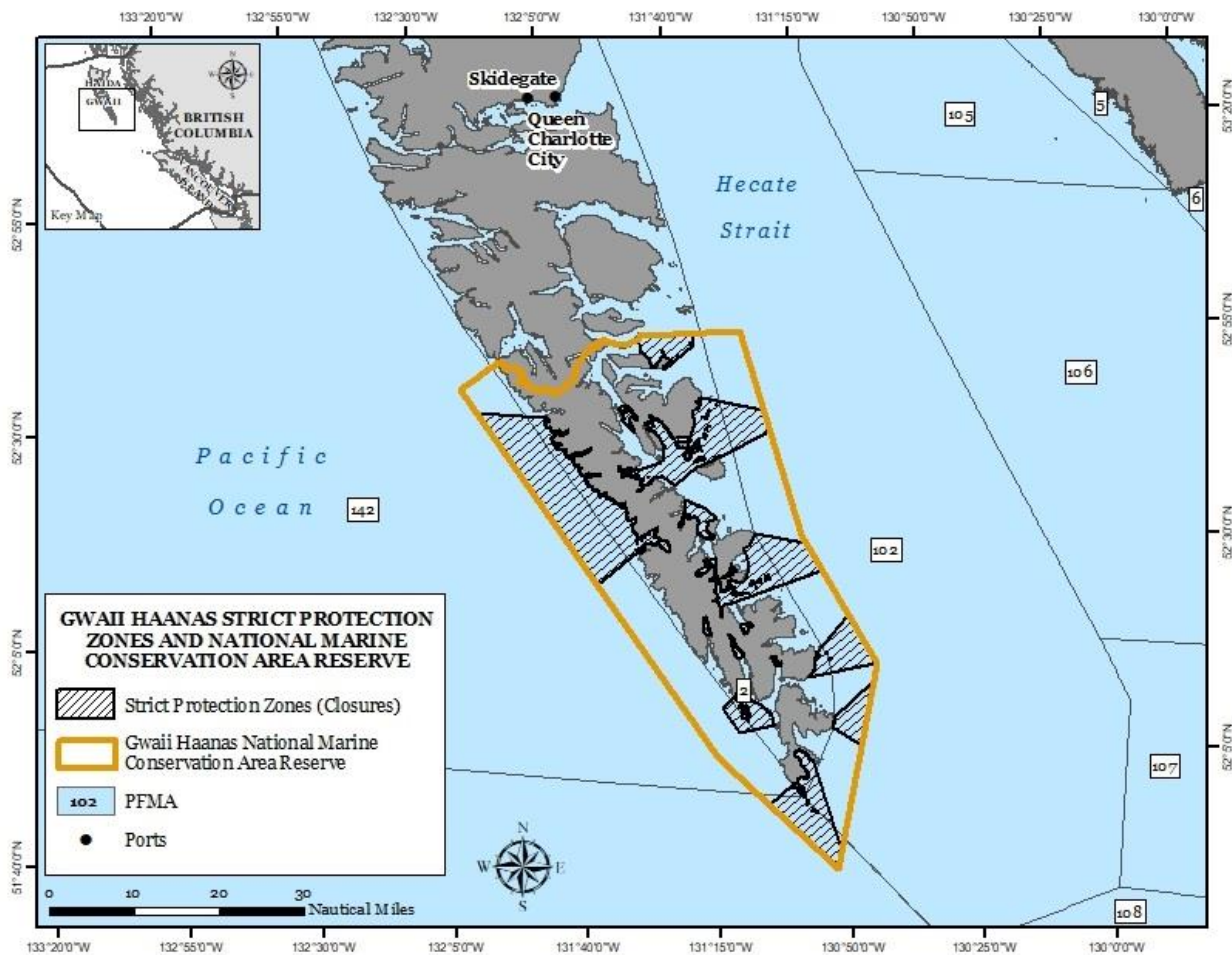
<http://www.haidanation.ca/wp-content/uploads/2019/04/CHN-Fisheries-Management-Directions-FINAL.pdf#:~:text=COUNCIL%20OF%20THE%20HAIDA%20NATION%20FISHERIES%20MANAGEMENT%20DIRECTIONS,jurisdiction%20of%20the%20Council%20of%20the%20Haida%20Nation>.

A monitoring plan will be developed to assess the effectiveness of zoning in achieving ecological and cultural objectives. Regular monitoring within and outside of strict protection zones will

illustrate ecosystem responses and facilitate adaptive management of the Gwaii Haanas marine area.

Implementation of the Land-Sea-People plan will also involve cooperative management of fisheries using an ecosystem-based management framework, and monitoring activities will be supported through partnerships. For more information on Gwaii Haanas and the Archipelago Management Board, visit www.parkscanada.gc.ca/gwaiihaanas.

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.



6.2. Rockfish Conservation Areas

Between 2003 and 2007, DFO established 164 Rockfish Conservation Areas (RCAs) in the Pacific Region for the long-term protection and conservation of a portion of inshore rockfish populations and their habitat. As of May 1, 2019, South Moresby and Lyell Island RCAs have been superseded and replaced by the strict protection zones of the Gwaii Haanas National Marine Conservation Area Reserve. There are currently 162 RCAs.

DFO is undertaking a multi-year review of the conservation effectiveness of RCAs including meeting the national criteria and standards for marine refuges to better conserve sensitive areas and contribute towards Canada's Marine Conservation Targets (MCT). RCAs in the Northern Shelf Bioregion have been selected for the first phase of engagement to align with the MPA network planning process in that area. Engagement in other bioregions will occur in subsequent years.

Further information on RCAs and the boundary proposals are available online at: <http://dfo-mpo.gc.ca/rockfish-conservation> or for further information on this, please contact DFO.RCA-ACS.MPO@dfo-mpo.gc.ca

6.3. SGaan Kinghlas - Bowie Seamount (SK-B) MPA

The SGaan Kinghlas – Bowie Seamount Marine Protected Area (SK-B MPA) was designated under the *Oceans Act* in 2008 and was established to conserve and protect the unique biodiversity and biological productivity of the area's marine ecosystem, including three seamounts (SGaan Kinghlas – Bowie, Hodgkins, and Davidson) and the surrounding waters, seabed, and subsoil. The SK-B MPA is cooperatively managed by DFO and the Council of the Haida Nation (CHN) through the SK-B Management Board, and the SK-B MPA Management Plan guides the conservation and protection of the MPA. The SK-B MPA is closed to all commercial fishing activities for groundfish. For more information on the SK-B MPA—including restrictions to other fisheries and human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html>.

See the following resources for additional context/information on the SK-B MPA:

- Figure A for a map of the SK-B MPA
- Table A for a list of the SK-B MPA boundary coordinates

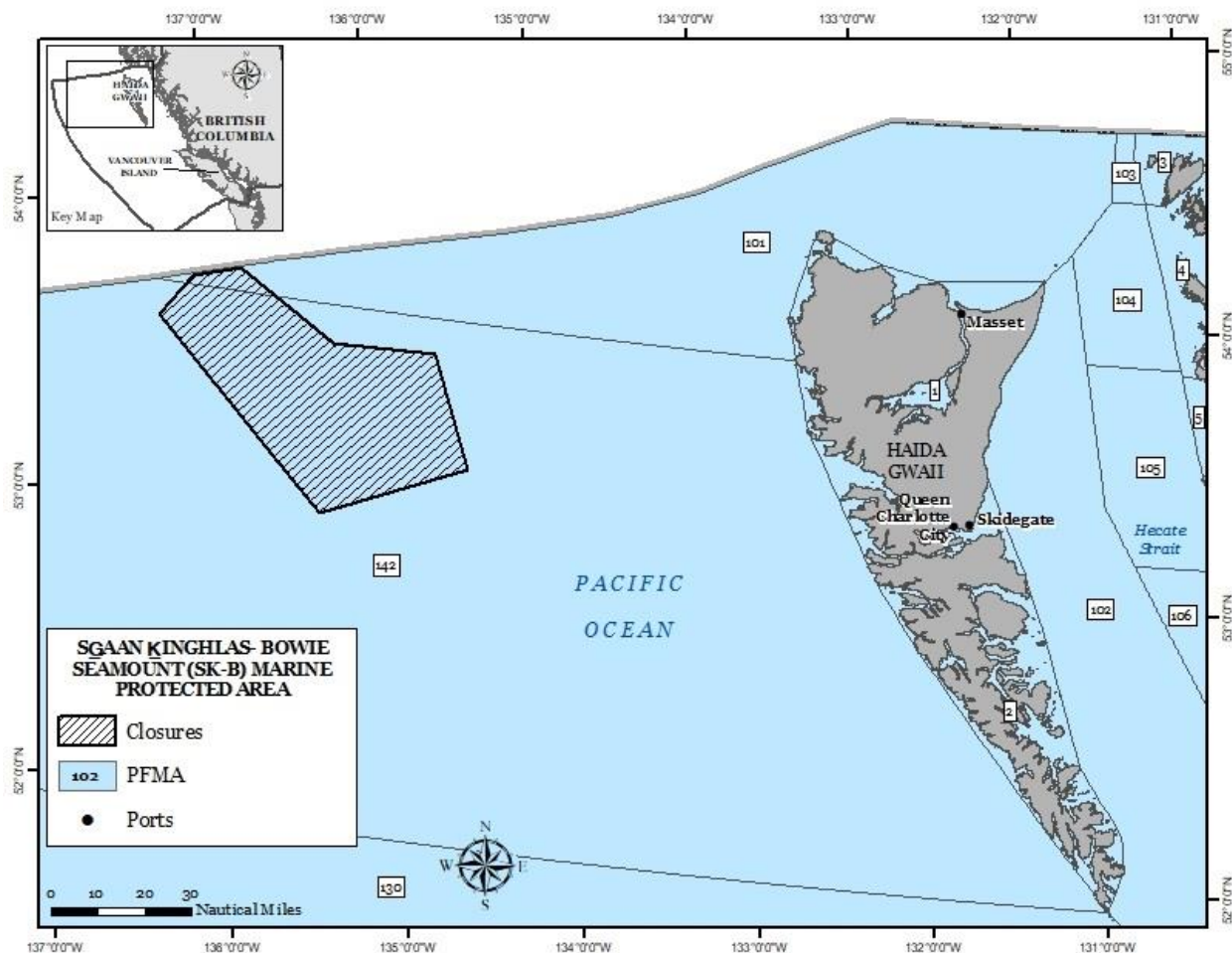


Figure A. Map of SGAAN KINGHLAS – BOWIE SEAMOUNT MPA

Table A. List of SGAAN KINGHLAS – BOWIE SEAMOUNT MPA boundary coordinates

Those waters of subareas 101-1 and 142-2 and is described as bounded by a series of rhumb lines drawn from a point:			
begin at:	53° 03' 07.6" N	135° 50' 25.9" W	
then to	53° 16' 20.9" N	134° 59' 55.4" W	
then to	53° 39' 49.2" N	135° 17' 04.9" W	
then to	53° 39' 18.0" N	135° 53' 46.5" W	
then to	53° 52' 16.7" N	136° 30' 23.1" W	EEZ Boundary
Then following the EEZ Boundary then to	53° 49' 19.6" N	136° 47' 33.1" W	EEZ Boundary
then to	53° 40' 02.5" N	136° 57' 03.5" W	
then to	53° 13' 59.2" N	136° 10' 00.0" W	
then back to the beginning point.			

6.4. Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA

The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Marine Protected Areas (Hecate MPA) was designated under the *Oceans Act* in February 2017 to conserve the biological diversity, structural habitat and ecosystem function of four glass sponge reefs off the coast of

British Columbia. The Hecate MPA protects rare glass sponges from human activities that may break their silica (glass) structure, or may result in smothering through increased suspended sediment. Under the Hecate MPA Regulations, human activities are regulated/managed using three different management zone types:

- I. Core Protection Zones (CPZs) include the seabed and waters surrounding the glass sponge reefs. CPZs extend from the seabed to depths (below the sea surface) that vary depending on the Reef ; 100 m in Northern Reef, 120 m in the Central Reefs, 146 m in the Southern Reef). The CPZs also include the subsoil to a depth of 20 m below the seabed. CPZs are closed to anchoring and all fishing.
- II. Vertical Adaptive Management Zones (VAMZs) include water columns immediately above the CPZs, and each extends from that boundary to the sea surface. The VAMZs are closed to all commercial activities for groundfish.
- III. Adaptive Management Zones (AMZs) consist of the seabed, subsoil, and waters of the Hecate MPA that are not a part of the CPZs or VAMZs. The AMZs are closed to all commercial trawling and bottom-contact fishing activities for groundfish.

For more information on the Hecate MPA—including restrictions to other fisheries and human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html>.

See the following resources for additional context/information on the Hecate MPA:

- Figure B for a map of the Hecate MPA
- Figure C for an illustration of the spatial relationship among the CPZs, AMZs, and VAMZs (management zones) within each Reef
- Table B for a list of the AMZ boundary coordinates
- Table C for a list of the CPZ/VAMZ boundary coordinates

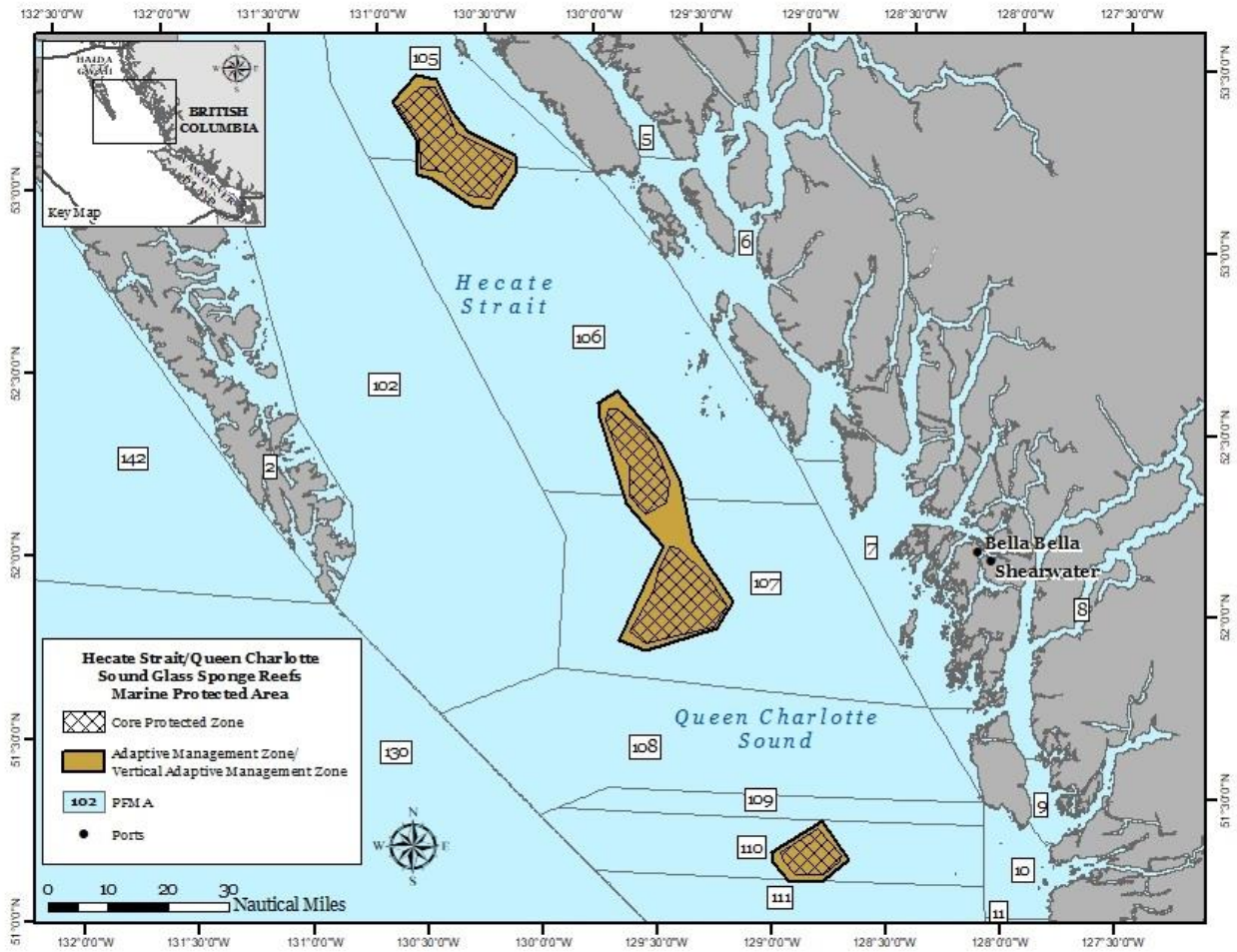


Figure B. Map of Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA.

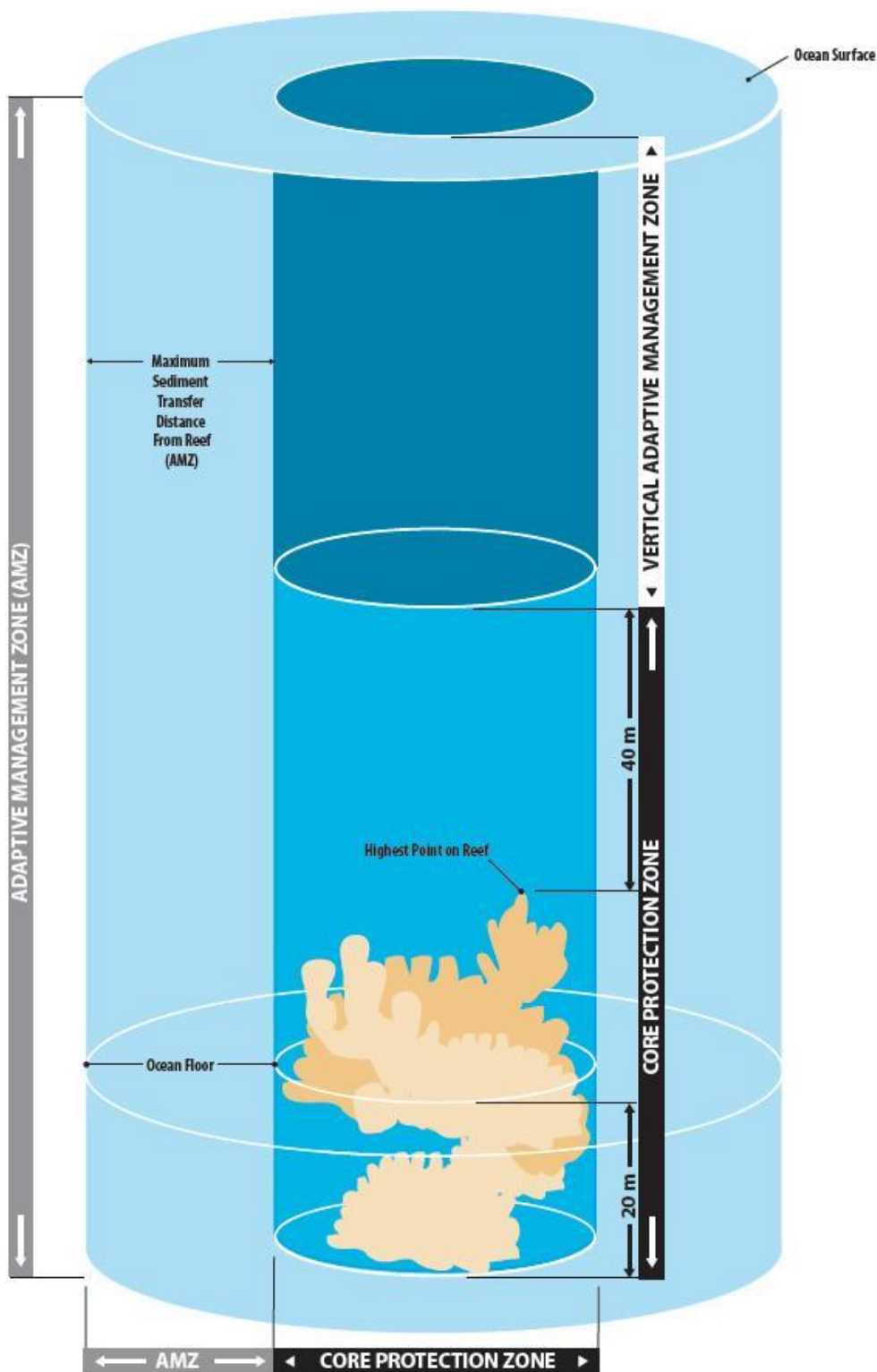


Figure C. Illustration of the spatial relationship among the CPZs, AMZs, and VAMZs (management zones) within each reef of the Hecate MPA. Depth of VAMZs vary depending on the Reef (100 m in Northern Reef, 120 m in the Central Reefs, 146 m in the Southern Reef).

Table B. Outer boundaries of the Hecate MPA and the Adaptive Management Zones (AMZs). The AMZs are areas surrounding the Core Protection Zones (CPZs) / Vertical Adaptive Management Zones (VAMZs).

Northern Reef Marine Protected Area

Those waters of subareas 105-2 and 106-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	53° 11' 52.9" N	130° 19' 47.2" W
then to	53° 09' 22.0" N	130° 18' 53.0" W
then to	53° 02' 54.5" N	130° 25' 16.2" W
then to	53° 03' 06.9" N	130° 30' 35.6" W
then to	53° 07' 17.8" N	130° 42' 03.2" W
then to	53° 07' 44.5" N	130° 46' 26.5" W
then to	53° 13' 28.7" N	130° 47' 28.7" W
then to	53° 19' 20.0" N	130° 54' 24.2" W
then to	53° 24' 05.4" N	130° 48' 37.8" W
then to	53° 23' 40.7" N	130° 42' 52.2" W
then to	53° 18' 42.5" N	130° 38' 09.3" W
then to	53° 15' 20.6" N	130° 33' 01.3" W
then back to the beginning point.		

Central Reefs Marine Protected Area

Those waters of subareas 106-2, 107-1, and 107-2 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	52° 00' 24.4" N	129° 14' 12.6" W
then to	51° 55' 50.5" N	129° 18' 13.8" W
then to	51° 51' 32.5" N	129° 36' 37.4" W
then to	51° 53' 00.7" N	129° 44' 03.4" W
then to	52° 05' 14.1" N	129° 36' 14.1" W
then to	52° 08' 46.0" N	129° 33' 33.5" W
then to	52° 15' 42.6" N	129° 44' 12.3" W
then to	52° 29' 35.4" N	129° 52' 32.7" W
then to	52° 32' 05.4" N	129° 53' 06.2" W
then to	52° 34' 05.6" N	129° 47' 51.4" W
then to	52° 25' 42.7" N	129° 35' 12.2" W
then to	52° 20' 02.8" N	129° 29' 51.7" W
then to	52° 09' 52.3" N	129° 25' 29.5" W
then back to the beginning point.		

Southern Reef Marine Protected Area

Those waters of area 110 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 24'44.2" N	128° 47'58.3" W
then to	51° 18'32.5" N	128° 40'35.6" W
then to	51° 14'57.6" N	128° 47'01.2" W
then to	51° 14'33.9" N	128° 55'45.5" W

then to	51° 17'42.3" N	129° 00'29.0" W
then to	51° 19'24.5" N	129° 00'53.6" W
then back to the beginning point.		

Additional zoning information and management measures are described in Table C

Table C. List of the Hecate MPA Core Protection Zones / Vertical Adaptive Management Zones boundary coordinates

Commercial harvesters are reminded all fishing is prohibited in the Core Protective Zones (CPZs) described below.

The Northern Reef Core Protection Zones includes those waters below a depth of 100 metres below the sea surface, and the Northern Reef Vertical Adaptive Management Zones includes those waters above a depth of 100 metres below the sea surface.

Those waters of subareas 105-2 and 106-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	53° 18' 40.4" N	130° 52' 46.5" W
then to	53° 22' 12.1" N	130° 47' 01.7" W
then to	53° 22' 20.2" N	130° 43' 12.5" W
then to	53° 17' 22.8" N	130° 38' 18.2" W
then to	53° 15' 01.7" N	130° 36' 35.5" W
then to	53° 10' 55.2" N	130° 20' 19.3" W
then to	53° 04' 30.2" N	130° 25' 53.6" W
then to	53° 04' 58.0" N	130° 32' 16.9" W
then to	53° 07' 22.2" N	130° 37' 37.6" W
then to	53° 08' 36.6" N	130° 39' 29.5" W
then to	53° 08' 41.8" N	130° 45' 40.0" W
then to	53° 13' 51.2" N	130° 46' 41.2" W
then back to the beginning point.		

The Central Reefs Core Protection Zones (includes both Zone 'A' and Zone 'B') include those waters below a depth of 120 metres below the sea surface, and the Central Reefs Vertical Adaptive Management Zones includes those waters above a depth of 120 metres below the sea surface.

Zone 'A'

Those waters of subareas 106-2 and 107-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	52° 14' 03.4" N	129° 38' 33.2" W
then to	52° 16' 54.8" N	129° 43' 13.4" W
then to	52° 21' 57.1" N	129° 43' 56.5" W
then to	52° 24' 24.5" N	129° 47' 22.8" W
then to	52° 29' 05.9" N	129° 50' 59.4" W
then to	52° 31' 05.2" N	129° 50' 13.9" W
then to	52° 31' 06.7" N	129° 47' 40.9" W
then to	52° 27' 42.0" N	129° 40' 25.1" W
then to	52° 25' 22.9" N	129° 37' 24.0" W

then to	52° 19' 47.0" N	129° 32' 43.2" W
then to	52° 16' 18.2" N	129° 33' 22.8" W
then to	52° 20' 02.8" N	129° 29' 51.7" W
then to	52° 09' 52.3" N	129° 25' 29.5" W
then back to the beginning point.		

Zone 'B'

Those waters of subarea 107-2 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 54' 43.1" N	129° 41' 22.2" W
then to	52° 01' 22.5" N	129° 35' 48.4" W
then to	52° 05' 13.5" N	129° 34' 32.5" W
then to	52° 08' 48.5" N	129° 31' 44.1" W
then to	52° 08' 51.3" N	129° 29' 18.0" W
then to	52° 04' 27.1" N	129° 21' 17.3" W
then to	51° 59' 40.8" N	129° 15' 23.9" W
then to	51° 56' 04.5" N	129° 18' 46.2" W
then to	51° 52' 55.7" N	129° 36' 49.8" W
then back to the beginning point.		

The Southern Reef Core Protection Zones includes those waters below a depth of 146 metres below the sea surface, and the Southern Reef Vertical Adaptive Management Zones includes those waters above a depth of 146 metres below the sea surface.

Those waters of area 110 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 17' 59.2" N	128° 57' 31.9" W
then to	51° 19' 30.8" N	128° 58' 22.7" W
then to	51° 23' 41.9" N	128° 48' 50.9" W
then to	51° 19' 17.5" N	128° 42' 33.6" W
then to	51° 18' 24.5" N	128° 42' 37.7" W
then to	51° 15' 56.0" N	128° 47' 04.2" W
then to	51° 15' 52.2" N	128° 54' 20.4" W
then back to the beginning point.		

6.5. Strait of Georgia and Howe Sound Glass Sponge Reef Marine Refuges

17 marine refuges were established between 2016 and 2019 under the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative, which aims to protect glass sponge reefs from all bottom-contact fishing activities in alignment with DFO's Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas. All commercial, recreational and Indigenous Food, Social and Ceremonial (FSC) bottom-contact fishing activities for prawn, shrimp, crab and groundfish, are prohibited within the 17 marine refuges as well as the use of downrigger gear for recreational salmon trolling (restricted via Condition of Licence) are prohibited within the 17 marine refuges within Subareas 28-2 and 28-4 to protect Howe Sound glass sponge reefs. Prohibited fishing activities include:

- prawn and crab by trap
- shrimp and groundfish by trawl
- groundfish by hook and line
- use of downrigger gear in recreational salmon trolling

In 2020, a DFO Canadian Science Advisory Secretariat publication confirmed the presence of five additional live sponge reefs and one dead reef in Howe Sound. As glass sponge reefs are slow growing and vulnerable to physical disturbances, the report suggested the reefs be closed to bottom-contact fishing. Between September 2020 and February 2021, DFO officials undertook consultation and engagement on proposed commercial and recreational and Indigenous FSC closures to invertebrate trap, groundfish trawl, groundfish hook and line, and the use of downriggers within the new sites with the aim of establishing marine refuges. Commercial and recreational bottom-contact fishery closures went into effect on January 17, 2022 within the five sites in portions of Subareas 28-1, 28-2 and 28-3 to protect these five additional Howe Sound glass sponge reefs. The use of downrigger gear in recreational salmon trolling will also be prohibited within the five sites and at one existing site (Queen Charlotte Channel) via a Condition of Licence, which will come into effect on April 1, 2022.

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

A description of the closures is provided on the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative website, here: <https://www.dfo-mpo.gc.ca/oceans/ceccsr-herceef/closures-fermetures-eng.html>

6.6. Offshore Pacific Seamounts and Vents Closure

In May 2017, DFO announced the new Offshore Pacific Area of Interest (AOI) with the intention of making it one of Canada's largest Marine Protected Areas (MPAs) by 2021. The proposed MPA will provide protection to ecologically and biologically significant seamount and hydrothermal vent features within the Offshore Pacific Bioregion. Although the AOI has not yet been designated as an MPA, much of it is protected from under the Offshore Pacific Seamounts and Vents Closure (Offshore Fishery Closure). The Offshore Fishery Closure is closed to commercial bottom trawling for groundfish—including halibut, and sablefish. For more information on the Offshore Pacific Seamounts and Vents Closure—including restrictions to other fisheries—please visit: <https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/offshore-hauturiere-eng.html>.

See the following resources for additional context/information on the Offshore Fishery Closure:

- Figure D for a map of the Offshore Pacific Seamounts and Vents Closure
- Table D for a list of the Offshore Pacific Seamounts and Vents Closure boundary coordinates
- For more information on the Offshore Pacific AOI please visit: <https://www.dfo-mpo.gc.ca/oceans/aoi-si/offshore-hauturiere-eng.html>.

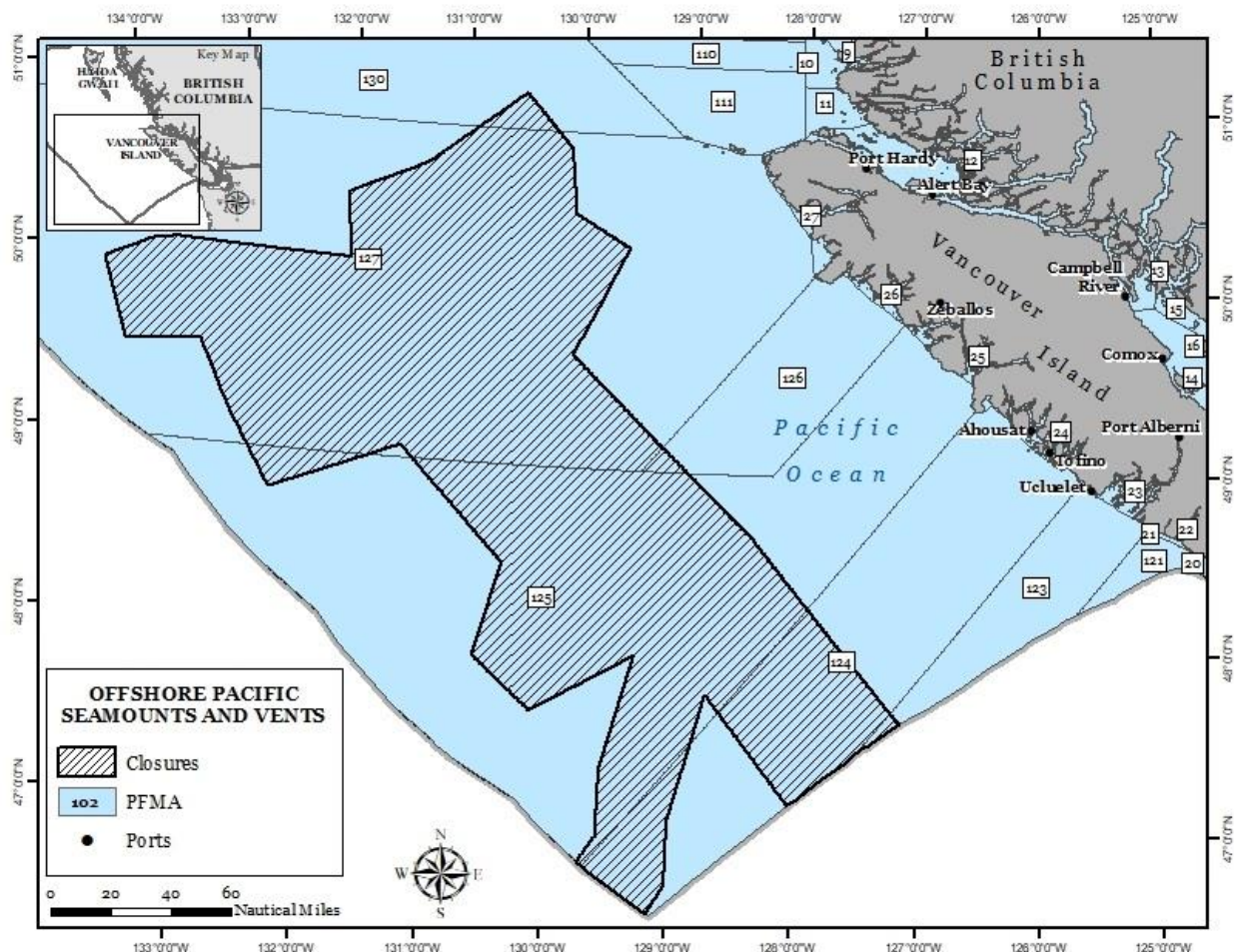


Figure D. Map of Offshore Pacific Seamounts and Vents Closure.

Table D. List of Offshore Pacific Seamounts and Vents Closure boundary coordinates.

Those waters within Pacific Fishery Management Subareas 123-9, 124-1, 124-2, 125-6, 126-3, 126-4, 127-2, 127-4, and 130-1 inside an area bounded by a series of rhumb lines that:

begin at	46° 48' 50"N	129° 43' 49"W	EEZ Boundary
then to	46° 57' 56"N	129° 35' 21"W	
then to	47° 20' 47"N	129° 35' 07"W	
then to	47° 58' 28"N	129° 20' 36"W	
then to	47° 38' 29"N	130° 11' 09"W	
then to	47° 55' 46"N	130° 40' 55"W	
then to	48° 27' 07"N	130° 28' 55"W	
then to	49° 04' 14"N	131° 23' 35"W	
then to	48° 46' 44"N	132° 28' 38"W	
then to	49° 11' 35"N	132° 52' 15"W	
then to	49° 33' 55"N	133° 09' 51"W	
then to	49° 31' 16"N	133° 47' 59"W	
then to	49° 57' 44"N	134° 03' 07"W	
then to	50° 05' 02"N	133° 40' 17"W	
then to	50° 06' 40"N	133° 27' 16"W	

then to	50° 05' 04"N	131° 55' 58"W	
then to	50° 26' 52"N	132° 00' 12"W	
then to	50° 38' 19"N	131° 20' 40"W	
then to	51° 03' 52"N	130° 30' 22"W	
then to	50° 46' 07"N	130° 04' 35"W	
then to	50° 24' 19"N	130° 00' 37"W	
then to	50° 13' 53"N	129° 32' 03"W	
then to	49° 37' 42"N	129° 58' 56"W	
then to	48° 39' 08"N	128° 24' 12"W	
then to	47° 38' 10"N	127° 08' 52"W	EEZ Boundary
then following the EEZ Boundary then to	47° 10' 18"N	128° 02' 44"W	EEZ Boundary
then to	47° 46' 26"N	128° 44' 50"W	
then to	47° 03' 55"N	129° 00' 51"W	
then to	46° 42' 15"N	129° 01' 06"W	
then to	46° 32' 20"N	129° 09' 24"W	EEZ Boundary
then following the EEZ to the beginning point.			

6.7. Habitat Conservation Bottom Trawl Open and Closed Areas

The Canadian Groundfish Research and Conservation Society, on behalf of the British Columbia groundfish trawl industry, and the Pacific Marine Conservation Caucus agreed in 2012 to innovative management measures to provide additional protection of Coral and Sponge Habitat off the west coast of Canada. The objectives of this agreement are:

- To reduce and manage the catch of corals and sponges by the British Columbia groundfish bottom trawl fishery with a management objective of an annual coral and sponge fleet-wide catch at the 2009 level or lower (coral 562 kg, sponge 322 kg);
- To reduce the impact of the British Columbia groundfish bottom trawl fishery on low energy and low productivity environments in deep waters off of the west coast of British Columbia;
- To ensure that the British Columbia groundfish bottom trawl fishery does not disproportionately affect any one particular benthic habitat type;
- To ensure that the British Columbia groundfish bottom trawl fishery is restricted to areas previously trawled between 1996-2011;
- To improve the performance of the British Columbia groundfish bottom trawl fishery against habitat criteria used to evaluate the sustainability of fisheries.

As a result, Option A fishing with bottom trawl in the Pacific Region is only permitted in those areas described in sections 6.7.1 below and excludes those areas within the footprint described in section 6.7.2.

The intent of this closure is to “freeze the bottom trawl footprint” and implement the industry agreed upon habitat conservation measures for protection of corals and sponges in the Pacific Region groundfish trawl fishery. Details of the measures are described in Section 15 of this Harvest Plan.

6.7.1. Areas Open to Bottom Trawling

Those areas open to bottom trawling include:

Description	Latitude	Longitude
The waters inside a line starting from a point at:	54°18.663'N	133°57.429'W
then northeasterly to	54°20.646'N	133°49.765'W
then southeasterly to	54°16.33'N	133°46.417'W
then northeasterly to	54°16.714'N	133°38.74'W
then northeasterly to	54°23.088'N	133°27.276'W
then northeasterly to	54°26.473'N	133°11.763'W
then southeasterly to	54°21.057'N	133°3.399'W
then southeasterly to	54°20.545'N	132°58.854'W
then northeasterly to	54°24.518'N	132°51.692'W
then southeasterly to	54°22.254'N	132°46.119'W
then southwesterly to	54°18.379'N	132°49.812'W
then southeasterly to	54°18.038'N	132°38.386'W
then southeasterly to	54°15.682'N	132°21.606'W
then northeasterly to	54°18.606'N	131°59.533'W
then northeasterly to	54°23.291'N	131°45.403'W
then northeasterly to	54°24.546'N	131°30.007'W
then northeasterly to	54°27.791'N	131°24.281'W
then northeasterly to	54°30.901'N	131°24.237'W
then northwesterly to	54°35.278'N	131°30.067'W
then northwesterly to	54°40.095'N	131°30.095'W
then northeasterly to	54°40.145'N	131°23.463'W
then southeasterly to	54°34.702'N	131°15.228'W
then southeasterly to	54°31.897'N	130°58.421'W
then southwesterly to	54°21.867'N	131°2.98'W
then southeasterly to	54°18.674'N	130°59.623'W
then southerly to	54°3.706'N	130°59.758'W
then southwesterly to	54°1.41'N	131°1.233'W
then southeasterly to	53°50.284'N	130°46.679'W
then southeasterly to	53°47.272'N	130°39.048'W
then southwesterly to	53°47.2'N	130°39.2'W
then southeasterly to	53°46.521'N	130°37.884'W
then southeasterly to	53°41.169'N	130°34.886'W
then southwesterly to	53°36.807'N	130°42.034'W
then southeasterly to	53°33.471'N	130°41.479'W
then southwesterly to	53°29.299'N	130°46.64'W
then southwesterly to	53°24.501'N	130°48.819'W
then southwesterly to	53°21.67'N	130°53.451'W
then southwesterly to	53°20.068'N	130°53.512'W
then southwesterly to	53°19.333'N	130°54.403'W
then southeasterly to	53°18.626'N	130°53.566'W
then southwesterly to	53°16.566'N	130°53.644'W

then southwesterly to	53°14.01'N	130°56.597'W
then southeasterly to	53°7.703'N	130°52.037'W
then northeasterly to	53°7.761'N	130°46.445'W
then southeasterly to	53°7.741'N	130°46.441'W
then southeasterly to	53°7.297'N	130°42.053'W
then southeasterly to	53°3.115'N	130°30.594'W
then southeasterly to	53°2.908'N	130°25.271'W
then northeasterly to	53°6.607'N	130°21.613'W
then southeasterly to	53°4.267'N	130°16.592'W
then southeasterly to	52°57.877'N	130°11.972'W
then southwesterly to	52°52.193'N	130°11.815'W
then southwesterly to	52°43.435'N	130°17.773'W
then southwesterly to	52°30.892'N	130°17.814'W
then northeasterly to	52°31.777'N	130°13.179'W
then southeasterly to	52°20.299'N	130°6.992'W
then northeasterly to	52°26.107'N	129°57.704'W
then northeasterly to	52°27.833'N	129°55.136'W
then northeasterly to	52°28.823'N	129°52.084'W
then southeasterly to	52°26.274'N	129°50.553'W
then southwesterly to	52°25.312'N	129°52.347'W
then southeasterly to	52°15.127'N	129°47.347'W
then northwesterly to	52°18.012'N	130°0.909'W
then southwesterly to	52°5.301'N	130°1.052'W
then southwesterly to	51°56.24'N	130°13.023'W
then southwesterly to	51°48.29'N	130°28.186'W
then southwesterly to	51°43.047'N	130°32.729'W
then northwesterly to	51°43.462'N	130°39.072'W
then southwesterly to	51°39.03'N	130°39.045'W
then southwesterly to	51°36.642'N	130°39.769'W
then southwesterly to	51°36.397'N	130°40.729'W
then northwesterly to	51°37.47'N	130°42.885'W
then northwesterly to	51°40.987'N	130°48.131'W
then northwesterly to	51°45.587'N	130°53.435'W
then northeasterly to	51°47.857'N	130°52.721'W
then northeasterly to	51°52.003'N	130°49.651'W
then northeasterly to	51°56.272'N	130°49.419'W
then northwesterly to	52°3.968'N	130°54.678'W
then southeasterly to	52°2.632'N	130°50.91'W
then northeasterly to	52°10.225'N	130°49.512'W
then southwesterly to	52°7.141'N	130°54.219'W
then northeasterly to	52°7.655'N	130°54.095'W
then northwesterly to	52°11.347'N	130°55.676'W
then northeasterly to	52°12.476'N	130°49.103'W
then northwesterly to	52°17.724'N	130°55.078'W
then southwesterly to	52°14.661'N	130°58.965'W
then northwesterly to	52°14.847'N	130°59.171'W

then northwesterly to	52°22.679'N	131°1.429'W
then northeasterly to	52°22.825'N	131°0.885'W
then northwesterly to	52°23.514'N	131°1.669'W
then northwesterly to	52°23.835'N	131°1.762'W
then northeasterly to	52°27.415'N	130°52.618'W
then southeasterly to	52°17.901'N	130°45.94'W
then southwesterly to	52°12.105'N	130°47.616'W
then southeasterly to	52°6.16'N	130°42.488'W
then southeasterly to	52°5.566'N	130°37.171'W
then northeasterly to	52°11.708'N	130°34.4'W
then northeasterly to	52°21.956'N	130°30.939'W
then northwesterly to	52°27.801'N	130°31.55'W
then northeasterly to	52°49.195'N	130°25.811'W
then northeasterly to	52°56.149'N	130°24.656'W
then northwesterly to	52°56.915'N	130°30.357'W
then southwesterly to	52°53.68'N	130°34.807'W
then northwesterly to	52°54.575'N	130°48.256'W
then northwesterly to	52°58.778'N	130°57.436'W
then northwesterly to	52°59.189'N	131°2.858'W
then southwesterly to	52°57.056'N	131°5.25'W
then northwesterly to	52°57.813'N	131°9.718'W
then northwesterly to	53°6.218'N	131°11.945'W
then northwesterly to	53°17.027'N	131°16.633'W
then southwesterly to	53°16.048'N	131°34.14'W
then northeasterly to	53°21.923'N	131°34.48'W
then northeasterly to	53°27.367'N	131°13.805'W
then northeasterly to	53°35.051'N	131°12.736'W
then northwesterly to	53°49.32'N	131°18.715'W
then northeasterly to	53°51.369'N	131°14.6'W
then northwesterly to	54°9.886'N	131°16.36'W
then northwesterly to	54°13.834'N	131°26.361'W
then southwesterly to	54°6.417'N	132°5.342'W
then northwesterly to	54°9.146'N	132°36.464'W
then northwesterly to	54°9.038'N	132°48.139'W
then northwesterly to	54°11.352'N	132°59.334'W
Then northerly following the shoreline to	54°15.279'N	133°0.379'W
then northwesterly to	54°16.41'N	133°0.681'W
then northwesterly to	54°16.767'N	133°7.434'W
then southwesterly to	54°11.731'N	133°17.49'W
then southwesterly to	54°6.217'N	133°21.902'W
then southwesterly to	54°2.313'N	133°32.437'W
then southeasterly to	53°54.732'N	133°27.077'W
then southeasterly to	53°43.318'N	133°16.558'W
then southeasterly to	53°38.039'N	133°9.688'W
then southeasterly to	53°31.137'N	133°6.062'W
then southeasterly to	53°7.009'N	132°38.867'W

then southeasterly to	52°59.038'N	132°28.492'W
then southwesterly to	52°58.062'N	132°33.354'W
then northwesterly to	53°4.998'N	132°42.761'W
then northwesterly to	53°9.515'N	132°48.423'W
then northwesterly to	53°9.829'N	132°50.391'W
then northwesterly to	53°11.663'N	132°54.574'W
then northwesterly to	53°13.697'N	133°3.954'W
then northwesterly to	53°16.739'N	133°10.024'W
then northwesterly to	53°25.181'N	133°10.905'W
then northwesterly to	53°25.602'N	133°11.551'W
then northwesterly to	53°26.5'N	133°11.695'W
then northeasterly to	53°27.245'N	133°11.521'W
then northwesterly to	53°27.898'N	133°11.64'W
then northwesterly to	53°28.745'N	133°12.302'W
then northwesterly to	53°29.794'N	133°12.819'W
then northwesterly to	53°31.938'N	133°15.788'W
then northwesterly to	53°35.386'N	133°19.006'W
then northwesterly to	53°39.269'N	133°21.505'W
then northeasterly to	53°40.714'N	133°21.516'W
then northeasterly to	53°41.78'N	133°20.658'W
then northwesterly to	53°43.756'N	133°22.302'W
then northwesterly to	53°44.552'N	133°23.805'W
then northwesterly to	53°50.006'N	133°31.239'W
then northwesterly to	53°51.217'N	133°34.287'W
then northwesterly to	53°57.264'N	133°39.178'W
then northwesterly to	54°8.455'N	133°46.76'W
then northwesterly to	54°9.051'N	133°49.089'W
Then back to beginning point at	54°18.663'N	133°57.429'W
The waters inside a line starting from a point at:	52°58.323'N	131°15.551'W
then southeasterly to	52°57.147'N	131°12.567'W
then southwesterly to	52°54.053'N	131°15.026'W
Then southeast to	52°50.52'N	131°15.2'W
then southwesterly to	52°48.39'N	131°16.876'W
then northwesterly to	52°49.533'N	131°21.444'W
then northwesterly to	52°51.596'N	131°24.032'W
Then back to beginning point at	52°58.323'N	131°15.551'W
The waters inside a line starting from a point at:	52°38.864'N	131°13.112'W
then southeasterly to	52°38.8'N	131°12.817'W
then southeasterly to	52°37.056'N	130°53.908'W
then southwesterly to	52°35.054'N	130°55.583'W
then southwesterly to	52°31.67'N	130°59.281'W
then northwesterly to	52°32.736'N	131°7.172'W
then northwesterly to	52°36.117'N	131°19.624'W

then northeasterly to	52°38.666'N	131°12.987'W
Then back to beginning point at	52°38.864'N	131°13.112'W
The waters inside a line starting from a point at:	52°10.819'N	131°35.365'W
then southeasterly to	52°9.689'N	131°30.156'W
then southerly to	52°7.47'N	131°30.193'W
then southwesterly to	52°6.309'N	131°33.328'W
then northwesterly to	52°8.119'N	131°35.37'W
Then back to beginning point at	52°10.819'N	131°35.365'W
The waters inside a line starting from a point at:	52°6.049'N	131°21.16'W
then southeasterly to	51°59.143'N	131°12.671'W
then westerly to	51°58.833'N	131°15.927'W
then northwesterly to	52°1.643'N	131°20.418'W
then northwesterly to	52°3.82'N	131°22.52'W
Then back to beginning point at	52°6.049'N	131°21.16'W
The waters inside a line starting from a point at:	52°42.199'N	129°47.267'W
then southerly to	52°34.023'N	129°48.042'W
then southwesterly to	52°33.226'N	129°50.129'W
then westerly to	52°33.182'N	129°51.995'W
then northerly to	52°41.577'N	129°51.656'W
Then back to beginning point at	52°42.199'N	129°47.267'W
The waters inside a line starting from a point at:	52°12.42'N	129°39.161'W
then southeasterly to	52°8.767'N	129°33.558'W
then southwesterly to	52°5.235'N	129°36.235'W
then southwesterly to	51°53.012'N	129°44.057'W
then southeasterly to	51°51.542'N	129°36.623'W
then northeasterly to	51°53.214'N	129°29.472'W
then southeasterly to	51°50.454'N	129°26.74'W
then northeasterly to	51°58.38'N	129°9.881'W
then southeasterly to	51°56.471'N	129°2.365'W
then southwesterly to	51°48.494'N	129°17.57'W
then southeasterly to	51°47.337'N	129°1.05'W
then southeasterly to	51°40.707'N	129°0.811'W
then southwesterly to	51°40.134'N	129°13.986'W
then southwesterly to	51°34.503'N	129°22.756'W
then northwesterly to	51°38.199'N	129°30.287'W
then northwesterly to	51°39.067'N	129°36.221'W
then southwesterly to	51°37.268'N	129°50.466'W
then southwesterly to	51°33.959'N	130°0.194'W
then northwesterly to	51°34.818'N	130°1.657'W
then northeasterly to	51°37.358'N	129°56.351'W

then northwesterly to	51°43.221'N	130°5.574'W
then southwesterly to	51°42.662'N	130°8.05'W
then northwesterly to	51°44.182'N	130°10.818'W
then southwesterly to	51°42.925'N	130°18.257'W
then southwesterly to	51°41.201'N	130°20.815'W
then southeasterly to	51°39.513'N	130°20.291'W
then southwesterly to	51°35.575'N	130°23.132'W
then southwesterly to	51°34.548'N	130°28.777'W
then northwesterly to	51°36.948'N	130°31.222'W
then northeasterly to	51°39.863'N	130°28.002'W
then northwesterly to	51°42.404'N	130°31.708'W
then northeasterly to	51°42.745'N	130°28.443'W
then northeasterly to	51°47.89'N	130°22.202'W
then southeasterly to	51°44.696'N	130°17.952'W
then northeasterly to	51°49.676'N	130°6.443'W
then northeasterly to	51°53.287'N	129°48.197'W
then northeasterly to	51°56.775'N	129°44.206'W
then northwesterly to	52°6.966'N	129°51.434'W
then northeasterly to	52°10.685'N	129°46.233'W
Then back to beginning point at	52°12.42'N	129°39.161'W
The waters inside a line starting from a point at:	51°25.938'N	130°3.154'W
then easterly	51°25.898'N	129°59.662'W
then southeasterly to	51°23.877'N	129°57.199'W
then southeasterly to	51°18.293'N	129°55.567'W
then southeasterly to	51°16.561'N	129°51.884'W
then southeasterly to	51°14.076'N	129°49.987'W
then southwesterly to	51°7.405'N	129°56.915'W
then southwesterly to	51°7.27'N	130°4.351'W
then northwesterly to	51°9.836'N	130°8.498'W
then northwesterly to	51°15.873'N	130°10.331'W
then northwesterly to	51°21.286'N	130°11.087'W
then northeasterly to	51°23.38'N	130°5.74'W
Then back to beginning point at	51°25.938'N	130°3.154'W
The waters inside a line starting from a point at:	52°11.441'N	129°0.681'W
then northeasterly to	52°14.861'N	128°48.68'W
then southeasterly to	52°13.823'N	128°47.385'W
then southwesterly to	52°3.954'N	128°55.336'W
then southeasterly to	51°59.325'N	128°48.224'W
then easterly	51°59.325'N	128°48.217'W
then southeasterly to	51°55.078'N	128°43.224'W
then southeasterly to	51°54.56'N	128°42.789'W
then easterly	51°54.831'N	128°34.145'W

then southeasterly to	51°47.559'N	128°28.37'W
then southwesterly to	51°42.017'N	128°32.314'W
then southerly to	51°35.503'N	128°32.278'W
then southeasterly to	51°33.385'N	128°25.3'W
then southerly to	51°30.791'N	128°25.029'W
then easterly	51°30.936'N	128°16.918'W
then southwesterly to	51°22.691'N	128°24.02'W
then southwesterly to	51°18.696'N	128°36.181'W
then westerly to	51°18.696'N	128°36.185'W
then southeasterly to	51°15.841'N	128°33.789'W
then easterly	51°15.841'N	128°33.786'W
then southeasterly to	51°8.117'N	128°18.781'W
then southeasterly to	51°6.956'N	128°6.138'W
then southeasterly to	51°2.091'N	127°59.009'W
then southeasterly to	50°56.652'N	127°45.913'W
then southwesterly to	50°55.973'N	127°47.533'W
then northwesterly to	50°58.632'N	127°54.176'W
then northwesterly to	50°59.414'N	128°12.697'W
then southwesterly to	50°52.745'N	128°18.208'W
then southwesterly to	50°49.565'N	128°26.843'W
then southwesterly to	50°49.452'N	128°29.84'W
then northwesterly to	50°51.613'N	128°33'W
then northerly to	50°52'N	128°33'W
then westerly to	50°52'N	128°33.566'W
then northwesterly to	50°55.43'N	128°38.581'W
then northwesterly to	51°0.068'N	128°47.466'W
then northwesterly to	51°4.941'N	128°49.553'W
then northwesterly to	51°7.224'N	128°54.267'W
then northwesterly to	51°10.198'N	128°57.983'W
then westerly to	51°10.071'N	129°3.818'W
then southwesterly to	51°6.393'N	129°12.352'W
then southwesterly to	51°3.1'N	129°14.444'W
then southwesterly to	51°1.443'N	129°19.75'W
then northwesterly to	51°1.644'N	129°20.516'W
then northwesterly to	51°4.094'N	129°27.966'W
then northwesterly to	51°20.925'N	129°35.038'W
then northeasterly to	51°23.104'N	129°28.698'W
then northerly to	51°25.763'N	129°28.018'W
then northwesterly to	51°30.246'N	129°29.786'W
then southeasterly to	51°29.482'N	129°7.998'W
then northeasterly to	51°31.113'N	128°44.081'W
then northeasterly to	51°36.092'N	128°37.655'W
then northerly to	51°41.088'N	128°37.919'W
then northwesterly to	51°45.335'N	128°41.349'W

then northwesterly to	51°54.335'N	128°52.021'W
then southwesterly to	51°53.705'N	128°55.702'W
then northwesterly to	51°56.489'N	129°1.939'W
then northeasterly to	51°59.27'N	128°56.308'W
then easterly	51°59.27'N	128°56.294'W
then northwesterly to	52°4.081'N	129°3.223'W
Then back to beginning point at	52°11.441'N	129°0.681'W
The waters inside a line starting from a point at:	50°58.318'N	129°32.185'W
then southeasterly to	50°57.793'N	129°30.065'W
then southwesterly to	50°54.21'N	129°32.539'W
then southeasterly to	50°50.452'N	129°19.559'W
then southeasterly to	50°46.537'N	129°17.162'W
then southwesterly to	50°44.881'N	129°20.011'W
then westerly to	50°44.874'N	129°22.292'W
then northwesterly to	50°48.362'N	129°25.674'W
then northwesterly to	50°51.571'N	129°37.166'W
then northeasterly to	50°54.971'N	129°35.183'W
Then back to beginning point at	50°58.318'N	129°32.185'W
The waters inside a line starting from a point at:	50°43.871'N	128°58.204'W
then southeasterly to	50°43.382'N	128°54.963'W
then southeasterly to	50°42.505'N	128°44.999'W
then southeasterly to	50°37.421'N	128°38.21'W
then northeasterly to	50°38.763'N	128°30.162'W
then northwesterly to	50°42.195'N	128°30.926'W
then northeasterly to	50°44.375'N	128°28.568'W
then northeasterly to	50°45.137'N	128°25.804'W
then southeasterly to	50°38.618'N	128°23.065'W
then southeasterly to	50°35.474'N	128°18.175'W
then southerly to	50°34.425'N	128°18.147'W
then southerly to	50°29.032'N	128°18.023'W
then easterly	50°29.031'N	128°18.001'W
then southerly to	50°29'N	128°18'W
then easterly	50°29'N	128°16.799'W
then easterly	50°28.974'N	128°15.804'W
then southerly to	50°27.337'N	128°15.83'W
then southeasterly to	50°25.8'N	128°11.004'W
then southeasterly to	50°24.4'N	128°1.542'W
then southeasterly to	50°22.383'N	128°1.169'W
then southwesterly to	50°21.363'N	128°6.377'W
then southeasterly to	50°10.412'N	128°3.688'W
then southeasterly to	50°6.562'N	127°58.43'W
then southwesterly to	50°5.853'N	128°0.459'W

then northwesterly to	50°6.917'N	128°2.523'W
then northwesterly to	50°8.695'N	128°5.47'W
then northwesterly to	50°10.836'N	128°7.862'W
then northerly to	50°14.931'N	128°7.572'W
then northwesterly to	50°18.05'N	128°17.465'W
then northwesterly to	50°19.418'N	128°19.306'W
then northwesterly to	50°19.612'N	128°26.33'W
then northwesterly to	50°21.594'N	128°28.965'W
then northwesterly to	50°24.326'N	128°29.531'W
then northwesterly to	50°27.319'N	128°33.495'W
then southwesterly to	50°26.724'N	128°35.989'W
then northerly to	50°32.725'N	128°36.957'W
then southwesterly to	50°32.263'N	128°39.454'W
then northwesterly to	50°34.931'N	128°41.332'W
then westerly to	50°34.762'N	128°45.516'W
then northwesterly to	50°37.004'N	128°47.791'W
then northwesterly to	50°39.49'N	128°53.501'W
then northwesterly to	50°42.471'N	129°1.154'W
Then back to beginning point at	50°43.871'N	128°58.204'W
The waters inside a line starting from a point at:	51°4.116'N	127°56.344'W
then northeasterly to	51°4.497'N	127°52.645'W
then southeasterly to	51°2.273'N	127°50.163'W
then westerly to	51°2.072'N	127°55.343'W
Then back to beginning point at	51°4.116'N	127°56.344'W
The waters inside a line starting from a point at:	49°59.447'N	128°11.103'W
then southeasterly to	49°59.375'N	128°8.656'W
then southeasterly to	49°55.224'N	128°1.46'W
then northeasterly to	49°55.539'N	127°59.073'W
then northwesterly to	49°56.421'N	127°59.161'W
then northeasterly to	49°57.492'N	127°58.095'W
then northeasterly to	49°57.929'N	127°55.615'W
then southeasterly to	49°57.928'N	127°55.615'W
then northeasterly to	49°58.634'N	127°53.415'W
then southeasterly to	49°57.57'N	127°48.395'W
then northeasterly to	49°58.406'N	127°46.679'W
then northeasterly to	49°59.707'N	127°46.067'W
then easterly	49°59.809'N	127°43.229'W
then southeasterly to	49°53.888'N	127°39.429'W
then southeasterly to	49°47.009'N	127°36.857'W
then southeasterly to	49°46.648'N	127°32.447'W
then southeasterly to	49°42.351'N	127°24.458'W
then southeasterly to	49°42.125'N	127°9.255'W

then southeasterly to	49°33.404'N	126°52.533'W
then southeasterly to	49°22.832'N	126°42.341'W
then southwesterly to	49°22.175'N	126°44.443'W
then southwesterly to	49°22.1'N	126°44.7'W
then southeasterly to	49°22.097'N	126°44.693'W
then southwesterly to	49°22.063'N	126°44.803'W
then southeasterly to	49°17.29'N	126°31.967'W
then southeasterly to	49°17'N	126°31.2'W
then northeasterly to	49°17.002'N	126°31.194'W
then southeasterly to	49°16.977'N	126°31.126'W
then southeasterly to	49°12.761'N	126°23.065'W
then southeasterly to	49°1.174'N	126°8.749'W
then southeasterly to	48°59.315'N	126°1.941'W
then southeasterly to	48°53.013'N	125°57.508'W
then southwesterly to	48°50.187'N	126°2.869'W
then southeasterly to	48°40.616'N	125°56.635'W
then southwesterly to	48°39.58'N	126°3.953'W
then southwesterly to	48°32.282'N	126°6.531'W
then southeasterly to	48°27.959'N	126°3.394'W
then southeasterly to	48°27.126'N	125°53.142'W
then southeasterly to	48°22.176'N	125°49.761'W
then southeasterly to	48°21.819'N	125°37.948'W
then northeasterly to	48°25.525'N	125°36.233'W
then northwesterly to	48°28.736'N	125°46.117'W
then northwesterly to	48°38.893'N	125°47.339'W
then northwesterly to	48°43.008'N	125°54.257'W
then northwesterly to	48°45.763'N	125°54.296'W
then northeasterly to	48°47.041'N	125°45.673'W
then southeasterly to	48°46.597'N	125°39.763'W
then northeasterly to	48°46.817'N	125°37.872'W
then northwesterly to	48°50.508'N	125°39.294'W
then southwesterly to	48°50.046'N	125°52.259'W
then northeasterly to	48°59.401'N	125°49.371'W
then northeasterly to	48°59.928'N	125°41.175'W
then southeasterly to	48°56.459'N	125°35.551'W
then southeasterly to	48°51.113'N	125°25.062'W
then southeasterly to	48°43.139'N	125°14.701'W
then southeasterly to	48°40.495'N	124°59.612'W
then southeasterly to	48°40.055'N	124°52.992'W
then southeasterly to	48°36.186'N	124°45.211'W
then southeasterly to	48°36.039'N	124°44.761'W
then southeasterly to	48°35.278'N	124°43.15'W
then southerly to	48°29.631'N	124°43.15'W
then northwesterly to	48°30.051'N	124°45.095'W

then northwesterly to	48°30.319'N	124°47.217'W
then northwesterly to	48°30.402'N	124°49.164'W
then southwesterly to	48°30.356'N	124°51.37'W
then southwesterly to	48°30.05'N	124°54.089'W
then southwesterly to	48°29.579'N	124°57.163'W
then southwesterly to	48°28.63'N	125°1.051'W
then southwesterly to	48°27.678'N	125°4.484'W
then southwesterly to	48°26.944'N	125°6.784'W
then southwesterly to	48°25.441'N	125°11.115'W
then southwesterly to	48°24.593'N	125°13.299'W
then southwesterly to	48°22.587'N	125°17.934'W
then southwesterly to	48°21.029'N	125°21.263'W
then southwesterly to	48°19.867'N	125°24.738'W
then southwesterly to	48°18.945'N	125°28.268'W
then southwesterly to	48°17.879'N	125°32.336'W
then southwesterly to	48°16.897'N	125°35.784'W
then southwesterly to	48°14.405'N	125°43.311'W
then southwesterly to	48°13.269'N	125°46.384'W
then southwesterly to	48°11.763'N	125°50.27'W
then southwesterly to	48°10.544'N	125°53.663'W
then northwesterly to	48°10.626'N	125°55.597'W
then northwesterly to	48°13.868'N	125°56.102'W
then southwesterly to	48°12.664'N	126°0.427'W
then northwesterly to	48°13.286'N	126°2.02'W
then northeasterly to	48°15.002'N	126°0.618'W
then northwesterly to	48°17.494'N	126°2.081'W
then northeasterly to	48°20.205'N	126°0.343'W
then northeasterly to	48°20.245'N	125°55.877'W
then northeasterly to	48°20.581'N	125°54.903'W
then northwesterly to	48°20.878'N	125°55.008'W
then northeasterly to	48°21.041'N	125°54.208'W
then northeasterly to	48°21.353'N	125°53.594'W
then northwesterly to	48°21.545'N	125°53.613'W
then northwesterly to	48°21.88'N	125°54.126'W
then northeasterly to	48°22.288'N	125°52.993'W
then northwesterly to	48°22.448'N	125°53.096'W
then northwesterly to	48°22.471'N	125°53.957'W
then northwesterly to	48°22.566'N	125°55.954'W
then northeasterly to	48°23.46'N	125°55.366'W
then northwesterly to	48°23.629'N	125°56.074'W
then southwesterly to	48°21.951'N	125°57.53'W
then southwesterly to	48°21.111'N	125°58.36'W
then southwesterly to	48°20.663'N	126°0.056'W
then southwesterly to	48°19.27'N	126°3.511'W

then southwesterly to	48°18.739'N	126°6.761'W
then southwesterly to	48°18.684'N	126°10.75'W
then northwesterly to	48°21.061'N	126°11.77'W
then northwesterly to	48°21.126'N	126°14.451'W
then northwesterly to	48°26.118'N	126°20.174'W
then northwesterly to	48°29.126'N	126°22.016'W
then northeasterly to	48°33.379'N	126°20.178'W
then northwesterly to	48°34.467'N	126°23.048'W
then northwesterly to	48°40.353'N	126°27.916'W
then northwesterly to	48°40.543'N	126°31.921'W
then northwesterly to	48°42.725'N	126°35.986'W
then northwesterly to	48°44.768'N	126°38.362'W
then northwesterly to	48°45.685'N	126°40.717'W
then northwesterly to	48°48.664'N	126°43.985'W
then northeasterly to	48°52.138'N	126°41.271'W
then southwesterly to	48°51.742'N	126°44.543'W
then northwesterly to	48°53.256'N	126°48.816'W
then southwesterly to	48°52.156'N	126°55.684'W
then northwesterly to	48°57.252'N	126°57.647'W
then northwesterly to	49°1.29'N	127°0.513'W
then northwesterly to	49°3.862'N	127°1.422'W
then northwesterly to	49°6.191'N	127°3.12'W
then northwesterly to	49°7.635'N	127°6.958'W
then northwesterly to	49°10.438'N	127°9.581'W
then northeasterly to	49°13.031'N	127°8.704'W
then northwesterly to	49°17.868'N	127°13.994'W
then northwesterly to	49°22.002'N	127°20.499'W
then northwesterly to	49°24.518'N	127°21.276'W
then northwesterly to	49°26.396'N	127°23.957'W
then northwesterly to	49°28.473'N	127°30.164'W
then northeasterly to	49°30.533'N	127°27.433'W
then northwesterly to	49°31.898'N	127°30.217'W
then southwesterly to	49°28.077'N	127°39.588'W
then northwesterly to	49°31.783'N	127°41.843'W
then northwesterly to	49°32.573'N	127°43.864'W
then northwesterly to	49°37.243'N	127°45.631'W
then northwesterly to	49°37.822'N	127°47.19'W
then northwesterly to	49°40.544'N	127°48.462'W
then northeasterly to	49°45.44'N	127°47.395'W
then southwesterly to	49°44.699'N	127°49.937'W
then northwesterly to	49°49.856'N	128°0.322'W
then northwesterly to	49°53.598'N	128°1.591'W
then northwesterly to	49°57.176'N	128°8.093'W
Then back to beginning point at	49°59.447'N	128°11.103'W

6.7.2. Areas Closed to Bottom Trawling within Trawl Footprint

The following areas found within the area open for bottom trawling set out above in section 6.7.1 are excluded and are closed year round to bottom trawling.

Description	Latitude	Longitude
The waters inside a line starting from a point at:	51°51.9'N	130°35.2'W
Then true west to	51°51.9'N	130°36.12'W
then southwesterly to	51°51'N	130°38.2'W
then southwesterly to	51°50.5'N	130°38.5'W
then southeasterly to	51°50.1'N	130°38.4'W
then southeasterly to	51°49.1'N	130°37.8'W
then southeasterly to	51°48.7'N	130°37'W
then northeasterly to	51°49.3'N	130°34.8'W
then northeasterly to	51°50.4'N	130°34.5'W
then northwesterly to	51°51.4'N	130°34.8'W
Then back to beginning point at	51°51.9'N	130°35.2'W

Description	Latitude	Longitude
The waters inside a line starting from a point at:	51°24.737'N	128°47.971'W
then southwesterly to	51°19.408'N	129°0.893'W
then southeasterly to	51°17.704'N	129°0.484'W
then southeasterly to	51°14.566'N	128°55.759'W
then northeasterly to	51°14.961'N	128°47.021'W
then northeasterly to	51°18.541'N	128°40.594'W
then northwesterly to	51°19.585'N	128°41.81'W
Then back to beginning point at	51°24.737'N	128°47.971'W

Description	Latitude	Longitude
The waters inside a line starting from a point at:	49°56.9'N	127°56.246'W
then southeasterly to	49°55.564'N	127°49.078'W
then southerly to	49°53.246'N	127°48.89'W
then easterly	49°53.085'N	127°45.844'W
then northwesterly to	49°50.26'N	127°45.337'W
then southeasterly to	49°44.315'N	127°39.851'W
then northeasterly to	49°46.785'N	127°45.893'W
then southwesterly to	49°46.748'N	127°49.226'W
then southeasterly to	49°51.63'N	127°48.329'W
then southeasterly to	49°54.659'N	127°52.063'W
then northwesterly to	49°55.826'N	127°56.782'W
Then back to beginning point at	49°56.9'N	127°56.246'W

Description	Latitude	Longitude
The waters inside a line starting from a point at:	49°45.317'N	127°37.786'W

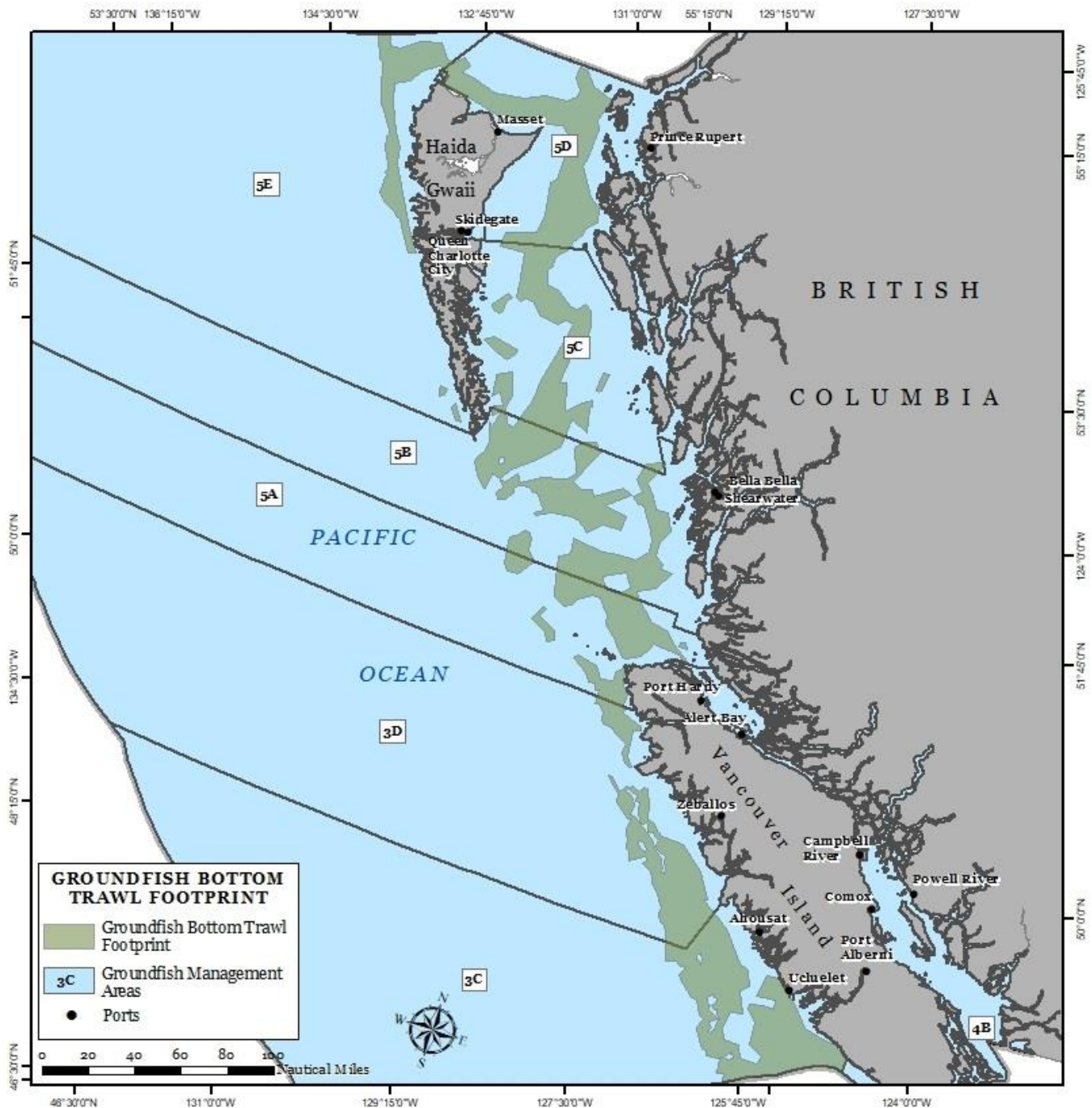
then northeasterly to	49°45.631'N	127°35.552'W
then southerly to	49°43.551'N	127°35.12'W
then southeasterly to	49°42.287'N	127°34.119'W
then northeasterly to	49°42.804'N	127°30.855'W
then southeasterly to	49°41.46'N	127°29.144'W
then southeasterly to	49°40.461'N	127°25.514'W
then southerly to	49°37.638'N	127°25.436'W
then southeasterly to	49°36.737'N	127°23.987'W
then southeasterly to	49°36.086'N	127°22.858'W
then southeasterly to	49°34.753'N	127°17.787'W
then southeasterly to	49°32.366'N	127°17.045'W
then southeasterly to	49°30.106'N	127°15.126'W
then southerly to	49°27.378'N	127°15.044'W
then westerly to	49°27.19'N	127°16.729'W
then northerly to	49°29.887'N	127°16.88'W
then northwesterly to	49°31.809'N	127°18.78'W
then northerly to	49°33.471'N	127°19.337'W
then northwesterly to	49°35.788'N	127°24.757'W
then northwesterly to	49°39.943'N	127°30.293'W
then northwesterly to	49°41.972'N	127°34.672'W
then northwesterly to	49°44.162'N	127°39.424'W
Then back to beginning point at	49°45.317'N	127°37.786'W

Description	Latitude	Longitude
The waters inside a line starting from a point at:	49°37.539'N	127°37.938'W
then easterly	49°37.537'N	127°35.559'W
then southeasterly to	49°35.186'N	127°31.48'W
then southerly to	49°33.698'N	127°31.097'W
then westerly to	49°33.678'N	127°32.327'W
then northwesterly to	49°34.738'N	127°35.929'W
then northwesterly to	49°36.244'N	127°37.918'W
Then back to beginning point at	49°37.539'N	127°37.938'W

Description	Latitude	Longitude
The waters inside a line starting from a point at:	49°0.099'N	126°35.561'W
then southeasterly to	48°57.506'N	126°33.085'W
then southerly to	48°55.163'N	126°32.844'W
then northwesterly to	48°56.083'N	126°33.513'W
then northwesterly to	48°56.415'N	126°34.551'W
then northwesterly to	48°57.172'N	126°36.151'W
then northwesterly to	48°58.766'N	126°36.837'W
Then back to beginning point at	49°0.099'N	126°35.561'W

Description	Latitude	Longitude
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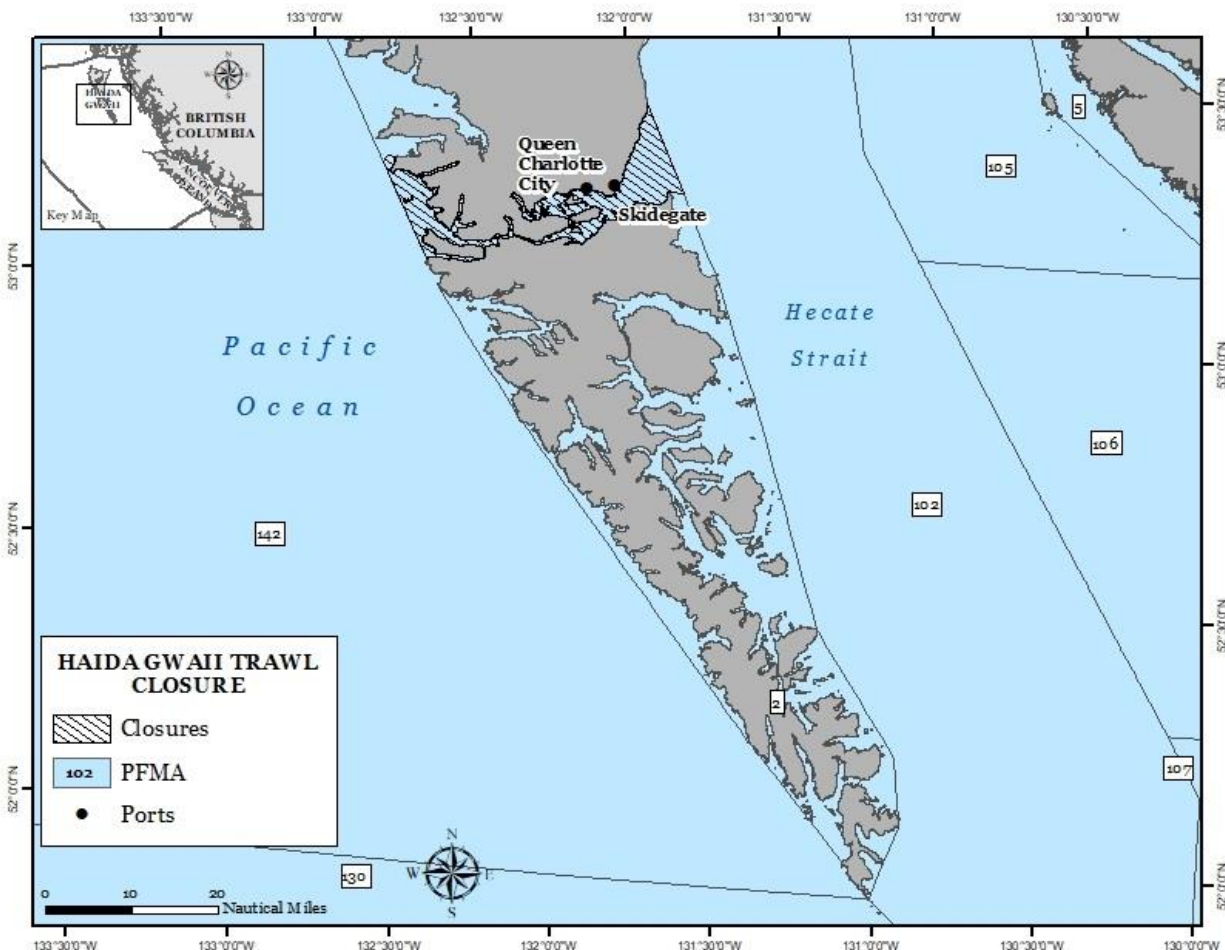
The waters inside a line starting from a point at:	48°45.366'N	126°18.449'W
then southeasterly to	48°45.203'N	126°17.872'W
then southwesterly to	48°44.175'N	126°18.513'W
then southeasterly to	48°43.188'N	126°15.818'W
then southerly to	48°41.871'N	126°15.574'W
then southwesterly to	48°40.872'N	126°16.169'W
then southwesterly to	48°39.787'N	126°18.207'W
then easterly	48°39.679'N	126°16.143'W
then southeasterly to	48°38.439'N	126°15.356'W
then northeasterly to	48°38.846'N	126°13.715'W
then southeasterly to	48°37.354'N	126°12.403'W
then southeasterly to	48°36.26'N	126°11.52'W
then southeasterly to	48°35.707'N	126°9.618'W
then southwesterly to	48°34.773'N	126°10.434'W
then southerly to	48°32.374'N	126°11.017'W
then southerly to	48°30.079'N	126°11.01'W
then westerly to	48°29.806'N	126°12.056'W
then southerly to	48°28.82'N	126°11.931'W
then westerly to	48°28.864'N	126°15.021'W
then northeasterly to	48°31.255'N	126°12.828'W
then northwesterly to	48°32.969'N	126°15.921'W
then northeasterly to	48°35.258'N	126°10.986'W
then northwesterly to	48°38.227'N	126°18.146'W
then northwesterly to	48°42.664'N	126°21.652'W
Then back to beginning point at	48°45.366'N	126°18.449'W



6.7.3. Haida Gwaii

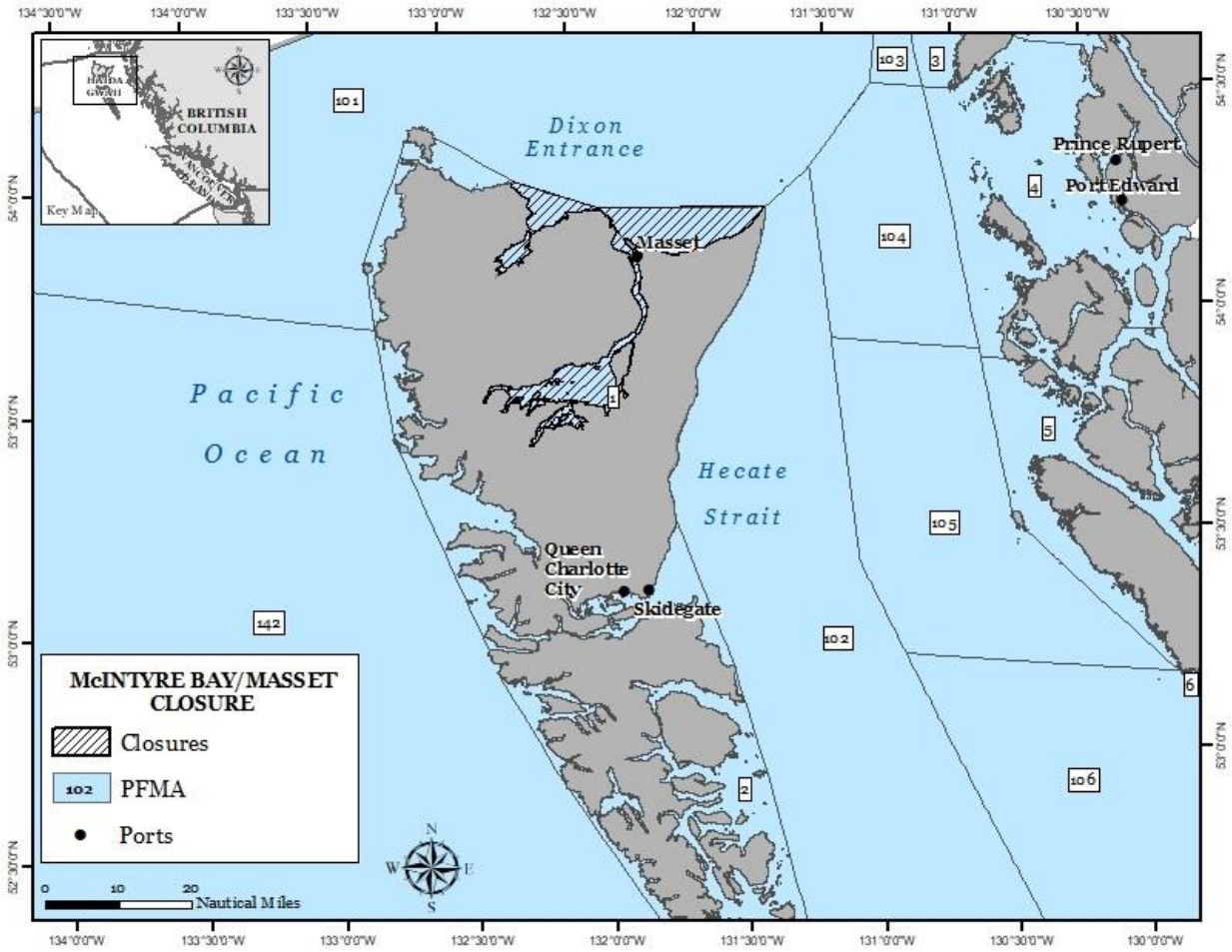
Closed to all trawling (includes both bottom and midwater gear) year-round in Subareas 2-1, 2-63 to 2-68 and those portions of Subarea 2-69 described below. The intent of the closure is to reduce harvesting pressure on localized stocks of fish and to provide improved access to Food, Social and Ceremonial fish for the Haida First Nations.

That portion of Subarea 2-69 inside a line:		
that begins at Fame Point	53°17.060' N	132°42.415' W
then to	53°17.060' N	132°43.800' W
then to	53°16.350' N	132°44.700' W
then abutting the boundary of 2-68	53°15.208' N	132°43.597' W
Then to Hunter Point	53°15.208' N	132°42.984' W



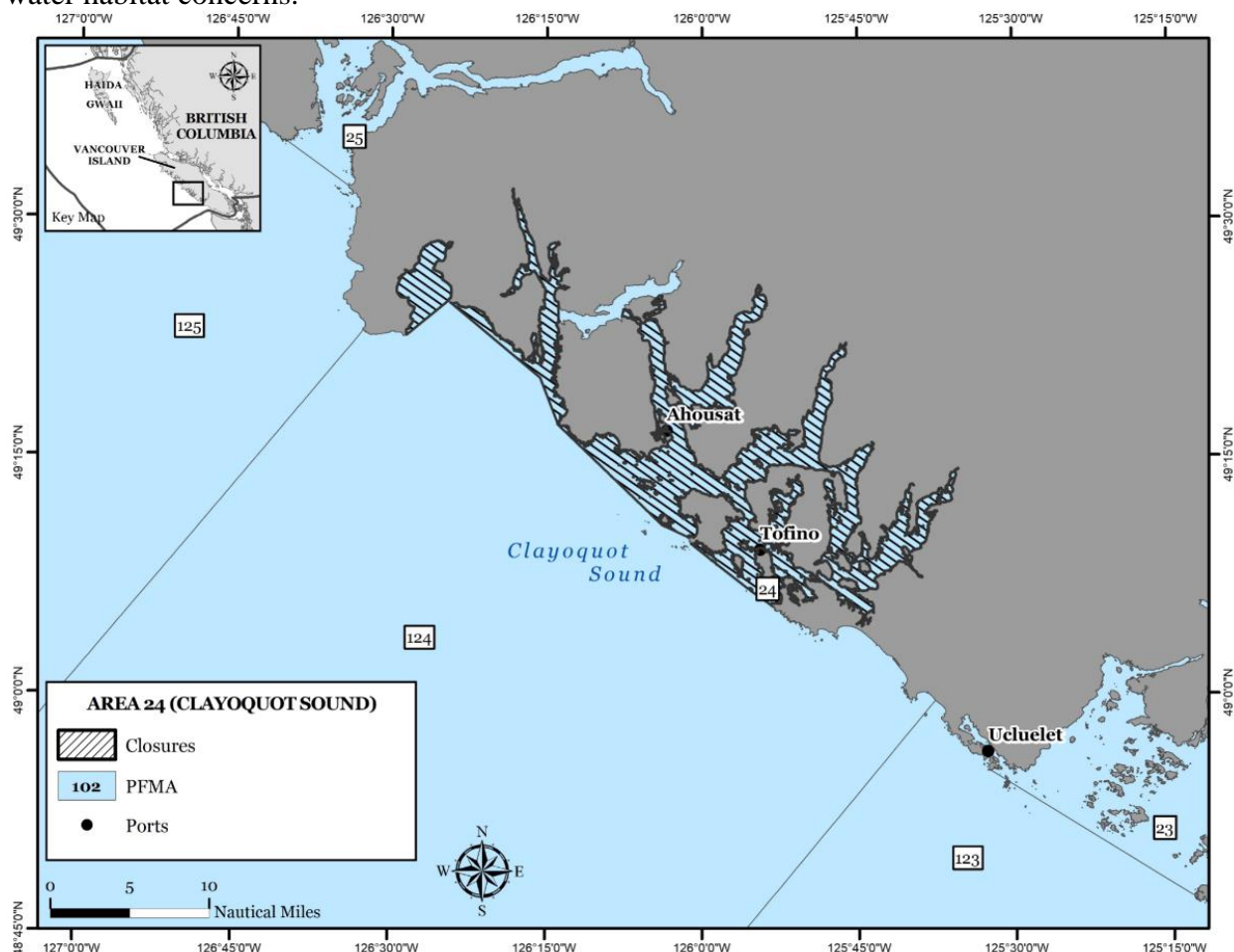
6.7.4. McIntyre Bay/Masset

Closed to all trawling (includes both bottom and midwater) year-round in Subareas 1-3, 1-4, 1-5 and 1-6. The intent of this closure is to reduce harvesting pressure on localized stocks of fish, minimize the catch of juvenile Halibut, and to provide improved access to Food, Social, and Ceremonial fisheries for First Nations.



6.7.5. Area 24 (Clayoquot Sound)

Closed year-round to all trawling (includes both bottom and midwater) in Subareas 24-1, 24-2, 24-4 to 24-12 and 24-14. The intent of this closure is to address shellfish interception and shallow water habitat concerns.



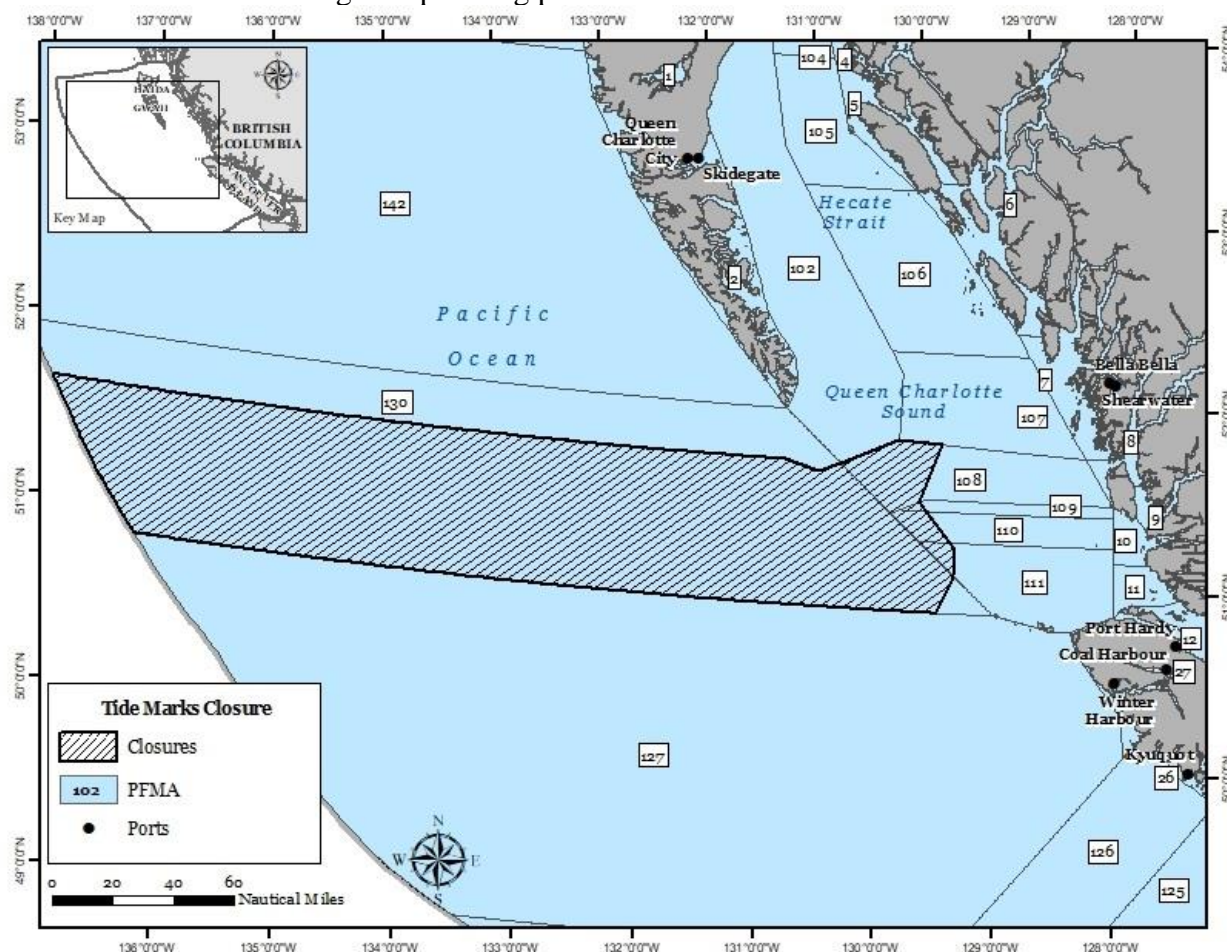
6.8. In-season Groundfish Trawl Closures – Outside Waters

In addition to the closures above, the following area closures are also in effect for all trawl vessels during the 2022/2023 season. The closures described may change in-season and fishers are reminded to refer to current Fisheries Public Notices prior to conducting any fishing activity. A full description of Areas and Subareas referenced on these figures can be found in *the Pacific Fishery Management Area Regulations*. The illustrations set out below are for information purposes only.

6.8.1. Tide Marks

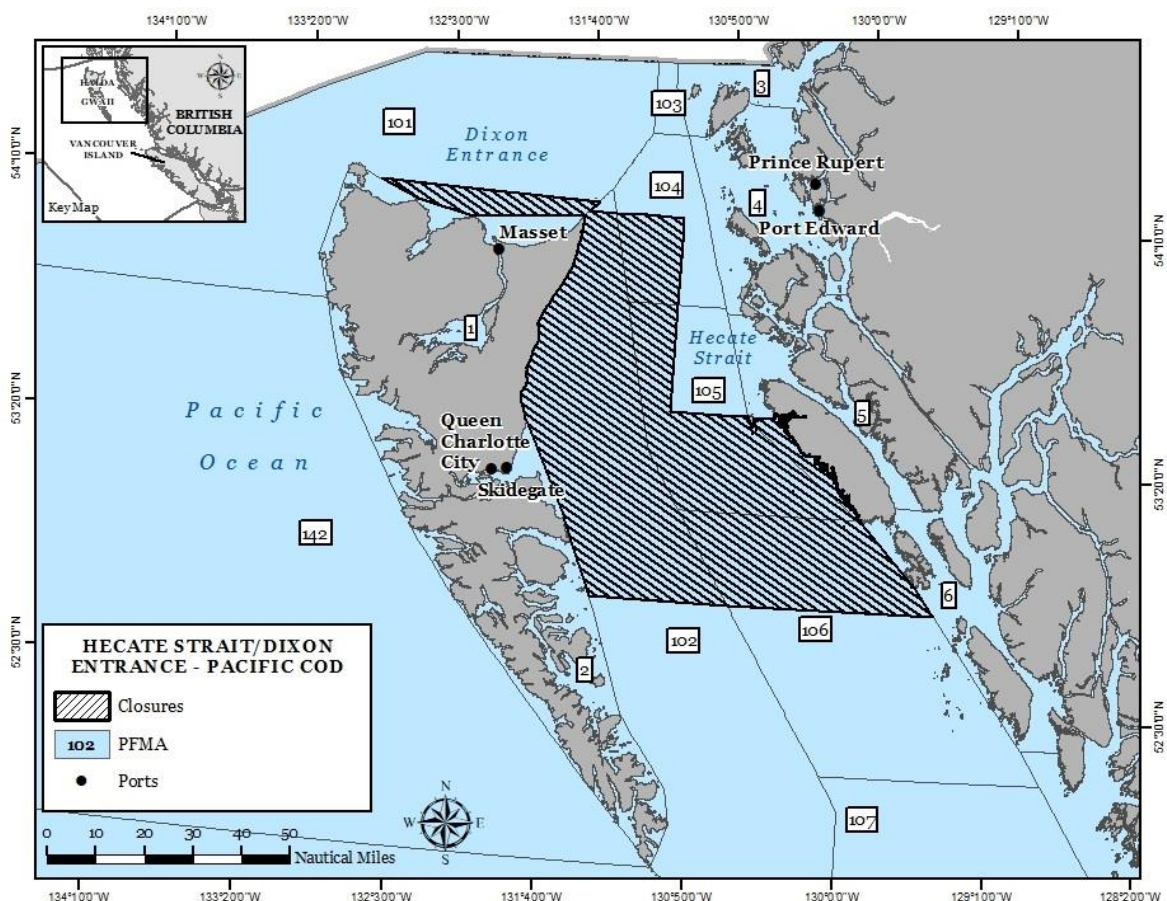
Closed annually to all trawling (includes both bottom and midwater) from October 1 to May 31 in those portions of Areas 109 to 111 and Subareas 130-2, 108-2 and 130-1 found within a line that begins at the intersection of the outer perimeter of Fishing Zone 5 and 51 deg 39.33 min N. lat. then following the northern boundary of Subarea 130-2 to 51 deg 39.33 min N. lat. 131 deg 00 min W. long. then to 51 deg 36.00 min N. lat. 130 deg 42.02 min W. long. then to 51 deg 48 min N. lat. 130 deg 00 min W. long. then to 51 deg 47 min N. lat. 129 deg 37 min W. long. then to 51 deg 28 min N. lat. 129 deg 48 min W. long. then to 51 deg 13 min N. lat. 129 deg 28 min W. long. then

true south to 51 deg 04 min N. lat. 129 deg 28 min W. long. then to 50 deg 52 min N. lat. 129 deg 36 min W. then southern boundary of 130-1 to the outer perimeter of Fishing Zone 5 and back to the point of commencement. The intent of this closure is to reduce harvesting pressure on Pacific Ocean Perch stocks during the spawning period.



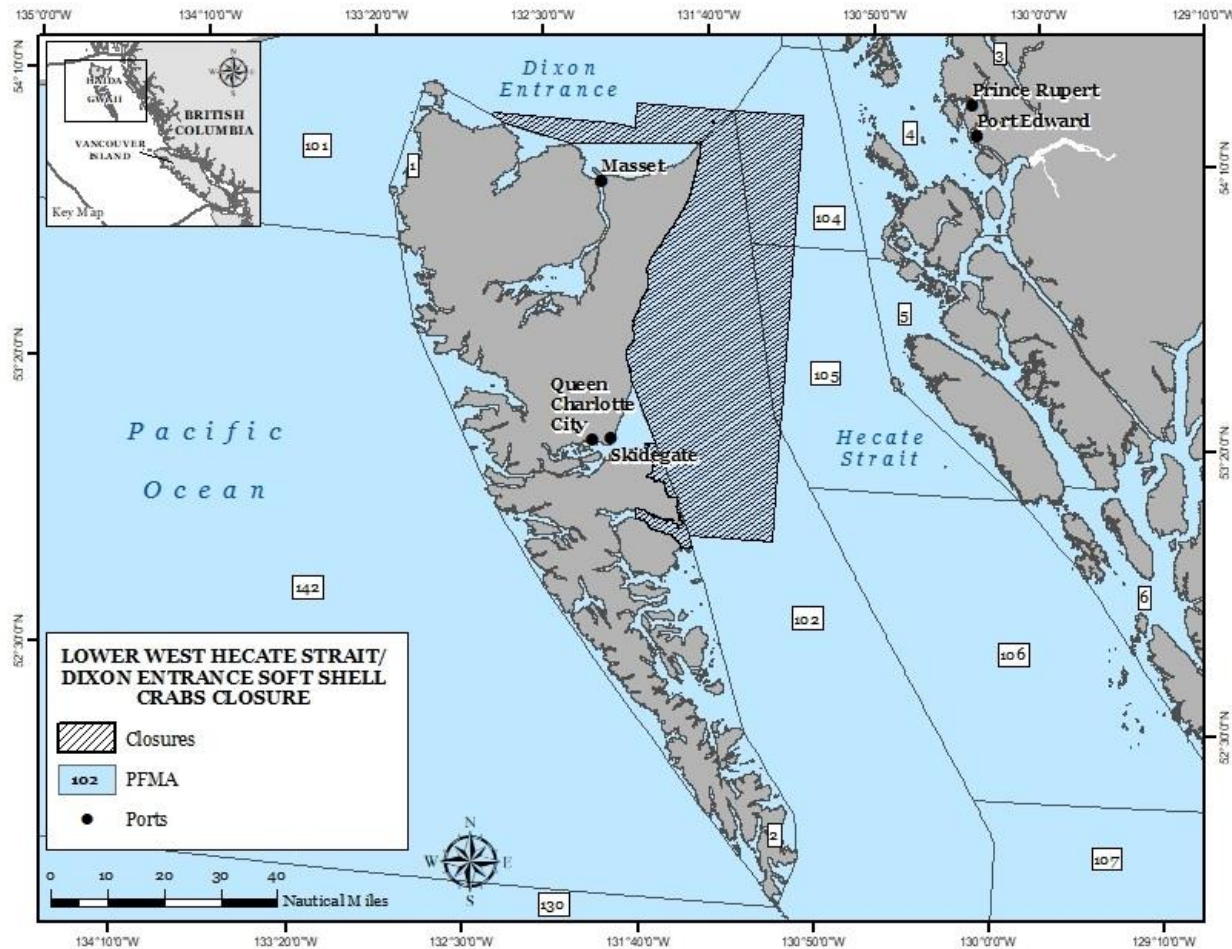
6.8.2. Hecate Strait/Dixon Entrance - Protection of Pacific Cod

Closed annually to all trawling (includes both bottom and midwater) from January 1 through April 30 in those portions of area 101, south of 54° 12' N latitude and in those waters of areas 102, 104, 105 and subarea 5-20 found south and westerly of a line commencing at 54° 10' N latitude 131° 38' 30" W longitude thence to 54° 10' N latitude 131° 5' W longitude south thence to 53° 30' N latitude 131° 5' W longitude thence to 53° 30' N latitude 130° 28' 20" W longitude thence following the eastern boundary of 5-20, 5-22 and 106-1 to 52° 51' N latitude 129° 30' 37" W longitude thence westerly to 52° 51' N latitude 131° 41' W longitude thence northerly along the western boundary of subareas 102-2, 102-1 to the point of commencement (revised Jan 27, 2012). This closure is to protect the spawning biomass of Pacific Cod found in Hecate Strait and Dixon Entrance.



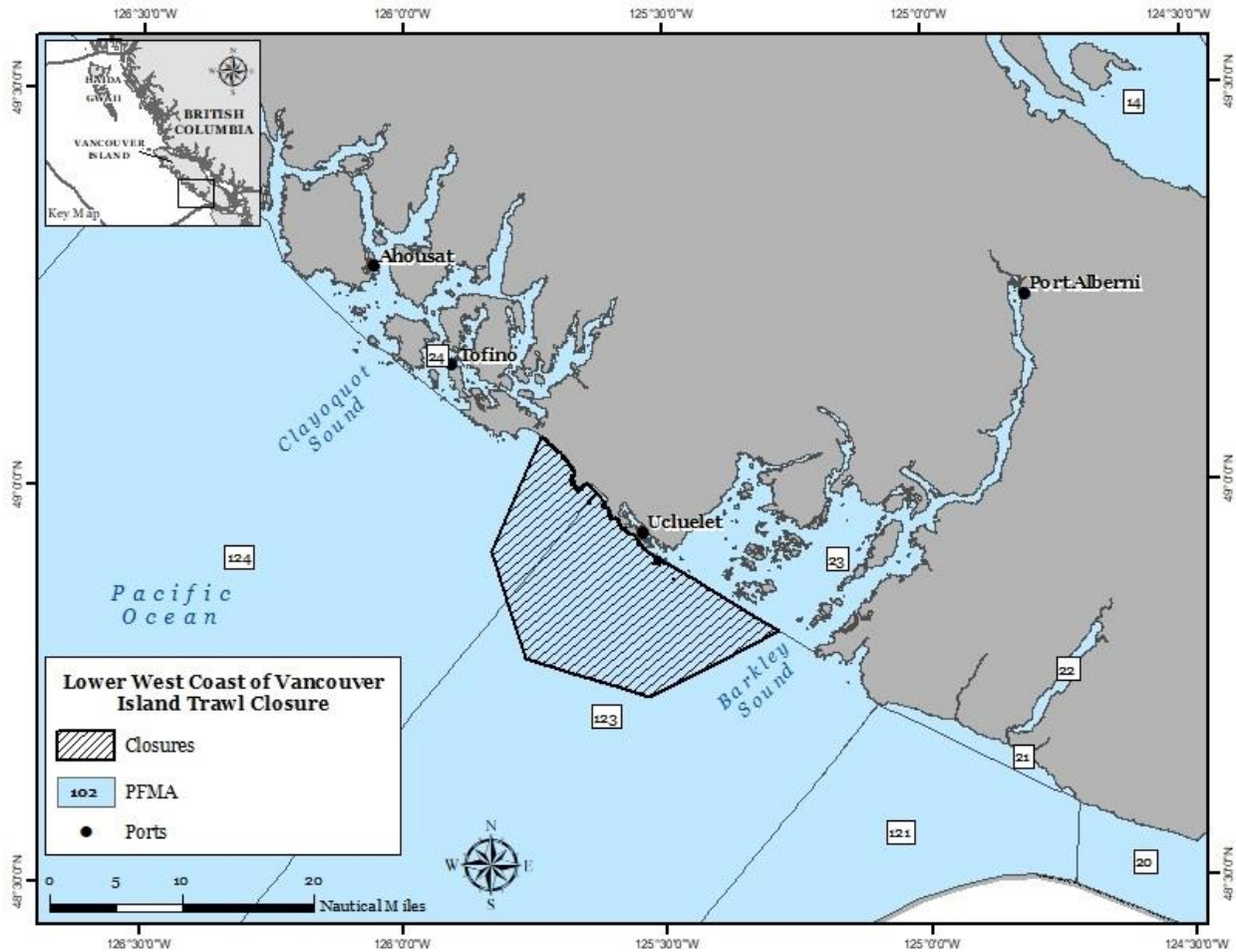
6.8.3. Lower West Hecate Strait/Dixon Entrance - Protection of Soft Shell Crabs

Closed annually to bottom trawling from June 1 through July 15 in Subareas 2-2, 2-3, 102-1 and 104-5; that portion of Subarea 101-7, 101-10 and 104-2 south of line commencing at 54°11'N 132°45'12"W thence to 54°11'N 132°25'W thence to 54°08'N 132°15'W thence to 54°10'N 132°00'W thence to 54°15'N 131°40'W thence to 54°15'N 131°10'W; that portion of Subarea 104-2, that is both south of 54°15'N, and west of 131°10'W; that portion of Subarea 104-3, that is west of 131°10'W; that portion of Subarea 105-1, that is west of 131°10'W; that portion of Subarea 105-2, west of 131°10'W and that portion of Subarea 102-2, that is both north of 53°00'N, and west of 131°10'W. The intent of this closure is to protect crabs during the soft-shell period.



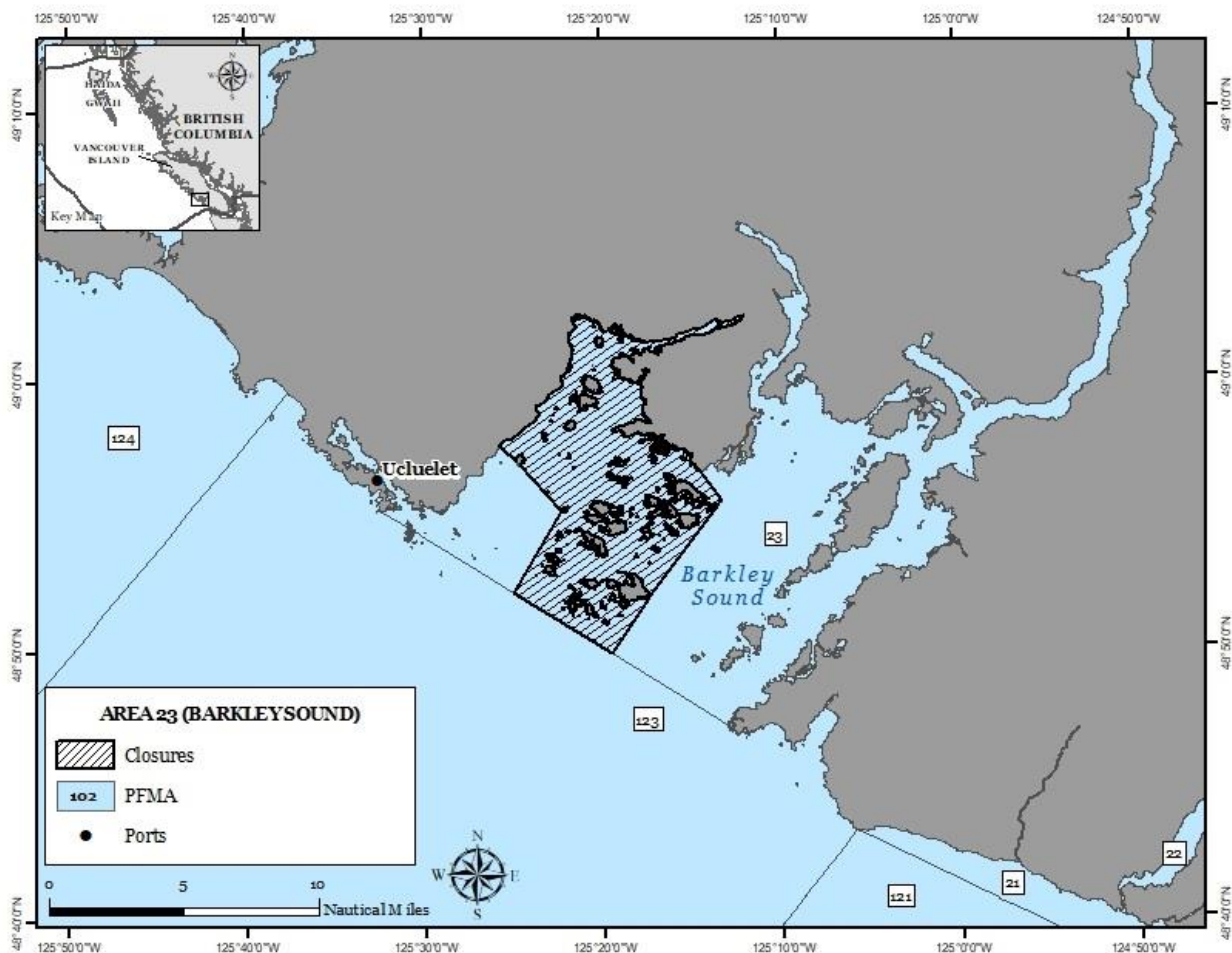
6.8.4. Lower West Coast Vancouver Island - Protection of Pacific Cod

Closed annually to all trawling (includes both bottom and midwater) from January 1 through to March 31 in those portions of Subareas 123-3, 123-4, 123-5, 123-6, 124-1 and 124-3 that are found within the area bounded by a line that begins on the Vancouver Island shore near Amphitrite Point lighthouse at 48°55'N latitude 125°32'W longitude; then westerly to 49°04'N latitude 125°44'W longitude; then southerly to 48°55'N latitude 125°50'W longitude; then southerly to 48°47'N latitude 125°46'W longitude; then easterly to 48°44'N latitude 125°32'W longitude; then easterly to 48°49'N latitude 125°17'W longitude; then northerly along the surf line to the point of commencement. The intent of this closure is to reduce the harvesting of Pacific Cod during the spawning period.



6.8.5. Area 23 (Barkley Sound)

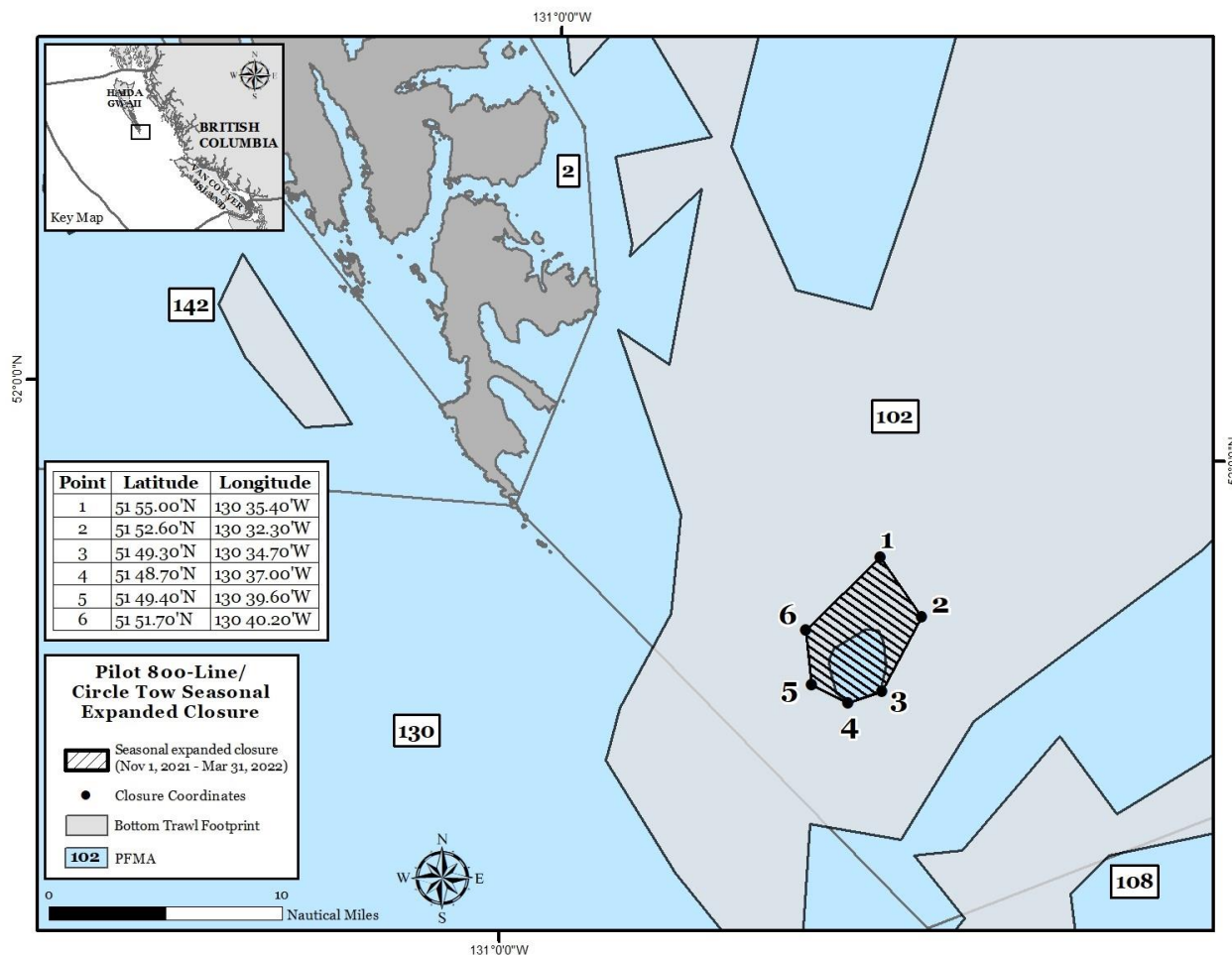
Closed annually to all trawling (includes both bottom and midwater) from February 25 through March 25 in Subareas 23-8 to 23-10. The intent of this closure is to reduce gear conflicts during the roe herring season.



6.8.6. 800 line/Circle Tow Seasonal Expansion of Closure

Closed to groundfish bottom trawl fishing from 12:00 (noon) local time on November 1, 2021 until 12:00 (noon) local time on March 31, 2022 in those portions of subarea 102-3 inside a line commencing at a point in water at 51° 55.000'N latitude 130° 35.400'W longitude then southeast to 51° 52.600'N latitude 130° 32.300'W longitude then southwest to 51° 49.300'N latitude 130° 34.700'W longitude then southwest to 51° 48.700'N latitude 130° 37.000'W longitude then northwest to 51° 49.400'N latitude 130° 39.600'W longitude then northwest to 51° 51.700'N latitude 130° 40.200'W longitude then back to the starting point 51° 55.000'N latitude 130° 35.400'W longitude.

The intent of this expanded seasonal closure is to protect arrowtooth flounder and halibut. It is intended for the short-term and will be re-evaluated during the 2022/23 fishing season when an updated arrowtooth stock assessment is available. The year-round pilot bottom trawl closure that was implemented in March 2019 continues to be in effect.



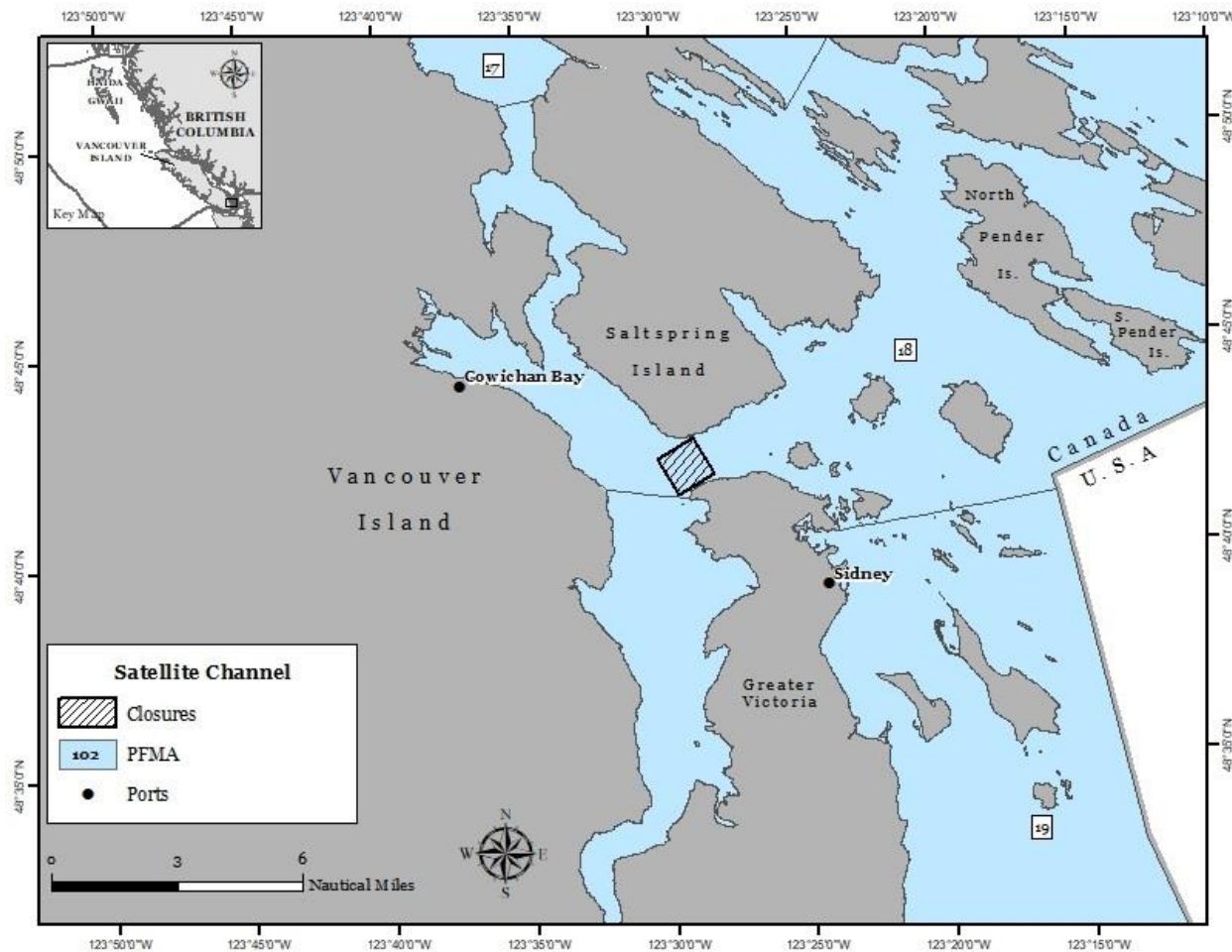
6.9. In-season Groundfish Trawl Closures – Inside Waters

There are a number of Subareas within the Johnstone, Georgia and Juan de Fuca Straits that are closed to both bottom and mid-water trawling. The closures have been implemented for reasons that include: herring spawn areas, salmon/herring holding areas, conflicts with crab gear, harbour congestion and reduction of harvesting pressure on localized groundfish stocks. A full description of Areas and Subareas referenced on these figures can be found in *the Pacific Fishery Management Area Regulations*.

The closures described on the following pages may change in-season. Current Fisheries Public Notices should be referred to prior to fishing.

6.9.1. Satellite Channel

Closed year round to all trawling (includes both bottom and midwater) in that portion of Subarea 18-6 and 18-7 inside a line: that begins at 48 deg 41.46 min N. lat. 123 deg 29.48 min W. long. then to 48 deg 41.96 min N. lat. 123 deg 28.18 min W. long. then to 48 deg 42.82 min N. lat. 123 deg 28.92 min W. long. then to 48 deg 42.32 min N. lat. 123 deg 30.23 min W. long. then to the beginning point. (B.C. Provincial Ecological Reserve Number 67.)



6.10. Gulf - Bottom Trawl Closures by Subarea

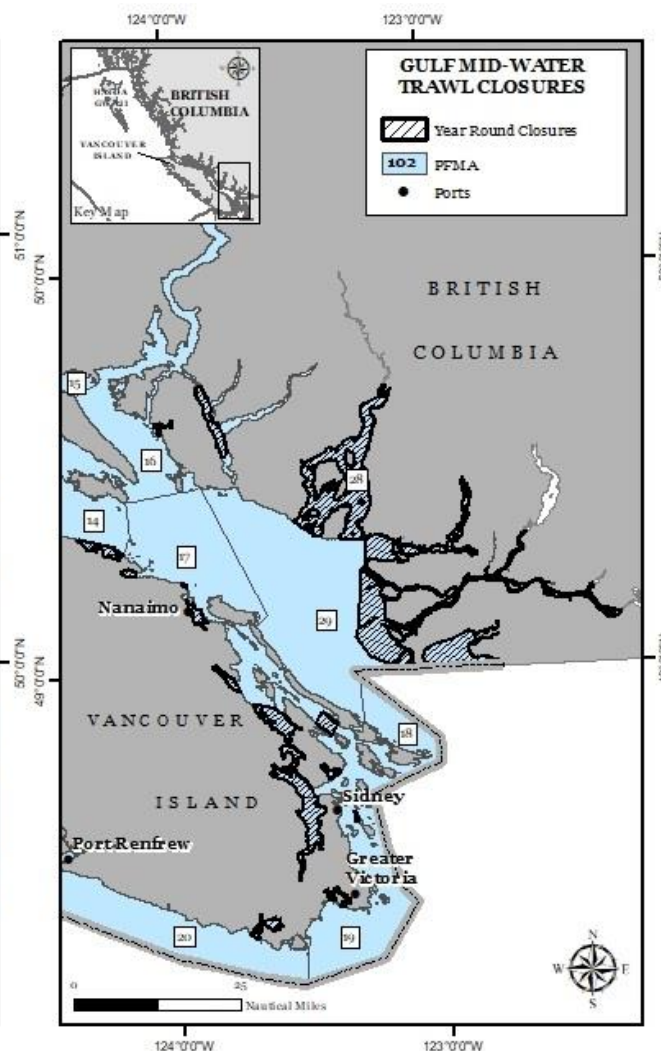
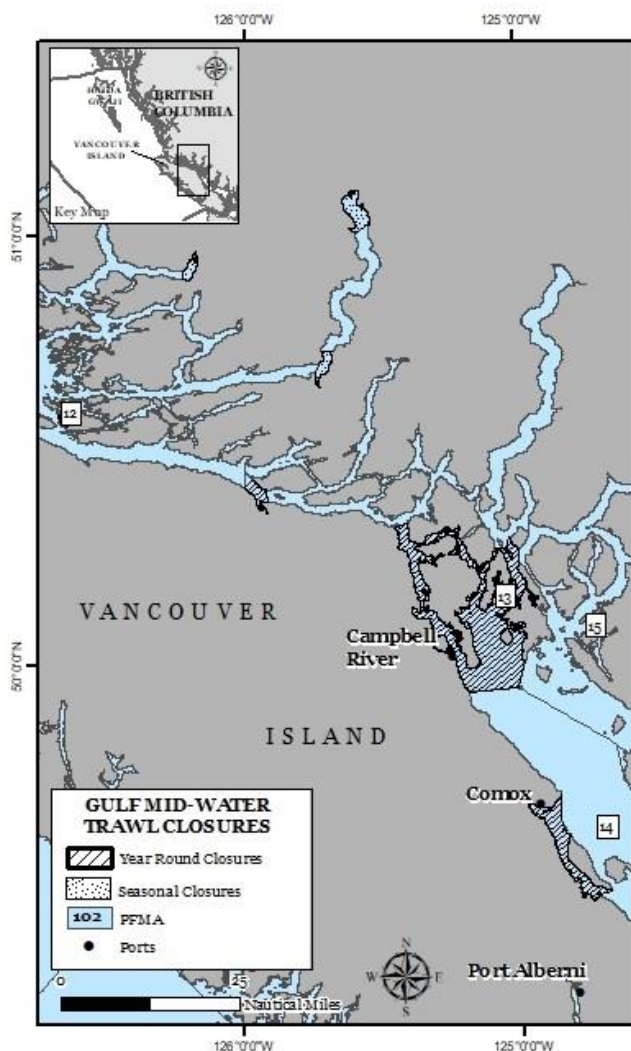
Subarea(s)	Closure Description	Period Closed
12-6	Those portions of Subarea 12-6 inside a line commencing at Red Point on the north-western shore of Harbledown Island, thence north-westerly to 50°38'N and 126°45'W, thence true east to 50°38' N and 126°35'W, thence true south to Dead Point on the northern shore of Harbledown Island, thence westerly along the north shore of Harbledown Island to the point of commencement at Red Point on Harbledown Island.	All year
12-20	Entire Subarea	All year
12-29, 12-34	Entire Subareas	February 16 to April 30
12-39	Those portions of Subarea 12-39 inside a line commencing at Slope Point on the southern shore of Gilford Island, thence north-westerly	All year

Subarea(s)	Closure Description	Period Closed
	in a straight line to the navigational light on Duff Islet in lower Fife Sound, thence north-easterly in a straight line to Powell Point on Gilford Island, thence southerly along the western shore of Gilford Island to the point of commencement at Slope Point.	
12-42	Entire Subarea	All year
12-46	Entire Subarea	February 16 to April 30
13-1 to 13-17	Entire Subareas	All year
13-33,13-34	Entire Subareas	All year
14-1,14-8	Entire Subareas	All year
14-11,14-14,14-15	Entire Subareas	All year
14-2 to 14-7	Entire Subareas	April 1 to September30
14-9,14-10,14-12	Entire Subareas	April 1 to September30
16-3,16-4	Entire Subareas	All year
17-1,17-3,17-7	Entire Subareas	All year
17-9,17-14,17-17	Entire Subareas	All year
17-20,17-21	Entire Subareas	All year
18-2	Entire Subareas	All year
18-7, 18-8, 18-9	Entire Subareas	All year
19-1,19-2	Entire Subareas	All year
19-6 to 19-12	Entire Subareas	All year
20-6,20-7	Entire Subareas	All year
28-1 to 28-14	Entire Subareas	All year
29-3,29-4,29-6	Shoreward of 100 m contour line as shown on CHS charts # 3463 and # 3512.	All year
29-7 to 29-17	Entire Subareas	All year

6.11. **Gulf - Mid-water Trawl Closures by Subarea**

Subarea(s)	Closure Description	Period Closed
12-20	Entire Subarea	All year
12-29,12-34,12-46	Entire Subareas	February 16 to April 30
13-1 to 13-17	Entire Subareas	All year
13-33,13-34	Entire Subareas	All year
14-1,14-8	Entire Subareas	All year
14-11,14-14,14-15	Entire Subareas	All year
16-3,16-4	Entire Subareas	All year
17-1,17-7,17-9	Entire Subareas	All year

Subarea(s)	Closure Description	Period Closed
17-14,17-20,17-21	Entire Subareas	All year
18-7, 18-8	Entire Subareas	All year
18-10	Entire Subareas	All year
19-1,19-2	Entire Subareas	All year
19-6 to 19-12	Entire Subareas	All year
20-6,20-7	Entire Subareas	All year
28-1 to 28-14	Entire Subareas	All year
29-7 to 29-17	Entire Subareas	All year



6.12. Groundfish Trawl Northern Fleet and Processing Gentlemen’s Agreement

In an effort to support trawl vessels delivering fresh fish to processing operations in northern communities, the GTAC approved an agreement where all option A trawl vessels are permitted to fish by bottom trawl or midwater trawl in the following defined area; however, only those vessels delivering fresh fish are permitted to bottom trawl:

South eastern point:	54 04.20	131 01.38
North eastern point:	54 33.14	131 01.45
North western point:	54 26.23	131 29.76
South western point:	54 16.72	131 29.55

Industry details of the gentlemen’s agreement are available by contacting Bruce Turris, the Executive Manager of the CGRCS at (604) 524-0005 or by email: bruceturris@shaw.ca.

6.13. Groundfish Trawl and Area A Crab Gentlemen’s Agreement

An agreement between the Area A crab fleet and the groundfish trawl fleet to share access to fishing grounds in a portion of Northern Hecate Strait (east northeast of Rose Point and west of Butterworth Rock, groundfish management area 5D, Pacific Fisheries Management Area 104-2) has been in place since 2020. An agreement is expected to be reached during the 2022/23 fishing season and will be communicated in-season via a fishery notice.

Refer to [FN0744](#) and [FN0804](#) for information regarding the 2021 agreement and [FN0593](#) for information regarding the 2020 agreement.

7. GEAR

Subject to the licence option selected, species closures, area closures and IVQ holdings, a vessel holding a valid groundfish trawl licence may fish with bottom and mid-water trawl gear.

7.1.1. Mesh Size

“Mesh size” means the total length of twine measured along two contiguous sides of a single mesh, including the distance across the knot joining those sides but not including any other knots. Where a minimum mesh size is prescribed, no person shall use any device by means of which openings that are smaller in size than the original mesh are created. Mesh size shall be measured when the net is wet.

7.1.2. Mesh Measuring Procedure

The average measurement, in millimetres, of any 20 consecutive meshes running parallel to the long axis of the codend, beginning at the aft end of the codend, and at least 10 meshes from the lacings; made by inserting into the meshes a flat wedge shaped gauge having a taper of 2 cm in 8 cm and a thickness of 2.3 mm with a weight of 5 kg attached. The gauge shall be inserted into the mesh opening using a weight until the mesh gauge is stopped by the resistance of the mesh at the tapering edges. In any other part of the trawl 20 consecutive meshes at least 10 meshes from the lacings.

The meshes to be measured need not be consecutive if this is prevented by the application ropes and codlines. Any mesh that has been mended or torn or to which attachments to the net are fixed shall not be measured.

7.1.3. Gear Restrictions

Subject to the provision below, the coast-wide mesh size in any part of a bottom trawl or mid-water trawl net, including the cod-end, shall not be less than 76 mm (approximately three inches).

In Areas 13 to 19 and 29: the mesh size in a bottom trawl net shall not be less than 108 mm (approximately 4.25 inches) in the final 50 meshes, including the cod-end. In all other parts of a bottom trawl net, the mesh size shall not be less than 76 mm (approximately three inches).

In Hecate Strait and Eastern Dixon Entrance: the mesh size in a bottom trawl net shall not be less than 152.6 mm (approximately 6 inches) in the last 50 meshes of the net, including the cod-end. In all other parts of a bottom trawl net, the mesh size shall not be less than 76 mm (approximately three inches). This restriction applies to that area bounded on the south by 52°51'N in Hecate Strait, bounded on the north by the Canada/United States International boundary, bounded on the west by 132°00'W in Dixon Entrance, and bounded on the east by the mainland of British Columbia.

The intent of the mesh size for all trawl vessels operating within the Hecate Strait/Dixon Entrance areas is to reduce the catch, handling and subsequent mortality of smaller fish in the area. This action had been discussed and endorsed by the groundfish trawl industry and became a mandatory condition of the groundfish trawl licence beginning the 2016/2017 season.

In Queen Charlotte Sound: the mesh size in a bottom trawl shall not be less than 140 mm (approximately 5.5 inches) mesh size restriction in the last 50 meshes of the net, including the cod-end. For all other parts of a bottom trawl net, the mesh size shall not be less than 76 mm (approximately three inches). This mesh size restriction applies to vessels fishing in waters shallower than 60 fathoms in the area bounded by the southern boundary of 130-1 and the 52°51'N (Hecate Strait) in the north. The intent of this action is to reduce bycatch of small fish.

7.1.4. Trawl Net Escape Panel

All bottom trawl nets and mid-water trawl nets, when used in fishing for pacific hake destined for delivery to a foreign fishing vessel licensed under the *Coastal Fisheries Protection Regulations*, shall have an escape panel fitted to permit the release of unwanted fish. This panel shall be located in the intermediate portion (lengthening piece) of the trawl net commencing at a point six feet from where the intermediate (lengthening piece) is attached to the cod-end. The panel shall be composed of not less than one row of meshes running parallel to the long axis of the intermediate for a distance of not less than six feet. The row(s) of mesh shall be cut and sewn with a length of twine or similar material having a breaking strength not exceeding 70 pounds.

7.1.5. Cod-end Protection Device

For the purpose of preventing wear and tear to a trawl net, there may be attached to the underside of the cod-end any hides, canvas, netting or similar material. For the purpose of preventing wear and tear to a trawl net, there may be attached to the topside of the cod-end, one of the following topside chafers.

7.1.6. Regular Topside Chaffer

A rectangular piece of netting that: is at least one and half times the width of the area of the cod-end that is covered, where the width is measured at right angles to the long axis of the cod-end; has a mesh size that is not less than the mesh size of the cod-end and; is fastened to the cod-end only along the forward and lateral edges of the netting in a manner that will permit it to

extend where a splitting strap is used, over not more of the cod-end than that part between the fourth mesh forward of the cod line mesh and the fourth mesh forward of the splitting strap, and where a splitting strap is not used, over not more than one third of the cod-end, measured from not less than the fourth mesh forward of the cod line mesh.

7.1.7. Modified Polish Topside Chafer

A rectangular piece of netting that: is made of twine of the same material and size as that of the cod-end, or of any single, thick, knotless twine material; has a mesh size that is twice as large as the mesh size of the cod-end; is attached to the rear portion of the topside of the cod-end; and is fastened to the cod-end along the forward, lateral and rear edges of the netting in a manner that will cause each mesh to exactly overlie four meshes of the cod-end over which it extends.

7.1.8. Multiple Flap-Type Topside Chafer

A series of pieces of netting where the aggregate length extends less than two-thirds of the length of the cod-end; and each piece of netting is attached to the topside of the cod-end so that it overlaps the piece of netting immediately to its rear, if any, has a mesh size that is not less than the mesh size of the cod-end, is at least as wide as the cod-end, where the width is measured at right angles to the cod-end, is not more than 10 meshes long, and is fastened by its forward edge only across the cod-end at right angles to its long axis.

The above description of mesh size and gear restrictions are provided for reference purposes only. Groundfish trawl vessel owners, captains and crews must carefully read their 2022/2023 groundfish trawl licence and the attached conditions of licence and, regulations (*Fishery [General] Regulations* and *Pacific Fishery Regulations, 1993*) to ensure a full understanding of all gear restrictions in effect.

8. LICENSING

8.1. 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.

8.2. Licence Category

A commercial groundfish trawl Category T or a communal commercial groundfish trawl category FT licence eligibility is required to commercially harvest groundfish trawl species using trawl gear. Category T licence eligibilities are limited entry and vessel based. Category FT licence eligibilities are limited entry and party based; an Aboriginal group is the licence eligibility holder and the eligibility must be designated to a commercially registered fishing vessel that meets established length restrictions.

Vessels authorised to fish under the authority of a groundfish trawl licence are also permitted to fish and retain catch using hook and line gear for those species described in Schedule II Part 2 of the Pacific Fishery Regulations 1993, for species and the quantities set out in Part 2 of the groundfish trawl licence conditions, to transport fish caught by other vessels and to be designated to fish under the authority of a category Z licence.

Groundfish trawl vessel owners and fishers are reminded to carefully review and familiarize themselves with the groundfish trawl licence and attached conditions.

8.3. Licence Renewal Fees

In accordance with the Service Fees Act, annual licence renewal fees will be adjusted by the annual rate of inflation determined by the Consumer Price Index (CPI) published by Statistics Canada.

The commercial groundfish trawl licence renewal fee is based on the combination of a base licence fee of \$521.22 and the Permanent IVQ holdings of the licence on February 20th, measured in pounds. The commercial groundfish trawl licence renewal fee may be found on the following link: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/fees-frais-22-23-eng.html>

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

8.4. Licence Application and Issuance

Renewal of a Category T 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 T licenses not renewed by February 20th of the current fishing year will cease and licence issuance requests will be unable to be considered in future.

Prior to annual licence issuance of a communal commercial licence, licence eligibility holders are required to annually designate the fishing vessel to hold the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

Prior to annual licence issuance, vessel owners/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.
- c) Ensure the designated vessel's overall length does not exceed the maximum vessel length of the category T or FT licence eligibility.

To avoid delays in licence issuance, please ensure the payment, option selection and designated vessel information is submitted through the National Online Licensing System at the same time, when renewing the licence eligibility.

8.4.1. Groundfish Trawl Licence Option Selection

Prior to Licence issue, each groundfish trawl vessel owner/licence eligibility holder may choose to fish under the conditions of one of two options (A or B) for the current fishing year. By default DFO sets the trawl licence option to that issued as of the end of the previous season.

Option selection for each groundfish trawl licence may be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: <http://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/user-manual-utilisateurs-sec5-eng.html#toc5.2.1>

A general description of the permitted activities under each option are:

Option A

- i) Permitted to fish with bottom trawl gear in all areas, except management Area 4B (Fisheries Management Areas 12 to 20 and 29) open to bottom trawling.
- ii) Permitted to fish by mid-water trawl coast-wide.
- iii) Subject to one hundred (100) per cent dockside monitoring for all landings.
- iv) Subject to one hundred (100) per cent at-sea monitoring coverage (at-sea observers or Electronic Monitoring as required by the Department) when fishing with bottom or mid-water gear.
- v) Permitted to fish throughout the year for groundfish species subject to TAC up to the amount of the IVQ specified on the licence.
- vi) Permitted to reallocate IVQ holdings subject to the rules governing such reallocations.
- vii) Limited to 15,000 pound per trip for all combined rockfish species not subject to TAC.
- viii) Permitted to retain incidentally caught mackerel equal to six (6) per cent of the offshore pacific hake IVQ portion of quota holdings.
- ix) No trip limit for groundfish species (excluding rockfish) not subject to a TAC.
- x) Not permitted to fish for and retain Eulachon, wolf eels, any salmon species unless authorized by a Section 52 scientific licence, Pacific Herring, Green Sturgeon, White Sturgeon, Pacific Basking Shark, Tope (Soupfin) Shark or Bluntnose Sixgill Shark.
- xi) Halibut is not permitted to be retained. Bycatch mortality caps for Halibut will be issued on an individual vessel basis. Licence holders will be responsible and accountable for all Halibut mortality incurred.
- xii) Corals and Sponges are not permitted to be retained unless specifically authorized by Fisheries and Oceans Canada.
- xiii) A fleetwide Habitat Bycatch Conservation Limit (HBCL) for Corals and Sponges has been set and allocated as IVQ to individual groundfish trawl vessels. The HBCL IVQ is transferable among groundfish trawl licence holders within annual

caps. Groundfish trawl licence holders will be responsible and accountable for all coral and sponge mortality incurred.

Option B

- i) Required to request monthly amendments to groundfish trawl licence prior to fishing.
- ii) Permitted to fish by bottom trawl in Area 4B (Areas 12 to 20 and 29) only.
- iii) Not permitted to fish by mid-water trawl in any Area.
- iv) Limited to a maximum of 15 landings per calendar month.
- v) Subject to one hundred (100) per cent dockside monitoring for all landings.
- vi) Subject to mandatory at-sea monitoring of all fishing activities.
- vii) A 15,000 pound calendar month limit for all groundfish species combined other than dogfish, lingcod and rockfish; of which no more than 200 pounds shall be Sablefish, and of which no more than 200 pounds shall be Petrale sole, and of which no more than 500 pounds shall be Pacific Cod.
- viii) Not permitted to fish for and retain Eulachon, Halibut, Lingcod, any rockfish, squid, octopus, wolf eels, any salmon species, Pacific Herring, Green Sturgeon, White Sturgeon, Pacific Basking Shark, Tope (Soupfin) Shark or Bluntnose Sixgill Shark,
- ix) No limit on the quantity of Dogfish.

8.4.2. In Season Change of Groundfish Trawl Licence Option

Groundfish trawl vessel owners/licence eligibility holders choosing Option B are permitted to make a once a year change from Option B to Option A. Once issued, groundfish trawl vessel owners/licence eligibility holders issued an Option A licence may not change their selection for the remainder of the fishing year.

8.5. Requirement and Issuance of Valid Licence Amendments

The vessel owner/master must have on board a valid groundfish trawl licence amendment prior to fishing. This amendment outlines the total amount of fish by species that the vessel can land for the fishing season. Without this amendment the vessel is not permitted to catch, retain or land any fish.

A “Request for Licence Amendment” must be completed by the vessel owner/licence eligibility holder or the designated agent and faxed to the Groundfish Management Unit at 1-866-561-5729. Request forms and other applicable forms are available online at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/form-eng.html>

Option B vessels will be issued monthly amendments. The owner of an Option B vessel must submit a 2022/2023 Groundfish Trawl Licence Amendment request form for each month and be in possession of a valid amendment prior to fishing.

Option A vessels must be in possession of a valid amendment to the vessel’s 2022/2023 groundfish trawl licence prior to fishing.

Contact a Groundfish Management Unit Quota officers at groundfishivq@dfo-mpo.gc.ca for further information.

8.5.1. Licence Documents

Groundfish Trawl licence documents are valid from the date of issue to February 20, 2023.

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

8.6. Vessel Replacement Rules for Groundfish Trawl

The owner(s) of a category T licensed Groundfish Trawl vessel may make an application to replace the commercial fishing vessel. Both the replacement vessel and the vessel being replaced must have a survey on file with the Pacific Fishery Licence Unit (PFLU) or submitted with the vessel replacement application. Vessels must be surveyed according to the Department guidelines.

A groundfish trawl licence eligibility may be placed either permanently or temporarily on any Canadian commercially registered fishing vessel which does not exceed the maximum vessel length (MVL) i.e. the overall length of the vessel that held the licence eligibility as of December 1, 1998 plus 50%. This is subject to departmental policies governing the placement of other vessel based licence eligibilities also held on the vessel being replaced.

An application for a temporary replacement may be made where a vessel has been declared a loss, or the vessel is out of service due to an accident or unforeseen damage. Written confirmation from an insurance company, shipyard or marine engineer explaining why the vessel is inoperative is required. Vessels that are in disrepair at the time of purchase, vessels with engine problems, delays in annual maintenance or rebuilds do not qualify for a temporary transfer.

Where single groundfish trawl licence eligibility is being placed on a shorter vessel, there remains a future opportunity to place the licence eligibility on a commercially registered vessel which does not exceed the MVL i.e. the overall length of the vessel that held the licence eligibility as of December 1, 1998 plus 50%.

A groundfish trawl licence eligibility may be separated from other licence eligibilities and placed on a Canadian commercially registered fishing vessel that does not exceed the MVL. Where the receiving vessel does not already hold a vessel based licence eligibility, the Schedule II privileges associated with the groundfish trawl eligibility must be relinquished.

A groundfish trawl licence eligibility (category T) held on a vessel, in combination with another vessel based licence, may be placed on a vessel that does not exceed the MVL, so long as it is within the vessel replacement rules associated with the other vessel based licence also being replaced.

Groundfish trawl licensed vessel owners are allowed to swap groundfish trawl eligibilities within the groundfish trawl fleet subject to the length guidelines described within this section. Where swapping occurs, the IVQ and holdings caps follow each licence eligibility.

Once a vessel has commenced fishing under the authority of a groundfish trawl licence, that vessel may not fish under the authority of another groundfish trawl licence in the same fishing year.

Temporary vessel replacements are allowed if the vessel has been declared a loss or the vessel is out of service due to an accident or unforeseen damage. Vessels that are in disrepair at the time of purchase, have engine problems, or have encountered delays in annual maintenance or rebuilding do not qualify for a temporary replacement.

Written confirmation from an insurance company, shipyard, or marine engineer explaining why the vessel is inoperative must be submitted to a Pacific Fishery Licence Unit when declaring the vessel a total loss.

A temporary replacement vessel may not exceed the overall vessel length plus ten (10) per cent of the groundfish trawl vessel.

Should the groundfish trawl licence eligibility be temporarily split from other licence eligibilities, the remaining eligibilities may not be placed on a third vessel.

For further information on vessel replacement policies, please contact the Department by telephone at 1-877-535-7307 or email at fishing-peche@dfo-mpo.gc.ca.

9. GROUND FISH SPECIES AND ALLOWABLE CATCHES

9.1. Prohibited Species

The following species of vertebrate fish are not allowed to be fished for or retained when fishing under the authority of a groundfish trawl licence.

<i>Common Name</i>	<i>Scientific Name</i>
Pacific Halibut	<i>Hippoglossus stenolepis</i>
Salmon species*	<i>Onchorhynchus spp.</i>
Pacific Herring	<i>Clupea harengus pallasii</i>
Green Sturgeon	<i>Acipenser medirostris</i>
White Sturgeon	<i>Acipenser transmontanus</i>
Wolf-Eel	<i>Anarrhichthys ocellatus</i>
Pacific Basking Shark	<i>Cetorhinus maximus</i>
Tope (Soupfin) Shark	<i>Galeorhinus galeus</i>
Bluntnose Sixgill Shark	<i>Hexanchus griseus</i>
Eulachon	<i>Thaleichthys pacificus</i>

* prohibited unless authorized by Section 52 scientific licence to retain incidentally caught salmon for sampling purposes.

9.2. Species Permitted to be Fished

Common Name	Scientific Name
Aurora rockfish	<i>Sebastes aurora</i>
Black rockfish	<i>Sebastes melanops</i>
Blue rockfish	<i>Sebastes mystinus</i>
Bocaccio rockfish	<i>Sebastes paucispinis</i>
Brown rockfish	<i>Sebastes auriculatus</i>
Canary rockfish	<i>Sebastes pinniger</i>
Chilipepper rockfish	<i>Sebastes goodie</i>
China rockfish	<i>Sebastes nebulosus</i>
Copper rockfish	<i>Sebastes caurinus</i>
Darkblotched rockfish	<i>Sebastes crameri</i>
Dusky rockfish	<i>Sebastes ciliates</i>
Greenstriped rockfish	<i>Sebastes elongates</i>
Harlequin rockfish	<i>Sebastes variegates</i>
Longspine thornyhead	<i>Sebastolobus altivelis</i>
Northern rockfish	<i>Sebastes polyspinis</i>
Pacific Ocean Perch	<i>Sebastes alutus</i>
Puget Sound rockfish	<i>Sebastes emphaeus</i>
Pygmy rockfish	<i>Sebastes wilsoni</i>
Quillback rockfish	<i>Sebastes maliger</i>
Redbanded rockfish	<i>Sebastes babcocki</i>
Redstripe rockfish	<i>Sebastes proriger</i>
Rosethorn rockfish	<i>Sebastes helvomaculatus</i>
Rougheye /Blackspotted rockfish	<i>Sebastes aleutianus/melanostictus</i>
Sharpchin rockfish	<i>Sebastes zacentrus</i>
Shortbelly rockfish	<i>Sebastes jordani</i>
Shortraker rockfish	<i>Sebastes borealis</i>
Shortspine thornyhead	<i>Sebastolobus alascanus</i>
Silvergray rockfish	<i>Sebastes brevispinis</i>
Splitnose rockfish	<i>Sebastes diploproa</i>
Stripetail rockfish	<i>Sebastes saxicola</i>
Tiger rockfish	<i>Sebastes nigrocinctus</i>
Vermilion rockfish	<i>Sebastes miniatus</i>
Widow rockfish	<i>Sebastes entomelas</i>
Yelloweye rockfish	<i>Sebastes ruberrimus</i>
Yellowmouth rockfish	<i>Sebastes reedi</i>
Yellowtail rockfish	<i>Sebastes flavidus</i>
Skate & Sharks	
Big skate	<i>Raja binoculata</i>
Longnose skate	<i>Raja rhina</i>
Black skate	<i>Raja kincaidi</i>
Starry skate	<i>Raja stellulata</i>
Deepsea skate	<i>Raja abyssicola</i>
Spiny Dogfish	<i>Squalus suckleyi</i>
Flatfish	

Arrowtooth flounder	<i>Atheresthes stomias</i>
Butter sole	<i>Isopsetta isolepis</i>
C-O sole	<i>Pleuronichthys coenosus</i>
Curlfin sole	<i>Pleuronichthys decurrens</i>
Dover sole	<i>Microstomus pacificus</i>
Lemon/English sole	<i>Parophryrs vetulus</i>
Flathead sole	<i>Hippoglossoides elassodon</i>
Pacific sanddab	<i>Citarichthys sordidus</i>
Petrale sole	<i>Eopsetta jordani</i>
Rex sole	<i>Glyptocephalus zachirus</i>
Rock sole	<i>Lepidopsetta bilineata</i>
Sand sole	<i>Psettichthys melanostictus</i>
Slender sole	<i>Lyopsetta exilis</i>
Speckled sanddab	<i>Citharichtys stigmaeus</i>
Starry flounder	<i>Platichthys stellatus</i>
Yellowfin sole	<i>Limanda aspera</i>
Tuna	
Albacore	<i>Thunnus alalunga</i>
Bluefin	<i>Thunnus thynnus</i>
Pacific bonito	<i>Sarda chiliensis lineolata</i>
Skipjack	<i>Euthynnus pelamis</i>
Yellowfin	<i>Thunnys albacares</i>
Smelt	
Surf smelt	<i>Hypomesus pretiosus pretiosus</i>
Rainbow smelt	<i>Osmerus mordax dentex</i>
Night smelt	<i>Spirinchus starski</i>
Mackerel	
Chub Mackerel	<i>Scomber japonicas</i>
Pacific Mackerel	<i>Trachurus symmetricus</i>
Roundfish	
Greenlings	<i>Hexagrammos sp.</i>
Lingcod	<i>Ophiodon elongates</i>
Pacific cod	<i>Gadus macrocephalus</i>
Sablefish	<i>Anoplopoma fimbria</i>
Sculpins	<i>Family Cottidea</i>
Walleye Pollock	<i>Thragra chalcogramma</i>
Pacific hake	<i>Merluccius productus</i>
Any Other Vertebrate Fish Except those listed in 9.1 above	

9.3. Research Allocation

To support groundfish research and account for unavoidable mortality incurred during the 2022 Groundfish Trawl Multi-species surveys planned for the West Coast Vancouver Island (WCVI), Groundfish management areas 3C and 3D, and the West Coast Haida Gwaii (WCHG), Groundfish management areas 5E, the following quantities have been subtracted from the Groundfish Trawl TAC's set out in the section below prior to allocating quota to individual licences. The quantities subtracted are calculated using a three year average catch for each survey.

Species	3CD - WCVI Research Allocation (mt)	5E - WCHG Survey Allocation (mt)	Total Research Trawl Allocation (mt)
Arrowtooth Flounder	13.0	2.5	15.5
Big Skate	0.3	0.0	0.3
Bocaccio Rockfish	2.6	0.2	2.8
Canary Rockfish	5.8	1.7	7.5
Copper, China, Tiger Rockfish	0.0	0.0	0.0
Dover Sole	5.4	1.0	6.4
English Sole	2.7	0.1	2.7
Lingcod	1.9	0.3	2.2
Longnose Skate	1.0	0.3	1.3
Longspine Thornyhead	0.0	0.4	0.4
Pacific Cod	1.6	0.3	1.9
Pacific Hake	4.0	0.8	4.8
Pacific Halibut	1.0	0.4	1.4
Pacific Ocean Perch	9.8	106.5	116.3
Petrable Sole	1.7	0.0	1.8
Quillback Rockfish	0.0	0.0	0.0
Redbanded Rockfish	0.7	1.0	1.7
Redstripe Rockfish	8.1	6.5	14.6
Rock Sole	0.5	0.0	0.5
Rougheye/Blackspotted Rockfish	1.0	12.6	13.6
Sablefish	11.9	2.4	14.3
Shortraker Rockfish	0.1	0.6	0.7
Shortspine Thornyhead	1.4	5.5	6.9
Silvergray Rockfish	2.8	10.1	12.9
Spiny Dogfish	8.9	0.1	9.0
Walleye Pollock	0.6	0.4	0.9
Widow Rockfish	0.2	0.6	0.8
Yelloweye Rockfish	0.0	0.1	0.1
Yellowmouth Rockfish	0.2	6.9	7.2
Yellowtail Rockfish	5.7	0.1	5.7

¹ sablefish mortality from trawl surveys is deducted from coastwide TAC rather than trawl TAC.

9.4. Annual Trawl Total Allowable Catches

TACs listed below have been set for the commercial groundfish trawl fishery for the 2022/2023 fishing season. The totals below reflect trawl TACs after portions of some of the TACs have been allocated for research purposes (see Section 9.3). In some cases, the coast-wide total differs slightly from the amount obtained by summing the Species Management Areas values. This difference is due to the TAC being expressed in whole numbers within the table. For the exact TAC values, please contact the Groundfish Management Unit (see Appendix 1).

Species	Management Area	TAC¹(tonnes)
Yellowtail Rockfish	3C ⁵	1,223
	3D, 5A/B, 5C/D/E ⁵	4,211
	Coast-wide total	5,434
Widow Rockfish	Coast-wide	2,499
Canary Rockfish	3C/D	609
	5A/B	241
	5C/D	97
	5E	10
	Coast-wide total	957
Silvergray Rockfish	3C/D	329
	5A/B	646
	5C/D	586
	5E	371
	Coast-wide total	1,933
Pacific Ocean Perch	3C/D	740
	5A/B ⁶	1,687
	5C ²	1,555
	5D/E ²	1,093
	Coast-wide total	5,076
Yellowmouth Rockfish	3C	224
	3D, 5A/B	1,160
	5C/D ²	702
	5E ²	326
	Coast-wide total	2,412
Rougheye/Blackspotted Rockfish ⁹	3C/D, 5A/B	166
	5C/D/E	433
	Coast-wide	599
Shorthead Rockfish	Coast-wide	125
Redstripe Rockfish	3C/D, 5A/B/C	1,142
	5D/E	394
	Coast-wide total	1,535
Shortspine Thornyheads	Coast-wide	729
Longspine Thornyheads	Coast-wide	405
Redbanded Rockfish	Coast-wide	293
Bocaccio Rockfish	Coast-wide	1,483
Yelloweye Rockfish	Coast-wide ⁴	3

Species	Management Area	TAC¹(tonnes)
Quillback	Coast-wide ⁴	4
Copper, China And Tiger Rockfish	Coast-wide ⁴	1
Pacific Cod	3C/D	298
	5A/B	250
	5C/D/E	700
	Coast-wide total	1,248
Dover Sole	3C/D	1,370
	5A/B	598
	5C/D/E	1,099
	Coast-wide total	3,067
Rock Sole	3C/D	101
	5A/B	650
	5C/D	800
	Coast-wide total	1,551
Lemon Sole	3C/D, 5A/B	183
	5C/D/E	636
	Coast-wide total	819
Petrale Sole	Coast-wide	898
Lingcod	3C	799
	3D	439
	5A/B	862
	5C/D/E	580
	Coast-wide total	2,680
Spiny Dogfish	4B	640
	Rest of Coast	3,831
	Coast-wide total	4,471
Sablefish	Coast-wide	215
Pollock	Gulf ³	1,115
	3C/D (includes Area 20)	3,999
	5A/B (includes Area 11, 12)	2,500
	5C/D/E	1,320
	Coast-wide total	8,934
Hake	Gulf ³	7,000
	Offshore ⁸	29,995
Big Skate	3C/D	12
	5A/B	341
	5C/D/E	561
	Coast-wide total	914
Longnose Skate	3C/D	87
	5A/B	32
	5C/D/E	18
	Coast-wide total	137

Species	Management Area	TAC ¹ (tonnes)
Arrowtooth Flounder	Coast-wide	4,985
¹ All quotas are in round weight and metric tonnes (mt).		
² Pacific Ocean Perch and Yellowmouth rockfish caught within Subarea 102-3 and those portions of Subareas 142-1, 130-3 and 130-2 found southerly and easterly of a straight line commencing at 52°20'00"N 131°36'00"W thence to 52°20'00"N 132°00'00"W thence to 51°30'00"N 131°00'00"W and easterly and northerly of a straight line commencing at 51°30'00"N 131°00'00"W thence to 51°39'20"N 130°30'30"W will be deducted from the vessel's 5C IVQ for Pacific Ocean Perch and 5C/D IVQ for Yellowmouth Rockfish.		
³ TAC for the Gulf applies to Hake and Pollock catches occurring in Areas 13 to 19 and 29. All other hake catches are applied against a vessel's Offshore Hake quota holdings. All other Pollock catch are applied to the area of catch holdings.		
⁴ Yelloweye, Quillback, Copper, China and Tiger rockfish will not be allocated as IVQ. All proceeds for landing of these rockfish species will be relinquished and the vessel fishing restrictions for IVQ overage shall not apply.		
⁵ Yellowtail rockfish caught in the Offshore Pacific Hake fishery can be deducted from IVQ coast-wide. The vessel master is responsible for designating the area at the time of the offload.		
⁶ Pacific Ocean Perch within Subarea 127-1 and that portion of Subareas 127-2 found northerly and westerly of 50°06'00"N will be deducted from the vessel's Pacific Ocean Perch 5A/B IVQ.		
⁸ This is a notional TAC for initial licence issuance – The actual TAC will be announced in April.		
⁹ The TAC has been divided into two spatial stocks of the Rougheye/Blackspotted (REBS) Rockfish complex identified along the BC coast: the northern stock (REBS north) in 5DE is predominantly comprised of Blackspotted Rockfish, and the southern stock (REBS south) in 3CD5AB is largely comprised of Rougheye Rockfish.		

9.5. Voluntary Relinquishment

The groundfish trawl industry has reconfirmed its commitment to eliminate all directed fishing by the trawl fleet for Yelloweye, Quillback, Copper, China and/or Tiger Rockfish. The trawl industry, as a disincentive to vessel owners, masters and crews, has also agreed to voluntarily relinquish all proceeds from the sale of these species landed to support groundfish research programs.

9.6. Bocaccio Rockfish Measures

To address the conservation concern for Bocaccio rockfish identified through a Canadian Science Advisory Process review, new management measures were adopted for the groundfish trawl fishery for the 2013/2014 season. These included establishment of an annual trawl TAC, establishing individual vessel licence allocations, establishing holdings caps, and applying all rules governing the Trawl IVQ program for Bocaccio rockfish. As a result of the annual review of groundfish industry's progress in achieving the targeted mortality cap of 61.9 tonnes, DFO and the groundfish trawl industry agreed to reductions in the trawl TAC to 110 tonnes for the 2015/2016 season and followed by a further reduction to 80 tonnes for the 2016/2017 season. These management actions were taken to reduce the trawl fleet's mortality of Bocaccio rockfish and allow for stock rebuilding over the long term.

Following a significant recruitment event in 2016, estimated by the 2019 stock assessment to be 44 times the long-term average recruitment, the following trawl TAC changes were set for fishing seasons 2019/2020 to 2022/2023:

Fishing Season	Trawl TAC (tonnes)
2019/2020	200
2020/2021	347 ¹
2021/2022	771 ²
2022/2023	1,486 ³

¹ 300 tonnes initially allocated, 47 tonnes of unused mortality cap reallocated from hook and line sectors to trawl at end of fishing season.

² 414 tonnes initially allocated followed by 357 tonnes allocated in-season (300 tonnes + an additional 57 tonnes of mortality cap reassigned from other sectors), as recommended by GTAC following a review of the Science Response update to the 2019 Bocaccio stock assessment.

³ Consistent with a coastwide mortality cap of 1,800 tonnes. Refer to Appendix 9 of this IFMP for more information.

Annual trawl TAC increases aimed to accommodate limited interceptions of the fast growing 2016 year class until an updated stock assessment could further confirm the continued presence of this large biomass. An update to the 2019 Bocaccio stock assessment was provided in early November 2021 which estimated the 2016 recruitment event was larger than previously thought, and indicated that the coastwide population has largely recovered with an 87% probability of being above 0.8Bmsy at the end of 2021. While there is little doubt about the reality of the biomass increase, some uncertainty remains about its absolute magnitude. An update to the assessment is planned in the fall of 2023 to continue the validation of the size of the 2016 cohort. Refer to Appendix 9 of this IFMP for more information about bocaccio rockfish rebuilding and recovery.

9.7. Shark Finning Prohibition

Amendments to the *Fisheries Act*, which came into force on June 21, 2019, include a prohibition on shark finning, which is defined as the “practice of removing fins from a shark and discarding the remainder of the shark while at sea”. The practice of shark finning was prohibited in all groundfish fisheries prior to the *Fisheries Act* amendments, which was described in licence conditions. With the addition of a prohibition on shark finning to the *Fisheries Act*, the relevant conditions have been removed from the licence conditions. However, the act of shark finning remains prohibited in all groundfish fisheries.

9.8. One Hundred (100) Per Cent Rockfish Retention

Mandatory one hundred (100) per cent rockfish retention for all option A vessels is required by licence condition. This requirement was implemented in April 2020. Refer to the 2020 notice FN0379 for more information.

10. TRAWL INDIVIDUAL VESSEL QUOTA ALLOCATIONS

For the 2022/2023 fishing year, the commercial groundfish trawl TACs, less the research allocation for the Groundfish Trawl Multi-species survey(s), are allocated as IVQ accordingly:

- a. Eighty (80) per cent of each TAC will be allocated directly to groundfish trawl licensed vessels as IVQ based on the percentage of IVQ holdings for each species by species/area group held by each licence holder as of midnight February 2nd, 2022.
- b. Twenty (20) per cent of each TAC will be allocated to groundfish trawl licensed vessels in-season by the Minister of Fisheries and Oceans Canada, taking into consideration advice from the Groundfish Development Authority (GDA).

10.1. **Trawl Individual Vessel Allocation Formula**

10.1.1. Initial 1997 Allocation Formula

In 1997, the initial formula used to allocate all groundfish species subject to TAC, with the exception of hake, was based thirty (30) per cent on vessel length and seventy (70) per cent on average catch of groundfish (excluding hake) during the five year term 1988 to 1992. For this purpose, the length of vessel used in the calculation is the length that was recorded on the Pacific Licensing System on March 31, 1997. The groundfish species included in the catch history calculations are all rockfish, all soles, Pacific cod, Lingcod, Dogfish, Sablefish and Walleye Pollock. For initial allocation purposes, quota catch history attributed to the licence is defined as the quantity of fish landed by the vessel holding that groundfish trawl licence at the time of landing.

The hake IVQ allocation formula was based thirty (30) per cent on vessel length, based on the total length of hake vessels only, and seventy (70) per cent on average hake catch history for the five year term 1987 to 1991. If a vessel had no history of hake previous 1992, but did participate in the fishery after this date, then they received an allocation based solely on the thirty (30) per cent vessel length. However, no vessel qualified for participation in the thirty (30) per cent vessel length allocation unless its average landings for the 1987 to 1991 period exceeded 2,000 pounds of hake, or its average landings for the 1992 to 1996 period exceeded that sum.

Based on the above two formulae, each fish harvester with a groundfish trawl licence received two initial IVQ allocations expressed as per centages; one for groundfish other than hake, and one for hake (which may be zero if they do not meet the qualifying criteria). These per centages were then applied to each area and species specific TAC to generate the area and species specific IVQ allocations.

10.1.2. Annual Allocation of Individual Vessel Quota

At the commencement of each fishing year, the per centage of each vessel's IVQ permanent holdings for each species and species/area group as of midnight February 2nd of the previous fishing year, are applied against the new year's groundfish trawl TAC's, less the quota allocated for research purposes, to determine the initial actual poundage of fish that a vessel may fish during that fishing season.

11. **INDIVIDUAL VESSEL QUOTA REALLOCATION RULES**

11.1. **Reallocation Rules for Inter-Sector Non Trawl IVQ**

The 2022/2023 IFMP provides for the temporary reallocation of IVQ between different groundfish licence sectors. Each sector has established reallocation rules that govern the

temporary movement of IVQ between vessels into and within each sector. For the purposes of the groundfish trawl fishery, all IVQ originating from outside the trawl sector reallocated to the trawl sector will be referred to as non trawl IVQ. Specific rules governing the reallocation of non trawl IVQ are included below.

11.2. **Groundfish Trawl 2022/2023 Reallocation Sector Rules**

11.2.1. Reallocation Rules effective February 21st, 2022

Upon application, groundfish trawl vessel owners will be permitted, subject to other requirements outlined below, to submit an unlimited number of permanent and temporary reallocation requests of groundfish IVQ or non trawl IVQ, subject to each individual groundfish trawl licence holdings cap and the fleet wide species caps set out in this plan.

Groundfish trawl IVQ and Non-T groundfish IVQ can be reallocated between groundfish trawl vessels holding a valid 2022/2023 groundfish trawl licence and vessels holding valid appropriate groundfish licences.

The IVQ percentage held on a groundfish trawl licence as of midnight February 2nd, 2022 will establish the initial permanent IVQ holdings for that groundfish trawl licence for the 2022/2023 season.

Requests for reallocation of groundfish IVQ must be received by DFO by 16:00 hours on February 2nd, 2023 in order to be processed and determine the permanent IVQ holdings for that groundfish trawl licence used for initial licence issuance for the 2023/2024 season.

Only uncaught IVQ is eligible for reallocation.

Permanent reallocation requests can be submitted either as a percentage of IVQ of the TAC for that species/species area group (SAG) or in pounds. Any permanent reallocation request submitted in pounds will be interpreted as to include both the IVQ and Code of Conduct Quota (CCQ).

Permanent reallocations will be expressed as a percentage of the TAC and will be added to the receiving vessel's percentage of the TAC. (For example, the poundage on a groundfish trawl licence is dependent on the total TAC for the year multiplied by the percent of the allocation that vessel holds).

Requests for temporary reallocation of unfished IVQ must be received by GMU by 16:00 hours local time on February 20, 2023 in order to be processed and have effect in the 2022/2023 fishing season.

Temporary reallocations of IVQ are only valid for the current fishing year.

The minimum quantity of IVQ that may be temporarily reallocated is one pound.

The maximum quantity of IVQ on a groundfish trawl licence is subject to the individual vessel holdings cap and coast-wide species caps.

11.3. Individual Vessel Quota Species Cap

11.3.1. Trawl sector Species Caps

The following species caps are set on a coast-wide basis for all IVQ species, except hake. The hake species caps are individually applied to Gulf hake and offshore hake allocated for onshore delivery and offshore hake for joint venture delivery. Only temporary quota reallocations are permitted to exceed the individual species holding cap to the temporary species cap level. Temporary vessel caps may be subject to adjustment in season.

Species	Permanent Species Cap	Temporary Species Cap
	(% of Trawl sector coast-wide TAC)	(% of Trawl sector coast-wide TAC)
Yellowtail Rockfish	5%	7%
Widow Rockfish	5%	7%
Canary Rockfish	4%	6%
Silvergray Rockfish	4%	6%
Pacific Ocean Perch	5%	5%
Yellowmouth Rockfish	5%	5%
Rougheye/Blackspotted Rockfish	7%	10%
Shortraker Rockfish	7%	10%
Redstripe Rockfish	5%	7%
Bocaccio Rockfish	4%	8%
Shortspine Thornyheads	10%	10%
Longspine Thornyheads	10%	10%
Redbanded Rockfish	7%	10%
Pacific Cod	4%	6%
Dover Sole	5%	5%
Rock Sole	5%	7%
Lemon (English) Sole	6%	8%
Petrale Sole	4%	6%
Lingcod	5%	7%
Spiny Dogfish	10%	10%
Sablefish	5%	7%
Pollock	10%	15%
Hake (Gulf of Georgia)	15%	15%
Hake (Offshore)	10%	10%
Hake (Offshore JV)	10%	10%
Halibut	4%	8%
Big Skate	5%	7.5%
Longnose Skate	5%	7.5%
Arrowtooth Flounder	8%	8%
Corals and Sponges	4%	6%

11.3.2. Incoming/Outgoing Non Trawl Vessel Species Caps.

The following schedule sets out the effective dates and percentages of the individual vessel licence non-trawl species holding caps in relation to the trawl incoming and outgoing sector caps set out in Section 6.1.5.6 of the Groundfish IFMP. These non trawl temporary vessel caps and dates may be subject to further adjustment in season.

Species	Non Trawl Temporary Species Cap Feb 21–Feb 20 (% of incoming/outgoing trawl sector cap)
Canary Rockfish	10%
Silvergray Rockfish	10%
Rougheye/Blackspotted Rockfish	10%
Shortraker Rockfish	10%
Shortspine Thornyheads	10%
Longspine Thornyheads	10%
Redbanded Rockfish	10%
Lingcod	10%
Spiny Dogfish	10%
Sablefish	10%
Big Skate	10%
Longnose Skate	10%
All other species	0%

11.4. Individual Vessel Quota Holdings Cap

Each groundfish trawl licence is subject to a total holdings cap. This cap has been set at a level that allows vessel owner(s) to adjust their IVQ holdings to a viable level while ensuring that operators cannot accumulate an unreasonably large amount of IVQ. Non-trawl IVQ and carryover/underage quota held on the licence will not be included in the calculation of holdings against the vessels individual holdings cap.

A reallocation request which results in one of the groundfish trawl licences involved holding more than its total IVQ holdings cap, measured in groundfish equivalents, will not be approved by Fisheries and Oceans Canada.

IVQ holdings caps were calculated for each groundfish trawl licence, during the first year of the IVQ program. The total IVQ holdings cap for each groundfish trawl licence was measured in groundfish equivalents (described below) as a percentage of total groundfish equivalents. These holdings caps, first determined in 1997, have been subject to increases to reflect the addition of new species to the IVQ program and to allow for modernization of the fleet.

In 2011 DFO and industry agreed to a two-step approach to allow a 25% increase in individual vessel's holdings cap. The first 15% increase was implemented during the 2011 season. The final 10% increase was implemented in the 2012 season.

11.5. Groundfish Equivalents

For the purposes of calculating the total IVQ holdings cap for each groundfish trawl licence, for measuring IVQ holdings of a groundfish trawl licence against its cap, and for quota swapping purposes, Fisheries and Oceans Canada has set the following groundfish equivalents (GFE). GFEs were set in 1997 and were based on price relative to pacific ocean perch (pacific ocean perch = 1.00). Arrowtooth and Bocaccio were added when TACs and IVQs were established.

Species	GFE
Yellowtail Rockfish	1.26
Widow Rockfish	0.96
Canary Rockfish	1.19
Silvergray Rockfish	1.20
Pacific Ocean Perch	1.00
Yellowmouth Rockfish	1.19
Rougheye/Blackspotted Rockfish	1.15
Shortraker Rockfish	1.24
Redstripe Rockfish	0.73
Shortspine Thornyheads	3.38
Longspine Thornyheads	3.38
Redbanded Rockfish	2.00
Bocaccio Rockfish	1.00
Yelloweye Rockfish	1.23
Quillback Rockfish	1.21
Copper, China and Tiger Rockfish	1.21
Pacific Cod	1.69
Dover Sole	1.33
Rock Sole	1.65
Lemon Sole	1.37
Petrale Sole	3.22
Lingcod	1.75
Spiny Dogfish	0.49
Sablefish	6.30
Pollock	0.66
Hake (Gulf of Georgia)	0.14
Hake (Offshore)	0.22
Big Skate	0.37
Longnose Skate	0.26
Arrowtooth Flounder	0.37

For example:	$10,000 \text{ lb. of Pacific Ocean Perch} + 10,000 \text{ lb. of Lingcod}$ $= 10,000 \text{ GFE} + 17,500 \text{ GFE}$ $= 27,500 \text{ GFE}$
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11.6. Quota Overages in Excess of IVQ Holdings

In addition to any of the rules set out in this plan, vessels that exceed by thirty (30) percent (%) the area specific IVQ holdings for a species (excluding Pacific Hake, Sablefish and Bocaccio rockfish which are fifteen (15) percent (%) and Halibut at zero (0) percent (%)), shall be

restricted to mid-water trawl fishing for the area in which the species IVQ has been exceeded for the remainder of the fishing year, or until such time as sufficient IVQ is transferred onto the groundfish trawl licence to cover overages in excess of the permitted amounts.

Fisheries and Oceans Canada will amend the licence conditions to restrict the vessel to mid-water trawling operations and deliver this amendment to the vessel owner by hand or by registered mail. The amendment will take effect from the date the licence amendment is provided to the vessel owner.

This rule is currently being reviewed and may be subject to revisions in-season.

11.7. Quota Carryover

To accommodate fishers in circumstances where catches do not meet the exact IVQ holdings in a given area for a given species, a carryover/underage policy has been implemented which allows fish harvesters to carry uncaught quota forward, or apply catch against its next year's IVQ allocation.

For all species of groundfish subject to IVQ, other than offshore Pacific hake, Halibut bycatch, and Bocaccio rockfish, the carryover/underage limit is thirty (30) per cent of the vessel's IVQ holdings for that particular species and species area group.

IVQ holdings used to calculate overage/underage from one year to another only includes the sum of the Permanent IVQ, Temporary reallocated IVQ and CCQ held on the groundfish trawl licence. Neither GDQ, nor previous carryover quota, nor non-trawl (i.e. from other sectors) groundfish IVQ holdings, with the exceptions listed below, held on the licence are used in the calculation of carryover quantities for the next season.

Carryover of uncaught quota from other sectors (non-trawl) of up to thirty percent is permitted for Canary, Redbanded, Rougheye/Blackspotted, Shortraker and Silvergray rockfish, Shortspine and Longspine Thornyhead, Lingcod, Dogfish, Sablefish and 15 percent for Big and Longnose Skate.

For onshore hake and joint venture Hake (if applicable), the carryover/underage limit is fifteen (15) percent of the vessel's onshore Hake IVQ holdings.

For Halibut bycatch mortality, the underage limit is fifteen (15) percent of the vessel Halibut bycatch IVQ holdings. ***There is no allowable overage for Halibut bycatch mortality.***

For Bocaccio IVQ the carryover/underage limit is fifteen (15) percent of the vessel's Bocaccio holdings.

11.7.1. Rules for All Other Carryovers

Groundfish trawl licensed vessels landing up to thirty (30) percent over the species and area specific IVQ holdings may keep the proceeds from the overage but will have the equivalent poundage of the overage subtracted from the IVQ holdings of the licence in the following year.

All groundfish trawl licensed vessel landings more than thirty (30) per cent over the species and area specific IVQ holdings must be relinquished for that groundfish trawl licence.

Vessels transferring additional IVQ onto the groundfish trawl licence following a quota overage and/or relinquishment will have the total overage (entire percent plus the relinquished amount) subtracted from the IVQ that is added to the groundfish trawl licence. The adjustment will be reflected in the groundfish trawl licence amendment. Relinquishments for prior overages will not be reimbursed.

If no further reallocations are processed, the total poundage of all the overages will be subtracted from the IVQ holdings of the licence in the following year.

IVQ overage/underage adjustments in the following year will be attributed to the groundfish trawl licensed vessel which did or did not fish the IVQ in the previous season.

IVQ overage/underage adjustments can be reallocated to any other licensed groundfish trawl vessel.

All weights are fresh round weights as determined by information collected from the dockside observer landings data and at-sea observer logbooks.

Vessels in an overage situation can avoid a relinquishment by reallocating applicable IVQ prior to hailing out for the vessel's next trip or within 30 days, whichever comes first.

Quota reallocation request forms and signature authorization forms are available at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/ground-fond/form-eng.html>

For licence status reports (LSR) and inquiry related to quota reallocation requests, Quota Officers can be reached at: groundfishivq@dfo-mpo.gc.ca

12. GROUND FISH DEVELOPMENT AUTHORITY

The Groundfish Development Authority (GDA) was established in 1997 as a result of an agreement reached between Fisheries and Oceans Canada and the British Columbia Ministry of Agriculture, Fisheries and Food (MAFF), to include the Coastal Communities Network (CCN) and fishing industry participants in a process that would continue to provide advice on the evolving west coast groundfish fishery.

The GDA provides advice on groundfish allocations to the Ministers of Fisheries for that portion of the TAC not allocated directly to fishers under the allocation formula. The intent of the recommendations was to allocate TAC in a manner that considers fair crew treatment, assists in regional development, promotes and attains a stable market, employment conditions and encourages sustainable fishing practices.

The GDA consists of seven members (Board of Directors) and a Standing Committee of two advisors (formerly called non-voting members of GDA), whose role it is to provide background information and expertise to the Board of Directors.

Details of the operation of the GDA, its members and terms of reference, objectives and criteria are set out in a separate GDA Operational Plan. The 2022/2023 GDA Operational Plan is available by contacting Charlie Minns, GDA Executive Director at (604) 943-3320 Fax (604) 943-1166, Cell phone (604) 880-1425 or email: cminns@dccnet.com.

12.1. Groundfish Development Quota

For 2022/2023, ten (10) per cent of each groundfish trawl TAC will be allocated as Groundfish Development Quota (GDQ). The GDA, on the basis of evaluating joint proposals submitted by a processor and one or more groundfish trawl licensed vessel owners, provides advice to the Minister of Fisheries and Oceans Canada on how best to allocate to vessels involved in the joint proposals for GDQ. The GDA rates each proposal on the merits of the commitments made in the submitted operation plan in addressing the objectives of the GDA for the upcoming fishing year.

12.2. Code of Conduct Quota

Fisheries and Oceans Canada allocates ten (10) percent of each groundfish trawl TAC as Code of Conduct Quota (CCQ). It is intended to promote fair treatment of crew and safe vessel operation under the IVQ program.

CCQ is initially allocated according to each licence's CCQ rating and in proportion to the IVQ holdings for each species by species/area group on the groundfish trawl licence as of midnight, February 2nd of the previous fishing year.

Although each groundfish trawl licence has an initial one hundred (100) percent CCQ rating, the Minister may alter this rating as a result of advice from the GDA regarding the vessel compliance with the general principles set for the CCQ. The general principles, guidelines, and complaints procedure for CCQ are set out in the GDA 2022/2023 Operations Plan.

13. CATCH MONITORING AND VALIDATION

13.1. Catch Reporting

All groundfish trawl licensed vessels are required to accurately record and keep a record of all fishing activities in an electronic groundfish trawl fishing logbook, accessibly through the groundfish trawl industry data management platform.

The fishing master must ensure that the electronic fishing logbook, accessible via the platform, is available for use and that prior to fishing, sufficient hard drive space is available to cover all activities of the fishing trip. The fishing master is responsible for recording all required fishing event information for each fishing event, immediately after completion of the fishing event.

Completed original electronic logbook data must be submitted to the Department at the time of landing fish at the end of each trip.

The groundfish trawl sector has tasked the Canadian Groundfish Research and Conservation Society (CGRCS), on its behalf, to negotiate and secure a contract(s) for the provision of the

groundfish trawl data management platform. For the 2022/2023 fishing season, the CGRCS has selected and contracted Vericatch (formerly IQMI) as the sole service provider for the data management platform for the groundfish trawl fleet.

Industry details of the groundfish trawl data management platform are available by contacting Bruce Turris, the Executive Manager of the CGRCS or at (604) 524-0005 or email: bruceturris@shaw.ca or Vericatch at 1-888-221-1953 or email at: info@vericatch.com.

13.2. Port Monitoring

A comprehensive industry funded one hundred (100) per cent port monitoring program shall continue in the 2022/2023 fishing year.

All groundfish trawl licensed vessels, regardless of the area or species fished, must have all of their groundfish catches validated, whether landed in Canada or in the United States, to ensure that proper sorting, weight and enumeration by species occurs.

The groundfish trawl sector has tasked the Canadian Groundfish Research and Conservation Society (CGRCS), on its behalf, to negotiate and secure a contract(s) for the provision of the port monitoring services. The CGRCS has selected and contracted Archipelago Marine Research Ltd (AMR) as the sole service provider for port monitoring services to the groundfish trawl fleet for the 2022/2023 fishing season.

Details of the groundfish port monitoring program are available by contacting Bruce Turris, the Executive Manager of the CGRCS or at (604) 524-0005 Fax (604) 524-0150 or email: bruceturris@shaw.ca or AMR at 1-800-663-7152.

Monitoring requirements in effect for the groundfish trawl IVQ fishery include the mandatory requirement to hail-out and hail-in for each trip and landing. Detailed catch verification, hail-out and hail-in requirements are found in the 2022/2023 Groundfish Trawl Conditions of Licence issued with each groundfish trawl licence. Vericatch is the service provider for hail services.

Following completion of the trip, the service provider will finalize the catch record by assigning catch to management areas fished. This information will be forwarded to the vessel owner within 48 hours of the completion of the offload in the form of the Groundfish Quota Status Report. The CGRCS has contracted IQMI to provide these services via the data management platform described above. It is the responsibility of the vessel owner to ensure that the Groundfish Quota Status Report is on board the vessel prior to the commencement of the next fishing trip, and is made available, upon request, to a Fisheries and Oceans Canada certified observer.

For the 2022/2023 season there continues the opportunity for Option A vessels to land a portion the fish on board the vessel (either fresh, frozen or live) provided that the vessel master ensures that same groundfish at-sea observer that was present on board the vessel during the fishing trip remains onboard for the next fishing trip. All fish caught during one fishing trip and not landed at the conclusion of that trip, must be landed at the conclusion of the next fishing trip.

This measure is to assist fishers and provides greater flexibility in managing their catch and reduces at-sea releases. Specific rules governing split and partial landings are set out in the terms

and conditions of the Option A groundfish trawl licence. This privilege will be monitored by the Department in-season to ensure compliance, proper accounting, and control and management of the fishery, and may be subject to change.

Individual vessels may request modified offloading procedures, which are more applicable to their operation. If this is requested, departmental, CGRCS and/or contract personnel shall determine the feasibility of the modifications. Particulars of allowed offloading procedures are set out in the vessel's licence conditions.

13.3. At Sea Monitoring

Fisheries and Oceans Canada announced in May 2012 that DFO will no longer provide funding support for the provision of at-sea or electronic monitoring services in all regions of Canada as of April 1st, 2013. Responsibility for provision of monitoring services lies with the vessel master.

13.3.1. Option A Monitoring Requirements

Notwithstanding Section 13.3.2 and [FN1125](#) that describe the use of electronic monitoring during the 2022/23 fishing season where at-sea observers are not deployed on option A vessels, the one hundred (100) per cent at-sea observer coverage requirement for the Option A fleet continues to be in effect.

The groundfish trawl sector has tasked the Canadian Groundfish Research and Conservation Society (CGRCS), on its behalf, to negotiate and secure a contract(s) for the provision of the required at-sea observer services. The CGRCS has selected and contracted Archipelago Marine Research Ltd as the sole service provider.

Details of the groundfish trawl at-sea observer program are available by contacting Bruce Turris, the Executive Manager of the CGRCS or at (604) 524-0005 or email: bruceturris@shaw.ca.

Vessels choosing to fish Option A are required to carry a DFO certified groundfish at-sea observer on all fishing trips during the 2022/2023 season except when the vessel is hailed out on either an Option A shoreside hake trip, Option A joint venture hake trip or Option-A Gulf Hake trip using mid-water trawl gear for Pacific hake that delivers all fish caught as fresh round product to land or to a Canadian licenced foreign fishing vessel (herein referred to as the DFO Exemption Guidelines for carrying an At-Sea Observer). An Option A vessel when directed mid-water trawling for Pacific Hake in the Gulf of Georgia (4B) or in offshore waters is subject to one hundred (100) per cent at-sea monitoring coverage for all fishing activities. Vessels masters mid-water trawling for Pacific hake and delivering all fish caught as fresh round product to land in the shore based fishery or in the approved Joint Venture hake fishery may opt to utilize either an onboard at-sea observer or use an electronic monitoring system (EM). All vessel masters opting for use of an EM system while mid-water fishing for hake are subject to full retention (100%) of all fish caught with the exception of prohibited species.

In those situations where the vessel master may use either an at-sea observer or an Electronic Monitoring (EM) system, and the vessel master opts to use an EM system, the vessel shall have an EM system that meets the requirements as stated in the licence conditions for that vessel.

Where an EM system is in use on a vessel, the vessel master shall ensure all components of the EM system are fully operational and in use during the entire fishing trip from the time the vessel

leaves port until the vessel arrives at port to commence the validation of their catch. The EM system shall be continuously powered and not turned off at any time.

If at any time during a fishing trip the EM system fails to function as required by licence conditions the vessel is deemed to have failed to comply with these exemption guidelines and may be directed to carry an at-sea observer at the discretion of a fishery officer.

At-sea monitoring requirements for vessels directed midwater fishing for Hake will be discussed prior to the start of the 2022 Hake fishery and thus may be subject to in-season modification.

A vessel which is on a dedicated Offshore Hake trip without an at-sea observer on board is permitted a ten (10) per cent bycatch allowance of other groundfish, excluding Sablefish, Halibut and Walleye Pollock, subject to available IVQ holdings. The bycatch allowance for Walleye Pollock is restricted to thirty (30) per cent of the offshore hake landing. Any catch of groundfish (other than hake) in excess of the set allowance must be relinquished. All bycatch will be deducted from the vessel's IVQ holdings. Fishers who may wish to retain more than the bycatch allowance while on a dedicated hake trip must carry an at-sea observer for that trip.

13.3.2. Use of Electronic Monitoring for Vessels Hailing as Option A-Quota Observed

Beginning on April 2, 2020, the Minister of Fisheries and Oceans Canada issued a series of Fishery Management Orders (FMO) temporarily suspending the requirement for on board at-sea observers to help protect the health of observers and fishers from the spread of COVID-19. On the advice of the Groundfish Trawl Advisory Committee (GTAC), DFO implemented on April 10, 2020 an emergency Electronic Monitoring (EM) pilot program in the groundfish trawl fishery to ensure continued comprehensive and independent catch monitoring of the groundfish trawl fleet. In consultation with harvesters and service providers, improvements to the EM program were implemented on August 15, 2021. Refer to the 2021 notice ([FN0776](#)) for more information.

For the 2022/23 fishing season, where an independent at-sea observer is not deployed to a vessel hailed out on an Option A-quota observed trip, one hundred (100) per cent at-sea monitoring shall be achieved through the use of an EM system as part of the EM Program for Option A Trawl Vessels. Vessel masters are required to keep an accurate and complete record of all fishing activity carried out under authority of the licence in a DFO-approved Groundfish Trawl Log Book ("fishing log") and At-Sea Log Book ("at-sea log"). Where an EM system is in use on a vessel, the accuracy of the at-sea log will be audited via a comparison against the EM data ("audit"). A draft audit standards document was distributed to GTAC as part of the regular advisory process. Please contact the Trawl Coordinator at deirdre.finn@dfo-mpo.gc.ca to request a copy.

The draft audit standards document describes the standards that at-sea log data will be held to via the audit. If an at-sea log does not meet these standards, EM data may be used in place of the at-sea log to provide the official catch record. These standards are based on (1) estimated measurement error of the EM system in the groundfish trawl fishery; and (2) Groundfish Integration principles of accountability (documenting all catch in an at-sea log) and responsibility (acquiring IVQ to account for mortality of all groundfish that are managed under species and area TACs as referenced in Section 6.1.5 of the IFMP).

While the EM program implemented in the absence of at-sea observer services has served as an important stop-gap measure, it is still being evaluated as an effective long-term replacement to the At-Sea Observer Program. Comprehensive, independent catch monitoring in the trawl fishery will be achieved in the future using a suite of tools, including electronic monitoring. DFO continues to work closely with stakeholders and catch monitoring service providers to refine a catch monitoring regime that enables the proper control and sustainable management of the fishery. Observer deployments in the future may include a combination of at-sea observer catch monitoring services, special projects, bio-sampling and survey work.

As such this program is subject to ongoing adjustments based on feedback of program feasibility from the perspective of DFO, harvesters, and the catch monitoring service providers. Refer to in-season fishery notices for the most up-to-date information regarding EM program requirements.

Option A trawl vessels may still elect to carry an at-sea observer, subject to at-sea observer availability, rather than utilize the EM program. When at-sea observer services are used, harvesters and the ASOP service provider will be expected to follow all applicable provincial COVID-19 guidelines. Public Health authorities and WorkSafeBC have outlined the manner in which vessels can safely fish in the context of COVID-19.

For trawl vessels to accommodate an at-sea observer, the vessel shall have safe work protocols and procedures in place that are consistent with Provincial Health Authority guidelines. These safe work protocols and procedures shall be available for inspection by the service provider and DFO. The service provider may refuse to provide ASOP services if these protocols and procedures are deemed to be inconsistent with the Provincial Health Authority guidelines. If a harvester desires to use an at-sea observer to fulfill their at-sea monitoring requirements, please contact the Trawl Coordinator at Deirdre.Finn@dfo-mpo.gc.ca to discuss at-sea observer deployment criteria and opportunities.

13.3.2.1. EM System Requirements

Where an independent at-sea observer is not deployed to a vessel hailed out on an Option A-quota observed trip option, all vessels will be required to comply with the following system requirements:

- i. An EM system (currently AMR is the EM service provider) must be installed and operational onboard a vessel and configured for Option A groundfish trawl fishing. An initial functionality test confirming that the EM system is working must be conducted by the service provider. The system requirements are identified in Appendix 2 of the 2022/2023 Groundfish IFMP.
- ii. A functionality test must be successfully performed every time the EM system hard drive is retrieved, and a new hard drive installed (this can be done by the vessel master by following instructions provided by AMR);
- iii. All Option A trips will require the use of the V5 EM system and must have the cameras positioned to ensure proper view of measuring grids and on deck and below deck sorting;
- iv. All vessels without receiving tanks (referred to as “wet boats”) must have a minimum of three cameras on deck (one wide angle camera and two narrower angle for sorting

areas to estimate total catch, including released catch). Additional cameras may be required if vessels have more than one sorting area on deck. All Receiving Tank Vessels (RTVs) must have a minimum of three cameras on deck (one wide angle, and at least two cameras in each of the primary sorting and discard areas). Below deck, all RTVs must also have one camera on the receiving tank door/conveyor belt, and a minimum of two camera views at each sorting and cutting stations and each discard area to provide multiple camera angles of each area.

- v. Camera placement must be based on the vessel's specific layout as determined by the service provider and may be subject to further review by C&P, as required.
- vi. Camera lenses must be regularly cleaned during fishing operations to provide unobstructed viewing and protective shrouds should be installed, as required.

13.3.2.2. Fishing with EM Operational Requirements

- i. A vessel must ensure that the EM system continues to be fully operational during the entire fishing trip and until the time the hard drive is removed at the conclusion of each trip. The EM system shall be continuously powered and not turned off at any time.
- ii. If the EM system becomes inoperative or malfunctions in any way, the vessel master shall immediately contact the EM system service provider. If the system cannot be repaired at sea, the vessel shall stop fishing and return to port as soon as possible.
- iii. All catch from a tow will be hauled or unloaded onto the deck to allow for clear unobstructed view by the EM cameras and for a volumetric measurement of total catch.
- iv. Measuring grids must be installed in all sorting and cutting and discard areas (including upper deck ramps) and positioned within unobstructed view of cameras. Additional cameras will be installed on those vessels where adjustments to existing cameras cannot be made to accommodate measuring grids.
- v. All lingcod and sablefish must be sorted, and any released fish must pass in front of a fixed measuring grid for unobstructed EM viewing prior to release back to the water. The measuring grid must meet the specification outlined in Appendix 2, Figure 2 of the Groundfish IFMP and must be positioned in a fixed area under view of an EM system camera.
- vi. All sablefish and lingcod that do not pass in front of the measuring grid for unobstructed EM viewing will be reported as legal size for the purposes of the audit.
- vii. All prohibited (i.e. halibut, salmon, herring, eulachon) and sublegal species (sablefish and lingcod) must be returned to the water as quickly as possible so as to minimize mortality.

13.3.3. Criteria to Disembark At-Sea Observers

If a vessel has discontinued fishing and is transiting directly to an offloading port, the vessel master may request that the observer may disembark in Port Hardy, Victoria, Ucluelet or Prince Rupert. The following requirements shall apply:

- i. A hail-in as described in the Conditions of the 2022/2023 Groundfish Trawl Licence shall be made to the designated service provider.
- ii. The use of Port Hardy shall only be considered when the vessel is transiting southbound between Vancouver Island and the mainland of British Columbia.
- iii. The use of Victoria shall only be considered when the vessel is transiting eastbound to a Canadian landing port or transiting southbound to Blaine, Bellingham or Anacortes in Washington State.
- iv. The use of Ucluelet shall only be considered when the vessel is transiting directly to Port Alberni, southbound to a Canadian landing port or to Blaine, Bellingham or Anacortes in Washington State.
- v. The use of Prince Rupert shall only be considered when a vessel is transiting southbound between Vancouver Island and the Mainland of British Columbia to a Canadian landing port or to the ports of Blaine, Bellingham or Anacortes in Washington State.

13.3.4. Option B At-Sea Monitoring requirements

All Option B groundfish trawl vessel are subject to a mandatory one hundred (100) per cent at-sea monitoring program for all fishing activities. Vessels masters may opt to utilize either an onboard at-sea observer or use an electronic monitoring system (EM). It is the responsibility of the vessel master to ensure arrangements for at-sea monitoring services are in place prior to commencement of any fishing operations.

When utilizing an EM system instead of a designated groundfish at-sea observer the vessel master shall ensure the vessel is equipped with an EM system that meets the requirements set out in the conditions of groundfish trawl licence for that vessel.

Where an EM system is in use on a vessel, the vessel master shall ensure all components of the EM system are fully operational and in use during the entire fishing trip from the time the vessel leaves port until the vessel arrives at port to commence the validation of their catch. The EM system shall be continuously powered and not turned off at any time.

If at any time during a fishing trip the EM system fails to function as required by licence conditions the vessel is deemed to have failed to comply with these exemption guidelines and may be directed to carry an at-sea observer at the discretion of a fishery officer.

13.4. Conversion Factors

To facilitate the conversion of product weight to round weight for the purposes of monitoring catches against TAC and IVQ holdings, the Department shall use set conversion factors and ice/slime and glaze allowances.

The factors and allowances that shall be used at the commencement of the 2022/2023 fishery are set out in the conditions of each groundfish trawl licence. As changes may be made in-season, the conditions of the groundfish trawl licence should be referenced to determine what factors and allowances are in effect at any time.

Individual vessels may request in writing to use different conversion factors and/or ice/glaze allowances, which are more applicable to their operation. Testing will be conducted to verify the applicability of different conversion factors/ice/glaze allowance. To facilitate this request verification of these different factors will be conducted at the owner's expense that includes product samples and approved contract personnel. Where at-sea testing is required, such testing by DFO approved protocols by approved contract personnel. Test results may result in DFO amending licence conditions/dockside monitoring protocols to reflect agreed upon new factors. Further testing may be required in-season to verify the continued appropriateness of the amended factors.

14. HALIBUT BYCATCH MANAGEMENT PLAN

14.1. Halibut Prohibition

Halibut caught while fishing under the authority of a groundfish trawl licence cannot be retained and must be returned to the water as quickly as possible.

14.2. Halibut Mortality Fleet Cap

For the 2022/2023 fishing year, the halibut bycatch mortality cap for the trawl fleet is set at 1,000,000 pounds (~454 tonnes). All estimated halibut bycatch mortality will be deducted from a vessel's individual cap.

14.3. Halibut Species Mortality Cap

No groundfish trawl licence can hold permanently more than four (4) per cent of the total halibut bycatch mortality cap for the trawl fleet. Groundfish trawl licences can hold temporarily (temporary cap) eight (8) per cent of the total Halibut bycatch mortality cap for the trawl fleet. Changes to the temporary cap may be made by DFO after receiving advice through the Groundfish Trawl Advisory Committee.

14.4. Halibut Bycatch Reallocation

Uncaught halibut bycatch mortality IVQ can be reallocated, subject to the halibut species mortality cap rules set out above. Halibut bycatch IVQ is not to be considered as part of the groundfish trawl vessel's groundfish IVQ holdings for holdings cap calculations/limits.

14.5. Halibut Bycatch Quota Overage

Halibut catch in excess of a vessel's individual halibut bycatch cap will result in the vessel being restricted to mid-water fishing coast-wide for the remainder of the fishing year, or until sufficient additional Halibut bycatch cap is reallocated onto the groundfish trawl licence to cover the overage. For the proper conservation and management of the resource, Halibut overages in the current year will be deducted from the groundfish trawl licence's Halibut bycatch mortality cap allocation in the following year.

14.6. Halibut Bycatch Underage

A groundfish trawl licensed vessel may carry forward up to fifteen (15) per cent of their Halibut bycatch mortality holdings that are uncaught into the following fishing season.

14.7. Area-based Halibut Mortality Rate and Average Weight

For the 2022/23 fishing season where an independent at-sea observer is not deployed to a vessel hailed out on an Option A trip, vessels will be subject to the following area-based halibut mortality rates and average weights:

Area Grouping	Average Weight (lbs)	Release Mortality Rate (%)	
		Above Deck	Below Deck ¹
3CD5ABE	12	35%	100%
5CD	8	29%	100%

¹ A fixed mortality rate of 100% will be applied to all halibut released below deck on receiving tank vessels regardless of tow time.

Average weights and mortality rates are based on 2019/20 at-sea observer data where average weights were compared to synoptic trawl survey data. Trawl fishing occurring in area 5CD is considered unique, primarily targeting soles and flounders, and smaller halibut are typically caught compared to other areas. 5CD has also been identified by the International Pacific Halibut Commission (IPHC) as a nursery ground for juvenile halibut.

15. HABITAT CONSERVATION MEASURES: CORALS AND SPONGES

The Canadian Groundfish Research and Conservation Society, on behalf of the British Columbia groundfish trawl industry, and the Pacific Marine Conservation Caucus agreed in 2012 to innovative management measures to provide additional protection of Coral and Sponge Habitat off the west coast of Canada. The objectives of this agreement are:

- To reduce and manage the catch of corals and sponges by the British Columbia groundfish bottom trawl fishery with a management objective of an annual coral and sponge fleet-wide catch at the 2009 level or lower (coral 562 kg, sponge 322 kg);
- To reduce the impact of the British Columbia groundfish bottom trawl fishery on low energy and low productivity environments in deep waters off of the west coast of British Columbia;
- To ensure that the British Columbia groundfish bottom trawl fishery does not disproportionately affect any one particular benthic habitat type;
- To ensure that the British Columbia groundfish bottom trawl fishery is restricted to areas previously trawled between 1996-2011;
- To improve the performance of the British Columbia groundfish bottom trawl fishery against habitat criteria used to evaluate the sustainability of fisheries.

To achieve these objectives the following management measures were agreed to:

- Freeze the footprint of where groundfish bottom trawl activities can occur.
- Establishing a combined habitat bycatch conservation limit (HBCL) for coral and sponges.
- Allocating the HBCL among groundfish trawl licence holders and allow for transferability within specified vessel caps amongst the groundfish trawl fleet,
- The establishment of an encounter protocol for trawl tows where combined coral and sponge catch exceeds 20 kg in a single tow.

The Groundfish Trawl Advisory Committee (GTAC) at its January 11, 2012 meeting approved these measures and recommended that the Department implement them into the groundfish Integrated Fisheries Management Plan. The specific management measures adopted are below.

15.1. Coral and Sponge Retention Rules

Corals and Sponges are not permitted to be retained unless authorized by Fisheries and Oceans Canada.

15.2. Fleet-wide Habitat Bycatch Conservation Limit

For the 2022/2023 fishing year, the coastwide HBCL for the trawl fleet is set at 9,921 pounds (4500 kilograms). All estimated sponge and coral bycatch mortality will be assessed against a vessel’s individual HBCL. The mortality rate applied to all coral and sponge catch is 100 %.

15.3. Corals and Sponges Subject to Management Measures

Species Taxonomic groupings of corals and sponges used by the observer program, and included in the Habitat Bycatch Conservation Limit:

Coral	Coral	Sponge
Hexacorallia	Primnoa	Calcareous
Stony	Stylatula elongate	Glass
Alcyonaria	Sea pens	Bath
Gorgonian	Sea whips	
Paragorgia arborea	Virgularia	
Paragorgia pacifica		

15.4. Habitat Bycatch Conservation Limit Mortality Cap

No Category “T” license will be authorized a permanent allocation that exceeds 4% and a combined permanent and temporary allocation that exceeds 30% of the coastwide HBCL for either coral or sponge. The initial annual temporary cap will be set at 6% of the coastwide HBCL. Changes to the initial temporary cap will be made by DFO after receiving advice through the Groundfish Trawl Advisory Committee.

15.5. Habitat Bycatch Conservation Limit Reallocation

Uncaught HBCL IVQ can be reallocated, subject to the cap rules set out above. HBCL IVQ is not to be considered as part of the groundfish trawl vessel’s groundfish IVQ holdings for holdings cap calculations/limits.

15.6. Habitat Bycatch Conservation Limit Quota Overage

The individual HBCL will hold each vessel accountable and responsible for all capture of coral and sponge. HBCL catch in excess of a vessel’s individual HBCL will result in the vessel being restricted from groundfish bottom trawling coast-wide for the remainder of the fishing year, or until sufficient additional HBCL is reallocated onto the groundfish trawl licence to cover the overage.

15.7. Habitat Bycatch Conservation Limit Underage

Category “T” licenses vessels are permitted to carry forward annually a maximum amount of uncaught individual HBCL equal to 10% of the total HBCL issued to the license. The equivalent weight will be added to the vessel’s HBCL allocation in the following year.

15.8. **Habitat Conservation Review Committee**

The BC groundfish trawl industry, MCC and Fisheries and Oceans Canada staff agree to work collaboratively in the monitoring and evaluation of the habitat conservation measures. A joint Habitat Conservation Review Committee (HCRC) will be established to review and assess annually and over time:

1. Compliance with the established groundfish bottom trawl boundaries and agreement to avoid non-trawled areas within the footprint;
2. The area covered and the level of effort by the Option A groundfish bottom trawl fishery, by depth strata, eco-region, and substrate type;
3. Total catch of coral and sponge, number of transfers of individual HBCL, amount of coral and sponge individual HBCL carryover of underage or overage;
4. Coral and sponge hotspots, including but not limited to those identified through the encounter protocol;
5. At-sea and dockside coral and sponge reporting procedures and requirements;
6. The effectiveness of the individual HBCLs at providing incentives for minimizing capture of coral and sponge and consideration in the development of further habitat management measures.

Advice on changes from the HCRC will be brought to the Groundfish Trawl Advisory Committee for consideration.

15.9. **Encounter Protocol**

Observer data collected from the British Columbia groundfish trawl fishery between the years of 2005-2009 indicate that the vast majority of coral/sponge bycatch events result in less than 20 kilograms caught in one tow. A catch of more than 20 kilograms in one tow, therefore, is a rare event and indicates a potential interaction with a substantial coral and/or sponge aggregation. Such situations require an “encounter protocol”. Essentially, an encounter protocol is a rapid-response procedure to re-direct bottom trawl fishing activity away from the area, in order to limit further damage to the recently-encountered coral/sponge aggregation. The initial protocol catch level is set at 20 kilograms of coral and sponge combined, but will be reviewed annually.

In the event that a vessel catches more than 20 kilograms of combined coral and sponge in a single tow, the following procedure will occur:

1. The at-sea observer will collect information;
2. Information about the location of the coral or sponge capture, and the amounts caught, will be communicated to the trawl industry through the Quota Status Reports that are updated on a daily basis;
3. Vessels will be encouraged to avoid the area where the bycatch of coral and sponge occurred;
4. The incident, and the response of the fleet to the encounter, will be reviewed by the Habitat Conservation Review Committee. This procedure will be followed any time a vessel catches more than 20 kilograms of combined corals or sponges in one tow, regardless of that vessel’s HBCL holdings at the time. The vessel is still responsible for covering the coral/sponge catch with individual HBCL.

16. **FISH RELEASED AT SEA**

The mortality of all species of groundfish (including Non-trawlIVQ) that are released at-sea shall be levied as catch against a vessel’s IVQ holdings or annual TAC subject to mortality rates below.

The weight of fish released at sea will be multiplied by the mortality rate set out below to calculate released mortality.

16.1. Mortality Rates

Mortality rates for fish released at sea are as follows:

Species	Mortality Rates
Soles	10% mortality for the first two hours fished or portion thereof and, 10% for each additional hour ¹ .
Lingcod (legal size only)	10% mortality for the first two hours fished or portion thereof and, 10% for each additional hour ¹ .
Sablefish (legal size only) ²	25% mortality for the first hour fished or portion thereof and, 25% for each additional hour ¹ .
Pacific Cod And Pollock	25% mortality for the first two hours fished or portion thereof and, 25% for each additional hour ¹ .
Spiny Dogfish	5% mortality for the first two hours fished or portion thereof and, 5% for each additional hour.
Big and Longnose Skate	5% mortality for the first two hours fished or portion thereof and, 5% for each additional hour.
All Rockfish	100% mortality regardless of time fished.
Longspine/ Shortspine Thornyhead	100% mortality regardless of time fished.
Arrowtooth Flounder	100% mortality regardless of time fished
Pacific Hake	100% mortality regardless of time fished
All species entering a receiving tank ³	100% mortality regardless of time fished
<p>¹ Fishing time is defined as the period following shooting of the gear during which the trawl winches are locked. For that portion of a tow time less than 60 minutes, mortality rate shall be determined by multiplying the number of full hours of the tow by the mortality rate and adding to that the ratio of the portion of an hour by the applicable mortality rate to determine the overall mortality of the species for that tow.</p> <p>Examples:</p> <ol style="list-style-type: none"> For any tow of one hour or less, the Sablefish mortality is 25%. For a 1 hour and 20 minute tow the formula used to determine Sablefish mortality is: $((1\text{hrs} \times 25\%)* \text{est. release weight}) + (((20\text{min}/60\text{min}) \times 25\%)* \text{released weight}).$ 	

Species	Mortality Rates
	² Refer to Section 16.1.1 of this Harvest Plan
	³ Any vessel equipped with a receiving tank will have 100% mortality applied to fish released below deck.

The above mortality rates do not necessarily reflect true mortality rates of fish released at-sea, but are intended to provide incentives for vessel operators to reduce towing time and avoid bycatch wherever possible.

All fish landed shall be levied as catch against the appropriate area and species-specific IVQ or bycatch cap.

Notwithstanding Section 14.7 that outlines the use of area-based average weights and mortality rates during the 2022/23 fishing season where at-sea observers are not deployed on option A vessels, for halibut, a DFO certified at-sea observer shall assess the condition of each fish before it is returned to the water in order to apply the appropriate mortality factor. Halibut mortality condition factors used by the at-sea observer for the Canadian trawl fishery were developed by the International Pacific Halibut Commission.

17. SPECIES AT RISK SHARK ENCOUNTER PROTOCOL

Since the 2012/2013 season, the Groundfish trawl industry in support of Fisheries and Oceans Canada's increased conservation efforts for some Elasmobranchs, and in particular those listed as SARA species, supports a prohibition on the selling and retention of Pacific Basking Shark, Tope (Soupfin) Shark or Bluntnose Sixgill Shark in the British Columbia groundfish trawl fishery.

Additionally, cognizant of the international efforts taken to protect shark species, the groundfish trawl industry agreed to eliminate all directed fishing for shark species, other than Spiny Dogfish, as of the 2012/2013 season.

It is important to recognize that most current encounters of these and other shark species are not targeted, the industry in conjunction with the Department has initiated discussions to develop practical measures and protocols that may minimize encounters and mortality.

These measures include:

- modification of fishing plans to remove all directed fishing for sharks, other than Spiny Dogfish.
- modifications of fishing practices by taking into account advice and experience of other harvesters regarding areas of higher shark abundance and densities
- investigation of trawl gear modifications, such as mesh sizes, excluder grids or acoustic deterrent devices, which may lead to reduce interactions of sharks and trawl fishing gear.
- developing fishing plans that take in to account avoidance of known important habitats for sharks (such as pupping and nursery habitats) and migratory routes.

Specifically for Pacific Basking shark, pursuant to subsection 73(2) (c) and section 74 of the

Species at Risk Act (SARA), the vessel master, prior to and while conducting fishing activities, shall ensure that:

- every measure will be taken to avoid the incidental capture of the Pacific Basking Shark.
- fishing gear is not set or hauled when Pacific Basking Sharks are within 10 metres of the fishing vessel, and/or are visible at the water's surface.
- any Pacific Basking Shark, Tope (Soupfin) Shark or Bluntnose Sixgill Shark incidentally caught and alive, is released in a manner that causes them the least harm, subject to completion of DFO Bio-sampling protocols.

Bio-sampling protocol

When capture of any of Pacific Basking Shark, Tope (Soupfin) Shark or Bluntnose Sixgill Shark occurs the vessel master, prior to the fish's release (alive if possible), shall ensure that the bio-sampling requirements as set out by DFO are conducted as quickly as possible by the onboard at-sea observer or a member of the vessel's crew.

The fishing master shall ensure that any bio-samples gathered are retained and stored to DFO requirements and such samples are provided in a secure manner to DFO upon termination of the trip.

18. HAKE FISHERY

The offshore pacific hake fishery will be managed under the general IVQ program in place for the groundfish trawl fishery. On Nov. 21, 2003, an Agreement between the Government of the Canada and the Government of United States on Pacific Hake/Whiting was signed.

The agreement establishes agreed per centage shares of the transboundary stock of Pacific hake, also known as Pacific whiting. It also creates a process through which scientists and fisheries managers from both countries will recommend the total catch of Pacific hake each year. The agreement anticipates that stakeholders from both countries will have significant input into this process.

The agreement, implemented for the first time in 2012, created four bodies to assist the governments of Canada and the United States to assess and sustainably manage the shared resource:

- The Joint Management Committee (JMC) is charged with determining the Total Allowable Catch of hake/whiting every year.
- The industry Advisory Panel (AP) is charged with reviewing the management of the fishery and making recommendations to the JMC regarding the overall Total Allowable Catch.
- The Joint Technical Committee (JTC) is charged with annually providing the JMC with a stock assessment that includes scientific advice on the annual potential yield of the offshore hake/whiting resource that may be caught for that fishing year.
- The Scientific Review Group (SRG) is charged with providing an independent peer review of the work of the JTC.

Additional details on the Canada/US Treaty process can be found at:

https://archive.fisheries.noaa.gov/wcr/fisheries/management/whiting/pacific_whiting.html

The 2022/2023 offshore hake TAC and further details of the in-season management measures will be set out in an addendum to this harvest plan once the above process has been completed and approved by DFO. Industry consultations on the addendum will be initiated in February 2022.

19. GROUND FISH TRAWL FISHING LOGBOOK

In 2021, the groundfish trawl fishery discontinued the use of paper fishing logbooks and now exclusively use an electronic fishing logbook (elog) via Trawler, Vericatch's data management platform. Similar fields to those described in the image below are collected and submitted to the Department for every fishing trip. An example of the groundfish trawl elog can be requested by contacting Vericatch at 1-888-221-1953 or email at: info@vericatch.com.

Appendix 9: Rebuilding & Alternative Approach Plans for Groundfish Species

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1. REBUILDING PLANS FOR GROUND FISH SPECIES

1.1. FOREWORD

Fisheries and Oceans Canada (DFO) has developed “*A Fisheries Decision-Making Framework Incorporating the Precautionary Approach*” (PA Framework) within the Sustainable Fisheries Framework. It outlines the departmental methodology for applying the precautionary approach to Canadian fisheries. A key component of the PA Framework requires that when a stock has reached or fallen below a Limit Reference Point (LRP), i.e., in the “critical zone” of the PA Framework, a rebuilding plan must be in place with the aim of having a high probability of the stock growing above the LRP within a reasonable timeframe. The overarching goal of any rebuilding process is to grow depleted stocks through the cautious zone and ultimately into the healthy zone above the Upper Stock Reference (USR). The purpose of rebuilding plans is to identify rebuilding objectives for any depleted species as well as the management measures that will be used to achieve these objectives.

This section outlines rebuilding plans for groundfish species that (a) have been identified by peer reviewed stock assessments as currently in the critical zone under the PA framework, (b) are currently above the LRP but have not reach the rebuilt target or a rebuilt target has not yet been identified and (c) are covered by other management planning tools for depleted species, such as groundfish species that require a recovery or management plan under the Species At Risk Act.

This document also serves to communicate basic information about the stocks and management of fisheries that affect the stocks to DFO staff, legislated co-management boards and other fishery interests. This plan provides a common understanding of the basic “rules” for rebuilding the stocks.

Management measures outlined in this rebuilding plan are mandatory, and may be modified to include additional catch restrictions if they fail to result in stock rebuilding.

This rebuilding plan is not a legally binding instrument which can form the basis of a legal challenge. The plan 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 rebuilding plan in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing a rebuilding plan in an area under a land claim agreement, the rebuilding plan will be implemented in a manner consistent with that agreement.

1.2. INTRODUCTION

Groundfish stocks currently subject to rebuilding plan provisions are: Bocaccio and Yelloweye rockfish (outside and inside populations). To increase the likelihood these stocks will not decline below their LRP's and to be consistent with the 2009 PA policy's intent to grow depleted stocks to healthier levels, rebuilding plans for these stocks will remain in effect until it's determined the stock has reached it's “rebuilt target.” When a rebuilt target is reached the management of the stock will transition back to the IFMP and rebuilding plan will no longer be in effect.

Before transitioning a stock from a rebuilding plan to the IFMP the management measures planned for the stock under the IFMP should be evaluated and if necessary adjusted so there is a low likelihood of the stock declining to its LRP in the short to medium term. Furthermore, if appropriate or desired, the management measures used in the rebuilding plan can also be used in the IFMP to encourage further growth of a stock towards the USR and TRP.

1.3. OVERVIEW OF THE FISHERY

These stocks are known to be caught in the fisheries listed below, which occur coastwide, though they may also be caught in other fisheries.

- Commercial fisheries: Bocaccio are primarily caught incidentally in several fisheries: groundfish trawl, groundfish hook and line and trap, and salmon troll. Yelloweye Rockfish are primarily caught in the groundfish hook and line fisheries as incidental catch, and are also caught incidentally in the groundfish trawl and salmon troll fisheries.
- Recreational fisheries: Bocaccio and Yelloweye Rockfish are primarily caught incidentally by recreational anglers when fishing for rockfish, Lingcod, and salmon.
- Food, Social, and Ceremonial and domestic (treaty) fisheries: catch reports include records of Bocaccio and Yelloweye Rockfish. Yelloweye is much more commonly reported than Bocaccio.

Catch information for these stocks in the commercial salmon troll fishery, recreational fisheries, and Food, Social, and Ceremonial fisheries is limited.

1.4. BIOLOGICAL SYNOPSIS AND STOCK STATUS

1.4.1. Bocaccio

Bocaccio rockfish are ubiquitous along the Pacific coast of Canada. They are relatively short lived compared to other rockfish species reaching maximum ages around 50-55 years and an estimated generation time of 20. They are most often caught in the groundfish trawl fishery on the edge of the continental shelf and along the edges in Queen Charlotte Sound and the more southern sections of Hecate Strait. Bocaccio are a schooling semi-pelagic species that likely prefer high-relief boulder fields and rocks between depths of 60-340 m rather than specific sites. Currently Bocaccio are treated as a single coastwide stock.

The species was recommended as “threatened” by the Committee On The Status Of Endangered Wildlife In Canada (COSEWIC) in 2006. Following consultation and review, the Government of Canada decided not to add Bocaccio to the list of wildlife species at risk. COSEWIC reassessed Bocaccio in November 2013 and recommended it as “endangered” [Bocaccio \(Sebastes paucispinis\) : COSEWIC assessment and status report 2013 - Canada.ca](#) The COSEWIC assessment triggered the Government of Canada to consider listing Bocaccio under SARA. Consultations concluded in 2017, and a decision is currently pending.

DFO Science published a stock assessment in 2020 that built on previous work from 2009 and 2012. Through the process of regular evaluation of the rebuilding plan, science advice on stock status and rebuilding strategies for Bocaccio was provided in December of 2021.

The 2020 stock assessment depicted a coastwide Bocaccio stock experiencing a nearly continuous decline from the start of the population reconstruction in 1935, interrupted only by a period of arrested decline spanning the years 1970-86 resulting from a few moderate recruitment events in 1969, 1976, and 1978. The decline resumed in 1987, continuing until an extremely large recruitment event occurred in 2016, estimated by the model to be 44 times the long-term average recruitment (5% and 95% quantiles: 30x, 58x) that included the 2016 year class. An updated Bocaccio assessment in 2021 estimated the 2016 recruitment event was bigger than previously thought, and the coastwide population has largely recovered with an 87% probability of being above 0.8Bmsy at the end of 2021. A range of constant catch strategies from zero to 2,000 tonnes over a ten year period were explored. Under all strategies, there is a very high probability the biomass will continue to grow and be greater than Bmsy by 2025.

While there remains some uncertainty regarding the absolute size of the 2016 year class there is little doubt about the reality of the biomass increase. The 2021 update confirms and extends the conclusions presented by the previous stock assessment, given that observations from all four surveys were consistent with those from the 2019 stock assessment. Furthermore, biological samples taken from the 2021 surveys suggest the percentage of mature females from the 2016 cohort may be larger than was assumed in the model's maturity ogive, which means the update may be underestimating the size of the 2022 female spawning population. Given the extraordinary and unprecedented recruitment event and to continue the validation of size of the 2016 cohort an updated assessment that includes four new survey index values is anticipated by the end of 2023. Bocaccio recruitment events and management responses of the same magnitude also recently occurred in US waters.

Detailed descriptions of available information on Bocaccio biology and distribution, habitat requirements, and stock scenarios can be found online in the Canadian Science Advisory Secretariat publications: [Search: CSAS Publications \(isdm-gdsi.gc.ca\)](#).

1.4.2. Yelloweye Rockfish

Yelloweye Rockfish are a long-lived species (up to 121 years in B.C., Keppel and Olsen 2019), occurring in rocky benthic habitats that have a patchy, discontinuous distribution along BC's inner coast (Yamanaka et al. 2011). Due to their relatively slow growth and late age of maturity Yelloweye Rockfish are vulnerable to overexploitation by fisheries.

The outside and inside stocks of this species were designated as "Special Concern" by the Committee On The Status Of Endangered Wildlife In Canada (COSEWIC) in 2008 and listed under the Species at Risk Act as "Special Concern" in 2011. In November of 2020, COSEWIC reassessed both stocks of Yelloweye as "Threatened."

1.4.2.1. Inside Population

Occurring in Queen Charlotte Strait, Johnstone Strait, Strait of Georgia and the Strait of Juan de Fuca in British Columbia, the inside Yelloweye Rockfish stock is considered to be data-limited, as there is limited age composition data, biological data from commercial, recreational and First Nation fisheries and uncertainty in the magnitude of historical catches. The stock was assessed as being below the LRP in 2010 (Yamanaka et al. 2011; DFO 2012). The assessment reported a median estimate of B_{2009}/B_0 (the ratio of 2009 stock size to the unfished stock size) of 12%.

The median estimate of B_{2009}/B_{msy} (the ratio of 2009 stock size to that at maximum sustainable yield) was reported as 22%. The assessment estimated that the stock had a 95% probability of being in the PA critical zone, whereby $B_{2009} < 0.4 * B_{msy}$.

Updated science advice was peer reviewed in June 2020. The new assessment provides scientific advice through application of a new management strategy evaluation framework recently developed for BC groundfish, the Management Procedure Framework (Anderson et al. 2020). The MP Framework evaluated the performance of alternative data-limited MPs to support re-evaluation of the current rebuilding plan for Inside Yelloweye Rockfish. The MP Framework was used to evaluate the ability of 34 data-limited MPs to meet the proposed principal objective of rebuilding the stock above the LRP (0.4 BMSY) over 1.5 generations (56 yrs) with at least a 95% probability of success.

Closed-loop simulation screened out MPs that did not meet basic performance criteria, resulting in five remaining candidate MPs: two annual constant-catch MPs (10 and 15 tonnes), and three MPs that adjust the total allowable catch (TAC) based on a survey index of abundance. All five final MPs met the principle performance metric with greater than 0.98 probability, across all four OM reference set scenarios.

None of the reference set OMs estimated the median stock biomass to be below the LRP in 2019. Differences in estimates of Inside Yelloweye Rockfish stock status between the current OMs and previous assessment were attributable to model structure choices.

Further discussions with stakeholders and Indigenous groups are required to determine a target biomass given that the current conservation objectives of growing the stock above the LRP have already been satisfied.

1.4.2.2. Outside population

Through the process of regular evaluation of the rebuilding plans, science advice on stock status and rebuilding strategies the Yelloweye Rockfish outside population (groundfish management areas 3 and 5) was peer-reviewed in autumn 2019. DFO Science published an updated stock assessment in 2020 that built on previous work from 2015.

The 2015 assessment estimated that the stock had a 63% probability of being in the PA critical zone, whereby $B_{2014} < 0.4 * B_{msy}$. The 2019 assessment reported that the Yelloweye Rockfish outside population spawning biomass declined rapidly by 49-79 % over the past 30 years, but all model scenarios indicate that Yelloweye Rockfish is currently above its LRP (with a greater than 99% probability), and USR (i.e. the PA healthy zone). This revised perception of stock status is driven by a new assessment approach that considered peer-review advice from the 2015 assessment, including making use of available age data and consideration of different abundance trends within the coastwide stock.

The requested science advice for Yelloweye Rockfish sought to develop an adaptive, feedback-based framework for evaluating candidate management procedures against the rebuilding objectives. While the advice successfully developed stock assessment approaches and evaluated management measures against rebuilding objectives, further discussions with stakeholders and

Indigenous groups are required to determine a target biomass given that the current conservation objectives of growing the stock above the LRP have already been satisfied.

Detailed descriptions of available information on Yelloweye biology and distribution, habitat requirements, and stock scenarios can be found online in the Canadian Science Advisory Secretariat publications: <http://www.isdm-gdsi.gc.ca/csas-sccs/applications/Publications/search-recherche-eng.asp>.

1.5. SOCIO-ECONOMIC AND CULTURAL IMPORTANCE

As described above, Bocaccio and Yelloweye Rockfish are components of the catch in multiple fisheries. The *Social, Cultural, and Economic Importance* sections of the corresponding IFMPs (e.g. groundfish, salmon) describe the importance of these fisheries.

1.6. MANAGEMENT ISSUES

Harvests in the commercial groundfish fisheries are assumed to be the major current source of human-induced mortality for all three stocks. The largest proportion of the estimated catch of Bocaccio occurs in the groundfish trawl fishery. Groundfish hook and line, salmon troll, recreational, and FSC fisheries account for some additional mortality. Catches of Bocaccio in US waters from California to Washington may also have some impact on the BC population, but there is currently no means of assessing this impact. Commercial catch of Yelloweye Rockfish is largest in the Pacific Halibut and Rockfish Outside commercial fisheries. The recreational catch of Yelloweye Rockfish also comprises a significant proportion of the total fishing mortality. Rockfish species (*Sebastes*) often suffer barotrauma when they are caught and brought to the ocean's surface because they have a closed, or physoclastic, gas bladder. As a result of this trauma most caught and released rockfish do not survive.

Limited information on Bocaccio biology has meant that little is known regarding the role of any habitat limitations or predator-prey interactions in Bocaccio rebuilding. Increased seal predation, biogenic habitat loss (e.g., corals and sponges), and decreased dissolved oxygen levels have all been identified as potential threats.

Yelloweye Rockfish are preyed upon by whales, Harbour Seals, and sea lions; juveniles are also subject to predation by Chinook Salmon, rockfishes, Lingcod and marine birds. The extent to which predation or other factors pose threats to Yelloweye rebuilding is not well understood.

In balancing timely and responsible management that reflects the best available science, mortality caps are outlined below to satisfy current rebuilding plan conservation objectives.

1.7. OBJECTIVES

To support the development and achievement of objectives, DFO set out four key considerations in discussions with fishing interests that guided the rebuilding approach for Bocaccio and Yelloweye:

1. *Conservation* – Identified in the PA Framework as the primary consideration for stocks in the critical zone.

2. *Shared responsibility* – Address all relevant sectors in the development of rebuilding efforts.
3. *Long term planning* – Given current stock status, life history, and catch reductions already implemented, sustainable long term measures are key.
4. *Adaptive management* – regular reviews of performance against objectives and targets with implementation of additional management measures to meet them if required. Objectives and targets (e.g., the mortality caps described below) may also be adjusted if required.

The primary objective of any rebuilding plan, outlined in the PA Framework, is to:

Promote stock growth out of the critical zone ($B > 0.4 B_{msy}$) by ensuring removals from all fishing sources are kept to the lowest possible level until the stock has cleared this zone. There will be no tolerance for preventable decline. This objective remains the same whether the stock is declining, stable, or increasing.

DFO’s “Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework” specifies that a timeline and an acceptable probability for achieving the objective should be defined, and that a broader ecosystem context for rebuilding should be considered.

In general, rockfish are slow growing, low productivity, and have long generation times. Taking this into account, the DFO Groundfish Management Unit has refined the PA Framework primary objective described above and developed specific objectives for Bocaccio and Yelloweye stocks below.

1.7.1. Bocaccio

The primary conservation objective for Bocaccio Rockfish is to:

Achieve rebuilding throughout the species’ range and grow out of the critical zone within three generations, with a 65% probability of success.

To support and monitor progress towards the objective, milestones have also been established:

Achieve a positive stock trajectory trend in each 5 year interval, such that the biomass at the end of each 5 year period is greater than the biomass at the beginning of the same 5 year period. Between major assessments, progress towards this goal will be monitored by annually reviewing fishery dependent and fishery independent indices of stock trajectory.

1.7.2. Yelloweye Rockfish - inside stock

The primary conservation objective for the Yelloweye Rockfish inside stock is to:

Achieve rebuilding throughout the inside stock’s range and grow out of the critical zone within 80 years, with a 56% probability of success.

To support and monitor progress towards the objective, milestones has also been established:

Achieve a positive inside stock trajectory trend in each 10 year interval, such that the biomass at the end of each 10 year period is greater than the biomass at the beginning of the same 10 year period.

In the interim, management procedures and potential 2020 catch limits were identified that satisfy all rebuilding plan conservation objectives, maintain a minimum catch to facilitate other fisheries where Yelloweye Rockfish is bycatch, and would provide a relatively stable Yelloweye Rockfish biomass over the next 10 years.

1.7.3. Yelloweye rockfish - outside stock

The primary conservation objective for the Yelloweye Rockfish outside stock is to:

Achieve rebuilding throughout the outside stock's range and grow out of the critical zone within 15 years, with a 57% probability of success.

To support and monitor progress towards the objective, milestones have also been established:

Achieve a positive outside stock trajectory trend in each 10 year interval, such that the biomass at the end of each 10 year period is greater than the biomass at the beginning of the same 10 year period;

Achieve catch reduction targets within three years.

In the interim, management procedures and potential 2020 catch limits were identified that satisfy all rebuilding plan conservation objectives, maintain a minimum catch to facilitate other fisheries where Yelloweye Rockfish is bycatch, and would provide a relatively stable Yelloweye Rockfish biomass over the next 10 years.

1.8. MANAGEMENT MEASURES

DFO's 2001 rockfish conservation strategy was built on the following four pillars: comprehensive catch monitoring; dramatically reduced fishing mortality; extensive fishery closed areas; and improved stock assessment and monitoring. All aspects of this conservation strategy remain important and are facilitated through DFO's integrated fishery management plan (IFMP) for Groundfish. Rebuilding Plans for Bocaccio and Yelloweye Rockfish and associated management measures remain in effect, but DFO would like to continue to engage with stakeholders and Indigenous groups throughout 2022/23 to revise rebuilding plans objectives in a manner that is consistent with the modernized *Fisheries Act* and the best available science. Given these measures and the science advice noted above, DFO has established the following mortality caps for Bocaccio and inside and outside Yelloweye Rockfish in support of the current rebuilding objectives for these stocks.

1.8.1. Bocaccio

Based on science information, the Department set out a plan in 2013 for stepped reductions of total Bocaccio harvest from the estimated total catch mortality of 137 metric tonnes (t) in 2012 to a mortality cap of 75 t over 3 years (2013/14 to 2015/16). The mortality cap, which accounts for

Indigenous fishing opportunities, was broken out to identify sector-specific mortality caps. Through the process of regular evaluation of the rebuilding plan, science advice on stock status and rebuilding strategies for Bocaccio was updated in the autumn of 2021. Based on this science information, the 2022/23 mortality cap for Bocaccio will be increased to 1,800 t, in the same proportion as the 2013 mortality cap.

Mortality cap	Sector-specific mortality caps (tonnes)				
	Mortality cap after FSC	Commercial groundfish trawl	Commercial groundfish hook and line	Commercial salmon troll	Recreation
1,800	1,769	1,486	113	86	84

Taking into consideration advice provided by fishing interests, the Department implemented management measures and other strategies to help achieve the rebuilding objectives.

The Department worked collaboratively with all fishing interests to achieve Bocaccio conservation and rebuilding. Commercial groundfish fisheries are already subject to 100% at sea and dockside monitoring, which helps ensure accurate reporting. For the salmon troll, recreational, and FSC fisheries, the emphasis was on increasing awareness, given the limited data available on catch. Work with these fisheries focused on:

- Improving Bocaccio identification among fishers, technicians, guides, lodges, creel surveyors, and other catch monitors;
- Improving fishery monitoring and catch reporting for Bocaccio;
- Promoting the avoidance of Bocaccio;
- Zero retention of Bocaccio in recreational fisheries
- Identifying and implementing the tools required to conserve Bocaccio.

Additional management measures were introduced in 2013/14 for several commercial fisheries to further support Bocaccio rebuilding. In 2013/14, the Rebuilding Plan implemented management measures to limit catch below the mortality caps, including:

- Groundfish trawl: the establishment of a TAC, individual transferable quotas for each licence holder, and licence holdings caps; continuation of the voluntary program initiated by industry whereby groundfish trawl vessel masters donate all proceeds of all landed Bocaccio for use in groundfish research programs.
- Groundfish hook and line: the establishment of reduced Bocaccio trip limits.
- Salmon troll: the establishment of Bocaccio daily limits.

The 2014 evaluation of rebuilding measures indicated that further action was required to reduce mortality below the cap, so for the 2015/16 season the trip limit for Bocaccio in groundfish hook and line and trap fisheries was lowered¹, and the TAC in the trawl fishery was reduced from 150 t to 110 t, and then to 80 t in 2016/17. From 2013-2017 commercial groundfish fisheries reduced mortality by 51 % to an annual average of 60 t, with groundfish trawl fisheries responsible for more than 87 % of the catch.

¹ from 200 lbs for the first 15,000 lbs of landed catch of the directed species to 100 lbs for the first 10,000 lbs of landed catch of the directed, to a maximum of 600 pounds of Bocaccio.

Survey data from 2016 and 2017 suggests a significant recruitment event occurred in recent years with increases in catch per unit effort and a notable decrease in length-frequency which indicates many more small fish are present. There is limited market value of Bocaccio and strong incentives to avoid incidental catch but nonetheless Bocaccio mortality in the trawl fishery increased from 54 t in 2017/18 to 107 t in 2018/19. Commercial catch composition suggest this increase is the result of the recruitment event. Similar events have occurred in neighbouring waters. The US National Oceanic and Atmospheric Administration (NOAA) Fisheries defines two offshore populations (south and north; the northern population concentrated in Canadian waters) and developed a rebuilding plan for the southern population in the early 2000s. In March 1999 the southern population was estimated to be at 2 % of its unfished population size and was declared overfished. A rebuilding target date was set for 2026, with a catch limit of 20 t. The US rebuilding plan adopted a “buffer strategy” in setting catch limits to address the large, episodic recruitment pattern inherent in Bocaccio’s population dynamics. Catch limits for 2007-2016 ranged from 218 t to 362 t. The stock was estimated at 26 % of unfished population size in 2011, and 49 % in 2017, in large part due to recent strong recruitment events (1999, 2010, and 2013 year classes). In 2017 NOAA Fisheries declared Bocaccio rebuilt five years ahead of schedule owing to strong recruitment, and increased the catch limit by 270 % to 2,011 t in 2019.

In Outside waters the recreational fishery’s daily limit for rockfish is three, of which only one may be Bocaccio, Quillback Rockfish, China Rockfish, or Tiger Rockfish, and of which zero may be Yelloweye Rockfish. The Outside fishery is open April 1 to November 15. In Inside waters the recreational fishery’s daily limit for rockfish is one, of which zero may be Yelloweye Rockfish. The Inside fishery is open May 1 to September 30.

Given that any incidental catch must be discarded, management measures have been implemented to reduced discard mortality. The use of descending devices that return fish to depth may increase the survival rate for released rockfish. As of 2019 recreational anglers in vessels are required to immediately return all rockfish that are not being retained to the water and to a similar depth from which they were caught by use of an inverted weighted barbless hook or other purpose-built descender device.

As a result of the current stock status and increased sector specific mortality caps, Bocaccio specific trip limits in the commercial groundfish hook and line and trap fisheries will be removed for 2022/23..

Food, Social, and Ceremonial mortality has not been restricted as part of the Rebuilding Plan but is accounted for within the mortality cap.

1.8.2. Yelloweye Rockfish – inside stock

Based on available science information, the Department established management measures in 2012 intended to restrict total mortality to 15 tonnes, an amount that is believed to promote stock rebuilding consistent with the stated objective. Through the process of regular evaluation of the rebuilding plan, science advice on stock status and rebuilding strategies for Yelloweye Rockfish inside stock was peer-reviewed in the spring of 2020. Based on this information, the 2022/23 mortality cap will remain at 15 t.

Commercial groundfish fisheries are limited to the rockfish and Dogfish fisheries and are managed with ITQs, and the Halibut fishery is managed with effort controls. Rockfish and Dogfish harvesters fishing in groundfish management area 4B are required to account for Yelloweye Rockfish catch within the 6 tonne ITQ allocation. Halibut harvesters are restricted to a 200 pound (0.09 tonne) annual limit that is accessed via modified conditions of licence. No more than 1 tonne may be harvested within the commercial Halibut fishery which primarily occurs in PFMA 12. For additional details about Yelloweye Rockfish retention in the Halibut fishery, please see Appendix 6.

In Inside waters the recreational fishery’s daily limit for rockfish is one, of which zero may be Yelloweye Rockfish. The Inside fishery is open May 1 to September 30.

Given that any incidental catch must be discarded, management measures have been implemented to reduced discard mortality. The use of descending devices that return fish to depth may increase the survival of released catch. As of 2019 recreational anglers in vessels shall immediately return all rockfish that are not being retained to the water and to a similar depth from which they were caught by use of an inverted weighted barbless hook or other purpose-built descender device. Management measures are reviewed annually and current annual mortality is estimated at 4 tonnes.

Food, Social, and Ceremonial mortality, which has not been restricted as part of the Rebuilding Plan, is estimated at 3 tonnes.

		Sector-specific mortality caps (tonnes)			
Mortality cap	Mortality cap after FSC	Research	Commercial Rockfish Fishery	Commercial Halibut Fishery – Area 12 only	Recreational
15	12	1	6	1	4

1.8.3. Yelloweye Rockfish – outside stock

Based on science information, the Department set out a plan in 2016 for stepped reductions of total Yelloweye Rockfish outside population harvest from the estimated total catch mortality of 287 t in 2014 to a mortality cap of 100 t over 3 years (2016/17 to 2018/19). The mortality cap, which accounts for Indigenous fishing opportunities, was broken out to identify sector-specific mortality caps (see below). Through the process of regular evaluation of the rebuilding plan, science advice on stock status and rebuilding strategies for Yelloweye Rockfish outside population was peer-reviewed in autumn 2019. Based on updated science information, the 2022/23 mortality cap for Yelloweye Rockfish outside population will be increased to 224 t. The mortality cap will maintain the same proportions as the 2016 mortality cap except for survey mortality, which reflects harvest from the previous season in the manner consistent with how other survey mortalities are accounted for.

		Sector-specific mortality caps (tonnes)			
Mortality cap	Mortality cap after FSC	Research	Non-groundfish commercial fishery	Recreational fishery	Commercial groundfish fishery
223.7	177.2	16.4	1.2	34.2	125.3

Taking into consideration advice provided by fishing interests, the Department implemented management measures and other strategies to help achieve the rebuilding objectives.

The Department is working collaboratively with all fishing interests to achieve Yelloweye Rockfish outside population conservation and rebuilding. Commercial groundfish fisheries are already subject to 100% at sea and dockside monitoring, which helps ensure accurate recording of all catch. For the salmon troll, recreational, and FSC fisheries, the current emphasis is on increasing awareness and reducing mortality on Yelloweye Rockfish while targeting other species.

Taking into consideration advice provided by stakeholders, the Department reduced the commercial groundfish TAC by 78% between 2015/16 and 2019/20, and has made slight adjustments to the spatial apportionment of the TAC among Groundfish Management Areas. This advice considered survey trends and abundance and commercial fishery catch information.

Recreational daily limits for Yelloweye Rockfish were reduced in 2016/17 from three to two in the north and from two to one in the south, and improvements to reporting and avoidance of Yelloweye were promoted for the salmon troll fishery (where retention of Yelloweye is already prohibited). In 2018 the recreational daily limit was reduced to zero.

Currently in Outside waters the recreational fishery’s daily limit for rockfish is three, of which only one may be Bocaccio, Quillback Rockfish, China Rockfish, or Tiger Rockfish, and of which zero may be Yelloweye Rockfish. The Outside fishery is open April 1 to November 15. Given that any incidental catch must be discarded, management measures have been implemented to reduced discard mortality. The use of descending devices that return fish to depth may increase the survival of released catch. As of 2019, recreational anglers in vessels shall immediately return all rockfish that are not being retained to the water and to a similar depth from which they were caught by use of an inverted weighted barbless hook or other purpose-built descender device.

Food, Social, and Ceremonial mortality has not been restricted as part of the Rebuilding Plan but is accounted for within the mortality cap.

1.9. COST BENEFIT ANALYSIS

Stock rebuilding efforts may be associated with socioeconomic costs. Rebuilding stocks from a depleted state towards a target reference point may constrain opportunities to harvest healthy species.

The objectives and management measures developed for rebuilding Bocaccio and Yelloweye Rockfish stocks have taken into consideration the socio-economic implications of planned management measures. The timeframe for recovery and the level of catch reductions have been established to balance the priority of rebuilding Bocaccio and Yelloweye Rockfish while also allowing for fishing opportunities on healthy stocks that co-occur with these two stocks. The rebuilding approach has been developed with input from harvest sectors to help establish this balance.

In the long term, there will be benefits for harvesters to the rebuilding of Bocaccio and Yelloweye Rockfish stocks, as healthy stocks will allow for the prosecution of relevant fisheries with fewer conservation constraints.

1.10. ROLES AND RESPONSIBILITIES

The Groundfish Management Unit is responsible for monitoring progress, leading performance reviews, and implementing management measures for commercial groundfish fisheries. The Groundfish Management Unit will support recreational fishery managers in monitoring, reviewing, and implementing management for the recreational fishery. The Department's salmon troll fishery managers will be responsible for implementing and monitoring management measures for commercial salmon troll fisheries.

1.11. EVALUATION AND PERFORMANCE REVIEW

As outlined above one of the key considerations DFO has identified for rebuilding these stocks is an adaptive management approach. This approach acknowledges the need to monitor progress against the milestones and objectives (described above) on an ongoing basis, and to adapt management where required to support rebuilding.

The current focus for commercial groundfish and recreational fisheries will continue to be on annual reviews of performance against the mortality caps outlined in this plan. The annual review process consists of the following elements:

- Review of catch to date through advisory processes, beginning in late summer each year. Survey trends will also be periodically summarized to inform decisions about whether the mortality caps themselves remain appropriate to achieve stock rebuilding.
- In the event that mortality caps are exceeded, DFO will consider additional measures or changes necessary to achieve the mortality caps for the next fishing season. Available measures that may be considered include area closures, temporal closures, individual quotas, reduced TACs, and trip or monthly limits, among others. Consultation on any additional measures will occur through the Commercial Industry Caucus and other groundfish fishery advisory boards in fall each year.
- Implementation of adjusted or new management measures. Primary tools for implementing changes will be licence conditions or the Groundfish IFMP, both of which are renewed for issuance on February 21 of each year.

To evaluate commercial groundfish catch relative to the mortality caps, current sector year to date catch estimates for each commercial groundfish sector are available here: [Pacific groundfish reports and publications | Pacific Region | Fisheries and Oceans Canada \(dfo-mpo.gc.ca\)](#)

Current fishery monitoring and catch reporting programs in the recreational and salmon troll fisheries constrain the Department's ability to generate accurate catch estimates for groundfish species in these fisheries. Work is ongoing in the recreational fishery to develop options for more comprehensive estimates of rockfish catch as well as the efficacy of descending devices in Pacific.

2. ALTERNATIVE APPROACH PLANS FOR YELLOWMOUTH ROCKFISH

2.1. FOREWORD

Fisheries and Oceans Canada's (DFO) [Species at Risk Act](#) (SARA) [Listing Policy and Directive for "Do Not List" Advice](#) requires an Alternative Approach Plan (AAP) be developed when a recommendation is being made to not list a species under SARA. An AAP outlines the measures that will be taken to manage and conserve a species when it is not listed under SARA. As per the reporting requirement in the Species at Risk Act Directive for "Do Not List" Advice, the Regional Director General, Pacific Region, will report to the Policy and Operations Committee on the species status and progress made on the measures identified in the AAP within five years of the posting of a "do not list" decision in Canada Gazette II. The Regional Director General of the Lead Region must also recommend an approach forward for Committee approval.

This section summarizes the recommended alternative approach to managing Yellowmouth Rockfish (*Sebastes reedi*), for the Policy and Operations Committee's consideration. Further details on Yellowmouth Rockfish management are available in Appendix 8: Groundfish Trawl Commercial Harvest Plan of the Groundfish Integrated Fisheries Management Plan (IFMP).

2.2. INTRODUCTION

In 2010, Yellowmouth Rockfish was recommended as "Threatened" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). A subsequent peer-reviewed stock assessment (DFO 2012) by DFO Science estimates the Yellowmouth Rockfish stock to be in the Healthy Zone under the [Sustainable Fisheries Framework](#) (SFF) policy [A Fisheries Decision-Making Framework Incorporating the Precautionary Approach](#) (PA Framework).

In 2017, the Government of Canada made the [decision not to add Yellowmouth Rockfish to the List of wildlife species at risk](#) set out in Schedule 1 to the *Species at Risk Act*. Adding the species to the List would have resulted in significant and immediate negative socio-economic impacts on the fishing industry due to the triggering of the general prohibitions, and the incremental benefits would likely be small.

2.3. BIOLOGY

Yellowmouth Rockfish belong to the family *Sebastidae* and is distinguished from other rockfish by its black, yellow, and red markings in its mouth. The life history of Yellowmouth Rockfish remains largely unknown, but probably follows similar patterns to other *Sebastes* species, with release of larvae that spend months free-swimming in the pelagic zone before settling to the bottom as juveniles. More information on Yellowmouth biology and distribution, habitat requirements, and stock scenarios can be found online in the Canadian Science Advisory Secretariat publications: [Search: CSAS Publications \(isdm-gdsi.gc.ca\)](#)

2.4. STOCK STATUS AND FISHERY OVERVIEW

Science advice indicates that the Yellowmouth Rockfish stock is in the Healthy zone. Harvests in the commercial groundfish fisheries (primarily the trawl fishery) are assumed to be the current primary source of human-induced mortality for Yellowmouth Rockfish. Commercial groundfish catch reconstructions from 1996 to 2010 estimate greater than 98 percent of Yellowmouth Rockfish catch occurs in the groundfish trawl fishery. Yellowmouth Rockfish is an important commercial species in British Columbia (BC), often caught along with Pacific Ocean Perch (*S. alutus*). A trawl fishery for slope rockfish has existed in BC since the 1940s. In 2022/23, commercial total allowable catch (TAC) for Yellowmouth increased from 2,442 to 2,500 t. Harvest information in other commercial, recreation and First Nations' Food, Social and Ceremonial (FSC) is limited.

2.5. ADDITIONAL MANAGEMENT MEASURES

Under DFO's alternative approach, it is proposed that Yellowmouth Rockfish will continue to be managed under the [Fisheries Act](#) as part of the Groundfish IFMP. Sustainable management measures ensure the stock remains in the Healthy Zone under the PA Framework, while imposing fewer socio-economic impacts on Canadians. The Department will also consider the following additional management measures:

1. If the population falls below the Healthy zone, the Groundfish Management Unit will adjust the total allowable catch (TAC) according to updated science information. As Yellowmouth is currently in the Healthy Zone under the PA Framework, no changes to the TAC are proposed at this time.
2. A new stock assessment was peer reviewed in 2021/2022. After considering the advice in the updated assessment, including the current stock status and continued relatively low catch rates, the 2022/23 commercial groundfish TAC for Yellowmouth rockfish is 2,500 tonnes. Future assessments will occur every ten years to ensure continued implementation of these management measures under the *Fisheries Act*.
3. Until new science advice is available, trends in both survey biomass indices and commercial CPUE will be reviewed annually by Science and Fisheries Management as part of the annual groundfish management work planning process.

These proposed management measures are considered sufficient to provide adequate protection for the species and maintain its status in the Healthy Zone. Outcomes from the application of this plan will be reviewed periodically by Fisheries Management to determine if changes to the approach are warranted.

Appendix 10: Fishery Closures for Groundfish Hook and Line Fisheries

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1. ROCKFISH CONSERVATION AREAS

There are 162 Rockfish Conservation Areas (RCAs) in British Columbia, covering roughly 4,350km² of the Canadian Pacific Coast. These areas are closed to a range of recreational and commercial fisheries to protect inshore rockfish and their habitat.

DFO is currently undertaking a multi-year review of the conservation effectiveness of RCAs, including meeting the national criteria and standards for marine refuges to better conserve sensitive areas and contribute towards Canada's Marine Conservation Targets (MCT). To meet these standards, the risks to inshore rockfish, their habitat, and benthic communities will need to be avoided or mitigated. Peer-reviewed science advice also recommends that boundary changes to some RCAs will improve their spatial design by better capturing rockfish habitat features. RCAs in the Northern Shelf Bioregion have been selected for the first phase of engagement to align with the MPA network planning process in that area. Workshops with First Nations and stakeholders and online consultations were held in 2019. A summary of what DFO heard is available online at: <https://www.pac.dfo-mpo.gc.ca/consultation/ground-fond/rca-ac/2020-heard-entendu-eng.html#6>. There will be more opportunities to provide feedback on Rockfish Conservation Areas in the Northern Shelf Bioregion in the near future. DFO is also planning to review Rockfish Conservation Areas in other regions of British Columbia at a later date.

Further information on RCAs and the boundary proposals are available online at: <http://dfo-mpo.gc.ca/rockfish-conservation> or for further information on this, please contact DFO.RCA-ACS.MPO@dfo-mpo.gc.ca.

2. STRAIT OF GEORGIA AND HOWE SOUND GLASS SPONGE REEF MARINE REFUGES

17 marine refuges were established between 2016 and 2019 under the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative, which aims to protect glass sponge reefs from all bottom-contact fishing activities in alignment with DFO's Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas. All commercial, recreational and Indigenous Food, Social and Ceremonial (FSC) bottom-contact fishing activities for prawn, shrimp, crab and groundfish, are prohibited within the 17 marine refuges as well as the use of downrigger gear for recreational salmon trolling (restricted via Condition of Licence) are prohibited within the 17 marine refuges within Subareas 28-2 and 28-4 to protect Howe Sound glass sponge reefs. Prohibited fishing activities include:

- prawn and crab by trap
- shrimp and groundfish by trawl
- groundfish by hook and line
- use of downrigger gear in recreational salmon trolling

In 2020, a DFO Canadian Science Advisory Secretariat publication confirmed the presence of five additional live sponge reefs and one dead reef in Howe Sound. As glass sponge reefs are slow growing and vulnerable to physical disturbances, the report suggested the reefs be closed to

bottom-contact fishing. Between September 2020 and February 2021, DFO officials undertook consultation and engagement on proposed commercial and recreational and Indigenous FSC closures to invertebrate trap, groundfish trawl, groundfish hook and line, and the use of downriggers within the new sites with the aim of establishing marine refuges. Commercial and recreational bottom-contact fishery closures went into effect on January 17, 2022 within the five sites in portions of Subareas 28-1, 28-2 and 28-3 to protect these five additional Howe Sound glass sponge reefs. The use of downrigger gear in recreational salmon trolling will also be prohibited within the five sites and at one existing site (Queen Charlotte Channel) via a Condition of Licence, which will come into effect on April 1, 2022.

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

A description of the closures is provided on the Strait of Georgia and Howe Sound Glass Sponge Reef Conservation Initiative website, here: <https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/closures-fermetures-eng.html>

3. SGAAN KINGHLAS-BOWIE SEAMOUNT MARINE PROTECTED AREA

The SGAan Kinghlas – Bowie Seamount Marine Protected Area (SK-B MPA) was designated under the *Oceans Act* in 2008 and was established to conserve and protect the unique biodiversity and biological productivity of the area’s marine ecosystem, including three seamounts (SGaan Kinghlas – Bowie, Hodgkins, and Davidson) and the surrounding waters, seabed, and subsoil. The SK-B MPA is cooperatively managed by DFO and the Council of the Haida Nation (CHN) through the SK-B Management Board, and the SK-B MPA Management Plan guides the conservation and protection of the MPA. The SK-B MPA is closed to all commercial fishing activities for groundfish. For more information on the SK-B MPA—including restrictions to other fisheries and human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html>.

See the following resources for additional context/information on the SK-B MPA:

- Figure A for a map of the SK-B MPA
- Table A for a list of the SK-B MPA boundary coordinates

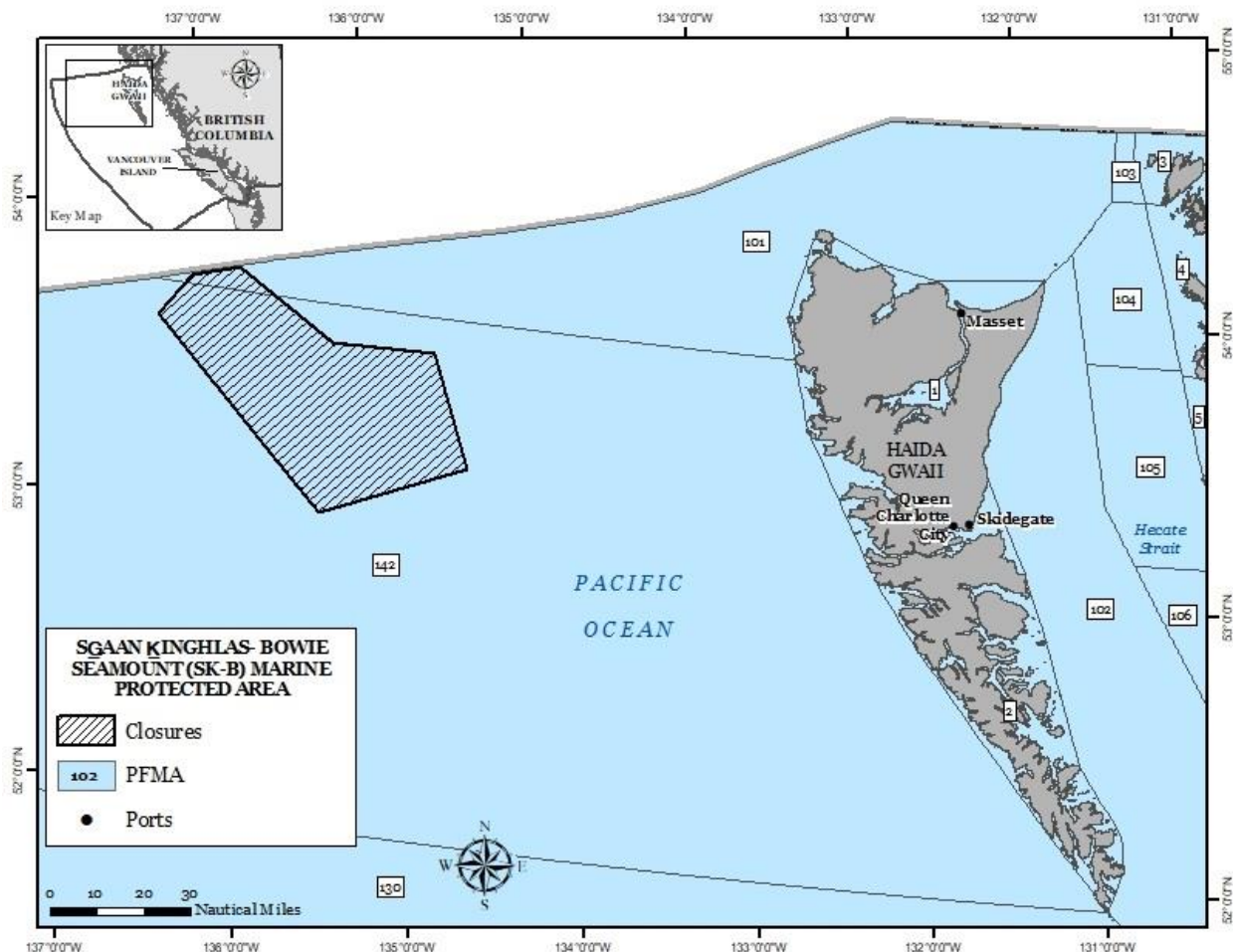


Figure A. Map of SGAAN KINGHLAS – Bowie Seamount MPA

Table A. List of SGAAN KINGHLAS – Bowie Seamount MPA boundary coordinates

Those waters of subareas 101-1 and 142-2 and is described as bounded by a series of rhumb lines drawn from a point:			
commencing at	53°03'07.6" N	135°50'25.9" W	
to a point at	53°16'20.9" N	134°59'55.4" W	
to a point at	53°39'49.2" N	135°17'04.9" W	
to a point at	53°39'18.0" N	135°53'46.5" W	
to a point at	53°52'16.7" N	136°30'23.1" W	EEZ Boundary
Then following the EEZ Boundary to a point at	53°49'19.6" N	136°47'33.1" W	EEZ Boundary
to a point at	53°40'02.5" N	136°57'03.5" W	
to a point at	53°13'59.2" N	136°10'00.0" W	
then back to the point of commencement.			

4. HECATE STRAIT AND QUEEN CHARLOTTE SOUND GLASS SPONGE REEFS MARINE PROTECTED AREAS

The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Marine Protected Areas (Hecate MPA) was designated under the *Oceans Act* in February 2017 to conserve the biological diversity, structural habitat and ecosystem function of four glass sponge reefs off the coast of British Columbia. The Hecate MPA protects rare glass sponges from human activities that may break their silica (glass) structure, or may result in smothering through increased suspended sediment. Under the Hecate MPA Regulations, human activities are regulated/managed using three different management zone types:

- I. Core Protection Zones (CPZs) include the seabed and waters surrounding the glass sponge reefs. CPZs extend from the seabed to depths (below the sea surface) that vary depending on the Reef ; 100 m in Northern Reef, 120 m in the Central Reefs, 146 m in the Southern Reef). The CPZs also include the subsoil to a depth of 20 m below the seabed. CPZs are closed to anchoring and all fishing.
- II. Vertical Adaptive Management Zones (VAMZs) include water columns immediately above the CPZs, and each extends from that boundary to the sea surface. The VAMZs are closed to all commercial activities for groundfish.
- III. Adaptive Management Zones (AMZs) consist of the seabed, subsoil, and waters of the Hecate MPA that are not a part of the CPZs or VAMZs. The AMZs are closed to all commercial trawling and bottom-contact fishing activities for groundfish.

For more information on the Hecate MPA—including restrictions to other fisheries and human activities—please visit: <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html>.

See the following resources for additional context/information on the Hecate MPA:

- Figure B for a map of the Hecate MPA
- Figure C for an illustration of the spatial relationship among the CPZs, AMZs, and VAMZs (management zones) within each Reef
- Table B for a list of the AMZ boundary coordinates
- Table C for a list of the CPZ/VAMZ boundary coordinates

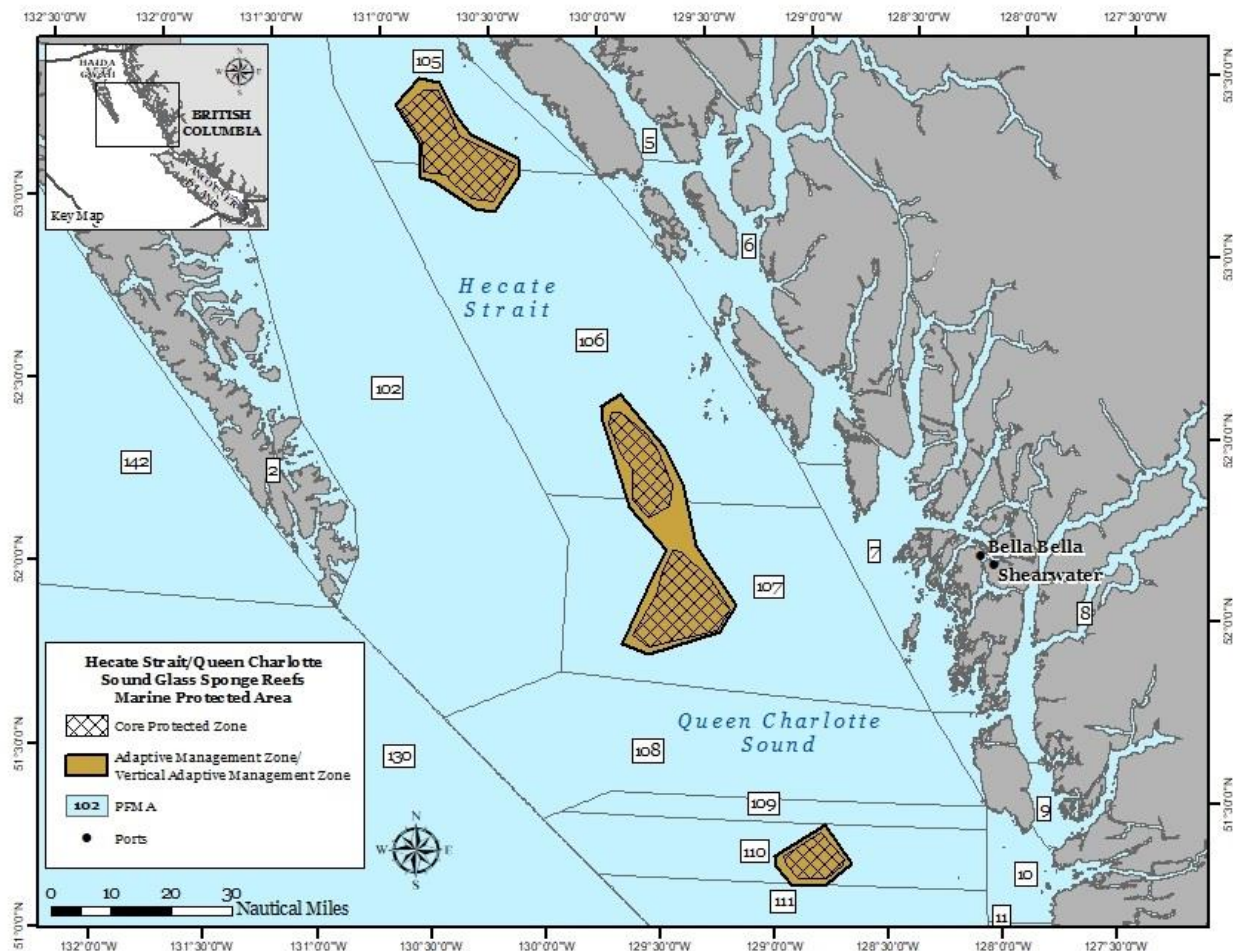


Figure B. Map of Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA.

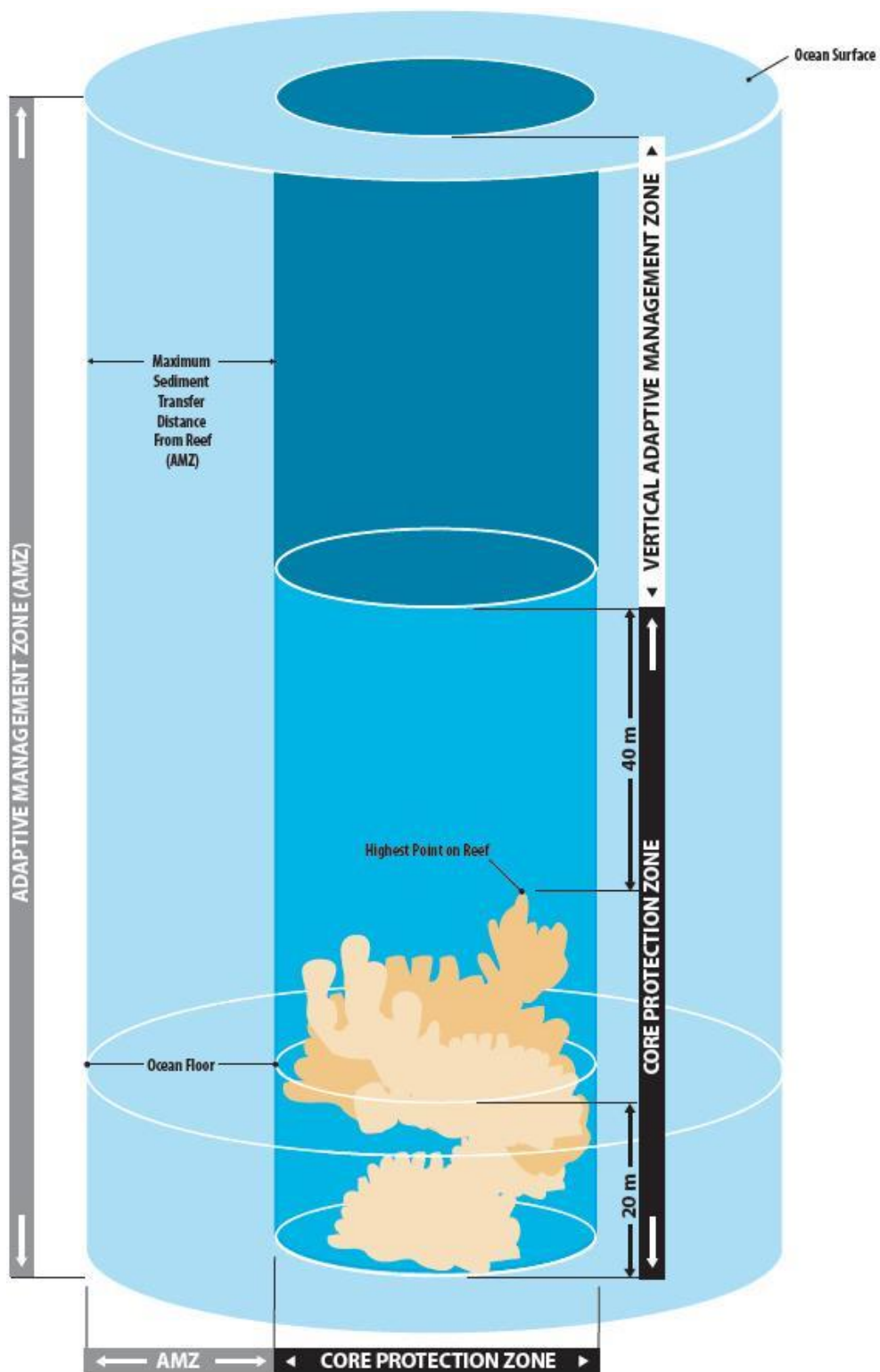


Figure C. Illustration of the spatial relationship among the CPZs, AMZs, and VAMZs (management zones) within each reef of the Hecate MPA. Depth of VAMZs vary depending on the Reef (100 m in Northern Reef, 120 m in the Central Reefs, 146 m in the Southern Reef).

Table B. Outer boundaries of the Hecate MPA and the Adaptive Management Zones (AMZs). The AMZs are areas surrounding the Core Protection Zones (CPZs) / Vertical Adaptive Management Zones (VAMZs).

Northern Reef Marine Protected Area

Those waters of subareas 105-2 and 106-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	53° 11' 52.9" N	130° 19' 47.2" W
then to	53° 09' 22.0" N	130° 18' 53.0" W
then to	53° 02' 54.5" N	130° 25' 16.2" W
then to	53° 03' 06.9" N	130° 30' 35.6" W
then to	53° 07' 17.8" N	130° 42' 03.2" W
then to	53° 07' 44.5" N	130° 46' 26.5" W
then to	53° 13' 28.7" N	130° 47' 28.7" W
then to	53° 19' 20.0" N	130° 54' 24.2" W
then to	53° 24' 05.4" N	130° 48' 37.8" W
then to	53° 23' 40.7" N	130° 42' 52.2" W
then to	53° 18' 42.5" N	130° 38' 09.3" W
then to	53° 15' 20.6" N	130° 33' 01.3" W
then back to the beginning point.		

Central Reefs Marine Protected Area

Those waters of subareas 106-2, 107-1, and 107-2 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	52° 00' 24.4" N	129° 14' 12.6" W
then to	51° 55' 50.5" N	129° 18' 13.8" W
then to	51° 51' 32.5" N	129° 36' 37.4" W
then to	51° 53' 00.7" N	129° 44' 03.4" W
then to	52° 05' 14.1" N	129° 36' 14.1" W
then to	52° 08' 46.0" N	129° 33' 33.5" W
then to	52° 15' 42.6" N	129° 44' 12.3" W
then to	52° 29' 35.4" N	129° 52' 32.7" W
then to	52° 32' 05.4" N	129° 53' 06.2" W
then to	52° 34' 05.6" N	129° 47' 51.4" W
then to	52° 25' 42.7" N	129° 35' 12.2" W
then to	52° 20' 02.8" N	129° 29' 51.7" W
then to	52° 09' 52.3" N	129° 25' 29.5" W
then back to the beginning point.		

Southern Reef Marine Protected Area

Those waters of area 110 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 24'44.2" N	128° 47'58.3" W
then to	51° 18'32.5" N	128° 40'35.6" W
then to	51° 14'57.6" N	128° 47'01.2" W
then to	51° 14'33.9" N	128° 55'45.5" W

then to	51° 17'42.3" N	129° 00'29.0" W
then to	51° 19'24.5" N	129° 00'53.6" W
then back to the beginning point.		

Additional zoning information and management measures are described in Table C

Table C. List of the Hecate MPA Core Protection Zones / Vertical Adaptive Management Zones boundary coordinates. Commercial harvesters are reminded all fishing is prohibited in the Core Protective Zones (CPZs) described below.

The Northern Reef Core Protection Zones includes those waters below a depth of 100 metres below the sea surface, and the Northern Reef Vertical Adaptive Management Zones includes those waters above a depth of 100 metres below the sea surface.

Those waters of subareas 105-2 and 106-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	53° 18' 40.4" N	130° 52' 46.5" W
then to	53° 22' 12.1" N	130° 47' 01.7" W
then to	53° 22' 20.2" N	130° 43' 12.5" W
then to	53° 17' 22.8" N	130° 38' 18.2" W
then to	53° 15' 01.7" N	130° 36' 35.5" W
then to	53° 10' 55.2" N	130° 20' 19.3" W
then to	53° 04' 30.2" N	130° 25' 53.6" W
then to	53° 04' 58.0" N	130° 32' 16.9" W
then to	53° 07' 22.2" N	130° 37' 37.6" W
then to	53° 08' 36.6" N	130° 39' 29.5" W
then to	53° 08' 41.8" N	130° 45' 40.0" W
then to	53° 13' 51.2" N	130° 46' 41.2" W
then back to the beginning point.		

The Central Reefs Core Protection Zones (includes both Zone 'A' and Zone 'B') include those waters below a depth of 120 metres below the sea surface, and the Central Reefs Vertical Adaptive Management Zones includes those waters above a depth of 120 metres below the sea surface.

Zone 'A'

Those waters of subareas 106-2 and 107-1 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	52° 14' 03.4" N	129° 38' 33.2" W
then to	52° 16' 54.8" N	129° 43' 13.4" W
then to	52° 21' 57.1" N	129° 43' 56.5" W
then to	52° 24' 24.5" N	129° 47' 22.8" W
then to	52° 29' 05.9" N	129° 50' 59.4" W
then to	52° 31' 05.2" N	129° 50' 13.9" W
then to	52° 31' 06.7" N	129° 47' 40.9" W
then to	52° 27' 42.0" N	129° 40' 25.1" W
then to	52° 25' 22.9" N	129° 37' 24.0" W

then to	52° 19' 47.0" N	129° 32' 43.2" W
then to	52° 16' 18.2" N	129° 33' 22.8" W
then to	52° 20' 02.8" N	129° 29' 51.7" W
then to	52° 09' 52.3" N	129° 25' 29.5" W
then back to the beginning point.		

Zone 'B'

Those waters of subarea 107-2 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 54' 43.1" N	129° 41' 22.2" W
then to	52° 01' 22.5" N	129° 35' 48.4" W
then to	52° 05' 13.5" N	129° 34' 32.5" W
then to	52° 08' 48.5" N	129° 31' 44.1" W
then to	52° 08' 51.3" N	129° 29' 18.0" W
then to	52° 04' 27.1" N	129° 21' 17.3" W
then to	51° 59' 40.8" N	129° 15' 23.9" W
then to	51° 56' 04.5" N	129° 18' 46.2" W
then to	51° 52' 55.7" N	129° 36' 49.8" W
then back to the beginning point.		

The Southern Reef Core Protection Zones includes those waters below a depth of 146 metres below the sea surface, and the Southern Reef Vertical Adaptive Management Zones includes those waters above a depth of 146 metres below the sea surface.

Those waters of area 110 and is described as bounded by a series of rhumb lines drawn from a point:		
begin at	51° 17' 59.2" N	128° 57' 31.9" W
then to	51° 19' 30.8" N	128° 58' 22.7" W
then to	51° 23' 41.9" N	128° 48' 50.9" W
then to	51° 19' 17.5" N	128° 42' 33.6" W
then to	51° 18' 24.5" N	128° 42' 37.7" W
then to	51° 15' 56.0" N	128° 47' 04.2" W
then to	51° 15' 52.2" N	128° 54' 20.4" W
then back to the beginning point.		

5. OFFSHORE PACIFIC SEAMOUNTS AND VENTS CLOSURE

In May 2017, DFO announced the new Offshore Pacific Area of Interest (AOI) with the intention of making it one of Canada's largest Marine Protected Areas (MPAs) by 2022. The proposed MPA will provide protection to ecologically and biologically significant seamount and hydrothermal vent features within the Offshore Pacific Bioregion. Although the AOI has not yet been designated as an MPA, much of it is protected from under the Offshore Pacific Seamounts and Vents Closure (Offshore Fishery Closure). The Offshore Fishery Closure is closed to commercial bottom-contact fishing activities for groundfish. For more information on the Offshore Pacific Seamounts and Vents Closure—including restrictions to other fisheries—please visit: <https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/offshore-hauturiere-eng.html>.

See the following resources for additional context/information on the Offshore Fishery Closure:

- Figure D for a map of the Offshore Pacific Seamounts and Vents Closure
- Table D for a list of the Offshore Pacific Seamounts and Vents Closure boundary coordinates
- For more information on the Offshore Pacific AOI please visit: <https://www.dfo-mpo.gc.ca/oceans/aoi-si/offshore-hauturiere-eng.html>.

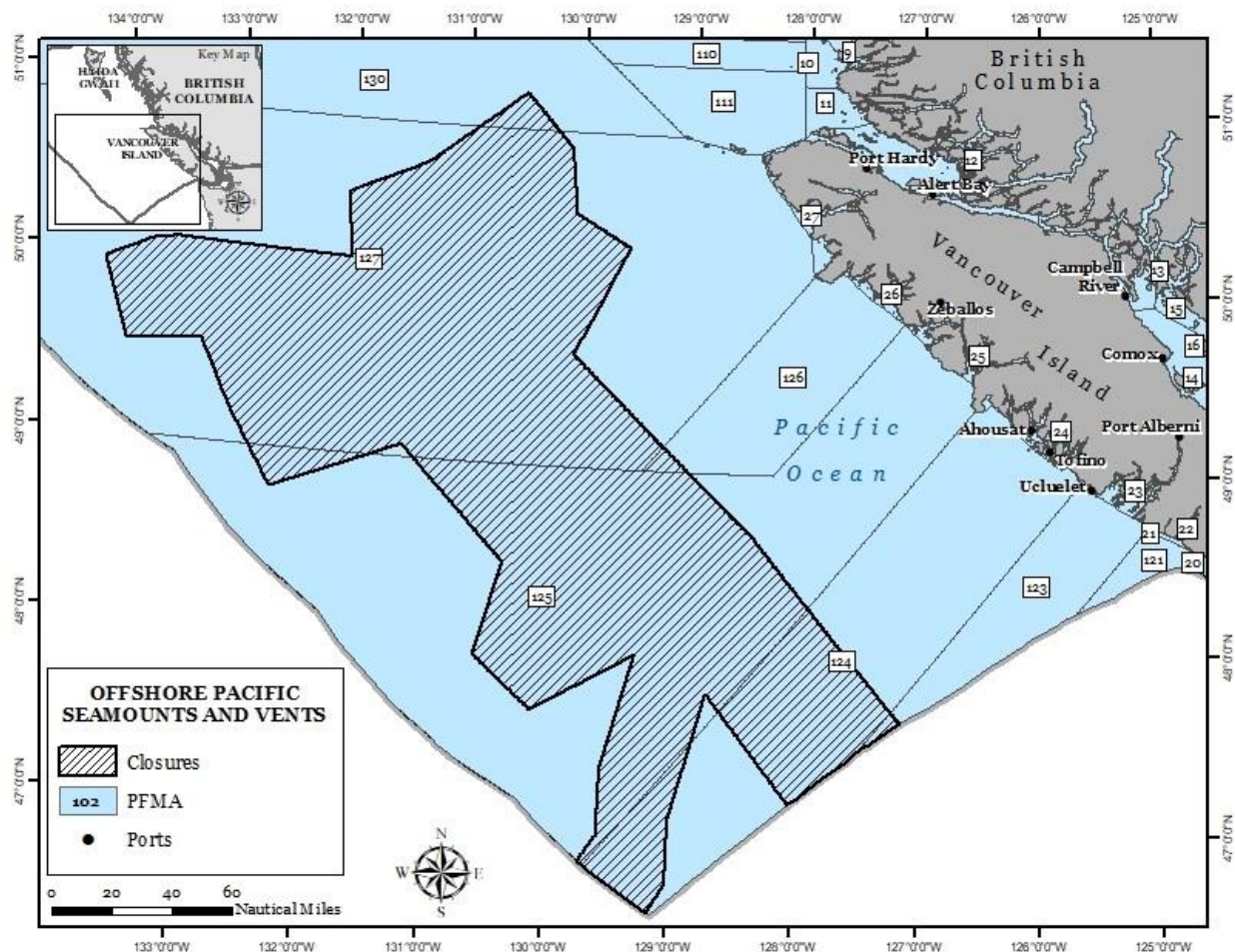


Figure D. Map of Offshore Pacific Seamounts and Vents Closure.

Table D. List of Offshore Pacific Seamounts and Vents Closure boundary coordinates.

Those waters within Pacific Fishery Management Subareas 123-9, 124-1, 124-2, 125-6, 126-3, 126-4, 127-2, 127-4, and 130-1 inside an area bounded by a series of rhumb lines that:			
begin at	46° 48' 50"N	129° 43' 49"W	EEZ Boundary
then to	46° 57' 56"N	129° 35' 21"W	
then to	47° 20' 47"N	129° 35' 07"W	
then to	47° 58' 28"N	129° 20' 36"W	
then to	47° 38' 29"N	130° 11' 09"W	
then to	47° 55' 46"N	130° 40' 55"W	
then to	48° 27' 07"N	130° 28' 55"W	
then to	49° 04' 14"N	131° 23' 35"W	
then to	48° 46' 44"N	132° 28' 38"W	
then to	49° 11' 35"N	132° 52' 15"W	
then to	49° 33' 55"N	133° 09' 51"W	
then to	49° 31' 16"N	133° 47' 59"W	
then to	49° 57' 44"N	134° 03' 07"W	

then to	50° 05' 02"N	133° 40' 17"W	
then to	50° 06' 40"N	133° 27' 16"W	
then to	50° 05' 04"N	131° 55' 58"W	
then to	50° 26' 52"N	132° 00' 12"W	
then to	50° 38' 19"N	131° 20' 40"W	
then to	51° 03' 52"N	130° 30' 22"W	
then to	50° 46' 07"N	130° 04' 35"W	
then to	50° 24' 19"N	130° 00' 37"W	
then to	50° 13' 53"N	129° 32' 03"W	
then to	49° 37' 42"N	129° 58' 56"W	
then to	48° 39' 08"N	128° 24' 12"W	
then to	47° 38' 10"N	127° 08' 52"W	EEZ Boundary
then following the EEZ Boundary then to	47° 10' 18"N	128° 02' 44"W	EEZ Boundary
then to	47° 46' 26"N	128° 44' 50"W	
then to	47° 03' 55"N	129° 00' 51"W	
then to	46° 42' 15"N	129° 01' 06"W	
then to	46° 32' 20"N	129° 09' 24"W	EEZ Boundary
then following the EEZ to the beginning point.			

6. GWAII HAANAS NATIONAL MARINE CONSERVATION AREA

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. The zoning plan can be found at: <https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/info/consultations/gestion-management-2018>. The fishery notice, which describes the strict protection zones, can be found at: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all.

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.

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.

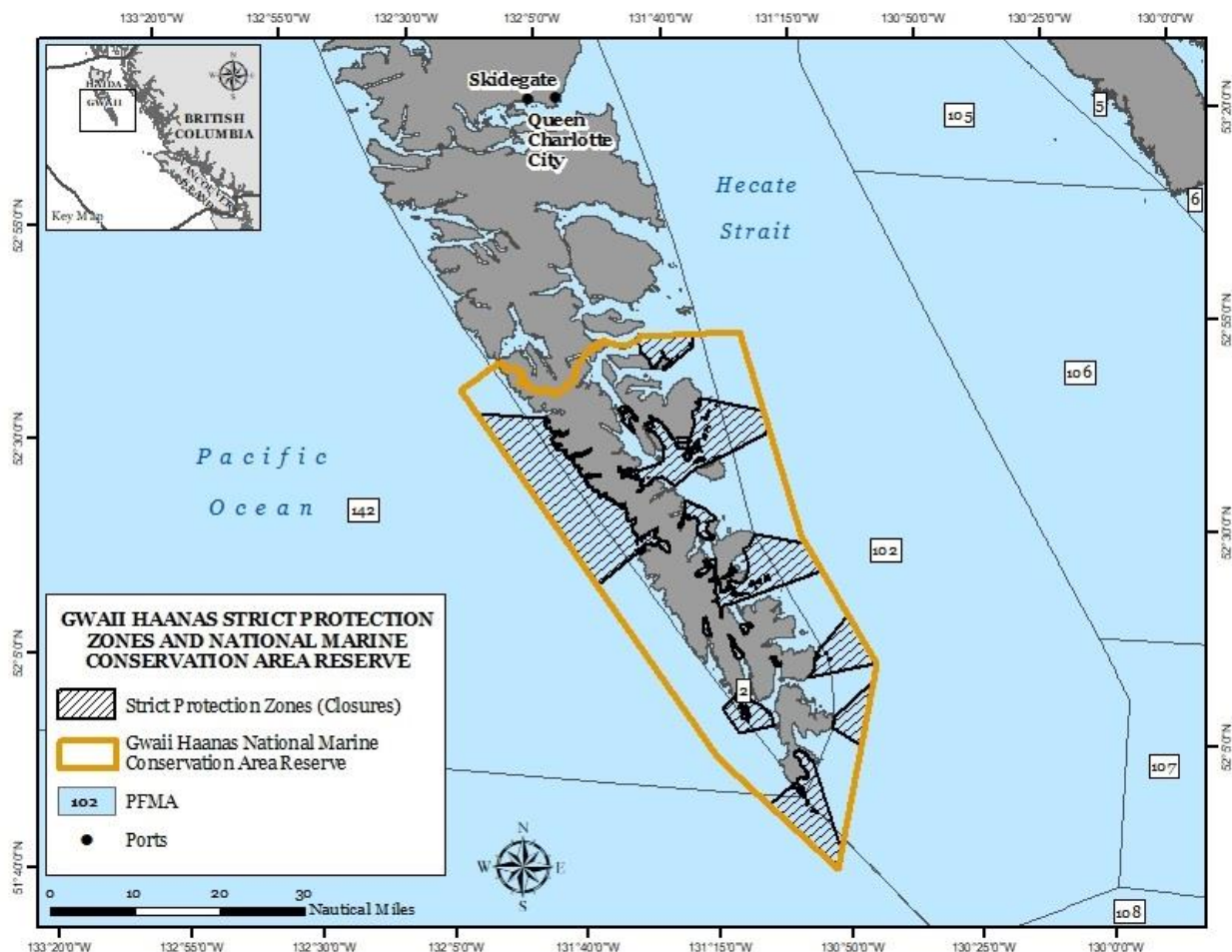


Figure 5. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site and Gwaii Haanas Strict Protection Zones.

7. OTHER FISHERY CLOSURES

7.1. Strait of Georgia Lingcod

Closed year-round to the retention of Lingcod in the hook and line commercial fisheries in Areas and Subareas 13 to 19, 20-5 to 20-7, 28 and 29.

7.2. Georgia Strait and WCVI Closures

Area/Subarea	Rationale for Closure
13-2 to 13-9, 13-11 and 13-27	Closed to all commercial fishing.
14-11 and 14-14	Harbour areas.
16-3 and 16-4	Harbour areas.
17-7 and 17-14	Harbour areas.
17-20 and 17-21	Protect shallow water environment.

Area/Subarea	Rationale for Closure
18-8	Harbour areas.
19-1	Harbour areas.
19-6	Protect shallow water environment.
19-7 to 19-12	Designated sport-fishing area (open for dogfish only).
20-6 and 20-7	Harbour areas.
22	Protect shallow fresh water environment.
28-1 to 28-14	Designated sport-fishing areas.
29-7 to 29-17	Protect shallow water environment and Fraser River.

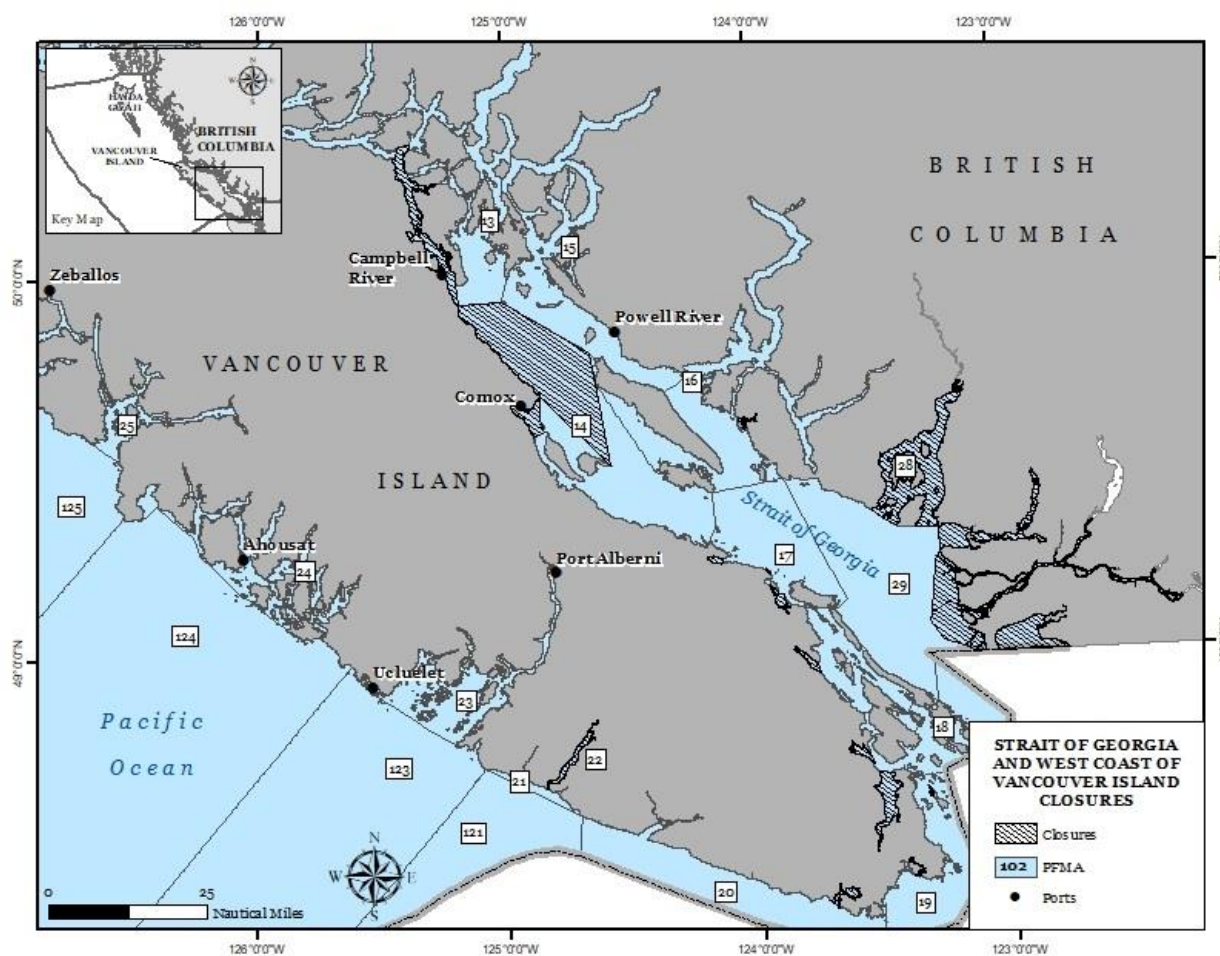


Figure 6. Georgia Strait and WCVI closures.

7.3. Haida Gwaii

Subareas 2-1, 2-63 to 2-68; and that portion of Subarea 2-69 from Hunter Point to Fame Point shoreward of the coordinates laid out below. These areas are closed year round for all commercial groundfish fisheries. The intent of the closure is to reduce harvesting pressure on

localized stocks of fish and to provide improved access for First Nations Food, Social and Ceremonial purposes.

Subarea 2-69:

The portion of Subarea 2-69 inside a line:		
that begins at Fame Point	53°17.060' N	132°42.415' W
then to	53°17.060' N	132°43.800' W
then to	53°16.350' N	132°44.700' W
then abutting the boundary of 2-68	53°15.208' N	132°43.597' W

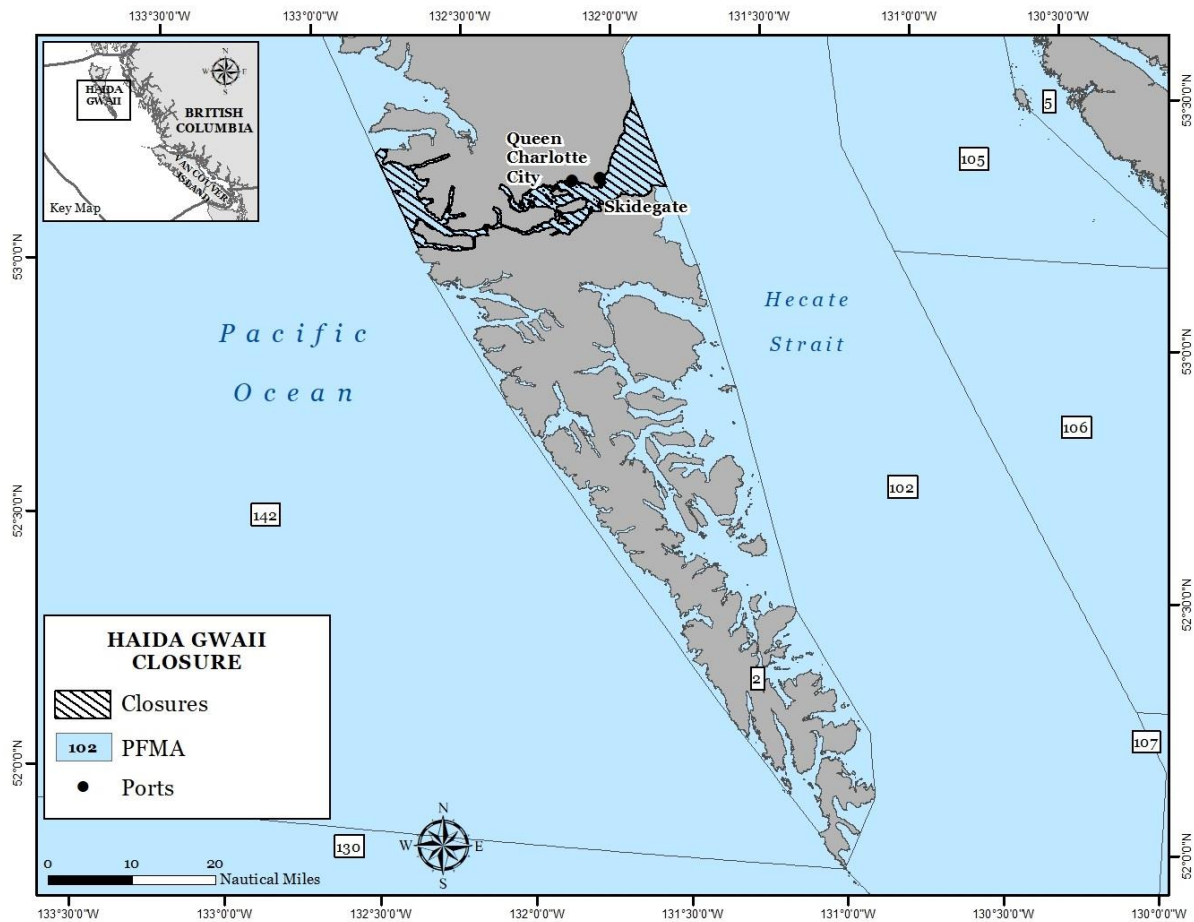


Figure 7. Haida Gwaii closed areas.

7.4. Swiftsure Commercial

Those portions of Subareas 121-1 and 121-2 inside a line:		
commencing at a point in water located at	48°34.000' N	125°06.000' W
due east to a point in water located at	48°34.000' N	124°54.200' W
thence southeasterly to a point in water at	48°29.618'N	124°43.553'W
thence due west to point in water located at	48°29.275'N	124°58.000'W
and thence northwesterly back to the point of commencement.		

7.5. Swiftsure Recreational

Those portions of Subareas 121-1 and 121-2 inside a line:		
that begins at	48°34.000' N	125°06.000' W
then true east to	48°34.000' N	124°54.200' W
then southeasterly to the International Boundary, outer perimeter at	48°29.618' N	124°43.553' W
then westerly following the International Boundary outer perimeter to	48°29.605' N	124°56.190' W
then northwesterly to the beginning point.		

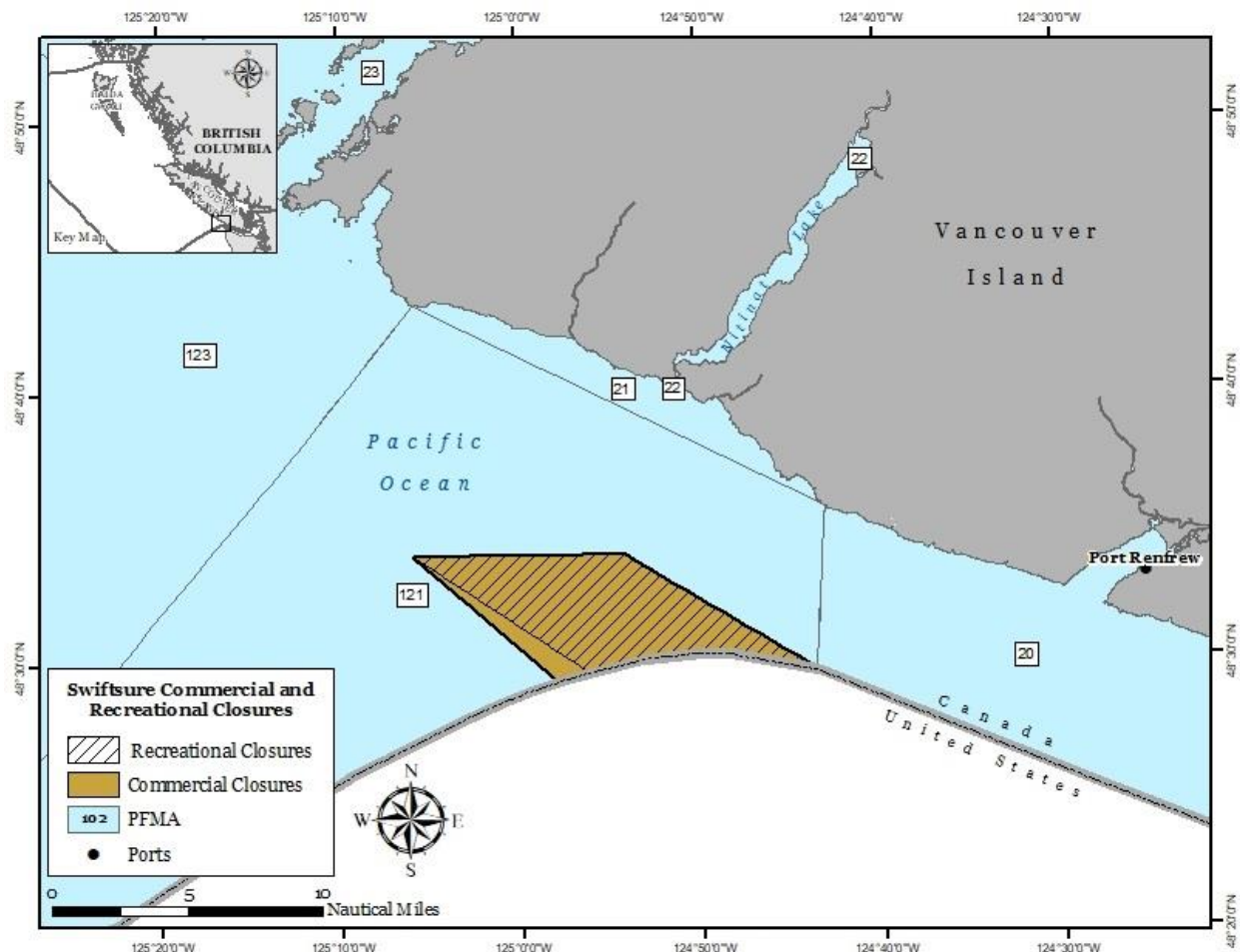


Figure 8. Swiftsure closure locations.

7.6. Seasonal Closures

7.6.1. 72-Hour “Halibut Opening” Closure

These closures go into effect 72 hours prior to the Halibut opening each year for all commercial hook and line fishing vessels. Their intent is to ensure a fair and orderly opening for the Halibut fishery.

Those portions of Area 101 that are:

east of the meridian passing through 134°00.0' west longitude;
west of the meridian passing through 132°40.0' west longitude; and
south of the parallel passing through 54°30.0' north latitude.

Those portions of Subareas 102-2, 102-3, 108-2, 130-2, 130-3 and 142-1 that are inside a line that:

that begins at	52°11.0' N	131°22.16' W
then westerly to	52°10.0' N	131°30.0' W

then true south to	51°30.0' N	131°30.0' W
then true east to	51°30.0' N	130°00.0' W
then true north to	52°10.0' N	130°00.0' W
then westerly to	52°13.0' N	131°00.3' W

Those portions of Area 111 and Subarea 130-1 that lie inside a line that:
 begins at 51°15.0' N 130°00.0' W
 then true east to 51°15.0' N 129°30.0' W
 then true south to 51°00.0' N 129°30.0' W
 then true west to 51°00.0' N 130°00.0' W
 then true north to the beginning point.

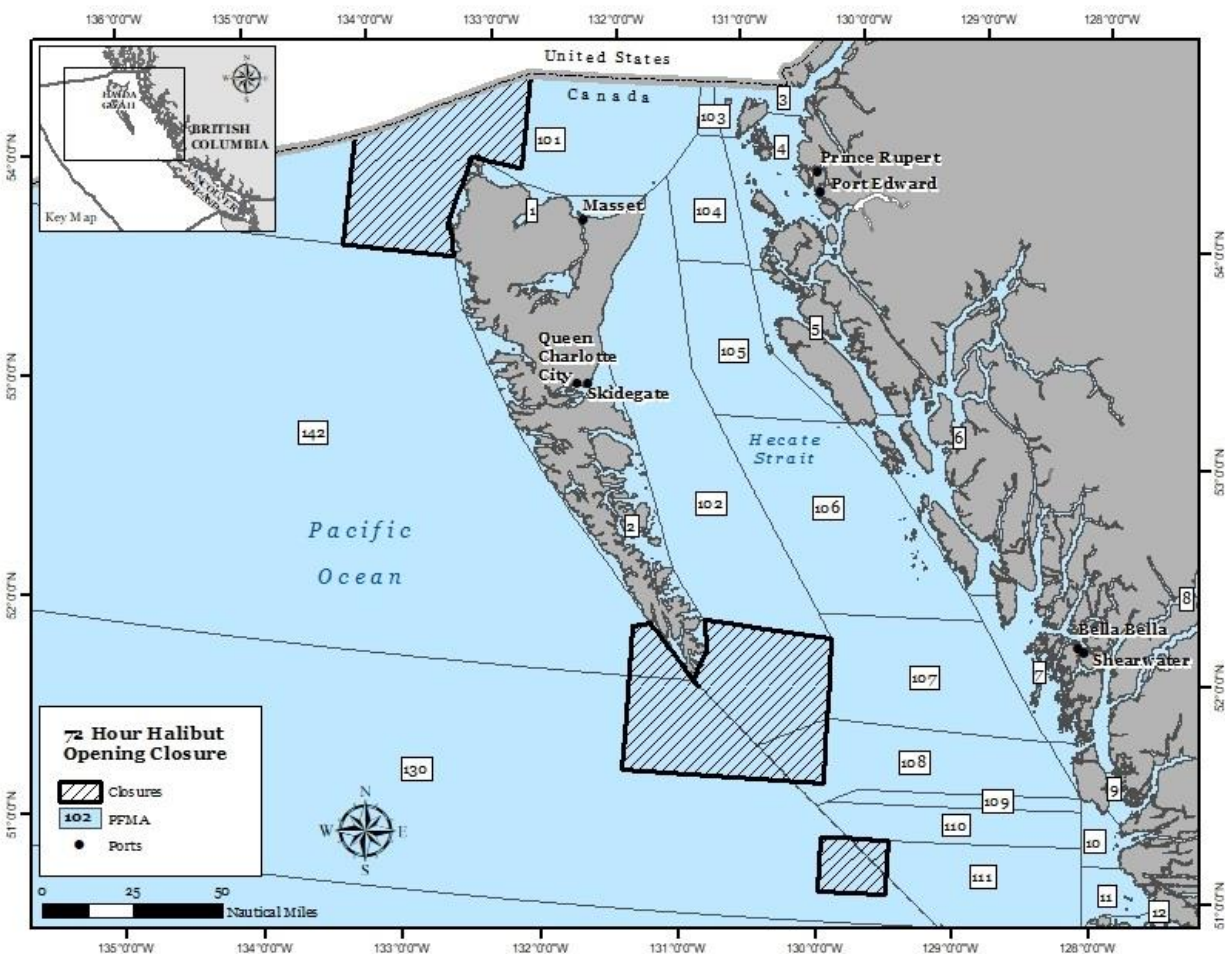


Figure 9. Map of 72-hour “Halibut opening” closure areas

7.6.2. Southern Resident Killer Whale Seasonal Closure

Southern Resident Killer Whales – Management Measures to Address Reduced Prey Availability, and Physical and Acoustic Disturbance. Please refer to IFMP section 5.1.6 and to Fishery Notices for additional information.

Appendix 11: Fishing Vessel Safety

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1. OVERVIEW – FISHING VESSEL SAFETY

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

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

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

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

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

Publications:

- *Gearing Up for Safety* - WorkSafeBC
- <https://tc.canada.ca/en/marine-transportation/marine-safety/tp-15393e-adequate-stability-safety-guidelines-fishing-vessels> TP 15393E - Adequate stability and safety guidelines for fishing vessels
- TP 15392E - Guidelines for fishing vessel major modification or a change in activity. <https://tc.canada.ca/en/marine-transportation/marine-safety/tp-15392e-guidelines-fishing-vessel-major-modification-change-activity>
- Transport Canada Publication TP 10038 Small Fishing Vessel Safety Manual (can be obtained at Transport Canada Offices from their website at: <http://www.tc.gc.ca/eng/marinesafety/tp-tp10038-menu-548.htm>)
- Amendments to the Small Fishing Vessel Inspection Regulations (can be obtained from: <http://www.gazette.gc.ca/rp-pr/p2/2016/2016-07-13/html/sor-dors163-eng.php>)
- Safety Issues Investigation into Fishing Safety in Canada report can be accessed: <https://www.tsb.gc.ca/eng/rapports-reports/marine/etudes-studies/M09Z0001/M09Z0001.html>

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

2. IMPORTANT PRIORITIES FOR VESSEL SAFETY

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

2.1. Fishing Vessel Stability

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

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

In 2017, Transport Canada Marine Safety (TC) issued Ship Safety Bulletin (SSB) [No. 03/2017](#) announcing the coming into force of the New Fishing Vessel Safety Regulations. The initial regulations were published in the Canada Gazette Part II on July 13, 2016 and

came into force on July 13, 2017. The bulletin includes important information on changes to requirements for Written Safety Procedures, Safety Equipment and Vessel Stability.

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

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

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

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

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

The TSB has investigated several fishing vessel accidents since 2005 and found a variety of factors that 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, [M17P0052](#) – Miss Cory, [M18P0073](#) – Western Commander, [M18A0425](#) – Charlene A and [M18A0454](#) – Atlantic Sapphire.

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

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

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

2.2. Emergency Drill Requirements

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

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

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

WorkSafeBC's Occupational Health and Safety Regulation (OHSR) requires written rescue and evacuation procedures for work on or over water. Additionally, fishing vessel masters must establish procedures and assign responsibilities to each crew member to cover all emergencies, including the following: crew member overboard, fire on board, flooding of the vessel, abandoning ship, and calling for help. Fishing vessel masters are

also required to conduct emergency drills at the start of each fishing season, when there is a change of crew, and at periodic intervals to ensure that crewmembers are familiar with emergency procedures.

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

2.3. Cold Water Immersion

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

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

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

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

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

2.4. Other Issues

2.4.1. Weather

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

http://www.weatheroffice.gc.ca/marine/index_e.html

2.4.2. Emergency Radio Procedures, EPIRB's and AIS

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). All fishing vessels greater than 20m in length must carry a Class A AIS, as well as a float free 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons must be registered with the Canadian Beacon Registry. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources. The TSB notes that there have been several recent occurrences on board vessels not equipped with an EPIRB, and that were either unable or did not use any other means of emergency signaling distress (e.g. [M14P0121](#), [M14A0289](#), [M15A0189](#), [M16A0327](#), [M18A0076](#), [M18A0303](#), [M18A0078](#), M18P0184, M19A0082, M19P0242, [M20A0258](#), [M20A0160](#), [M21A0315](#)) which resulted in 26 fatalities. The carriage of both AIS and EPIRB is strongly encouraged for all fishing vessels who do not fall under the mandatory threshold.

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

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

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on DSC can be found

here: [TC DSC Safety Bulletin](#). Questions regarding Coast Guard DSC capabilities can be obtained by contacting your local MCTS centre (Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333).

2.4.3. Collision Regulations

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

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

Exceptions include:

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

More detailed information on VTS can be obtained by calling either Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333 or from the Coast Guard website: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/part3-eng.html>

2.4.4. Buddy System

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

3. WORKSAFEBBC

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

Other sections of the OHSR also apply to commercial fishing operations. For example, Part 3 addresses training of young and new workers, first aid, and employer incident/accident investigations. Part 4 addresses general conditions such as maintenance of equipment, workplace conduct and impairment. Part 8 addresses issues related to safety headgear, safety footwear, eye and face protection, limb and body protection and personal flotation devices (PFDs) when working on the dock. Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.

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

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

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

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

For further information, contact an Occupational Safety Officer:

Bruce Logan	Vancouver/ Richmond/Delta	(604) 244-6477
Mark Lunny	Courtenay	(250) 334-8732
Cody King	Courtenay	(250) 334-8733

Gregory Matthews	Courtenay	(250) 334-8734
Paul Matthews	Courtenay	(250) 334-8741
Jessie Kunce	Victoria	(250) 881-3461

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

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

4. FISH SAFE BC

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

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

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

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

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

5. TRANSPORTATION SAFETY BOARD

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

In 2014 the TSB pacific region released three investigation reports:

- the collision between trawl fishing vessel [Viking Storm](#) and US long line fishing vessel *Maverick* and the subsequent fatality,
- the person over board off the prawn fishing vessel [Diane Louise](#) and the subsequent fatality, and
- the capsizing of the crab fishing vessel [Five Star](#) and subsequent fatality.

In 2016 the TSB pacific region released one investigation report:

- the capsizing of the trawl [Caledonian](#) and subsequent fatalities.

In 2018 the TSB pacific region released two investigation reports:

- the capsizing and sinking of the [Miss Cory](#) and subsequent fatality
- the sinking of the [Western Commander](#) and loss of life

In 2020 the TSB pacific region is currently investigating the fatal accident involving the [Arctic Fox II](#) on August 11.

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

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

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

The other two recommendations address the most basic step that harvesters can take: wearing a personal flotation device. Here in British Columbia, roughly 70 percent of all fishing-related fatalities in the past decade came while not wearing a PFD. Yet many harvesters still do not wear them. TC regulations currently require that PFDs be worn

only if harvesters identify a risk, however; you never know when you could end up in the water. So the TSB is recommending to TC to require persons to wear suitable personal flotation devices at all times when on the deck of a commercial fishing vessel or when on board a commercial fishing vessel without a deck or deck structure and that programs are developed to confirm compliance. In June 2019, WorksafeBC amended its fishing regulation related to the use of PFDs. Under the amendments, crewmembers must wear a PFD or lifejacket when on board a fishing vessel that has no deck or deck structure, or when on the deck of a fishing vessel that has a deck or deck structure. Crewmembers are not required to wear lifejackets or PFDs below deck or when inside a deck structure where there is risk of entrapment. This amendment removes the need for a risk of drowning to be present before a PFD must be worn.

For more information about the TSB, visit the website at www.tsb.gc.ca
For information about the TSB's investigation into fishing safety, or to view a brief video, visit:

<http://www.tsb.gc.ca/eng/medias-media/videos/marine/m09z0001/index.asp>

To view information on the TSB's recent safety Watchlist, visit:
<http://www.tsb.gc.ca/eng/surveillance-watchlist/marine/2020/marine-01.html>

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

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

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

Appendix 12: Groundfish Advisory Committee Contacts

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1. GROUND FISH ADVISORY COMMITTEE CONTACTS

Department consults on a regular basis with advisory committees that represent the different sectors (Halibut, Groundfish Trawl, Sablefish and the Hook and Line fisheries).

Membership includes selected licence holders representative, plus appointed members of the groundfish industry representing the full cross section of stakeholders involved in the industry (i.e. fish harvesters, processors, crewmembers, shoreworkers, coastal communities, and others). These committees meet regularly during the year to provide wide ranging advice to the Department to assist in the overall planning, management and enforcement of the each of their respective fisheries. Vessel owners and stakeholders are urged to communicate any comments or concerns to their appropriate advisory committee representatives for discussion at these meetings. The current members of each of these committees are as follows.

1.1. Halibut Advisory Board (HAB)

ELECTED COMMERCIAL MEMBERS			
Name	Address	Phone	Email Address
Terry Henshaw Annieville Halibut Association	9155 Hardy Road Delta, BC V4C 7V8	Phone (604) 581-9230 Cell (604) 341-3809	tonic1949@gmail.com
John Danroth Alternate, Annieville Halibut Association	23290-34a Avenue, Langley, BC V2Z 2H6	Phone: 604 290 3172	johndanroth@gmail.com
Bob Carpenter Annieville Halibut Association	2510 Lynburn Crescent, Nanaimo, V9S 3T4	(250) 616-8172	carpybob@icloud.com
Ed Peniuk Alternate, Annieville Halibut Association	3760 Norwell Drive, Nanaimo, BC V9T 1Y1		kpeniuk@shaw.ca
Lorne Iverson B.C. Halibut Longliners Association	7950 Hunter Street Burnaby, BC V4C 7V8	Phone (604) 444-4461 Fax (604) 415-3999	lorneiverson@telus.net
Trent Sparrow Alternate, B.C. Halibut Longliners Association			trentjsparrow@gmail.com
Andy Olson B.C. Halibut Longliners Association			executive.director@shoal.ca
Quinton Sample Pacific Coast Fishing Vessel Owners' Guild	1939 Marten Ave, Comox, BC	(250) 218-1835	quintonsample@gmail.com

Angus Grout Pacific Coast Fishing Vessel Owners' Guild		Phone (250) 339-7753 Cell (250) 898-1250	rommel@telus.net
David Boyes Alternate, Pacific Coast Fishing Vessel Owners' Guild	499 Powerhouse Road Courtenay, BC V9N 9L1	Phone (250) 338-2188 Fax (250) 338-2183	mcboyes@telus.net
Lyle Pierce Pacific Coast Fishing Vessel Owners' Guild	2331 Seabank Road, Courtenay, BC	Phone (250) 339-9508 Cell (250) 897-5409	lyle_p@shaw.ca
Herb Van Grootel Steveston Halibut Association	41 - 50th Street Delta, BC V4M 2S5	Phone (604) 948-2741 Fax (604) 948-2741 Cell (604) 328-5555	herb.vg@telus.net
Jim Nightingale Alternate, Steveston Halibut Association	4420 Maple Lane Ladner, BC V4K 2Z5	Phone (604) 946-0947 Fax (604) 946-0947 Cell (604) 862-3479	jnightingale@dccnet.com
Robert Hauknes Independant		Cell (778) 386-2472	robert_hauknes@hotmail.com
Jordan Belveal Independant			jordan@jordanbelveal.com
Dave Renwall Alternate, Independent			reefraider1@gmail.com
APPOINTED MEMBERS¹			
Name	Address	Phone	Email Address
Kilian Stehfest Environmental organizations	219 – 2211 W. 4 th Avenue, Vancouver BC V6K 4S2		kstehfest@davidsuzuki.org
Cliff Atleo Nuu-chah-nulth First Nations			c.atleo71@shaw.ca
Darryl Tate Alternate, Nuu-chah-nulth First Nations		(250) 745-3333	dtate@ditidaht.ca
Larry Johnson Maa-nulth Fisheries Committee and Nations			larry.j@ncnseafood.com
Shawn Cowpar Council of Haida Nation		(250) 637-1551	shawn.cowpar@haidanation.com

¹ Appointed members subject to change following 2021 appointment process

Dr. David Wilson International Pacific Halibut Commission	2320 West Commodore Way, Suite 300 Seattle, WA USA 98199-1287	Phone (206) 634-1838 Fax (206) 632-2983	david.wilson@iphc.int
Dr. Basia Hutniczak Alternate, International Pacific Halibut Commission	2320 West Commodore Way, Suite 300 Seattle, WA USA 98199-1287	Phone (206) 634-1838 Fax (206) 632-2983	Barbara.hutniczak@iphc.int
Paul Ryall International Pacific Halibut Commission Commissioner			paul.ryall@dfo-mpo.gc.ca
Neil Davis International Pacific Halibut Commission Commissioner			neil.davis@dfo-mpo.gc.ca
Peter de Greef International Pacific Halibut Commission Commissioner	1650 Eagle Way North Saanich, BC V8L 6B2	Phone (250) 661-0637	peterjdegreef@hotmail.com
Christopher Sporer Pacific Halibut Management Association	#16046 617 Belmont Street New Westminster, BC V3M 6W6	Phone (604) 523-1528 Fax (604) 648-8737	phma@telus.net
Blake Tipton Processor	SM Products Ltd. 3827 River Road West, Delta, BC, V4K 3N2	Phone (604) 290-2454	lily@halibut.ca
Brad Mirau Alternate, Processor	Aero Trading Co Ltd., #200-8592 Fraser Street, Vancouver, BC, V5X 3Y3	Phone (250) 802-3024	brad@aerotrading.ca
Chuck Ashcroft Sport Fishing Advisory Board		(250) 338-9935	chuckashcroft@telus.net
Martin Paish Sport Fishing Advisory Board			martinpaish1@gmail.com
Mike Fowler Sport Fishing Advisory Board			midon@protonmail.ch
Russell Cameron Union, UFAWU/UNIFOR	RR1 S-6 C-9 Madeira Park, BC V0N 2H0	(604) 740-6434	russelljcameron@yahoo.ca
Jory Tarkanen Alternate, Union – UFAWU/UNIFOR		(250) 650-1066	jtarkanen6@gmail.com
Bruce Turris Groundfish Trawl Advisory Committee			bruceturris@shaw.ca

Brian Mose Alternate, Groundfish Trawl Advisory Committee			bmose@uniserve.com
Tom Russell Sablefish Advisory Committee			quatsinostar@gmail.com
PARTICIPANT OBSERVERS			
Name	Address	Phone	Email Address
Maureen Finn DFO Halibut Coordinator, HAB Chair	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	Phone (604) 666-3279 Cell: (778) 835-5772	maureen.finn@dfo-mpo.gc.ca
Greg Hornby DFO A/Regional Rec Fish Coordinator	940 Alder Street, Campbell River, BC, V9W 2P8	(250) 286 5886	Greg.Hornby@dfo-mpo.gc.ca
Averil Lamont DFO Regional Groundfish Manager	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	Phone (604) 366-0917	Averil.Lamont@dfo-mpo.gc.ca
Ann-Marie Huang DFO Halibut Science Advisor			ann-marie.huang@dfo-mpo.gc.ca
Ann Bussell DFO Regional Groundfish Enforcement Coordinator	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	(604) 666-4162	ann.bussell@dfo-mpo.gc.ca
Mike Turner Senior Manager, Intergovernmental Relations Fisheries and Aquaculture Science Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 698-3129 Cell (250) 886-6318	michael.r.turner@gov.bc.ca
Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries		Cell (250) 893-0260	darah.gibson@gov.bc.ca

1.2. Groundfish Trawl Advisory Committee (GTAC)

ELECTED COMMERCIAL MEMBERS			
Name	Address	Phone	Email Address
Mike Buston	8038 Lantzville Road Lantzville, B.C. V0R 2H0	Phone (604) 940-9111 Cell (604) 817-4131 Fax (604) 940-9295	mike@aqualineseafoods.com
Sarah Buston (alt. for Mike Buston)			sarahbuston@gmail.com
Brian Dickens	1130 Robertson Blvd, Parksville, B.C. V9P 1Y2	Phone (250) 248-1018 Cell: (250) 726-8028 Fax (250) 248-1018	brdickens@shaw.ca
Lyle Andreesen (alt. for Brian Dickens)			lyleandreesen@gmail.com
Gary Krause	1631 11 Avenue E, Prince Rupert, B.C, V8J 2X5	Phone (250) 627-1957 Cell: Fax (250) 624-3886	phantom@citytel.net
Art Malcolm (alt. for Gary Krause)			artdmalcolm@gmail.com
Shannon Mann	2295 Commissioner Street Vancouver, B.C. V5L 1A4	Office 604-215-7909 Cell 778-772-8238 Fax 604-215-7878	shannonmann@marineseafoods.com
Renee Mann (alt. for Shannon Mann)	2295 Commissioner Street Vancouver, B.C. V5L 1A4	Cell 778-994-7363	renee@marineraseafoods.com
Bob Morreau	1036 208 Street Langley, B.C. V2Z 1T4	Phone (604) 534-1760 Cell: (604) 725-9309 Fax (604) 534-2460	morreaufishing@gmail.com
John Roach	19915 1st Ave , Langley, BC V2Z. 0A4	Phone (604) 536-1397 Cell (604) 880-2234 Fax (604) 535-7546	jrfishing@me.com
Daniel Mose (alt. for John Roach)			danmose@hotmail.com
Joseph Greene	3530 Falcon Drive, Nanaimo, BC V9T 4G8	Phone (250) 751-1093 Cell (250) 616-8070	Jmgreene@shaw.ca

Calvin Decker (alt. for Joseph Greene)			calvin.decker.cd@gmail.com
Mitchell Andersen	9098 Skipsey Rd Port Alberni, BC V9Y 9C1	Phone (778) 419 2017 Cell (250) 735 0046	mitchell_andersen@hotmail.com
Deacon (Albert) Melnychuk	27071 35B Ave, Langley, BC V4w 0C3	Phone (604) 813-1279	Viking4@shaw.ca
Cody Melnychuk (alt. for Deacon Melnychuk)	21433 94 Avenue Langlet, BC V1M 1R3	Phone (778) 988 7141	melnchukcody@gmail.com
Ramon (Ray) Dunabeitia	PO. Box 2145 Port Hardy, BC V0N 2P0	Phone (250) 213-3680	r.dun@live.ca
Matthew Dunabeitia (alt. for Ray Dunabeitia)			m_dunabeitia@hotmail.com
APPOINTED MEMBERS			
Name	Address	Phone	Email Address
Glen Kierce - (Lax Kw'alaams First Nation)	153 Alpine Drive Prince Rupert, B.C. V8J 4C5	Phone (250) 624-4117 Cell (250) 660-0477	deepsea@citytel.net
Robert Hughes - (Lax Kw'alaams First Nation) (alt. Andrew Tait/Ted White)			robby_council@laxband.com
Jamie Robertson - (Opt B Rep)	4593 River Road W Delta, B.C., V4K 1R9	Phone (604) 946-6710 Cell (778) 862-8488 Fax (604) 946-6702	madone@telus.net
Tony McDermid - (Opt B Rep)	101-9650 First Street Sidney, B.C. V8L 3C9	Phone (250) 654-0392 Cell (250) 213-3403 Fax (250) 656-9396	roselyn@sidneywaterfront.com
TBD -(Association of Pacific Hake Fishermen)			
Kilian Stehfest - (David Suzuki Foundation)	219–2211 W4th Ave Vancouver, BC V6K 4S2		kstehfest@davidsuzuki.org
Theresa Williams –(Fisher Bay Seafoods)	3326 Anchorage Ave. Victoria, B.C. V9C 1X2	Phone (250) 478-9312 Fax (250) 478-9382	theresa.williams@shaw.ca
Tracy Ronlund - (alt. Fisher Bay Seafoods)		Cell: (250) 812-8112	tracy@fisherbayseafood.com
Dave Dawson – (S & S Seafoods Canada)	12 Orwell Street, North Vancouver, B.C. V7J 2G1	Phone (604) 726-0449	ddawson@paseafood.com

Ken Miller - (alt. S&S Seafood Canada)	12 Orwell Street, North Vancouver, B.C. V7J 2G1	Phone (604) 928-9844	kmiller@pacseafood.com
George Mukai – (Canadian Fishing Company)	Foot of Gore Street Vancouver, B.C. V6A 2Y7	Phone (604) 681-0211 Fax (604) 681-3277	George.Mukai@Canfisco.com
Phil Young – (alt. Canadian Fishing Company)	Foot of Gore Street Vancouver, B.C. V6A 2Y7	Phone (604) 681-0211 Fax (604) 681-3277	Phil.Young@Canfisco.com
Charlie Minns – (Groundfish Development Authority)	356 Centennial Parkway Delta, B.C. V4L 1K7	Phone (604) 943-3320 Cell (604) 880-1425 Fax (604) 943-1166	cmimms@dccnet.com
Brian Mose – (Deep Sea Trawlers Association)	2342 Andover Road Nanose Bay, B.C. V9P 9G8	Phone (250) 248-0969 Fax (250) 752-1032	bmose@uniserve.com
James Lawson - (UNFAWU/Unifor)			president@ufawu.org
Jim McIsaac - (alt. UFAWU/ Unifor)	200-4248 Glanford Ave Victoria, BC V8Z 4B8	Phone (250)384-4423 Cell (250) 818-1114	jamcisaac@shaw.ca
Lyle Pierce – (Halibut Advisory Board (HAB))	472 Condor Comox B.C. V9M 1J7	Phone (250) 339 9508 Fax (250) 339 9568 Cell 250-897-5409	lyle_p@shaw.ca
Chris Sporer – (alt. HAB)			phma@citytel.net
Angus Grout – (alt. HAB)		Phone (250) 339-7753 Cell (250) 898-1250	rommel@telus.net
Bruce Turris –(Canadian Groundfish and Research Conservation Society)	333 Third St, New Westminster, B.C., V3L 2R8	Phone (604) 524-0005 Fax (604) 524-0150	bruceturris@shaw.ca
Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries		Cell (250) 893-0260	darah.gibson@gov.bc.ca
Kevin Romanin Senior Seafood Analyst Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 974-4884 Cell (250) 880-0958	kevin.romanin@gov.bc.ca

Deirdre Finn (DFO – Chair Pacific Region Trawl Coordinator)	#200-401 Burrard St. Vancouver, B.C. V6C 3S4	Phone (236) 330- 4139	Deirdre.Finn@dfo- mpo.gc.ca
Ann Bussell - (DFO Regional Groundfish Enforcement Coordinator)	#200-401 Burrard St. Vancouver, B.C. V6C 3S4	Phone (604) 666-4162	ann.bussell@dfo-mpo.gc.ca

1.3. Sablefish Advisory Committee (SAC)

ELECTED COMMERCIAL MEMBERS			
Name	Address	Phone	Email Address
Brewster Woodburn Canadian Sablefish Association, Longline representative		(250) 927-1850	clydewoodburn@gmail.co m
James DeGreef Alternate, Canadian Sablefish Association, Longline representative			james.degreef@gmail.com
Tom Russell Canadian Sablefish Association, Longline representative		(250) 949-1871	quatsinostar@gmail.com
Robbie Heggelund Alternate, Canadian Sablefish Association, Longline representative			rheggelund@gmail.com
Deacon Melnychuk Canadian Sablefish Association, Trap representative		(604) 813-1279	ciking4@shaw.ca
Jennifer King Alternate, Canadian Sablefish Association, Trap representative			Jenncandace73@hotmail.c om
Kyle Brynjolfson Canadian Sablefish Association, Trap representative		(778) 240-1463	shareekyle@gmail.com
Karin Goddard Alternate, Canadian Sablefish Association, Trap representative			tbfishco@gmail.com
Bruce Hale (alternate)		(250) 661-9606	bruce@fasseafood.com

Rob Kronlund (alternate)		(250) 880-5787	interfacefisheries@gmail.com
APPOINTED MEMBERS			
Chris Acheson Canadian Sablefish Association, Executive Director, SAC Co-Chair	P.O. Box 297, Ganges Salt Spring Island, B.C. V8K 2V9	(250) 537-0910 (604) 277-5773	cacheson@canadiansablefish.com
Erling Olsen Canadian Sablefish Association, President		(604) 329-4818	erling@leaderfishing.com
Bob Fraumeni Canadian Sablefish Association, Vice President		(250) 661-9602	rghf@fasseafood.com
Environmental organizations TBA			
Environmental organizations Alternate TBA			
First Nations TBA			
First Nations Alternate TBA			
Brian Mose Groundfish Trawl Advisory Committee	2342 Andover Road NanOOSE Bay, B.C. V9P 9G8	Phone (250) 248-0969 Fax (250) 752-1032	bmose@uniserve.com
Bruce Turris Alternate, Groundfish Trawl Advisory Committee	333 Third St. New Westminster, B.C. V3L 2R8	Phone (604) 524- 0005 Fax (604) 524-0150	bruceturris@shaw.ca
Chris Heras Processor, Worldwide Seafoods (1997) Ltd. Processor Alternate TBA		(604) 771-8071	chris_wws@telus.net
PARTICIPANT OBSERVERS			
Gwyn Mason DFO Sablefish Coordinator, SAC Co-Chair	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	Phone (604) 666- 3244 Cell (236) 334-7534 Fax (604) 666-8525	Gwynhyfar.Mason@dfo-mpo.gc.ca
Averil Lamont DFO Regional Manager, Groundfish	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	(604) 366-0917	Averil.Lamont@dfo-mpo.gc.ca
Kendra Holt DFO Research Biologist	9860 West Saanich Rd Sidney, BC V8L 4B2	(250) 363-6410	Kendra.Holt@dfo-mpo.gc.ca
Ann Bussell DFO Regional Groundfish Enforcement Coordinator	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	Phone (604) 666- 4162	ann.bussell@dfo-mpo.gc.ca

Kevin Romanin Senior Seafood Analyst Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 974- 4884 Cell (250) 880-0958	kevin.romanin@gov.bc.ca
Mike Turner Senior Manager, Intergovernmental Relations Fisheries and Aquaculture Science Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 698- 3129 Cell (250) 886-6318	michael.r.turner@gov.bc.ca
Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries		Cell (250) 893-0260	darah.gibson@gov.bc.ca
Aquaculture fisheries representative TBA			
Sean Cox Canadian Sablefish Association, Science Advisor	8888 University Drive Burnaby, B.C. V5A 1S6	(778) 782-5778	spcox@sfu.ca
Rob Kronlund Canadian Sablefish Association/Interface Fisheries Consulting Ltd., Advisor		(250) 880-5787	interfacefisheries@gmail.com

1.4. Groundfish Hook and Line Sub-committee (GHLSC)

ELECTED COMMERCIAL MEMBERS			
Name	Address	Phone	Email Address
Gary Wick (Outside ZN)			garyjwick@icloud.com
Herb Van Grootel (Outside ZN)	41 - 50 th Street Delta, B.C. V4M 2S5	Phone (604) 948- 2741 Cell: (604) 328-5555 Fax (604) 948-2741	herb.vg@telus.net
Jim Nightingale (ZN Alternate)	4420 Maple Lane Ladner, BC V4K 2Z5	Phone (604) 946- 0947 Fax (604) 946-0947 Cell (604) 862-3479	jnightingale@dccnet.com
Johnny 'Zeke' Pellegrin (Outside ZN)		Cell: 250-830-7621	zekepellegrin@telus.net

Jordan Belveal (Outside ZN)	3260 Fairway Cres Nanaimo BC V9T 3B1	Cell: 250-616-1394	jordan@jordanbelveal.com
Frank Lightfoot (Inside ZN)	1850 19th Ave Campbell River BC V9W 4M5	Phone: 250-287-3611 Cell: 250-202-1390	franklpwr@gmail.com
Alvin Hui (Inside ZN Alternate)		Phone 604-689-1608; Cell 604-732-3898	tiarafisheries@hotmail.com
Henry Heggelund (Outside ZN Alternate)	P.O. Box 476 Sooke, B.C. V9Z 1H4	Phone (250) 642- 3316 Fax (250) 642-3076	hheggelund@shaw.ca
Bob Burkosky Appointed (Lingcod)		Cell: 250-954-9293	rpburkos@shaw.ca
Steve Martinelli Appointed (Lingcod)	P.o Box 622 Quathiaski Cove B.C. V0P 1N0	Cell: 250-203-4744	stevemart33@yahoo.ca
Ryan Edwards Appointed (Dogfish)	Box 52 Ucluelet BC V0R 3A0.		captainryanedwards@gmail.com
PARTICIPANT OBSERVERS			
Sulgi Drysdale DFO Chair	Regional FAM Officer DFO - RHQ #200-401 Burrard St Vancouver, B.C. V6C 3S4		sulgi.drysdale@dfo-mpo.gc.ca
Ann Bussell DFO Regional Groundfish Enforcement Coordinator	#200-401 Burrard Street Vancouver, B.C. V6C 3S4	Phone (604) 666- 4162	ann.bussell@dfo-mpo.gc.ca
Mike Turner Senior Manager, Intergovernmental Relations Fisheries and Aquaculture Science Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 698- 3129 Cell (250) 886-6318	michael.r.turner@gov.bc.ca
Kevin Romanin	545 Superior Street Victoria, BC	Phone (778) 974- 4884 Cell (250) 880-0958	kevin.romanin@gov.bc.ca

Senior Seafood Analyst Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	V8V 1T7		
Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries		Cell (250) 893-0260	darah.gibson@gov.bc.ca
Shelagh McKellar Province of B.C., Ministry of Agriculture, Food and Fisheries, Industry Advisor, Seafood (Alternate)	545 Superior Street Victoria, BC V8V 1T7	Cell: 250 812-1842	Shelagh.McKellar@gov.bc.ca

2. COMMERCIAL INDUSTRY CAUCUS (CIC)

The groundfish commercial industry in conjunction with Fisheries and Oceans Canada and the Province of British Columbia established an advisory committee called the “Commercial Industry Caucus (CIC)” to discuss and formulate advice on issues that cross all commercial sectors in the development and implementation of the integrated commercial groundfish fishery. Members of CIC are selected by each of the DFO Groundfish Advisory Committees and fishing sectors to represent that sectors interests. The general mandate of CIC is provide a forum for open discussion in the development of consensus advice on reforms to the Groundfish IFMP including in season management actions. Members of CIC are as follows:

Name	Address	Phone	Email Address
Dave Dawson Trawl (Processor)	2305 Commissioner Street, Vancouver, BC V5L 1A4	Bus. Phone 604- 254-5751 Cell 604-776-0449?	ddawson@pacseafood.com
Ryan Edwards (Dogfish)	Box 52 Ucluelet BC V0R 3A0.		captainryanedwards@gmail.com
Herb Van Grootel (Outside ZN)	41 – 50 th Street Delta, B.C. V4M 2S5	Phone (604) 948- 2831 Fax (604) 948-2741 Cell 604-328-5555	herb.vg@telus.net
Jordan Belveal (Outside ZN)	3260 Fairway Cres Nanaimo BC V9T 3B1	Cell: 250-616-1394	jordan@jordanbelveal.com

Adrian Belveal (Alternate – Outside ZN)			adbel@shaw.ca
Christopher Sporer Pacific Halibut Management Association	#16046 617 Belmont Street New Westminster, BC V3M 6W6	Phone (604) 523-1528 Fax (604) 648-8737	phma@telus.net
Angus Grout Pacific Coast Fishing Vessel Owners' Guild		Phone (250) 339-7753 Cell (250) 898-1250	rommel@telus.net
Lyle Pierce Pacific Coast Fishing Vessel Owners' Guild	2331 Seabank Road, Courtenay, BC	Phone (250) 339-9508 Cell (250) 897-5409	lyle_p@shaw.ca
Bob Burkosky (Lingcod)	1466 Memory Lane Qualicum Beach, BC V9K 2A9	Phone 250 752-5247 Cell 250 954-9293	rpburkos@shaw.ca
Steve Martinelli (Lingcod)	P.o Box 622 Quathiaski Cove B.C. V0P 1N0	Cell: 250-203-4744	stevemart33@yahoo.ca
Chris Acheson (Sablefish)	209 Arbutus Rd., Saltspring Island V8K 2W3	Cell 250-537-9649	cacheson@canadiansablefish.com
Bob Fraumeni (Sablefish)		250 361-6944	rghf@fasseafood.com
Rob Kronlund Canadian Sablefish Association/Interface Fisheries Consulting Ltd., Advisor		(250) 880-5787	interfacefisheries@gmail.com
Kevin Woodburn (Sablefish Alternate)		250 228-1420	karenwoodburn@shaw.ca
TBD (Inside ZN)			
Brian Mose (Trawl GTAC)	Deep Sea Trawlers Association (DSTA)	Phone 250- 248-0969 Fax 250 752-1032	bmose@uniserve.com

	2342 Andover Road Nanoose Bay, B.C. V9P 9G8		
Bruce Turris (Trawl GTAC)	Canadian Groundfish and Research Conservation Society 333 Third Street New Westminster, B.C. V3L 2R8	Phone (604) 524- 0005 Fax (604) 524-0150 Cell 604-524-0005	bruceturris@shaw.ca
Blake Tipton (H&L Processors)	SM Products Ltd., 3827 River Rd. West, Delta BC V4K 3N2	604-946-7665	blake@halibut.ca
PARTICIPANT OBSERVERS			
Averil Lamont Regional Manager, Groundfish	200 – 401 Burrard Street Vancouver, BC V6C 3S4	(604) 366-0917	averil.lamont@dfo-mpo.gc.ca
Mike Turner Senior Manager, Intergovernmental Relations Fisheries and Aquaculture Science Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 698-3129 Cell (250) 886-6318	michael.r.turner@gov.bc.ca
Kevin Romanin Senior Seafood Analyst Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	Phone (778) 974-4884 Cell (250) 880-0958	kevin.romanin@gov.bc.ca
Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries		Cell (250) 893-0260	darah.gibson@gov.bc.ca

3. GROUND FISH INTEGRATED ADVISORY BOARD (GIAB)

Following initial discussions with interested sectors and resource users, the Groundfish Management Unit, Fisheries and Oceans Canada convened a Working Group in early 2009 to develop a draft terms of reference for an integrated advisory board for all groundfish interests. The Terms of Reference have now been finalized and are available at:

<http://www.pac.dfo-mpo.gc.ca/consultation/fisheries-peche/ground-fond/giab-ccipf/index-eng.htm>. This structure is intended to support Fisheries and Oceans Canada's commitment to taking a more integrated and cooperative approach to addressing a wide range of issues in the management of the groundfish fisheries in BC, and contribute to sustainable commercial, recreational and Food, Social, and Ceremonial fisheries. The members of this advisory board are as follows:

Name	Interests	E-mail Address
Des Nobels <i>Skeena Queen</i> <i>Charlotte Regional District</i>	Coastal Communities	dnobels@citytel.net
Dianne St. Jacques <i>Mayor of Ucluelet</i>	Coastal Communities	dstjacques@ucluelet.ca
Patrick Marshall (Alternate)	Coastal Communities	patrick.marshall@coastbc.org
Dan Edwards	Commercial (Dogfish)	danedwards@telus.net
Chris Sporer	Commercial (Halibut)	phma@citytel.net
David Boyes (Alternate)	Commercial (Halibut)	mcboyes@telus.net
Lyle Pierce (Alternate)	Commercial (Halibut)	lyle_p@shaw.ca
Quinton Sample (Alternate)	Commercial (Halibut)	quintonsample@gmail.com
Walter Lancashire	Commercial (Lingcod)	walterlancashire@hotmail.com
Bob Burkosky (Alternate)	Commercial (Lingcod)	rburkos@shaw.ca
David Dawson	Commercial (Processor)	ddawson@pacseafood.com
Blake Tipton (Alternate)	Commercial (Processor)	blake@halibut.ca
Herb van Grootel	Commercial (Rockfish)	herb.vg@telus.net
Chris Acheson	Commercial (Sablefish)	cacheson@canadiansablefish.com
Bruce Turris	Commercial (Trawl)	bruceturris@shaw.ca
Brian Mose (Alternate)	Commercial (Trawl)	bmose@uniserve.com
Scott Wallace, David Suzuki Foundation	Environmental	swallace@davidsuzuki.org

Terry Glavin (Alternate) Watershed Watch Salmon Society	Environmental	terry.glavin@gmail.com
Cliff Atleo Nuu-Chah-Nulth Tribal Council	First Nations	c.atleo71@shaw.ca
Darryl Tate (Alternate) Nuu-Chah-Nulth Tribal Council	First Nations	d.darryltate@gmail.com
Jim Lane (Alternate) Nuu-Chah-Nulth Tribal Council	First Nations	Jim.Lane@nuuchahnulth.org
Russ Jones Haida First Nation	First Nations	russ.jones@haidanation.com
Shawn Cowpar (Alternate) Haida First Nation	First Nations	Shawn.cowpar@haidanation.com
Jim McIsaac (UFAWU)	Labour	jamcisaac@shaw.ca
Kim Olsen (Alternate) UFAWU	Labour	president@ufawu.org
TBA	Province	
Gerry Kristianson SFAB	Recreational	gerrykr@telus.net
Chuck Ashcroft SFAB	Recreational	chuckashcroft@telus.net
Martin Paish SFAB	Recreational	martin_paish@obmg.com
PARTICIPANT OBSERVERS		
Averil Lamont Groundfish Management	Fisheries and Oceans Canada	averil.lamont@dfo-mpo.gc.ca
Greg Workman Groundfish Science	Fisheries and Oceans Canada	Greg.workman@dfo-mpo.gc.ca
Kevin Romanin Senior Seafood Analyst Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries	545 Superior Street Victoria, BC V8V 1T7	kevin.romanin@gov.bc.ca

<p>Mike Turner Senior Manager, Intergovernmental Relations Fisheries and Aquaculture Science Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries</p>	<p>545 Superior Street Victoria, BC V8V 1T7</p>	<p>michael.r.turner@gov.bc.ca</p>
<p>Darah Gibson Industry Specialist, Marine Fisheries and Seafood Science, Policy and Inspection Division B.C. Ministry of Agriculture, Food and Fisheries</p>		<p>darah.gibson@gov.bc.ca</p>

Appendix 13: Fishing Hazards Advisory

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1. NEPTUNE CANADA NETWORK, WEST COAST VANCOUVER ISLAND

Ocean Networks Canada's NEPTUNE Observatory is deployed on the seafloor in the waters off the West Coast of Vancouver Island. The area involved is in the rectangular area bounded by 48 deg 40' N, 129 deg 10' W; 47 deg 40' N, 125 deg 16' W. The system layout is outlined in the included figure.

PLEASE BE AWARE that although we have made substantial efforts to bury the majority of the backbone cable and two 10 km heavy extension cables from the node at Barkley Canyon, **there remains some exposure in Folger Passage and Barkley Canyon areas.** At both sites the instruments are primarily located on the surface of the seafloor and are at high risk from trawling. Of particular note is a vertical profiler system with a suite of instruments that rises from the seafloor and breaches the sea surface and thus is at substantially higher risk. The vertical profiler is centred at 48° 25.6429' N and 126° 10.4493' W in 394 m of water. **Ocean Networks Canada has experienced two incidents of equipment damage in Barkley Canyon since the equipment was installed. Please avoid fishing in these areas** and refer to our information for Mariners pages and Electronic Navigational System files for upload for more details: <http://www.oceannetworks.ca/installations/notice-mariners>.

Ocean Networks Canada provides real-time data to people all over the world who influence public policy decisions, science, and public outreach. Benefits such as an advanced tsunami warning system, better understanding and recording of earthquakes, understanding ocean changes including spring phytoplankton blooms, oxygen levels, and trends in hypoxia highlight just a few of the potentials of this array. Real time data and more information, including notices to mariners, can be obtained on our website at www.oceannetworks.ca. We appreciate your support and cooperation in making this platform a success through its 25-year design life.

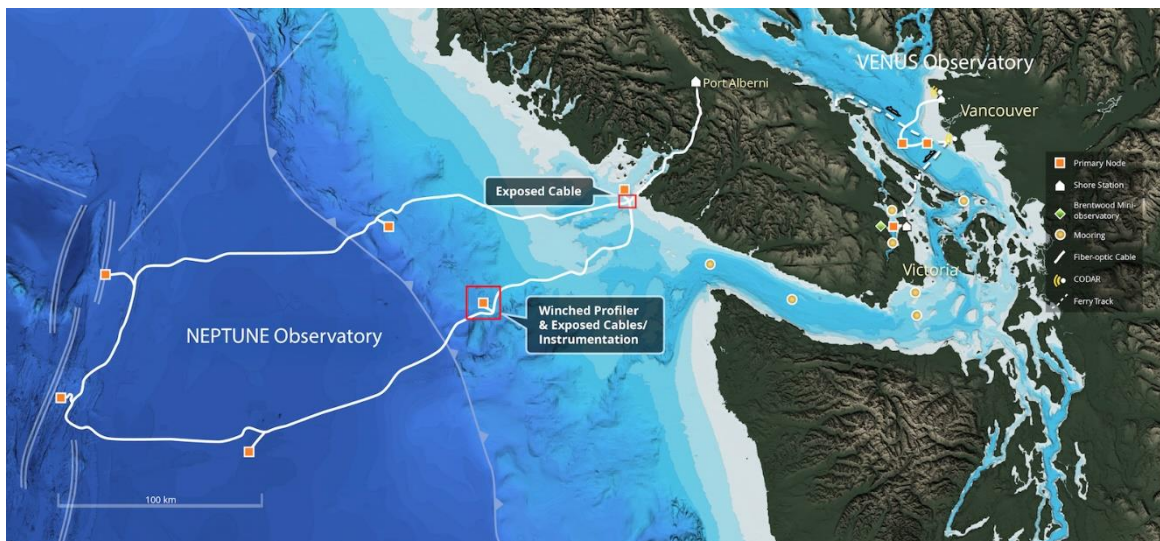


Figure 1. Ocean Networks Canada NEPTUNE Observatory areas of high risk to trawling. Additional caution should be exercised in areas indicated with a red box. (Bathymetry Data Sources: Saanich Inlet and Strait of Georgia bathymetry from Canadian Hydrographic Service; USGS Cascadia DEM report 99-369; University of Washington (UW), School of Oceanography, *R/V Thomas G. Thompson*, Multibeam cruise data - funding provided by KECK Foundation and UW; Plate Boundaries: Adapted from Dragert et al. Science, May 2001. Map adapted from original by: Center for Environmental Visualization, UW School of Oceanography.)