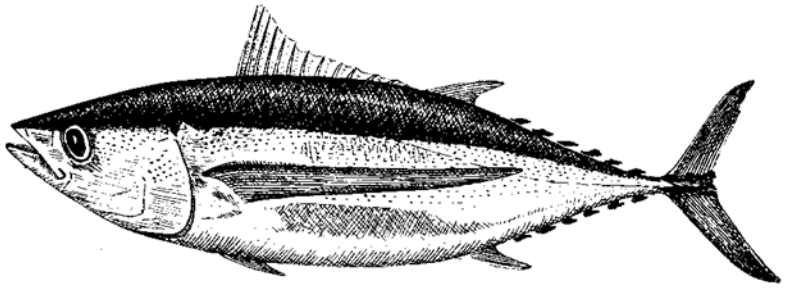
PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

April 1, 2023 – March 31, 2024

PACIFIC TUNA



Albacore Tuna *(Thunnus alalunga)*

Cat. No. Fs143-3/22-2234E-PDF ** ISBN 978-0-660-47423-6 ** ISSN 2564-002X

TABLE OF CONTENTS

GLOSSARY AND LIST OF ACRONYMS

Abundance	Number of individuals in a stock or a population.
Age Composition	Proportion of individuals of different ages in a stock or in the catches.
ALBWG	The Albacore Working Group of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean.
Area and Subarea	Defined in Section 2 of the Pacific Fishery Management Area Regulations. A map of Pacific Fishery Management Areas is available at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/areas-secteurs/index-eng.htm
Biomass	Total weight of all individuals in a stock or a population.
Bycatch	The unintentional catch of one species when the target is another.
Canadian Science Advice – Pacific (CSAP)	The Pacific Regional body responsible for review and evaluation of scientific information on the status of living aquatic resources, their ecosystems, and on biological aspects of stock management.
Canadian Science Advisory Secretariat (CSAS)	A body that coordinates the peer review of scientific issues for DFO.
Committee on the Status of Endangered Wildlife in Canada (COSEWIC)	Committee of experts that assess and designate which wild species are in some danger of disappearing from Canada.
CPUE	Catch Per Unit Effort.
Designated service provider	A private sector company authorized by the Department to collect and collate information for the purpose of assisting vessel masters in meeting their conditions of licence with regards to reporting of information.
DFO	Department of Fisheries and Oceans (Canada).

Encounter	An interaction between a marine mammal or sea bird and fishing gear.
Entanglement	An entanglement occurs when a marine mammal or sea bird is caught, ensnared in fishing gear or the infrastructure (nets) of an enclosure.
Exclusive Economic Zone (EEZ)	The sea area extending 200 nautical miles seaward from the baseline of the territorial sea, within which the coastal state has the right to explore and exploit, and the responsibility to conserve and manage, both living and non-living resources.
Fishing Effort (Effort)	Quantity of effort using a given fishing gear over a given period of time.
Food, Social and Ceremonial (FSC)	A fishery conducted by Indigenous groups for food, social and ceremonial purposes.
High Seas	All parts of the seas that are not included in the EEZ, the territorial sea, or the internal waters of any state.
Inter-American Tropical Tuna Commission (IATTC)	The regional fisheries management organization which seeks to ensure the long-term conservation and sustainable use of tuna and tuna-like species and other species of fish taken by vessels fishing for tunas and tuna like species in the Eastern Pacific Ocean.
Indigenous Knowledge	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, and is a complex and dynamic product of the unique cultures, languages, governance systems and histories of the Indigenous peoples of the specific area. 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. The term Indigenous knowledge is used throughout this document in line with the terminology in the Fisheries Act.

Interaction	Incidental mortality and serious injury (usually refers to marine mammals). This includes entanglements and collisions.
ISC	The International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean.
Landed Value	Value of the product when landed by the licensed vessel.
Landing	The part of the catch that is put ashore. Harvested animals transferred from a vessel to land.
Management Procedure	Repeatable processes for providing fisheries management advice. Comprised of assessment data, a particular assessment model, and harvest control rule
Management Strategy Evaluation (MSE)	The systematic determination of the expected performance of a fishery management system against a set of specified objectives. Allows for longer term decision making with management procedures and objectives that can be tested through simulations.
National Online Licensing System (NOLS)	The online licensing system that allows harvesters to complete licensing transactions with the Department over the Internet. This includes renewal of licences, payment of fees and printing of licence and licence conditions.
Pacific Fishery Licensing Unit (PFLU)	DFO unit that processes fishery licence applications and issues fishery licences.
Population	Group of individuals of the same species, forming a breeding unit, and sharing a habitat.
Precautionary Approach	In Fisheries Management, the principle of being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone action or failure to take action to avoid serious harm to fish stocks or their ecosystem.
Recruitment	Amount of individuals becoming part of the exploitable stock e.g. that can be caught in a fishery. The process whereby young animals are added to a fishable stock or population.

RFMO	Regional Fisheries Management Organization (international).
Spawning Stock	Sexually mature individuals in a stock.
Species at Risk Act (SARA)	The Act is a federal government commitment to prevent wildlife species from becoming extinct and secure the necessary actions for their recovery.
Stakeholders	Individuals or groups with an interest in a particular fishery or activity.
Stock	Describes a population of individuals of one species found in a particular area, and is used as a unit for fisheries management.
Stock Assessment	Scientific evaluation of the status of a species belonging to a same stock within a particular area in a given time period. Results of analyses of fisheries and research data used to evaluate the effects of fishing on a stock or population and to predict the reactions of populations to alternative management choices.
Tonne	Metric tonne, which is 1000kg.
Western and Central Pacific Fisheries Commission (WCPFC)	The regional fisheries management organization which seeks to ensure the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 United Nations Convention on the Law of the Sea and the 1995 UN Fish Stocks Agreement.
Year-class	Individuals of a same stock born in a particular year. Also called "cohort".

FOREWORD

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

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

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

1 OVERVIEW

1.1 Introduction

This Integrated Fisheries Management Plan (IFMP) for Pacific Tuna covers the period from April 1, 2022 to March 31, 2023.

This IFMP provides a broad context to the management of the Pacific Albacore Tuna fishery and the interrelationships of all fishing sectors involved in this fishery. Section 2 considers stock assessment, science and traditional knowledge, while Sections 3 and 4 consider the social, cultural, and economic values and performance of the fishery, as well as broader management issues. Section 5 describes oceans and ecological considerations relevant to the fishery. Section 6 outlines objectives for the management of the fishery. Sections 7 describes allocation and management procedures. Finally, Section 8 outlines how the performance of the fishery will be evaluated with regards to the objectives described in Section 6.

The appendices provided with the IFMP include the sector-specific fishing plans and additional information that may be updated annually.

1.2 Changes from the Previous IFMP

The present document contains updates to information presented in the previous IFMP. Specific selected changes are highlighted briefly here.

Delayed Release of Commercial Fishing Plans for Canadian Vessels in the USA EEZ and USA Vessels in the Canadian EEZ

The fishing regime under the Canada-USA Tuna Treaty expired on December 31, 2022. Without an established fishing regime USA tuna vessels cannot fish in Canadian waters and Canadian tuna vessels will not be able to fish in USA waters. Negotiations to establish a new fishing are scheduled for spring 2023. Upon conclusion of these negotiations, DFO will provide updated commercial fishing plans for USA vessels fishing in the Canadian EEZ and for Canadian vessels fishing in the USA EEZ. These commercial fishing plans exist as appendices to the IFMP – their updates will be provided by way of an amended IFMP. The Department will issue a fishery notice when the amended IFMP is available.

1.3 Background

The Pacific Canadian tuna fishery is focused on highly migratory Albacore Tuna. Canadian harvesters have been fishing Albacore Tuna (*Thunnus alalunga*) since the late 1930's in the North Pacific and since the 1980's in the South Pacific (Ware and Yamanaka 1991, Shaw and Argue 2000). Harvest of Pacific Albacore Tuna is conducted with hook and line (jig) gear. Net gear is not permitted. Harvesters typically troll for tuna with artificial lures towed on or just below the surface of the water behind vessels travelling at approximately 6 knots. Recent practice in the fishery has not included the use of longline gear and, since 2019, longline gear has been expressly prohibited for harvest of Albacore Tuna in the Canadian EEZ or in the high seas under category CT licences.

Canadian harvesters have traditionally not participated in fisheries for tuna species other than Albacore Tuna in the Pacific Ocean. Nonetheless, Canada benefits from access to these resources, through the two international organizations responsible for conservation and management of Pacific tuna stocks. In particular, there are opportunities for Canadian harvesters to engage in fisheries for Bigeye Tuna, Yellowfin Tuna, and Skipjack Tuna. These stocks are actively fished by harvesters from various other states.

1.4 Type of Fishery and Participants

Indigenous People of British Columbia

In the 1990 Sparrow decision, the Supreme Court of Canada found that where an Aboriginal group has an Aboriginal 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*.

In addition to fishing opportunities for FSC purposes and domestic purposes for treaty rights for the Maa-nulth First Nation and the Tla'amin First Nation, DFO acknowledges that in *Ahousaht Indian Band et al. v. Canada and British Columbia*, the courts have found that five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island—Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht—have aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of geoduck.

Recreational

Recreational tuna fishing is permitted coast wide, subject to specific area closures. Participation in the tuna fishery is limited by vessel size, equipment and capacity to carry sufficient ice to properly handle catch.

A British Columbia Tidal Waters Sport Fishing Licence is required for the recreational harvest of all species of fish in tidal waters. Tidal Waters Sport Fishing Licences are available online at: http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.htm.

Information on the recreational tuna harvest is limited and the Department is working to improve catch data collection for this sector.

Commercial

Canadian vessels may fish for tuna species on the high seas under the authority of either a CT or a Section 68 (high seas only) licence if the vessel has obtained an International Maritime Organization (IMO) number. Commercial tuna fishing in the Canadian EEZ occurs either under the authority of a vessel-based Category CT licence for Canadian vessels or under the authority of an EEZ Pacific Albacore Tuna Fishing Licence for U.S. Vessels. Since 2013, 45 Canadian vessels each year have been eligible for a USA68 licence permitting fishing for Albacore Tuna in the USA EEZ. Approximately 100-130 Canadian vessels harvest Pacific Albacore Tuna annually.

1.5 Location and timing of Fishery

Harvest of Pacific Albacore Tuna occurs in open waters, generally a significant distance from shore. The majority of the reported Canadian commercial catch since 2007 has occurred along the North American coast and adjacent waters outside the EEZs. Some larger vessels in the Canadian fleet harvest further into the high seas and occasionally into the Western Pacific Ocean. Between 1996 and 2007 and again in 2021, a small number of Canadian vessels fished in the South Pacific Ocean and reported catches ranging from 38 to 313 tonnes of South Pacific Albacore. In general, Canadian effort in far offshore areas gradually dwindled in the late 1990s and early 2000s; since 2007 Canadian vessels have rarely fished west of 150°W latitude.

The commercial fishery for North Pacific Albacore Tuna in Canadian waters and the high seas takes place primarily from July to September, but can start earlier and run later depending on the migration of the species and the oceanic conditions. Harvest of Albacore Tuna by Canadian vessels in US waters is permitted in accordance with the fishing regime under the Canada-US Tuna Treaty; in recent years this regime has permitted Canadian vessels to access fishing opportunities in USA waters from June 15 to September annually.

Harvest of Pacific Albacore on the high seas of the South Pacific primarily occurs from December through March. Harvest of other Pacific tuna species in the high seas may occur throughout the year, depending on species and location.

Recreational harvest of North Pacific Albacore Tuna is possible off the coast of British Columbia between June and October, but is typically limited to August and September. This fishery occurs most commonly along the west coast of Vancouver Island and Haida Gwaii, along the edge of the near shore shelf.

1.6 Fishery Characteristics

Indigenous People of British Columbia

Tuna fishing for Food, Social, and Ceremonial (FSC) purposes may be authorized on request. Tuna fishing may also be permitted through the Maa-nulth Harvest Document, or through other treaty-related mechanisms.

Recreational

Sport fishing for Albacore Tuna occurs off the west coast of Vancouver Island and Haida Gwaii in late summer. Surface and near surface troll gear by rod and reel or hand line are used by recreational harvesters in a similar fashion to that employed in the commercial fishery. Some anglers use live bait and jigs when sufficient numbers of tuna are present.

Commercial

Canadian vessels harvesting tuna commercially in the Canadian and USA EEZs are generally between 10m and 19m in length; USA-flagged vessels harvesting in the Canadian EEZ, and Canadian vessels harvesting in the high seas are somewhat larger on average.

Fishing activity is dependent on price, ocean and weather conditions, fuel prices, and availability of Albacore Tuna. Fishing effort is influenced by the dynamics of other commercial fisheries, particularly the salmon fishery.

Catch from Canadian vessels is primarily sold into the high-quality frozen tuna market. Harvesters bring fish aboard live, after which it is quickly bled and then frozen at sea in blast freezers. Catch is landed frozen and purchased for distribution to domestic and international consumption as sashimi and other premium-grade products.

Specific information for commercial fisheries is provided in Appendices 6-9.

1.7 Governance

Canada has obligations to manage its fisheries sustainably through domestic acts and regulations as well as through international instruments and organizations. As Albacore Tuna is a highly migratory species, policies and conservation measures are primarily developed at an international level and implemented by DFO within the framework of Canada's domestic legislation and regulations.

Domestically, management of Pacific Albacore Tuna is directed by the *Fisheries Act* and other acts and regulations including:

- The *Pacific Fishery Management Area Regulations*,
- The *Fishery (General) Regulations* and the *Pacific Fishery Regulations*, 1993,
- The *Aboriginal Communal Fishing Licence Regulations*,
- The *Maa-nulth First Nations Final Agreement Act,*
- The *Tla'amin Final Agreement Act*,
- The *British Columbia Sport Fishing Regulations*,
- The *Oceans Act*, and,
- The *Species at Risk Act*.

In addition, the national Sustainable Fisheries Framework (SFF) contains policies for adopting an ecosystem based approach to fisheries management. More information on the SFF is provided in section 5 below.

Albacore Tuna harvest and landing by Canadian vessels in the USA EEZ and by USA vessels in the Canadian EEZ is governed by the *Treaty between the Government of the United States of America and the Government of Canada on Pacific Coast Albacore Tuna Vessels and Port Privileges* (the Canada-USA Tuna Treaty). Under this treaty, Canadian and USA harvesters may fish Pacific Albacore Tuna in the other country's EEZ and may land Albacore Tuna at designated ports in the other country. This treaty also provides for the exchange of catch, effort and scientific information in order to inform management decisions and better understand the Albacore Tuna stocks that migrate off the west coast of North America.

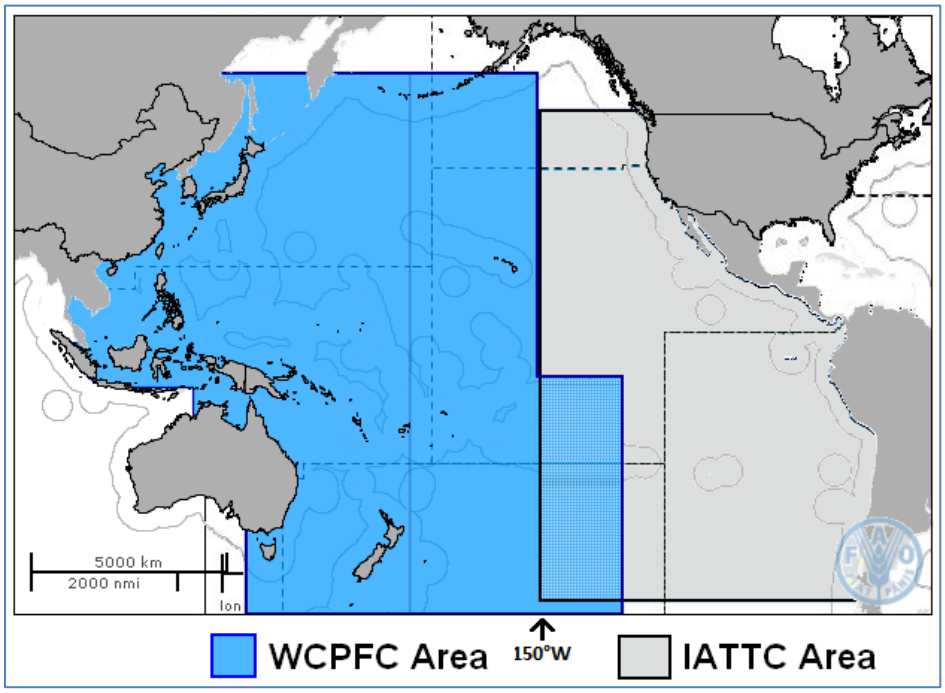
Certain other international agreements also affect the conduct and management of Albacore Tuna fisheries. Of particular importance is the United Nations (UN) Straddling and Highly Migratory Fish Stocks Agreement (UNFSA). The UNFSA, which Canada ratified in August 2001, entered into force on December 11, 2001. Under UNFSA, Canada has an obligation to take measures to ensure that vessels flying its flag that harvest on the high seas comply with the conservation and management measures of relevant Regional Fisheries Management Organizations (RFMOs), and that they do not undermine the effectiveness of such measures.

The relevant RFMOs for Pacific Albacore Tuna are the Inter-American Tropical Tuna Commission (IATTC) and the Western and Central Pacific Fisheries Commission (WCPFC).

The IATTC Convention Area consists of waters of the Pacific Ocean east of 150°W that lie between 50°N and 50°S. Canada applies resolutions adopted by the IATTC throughout its territorial waters. More information is available on the IATTC website (http://www.iattc.org/HomeENG.htm).

The WCPFC Convention Area encompasses the Western and Central Pacific Ocean, generally west of 150°W. The WCPFC is a consensus based management organization. Conservation and Management Measures adopted by the WPCFC apply to all Canadian vessels fishing for tuna in this area. More information is available on the WCPFC website (http://www.wcpfc.int/).

Figure 1: IATTC and WCPFC Convention Areas



Additionally, the International Scientific Committee (ISC) provides scientific advice regarding the status of tuna stocks and bycatch species in the North Pacific Ocean to both the IATTC and WCPFC. More information is available on the ISC website (http://isc.fra.go.jp/).

Other international agreements that Canada is committed to include the:

- Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries;
- FAO Compliance Agreement;

- International Plan of Action (IPOA) for the Management of Fishing Capacity;
- FAO IPOA to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing;
- IPOA on Reducing Incidental Catch of Seabirds;
- IPOA for the Conservation and Management of Sharks;
- UN Compliance Agreement; and the,
- UN General Assembly resolutions.

1.8 Consultation

DFO has a broad mandate, with the authority to regulate and enforce activities, develop policy, provide services and manage programs. To help ensure the Department's policies and programs are aligned with its vision and effectively address the interests and preferences of Canadians, DFO supports consultations that are transparent, accessible and accountable. DFO Pacific Region undertakes consultations in order to meet the duty to consult with First Nations, improve departmental decision-making processes, promote understanding of fisheries, oceans and marine transport issues, and strengthen relationships.

The Tuna Advisory Board (TAB) is the Department's primary consultative body which provides advice and recommendations on operational and policy issues related to the Pacific Albacore Tuna fishery. Stakeholders are encouraged to participate in the advisory process by expressing their interests and views through elected advisors or attending meetings as observers. Please refer to the list of TAB membership in Appendix 10.

1.9 Approval Process

This plan is approved by the Regional Director General for the Pacific Region.

2 STOCK ASSESSMENTS AND SCIENCE

2.1 Biological Synopsis

Albacore Tuna (*Thunnus alalunga*) are one of six abundant, widely distributed, and economically important tuna species in the Pacific Ocean. There are separate stocks of Albacore in the North and South Pacific Oceans; biological and tagging information provide evidence that little or no mixing of these stocks occurs across the equator. Mature Albacore from the North Pacific stock spawn in tropical and subtropical waters of the Central and Western Pacific Ocean from 10° to 25° N latitude, between Hawaii and Taiwan/Philippines. Immature Albacore disperse from the spawning area northward and then some fish move eastward across the Pacific in surface waters where they recruit into jig and pole and line fisheries at 2 years of age. Albacore in the jig and pole and line catches in the Eastern Pacific Ocean range in size from 4 kg to 15 kg and two to four years of age. About half of the North Pacific Albacore mature at five years and all albacore are mature by six years of age. Mature Albacore inhabit subtropical areas in the Central and Western Pacific Ocean and are not part of the stock component that annually migrates into the Eastern Pacific Ocean.

Biological synopses for non-Albacore species are not included here, but may be accessed through the stock assessment information provided in Appendix 3.

2.2 Ecosystem Interactions

North Pacific Albacore are found in the epipelagic zone of sub-tropical and temperate waters of the open ocean and are associated with transition zone chlorophyll fronts as this is an area of sharp temperature changes (fronts) and high primary production, which attracts prey species. Albacore maintain a fast, continuous swimming lifestyle and are opportunistic predators, feeding primarily on fish. Small schooling pelagic species such as sardine (*Sardina pilchardus, Sardinops sagax*), anchovy (*Engraulis spp.),* and mackerel (*Scomber spp., Trachurus spp*.) are the most common fish encountered in the diet of Albacore in all oceans. Along the west coast of North America, Pacific Hake (*Merluccius productus*), Pacific Saury (*Cololabis saira*), Northern Anchovy (*Engraulis mordax*) and squids are important prey in the diet of juvenile Albacore, while sardine (*S. sagax*) are not important. Adult Albacore have few predators, although they occasionally may be preyed on by large marine mammals, sharks, and billfishes.

Trolling operations are carried out at or close to the surface of the ocean and catches of non-target fish species, and incidentally caught turtles, marine mammals and seabirds are generally negligible in troll fisheries world-wide. Trolling gear does not make contact with the seabed and

contact with the epipelagic zone is minimal because of the nominal dimensions of the fishing gear. Incidental catch reported in the Canadian North Pacific Albacore fishery includes Skipjack Tuna (*Katsuwonus pelamis*), Pacific Bluefin Tuna (*Thunnus orientalis*), Dolphinfish or Mahi-Mahi (*Coryphaena hippurus*), Yellowtail (*Seriola lalandi*), Blue Shark (*Prionace glauca*) and Shortfin Mako Shark (*Isurus oxyrinchus*). Species which have no commercial value may be returned to the sea alive immediately after hooking, as fish are caught individually. Barbless hooks are commonly used, so stress and injuries can be kept to a minimum.

2.3 Science Research and Other Activities

The Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) is the primary body for North Pacific Albacore Tuna science. Canada is a member of the ISC and scientists from Fisheries and Oceans Canada are part of the ALBWG along with scientists from Japan, Taiwan, USA, Mexico, Korea, the Inter-American Tropical Tuna Commission (IATTC), and the Secretariat of the Pacific Community (SPC).

The ALBWG has noted some important sources of uncertainties in the North Pacific Albacore stock assessment due to the lack of sex-specific size and growth data and simplified treatment of the spatial structure of the population dynamics.

The ALBWG has identified several prioritized research needs to improve stock assessment, including: (1) collection of sex-specific age-length samples using a coordinated biological sampling plan to improve current growth curves, and examine regional and temporal differences in length-at-age; (2) evaluation of the Japanese longline fisheries as potential adult and juvenile indices of abundance; (3) incorporation of size data and spatiotemporal processes, where appropriate, into the assessment model; (4) collection of sex ratio data by fishery using a coordinated biological sampling plan; and (5) evaluation and documentation of historical high seas drift gillnet catch by member countries.

2.4 Stock Assessments

Stock assessments for Albacore Tuna in the North Pacific Ocean are prepared approximately every three years by the ALBWG. The most recent stock assessment was completed in July 2020. In this assessment the ALBWG concluded that the North Pacific Albacore stock is likely not overfished, and overfishing is likely not occurring.

A link to the full stock assessment for North Pacific Albacore Tuna as well as links to stock assessment information for other Pacific tuna species are provided in Appendix 3.

3 SOCIAL, CULTURAL, AND ECONOMIC IMPORTANCE

3.1 Indigenous

Tuna fishing for Food, Social, and Ceremonial (FSC) purposes may be authorized upon request. Tuna fishing may also be permitted through the Maa-nulth Harvest Document, or through other treaty-related mechanisms. Indigenous harvesters are also involved in the commercial fishery.

3.2 Recreational

Over 238,600 anglers[1] enjoy recreational fishing in British Columbia's tidal waters in many ways and in all seasons. Sport fishing gives anglers access to the land and the rich natural environment. It is also important for the almost $390 million in provincial Gross Domestic Product it generated in 2016 in BC communities, whether through tourist and local angling or other non-angling activities.[2] DFO provides fishing opportunities for commercial, Indigenous, and recreational harvest, and the Department's resource management policies consider access for recreational purposes.

There is recreational interest in fishing for Albacore Tuna when stock distribution allows. This interest has increased in recent decades as offshore technology improves the ability of recreational harvesters to access the stock. There are annual recreational tuna tournaments held in locations on the west coast of Vancouver Island where organized teams of fishers participate over several days. Various lodges and professional guides offer tuna fishing excursions, although many participants are non-guided. Estimates provided by the Sport Fishing Advisory Board (SFAB) indicate that between 3,800 and 11,500 Albacore Tuna have been captured annually in recent years, with approximately 25-35% of this number released.

3.3 Commercial

The Pacific Albacore Tuna fishery contributed to around 3% of the landed value, and around 4% of the wholesale value for all wild caught BC seafood between 2019 and 2020.[3] The average

[1] DFO Internal Tidal Waters Sport Fishing Licences sales statistics
[2] BC Stats. BC Fisheries and Aquaculture Sector, 2016 Edition, 2018.
[3] Preliminary and internal British Columbia Seafood Industry Year information from 2019 and 2020 used. Latest public report (2017) can be found here: 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

annual total landed value from 2010-2020 was approximately $18.3 million (in 2020 dollars), although, as seen in Table 1, total catch has varied considerably from year to year.

Table 1: Total Pacific Albacore Tuna Catch and Landed Value for Canadian Vessels

Year	Days Fished	Total Catch (mt)*	Average Price per Kg (nominal)**	Average Price per Kg (2021$)	Total Value (2021$)
2012	5974	2,484.07	$4.46	$5.28	$13,115,889.60
2013	6440	5,070.48	$4.57	$5.36	$27,177,772.80
2014	4745	4,780.27	$3.09	$3.55	$16,969,958.50
2015	5244	4,382.79	$3.20	$3.63	$15,909,527.70
2016	5359	2,841.76	$7.10	$7.96	$22,620,409.60
2017	4978	1,829.97	$8.90	$9.77	$17,878,806.90
2018	4196	2,716.80	$5.27	$5.69	$15,458,592.00
2019	3882	2,401.61	$4.89	$5.17	$12,416,323.70
2020	3380	2,406.35	$4.26	$4.46	$10,732,321.00
2021	3687	2,419.06	$7.63	$7.63	$18,457,427.80

*Total catch weight based on logbooks (DFO Resource Management).

**Price per kilogram based sales slip data (DFO Economics).

In 2016, seafood processors in BC provided an estimated 4,882 year round equivalent jobs, with about 82% attributable to the processing of wild seafood. According to the 2011 BC seafood processing survey, tuna processing accounted for about 6% of the wild seafood processing jobs[4]. More recent processor employment survey data are not available.

[4]BC Ministry of Agriculture. British Columbia Fish Processing Employment Survey Results. Multiple years.

4 MANAGEMENT ISSUES

The following section highlights a number of ongoing, longer-term issues identified with respect to the management of Pacific tuna species. Shorter-term and/or annual management issues are identified in fishing plans for each fishery (Appendices 4-9).

4.1 First Nations

No identified issues.

4.2 Recreational

Improvements to catch monitoring programs for recreational fisheries are under development. DFO has been working with recreational sector participants on the recreational tuna logbook program to capture detailed catch and effort data.

4.3 Commercial

The Albacore Working Group (ALBWG) of the International Scientific Committee (ISC) for Tuna and Tuna-like Species in the North Pacific Ocean completed "Management Strategy Evaluation" (MSE) process for North Pacific Albacore Tuna in 2021. The outputs of this process have been reviewed by DFO scientists and fishery managers, as well as by other members of the IATTC and WCPFC. These groups are now working to develop harvest control rules for the fishery informed by the MSE analysis.

5 ADDITIONAL CONTEXT

5.1 Sustainable Fisheries Framework

The Sustainable Fisheries Framework (SFF) is a toolbox of policies to ensure that Canadian fisheries support conservation and sustainable use of resources.

These policies include:

- A Fishery Decision-Making Framework Incorporating the Precautionary Approach
    - Guidelines for Implementing the Fish Stocks Provisions in the *Fisheries Act*
    - Guidelines for writing rebuilding plans per the Fish Stocks Provisions and A Fishery-Decision-making Framework Incorporating the Precautionary Approach
- Ecological Risk Assessment Framework (ERAF) for Coldwater Corals and Sponge Dominated Communities
- Fishery Monitoring Policy
    - Introduction to the procedural steps for implementing the Fishery Monitoring Policy
- Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas
- Policy on Managing Bycatch
- Policy on New Fisheries for Forage Species

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

Sustainability Surveys for Fisheries: DFO annually tracks the performance of major fish stocks that it manages through the Sustainability Survey for Fisheries. Results of previous Sustainability Surveys are available at: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/survey-sondage/index-en.html

***Sustainable Fisheries Framework work plans*:** Each year, DFO develops a work plan and reports on priorities and targets regarding the sustainable management of Canada's marine resources. These work plans are available at: https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/work-plan-travail/index-eng.html

5.2 Precautionary Approach Framework

The Sustainable Fisheries Framework policy suite 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

The precautionary approach 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.

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

5.3 Fisheries Act: Fish Stock Provisions

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 to develop and implement rebuilding plans for stocks that have declined to their critical zone. Amendments are available at: https://www.parl.ca/LegisInfo/en/bill/42-1/C-68

The associated regulatory amendment to prescribe major fish stocks and describe requirements for rebuilding plans was registered and came into force on April 3, 2022, and published in Canada Gazette, Part II. Available at: https://www.gazette.gc.ca/rp-pr/p2/2022/2022-04-13/html/sor-dors73-eng.html

5.4 Ecological Risk Assessment Framework & Cold-Water Coral and Sponge Conservation Strategy

The *Ecological Risk Assessment Framework for Coldwater Corals and Sponge Dominated Communities* (or ERAF) outlines a process for identifying the level of ecological risk of fishing activity and its impacts on sensitive benthic areas in the marine environment. Available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/risk-ecolo-risque-eng.htm.

DFO's *Pacific Region Cold-water Coral and Sponge Conservation Strategy* aims to promote the conservation, health and integrity of Canada's Pacific Ocean cold-water coral and sponge species. For more information, visit: https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/conservation-eng.html

5.5 Fishery Monitoring and Catch Reporting

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 national policy seeks to provide dependable, timely and accessible fishery information through application of a common set of steps used to establish fishery monitoring requirements across fisheries. Available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm

The previous Pacific *Strategic Framework for Fisheries Monitoring and Catch Reporting* is available at: https://www.pac.dfo-mpo.gc.ca/fm-gp/docs/framework-monitoring-cadre-surveillance-eng.html

To ensure consistent national application, further guidance is provided through in the *Introduction to the Procedural Steps of Implementing the Fishery Monitoring Policy*, available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fmp-implementation-psp-mise-en-oeuvre-eng.htm

5.6 Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas

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 outlines a five (5) step process. Available at: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/benthi-eng.htm

5.7 Policy on Managing Bycatch

The *Policy on Managing Bycatch* supports sustainable fisheries management by minimizing the risk of fisheries causing serious or irreversible harm to bycatch species, and by accounting for total catch, including retained and non-retained bycatch. Available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/bycatch-policy-prise-access-eng.htm

The *Guidance on Implementation of the Policy on Managing Bycatch* supports policy implementation: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/bycatch-guide-prise-access-eng.htm

5.8 Policy on New Fisheries for Forage Species

While other new fisheries may be started under the *New and Emerging Fisheries Policy*, this policy outlines the special considerations for new fisheries on forage species, which must not threaten the conservation of other species that depend on the forage species for food. Available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/forage-eng.htm

5.9 Ocean and Habitat Considerations

For the most up to date information, see website links, advisory board updates, and fisheries notices.

Canada's Marine and Coastal Areas Conservation Mandate

To protect biodiversity and meet its marine conservation targets, Canada is establishing marine protected areas and other effective area-based conservation measures (OECMs), in consultation with First Nations, other levels of government, industry, non-governmental organizations, and the public.

More information is available online for:
Canada's marine conservation targets: https://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html
Canada's marine protected and conserved areas: https://www.dfo-mpo.gc.ca/oceans/conservation/areas-zones/index-eng.html
Marine refuges and fisheries management measures that qualify as OECMs: https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/index-eng.html

Marine Protected and Conserved Areas

Canada uses a variety of legislative tools for marine conservation, depending on the lead federal department or agency and their coastal mandates. As goals, objectives, and management plans are finalized for these initiatives, DFO's management of fisheries will be adapted as appropriate, in consultation with interested parties through initiative-specific consultations and annual Integrated Fisheries Management processes. The implementation of spatial marine conservation initiatives is informed by considerations under the *Oceans Act*, *Fisheries Act* and the Sustainable Fisheries Policy suite, and mandate commitments to the Blue Economy Strategy and Reconciliation with First Nations.

For more information on Canada's marine conservation tools: https://www.dfo-mpo.gc.ca/oceans/conservation/plan/index-eng.html

For more information see relevant legislation:
Marine refuges and other measures - *Fisheries Act*: https://laws.justice.gc.ca/eng/acts/f-14/page-1.html
Marine Protected Areas - *Oceans Act*: https://laws-lois.justice.gc.ca/eng/acts/O-2.4/
National Wildlife Areas - *Canada Wildlife Act*: https://laws.justice.gc.ca/eng/acts/w-9/page-1.html
National Marine Conservation Areas (Reserves): *National Marine Conservation Areas Act*: https://laws.justice.gc.ca/eng/annualstatutes/2002_18/page-1.html

An overview map of federal marine conservation initiatives in Pacific region is provided in Figure 2, followed by a table outlining relevant details by initiative – both established and in progress. Many initiatives are types of marine protected areas (MPAs) or marine refuges (OECMs). See site-specific regulations and management plans for any restrictions on activities, or fisheries notices where applicable.

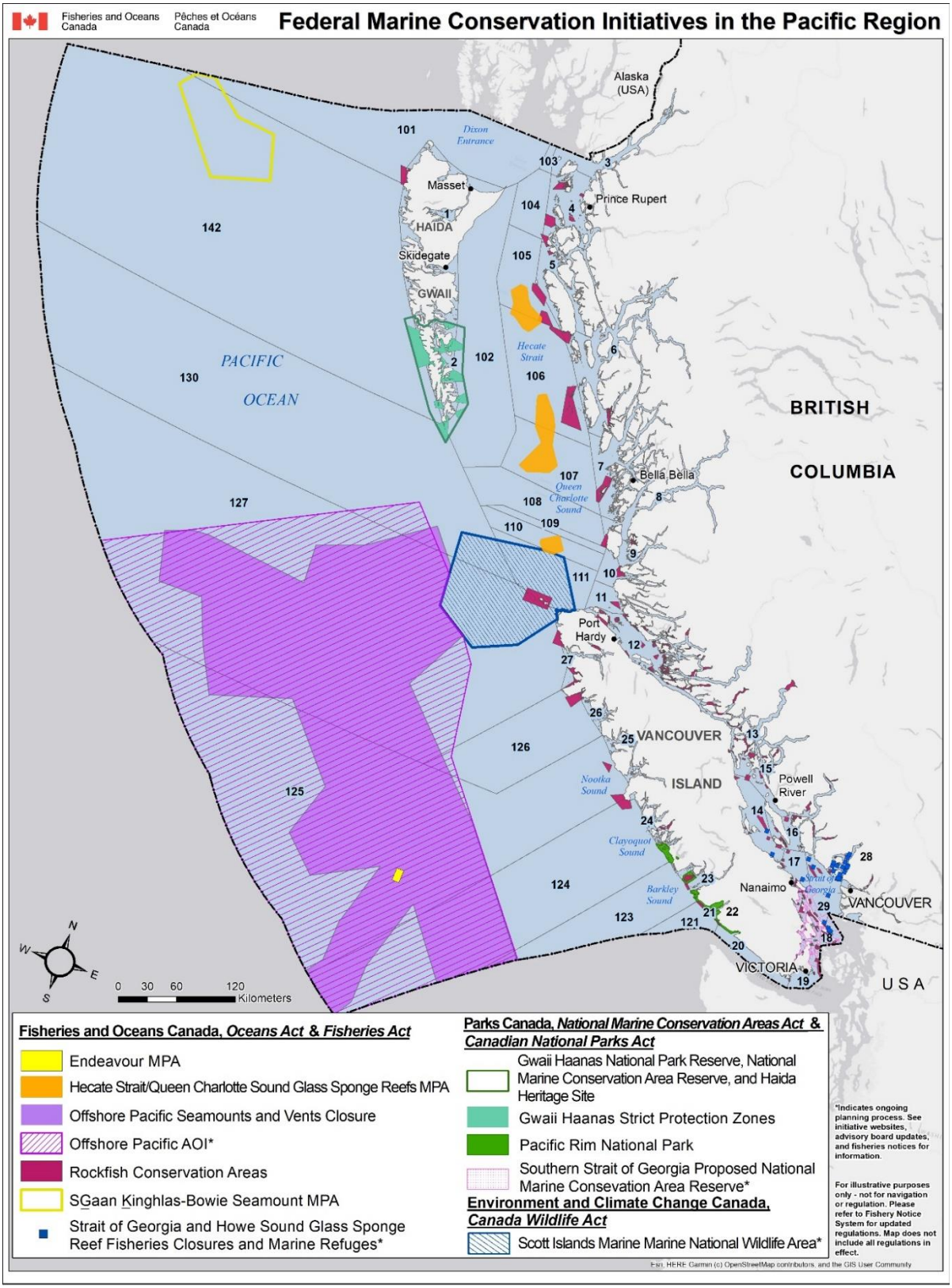


Figure 2. Pacific Fisheries Management Areas and Federal Marine Conservation Initiatives and Closures

Table 2. Overview of Federal Marine Conservation Initiatives in DFO Pacific Region (see Figure 2 map)

Name	Type	Lead	Weblinks	Contact	Fishery Considerations
Fisheries and Oceans Canada, *Ocean's Act* and *Fisheries Act*					
Endeavour Hydrothermal Vents MPA (EHV MPA)	MPA	DFO	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/endeavour/index-eng.html		See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2003-87/ The EHV MPA is closed to all commercial and recreational fishing activities.
SG̱aan K̲inghlas – Bowie Seamount MPA (SK-B MPA)	MPA	DFO & Council of Haida Nation	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html	Email: DFO.BowieMPA-ZPMBowie.MPO@dfo-mpo.gc.ca>	See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-124/ The SK̲-B MPA is closed to all commercial fishing activities. The SK̲-B MPA is also closed to recreational and FSC bottom-contact fishing activities.
Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA (Hecate MPA)	MPA	DFO	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html	Email: DFO.HSQCSMPA-ZPMDHBRC.MPO@dfo-mpo.gc.ca>	See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2017-15/index.html In the Hecate MPA there are 3 different management zone types: **The entire MPA is closed to commercial bottom-contact fishing activities. Core Protection Zones (CPZ) are closed to anchoring and all fishing activities**. Vertical Adaptative Management Zones (VAMZs) and Adaptive Management Zones (AMZs) are closed to some commercial and recreational fishing activities.
Offshore Pacific Area of Interest & Fishery Closure*	Area of Interest for future MPA	DFO	https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/offshore-hauturiere-eng.html.		Specific details of the Offshore Pacific Seamounts and Vents Closure (Offshore Fishery Closure) can be found in the Fishery Notice FN1241 (2017). All bottom-contact commercial and recreational fishing activities are prohibited.
Strait of Georgia and Howe Sound Glass Sponge	Marine Refuges	DFO	https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/closures-		Specific details of the closures and restrictions on a site-by-site basis can be found in **Fisheries Notices**

Reef Marine Refuges*			fermetures-eng.html		**FN0205** (2019), **FN0571** (2015), and **FN0039*** (2022). Prohibited commercial, recreational and Indigenous food, social and ceremonial (FSC) bottom-contact 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 select sites via **Condition of Licence**). (Restrictions vary by site)
Rockfish Conservation Areas (RCAs)	RCAs	DFO	https://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.html	DFO.RCA-ACS.MPO@dfo-mpo.gc.ca	There are 162 Rockfish Conservation Areas (RCAs) in British Columbia, covering roughly 4,350km^2 of the Canadian Pacific Coast. These areas are closed to a range of recreational and commercial fisheries to protect inshore rockfish and their habitat. On website, see individual RCAs by area for details.
Parks Canada, *National Marine Conservation Areas Act*					
Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site	NMCAR	Parks Canada	https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas	gwaiihaanas@pc.gc.ca	Refer to Fishery Notice **FN0536** (2019), released June 13, 2019 for a detailed description of the Strict Protection Zones. 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). Contact the Gwaii Haanas administration office: 1-877-559-8818
Pacific Rim National Park Reserve	National park marine area	Parks Canada	https://www.pc.gc.ca/en/pn-np/bc/pacificrim	Pacrim.info@pc.gc.ca	Park regulations can be found at: https://laws-lois.justice.gc.ca/eng/acts/N-14.01/page-8.html#h-362395
Southern Strait of Georgia National Marine Conservation Area Reserve*	NMCAR	Parks Canada	https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnnmca/dgs-ssg	straitofgeorgianmca@pc.gc.ca	The most up to date information can be found at: https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnnmca/dgs-ssg/savoir-learn
Environment and Climate Change Canada, *Canada Wildlife Act*					

Scott Islands Marine National Wildlife Area*	mNWA	ECCC	https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/locations/scott-islands-marine.html	DFO.ScottIslands-IlesScott_MPO@dfo-mpo.gc.ca	The Scott Islands Protected Marine Area Regulations can be found at: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-119/index.html
**Indicates ongoing planning process. See initiative websites, advisory board updates, and fisheries notices for information.*					

Marine Spatial Planning in Canada

Marine spatial planning aims to improve coordination across jurisdictions and activities in the marine space. It is a practical, internationally recognized process that enables the Government of Canada to plan and coordinate ocean activities in collaboration with provincial, territorial, and Indigenous governments. Marine spatial planning considers the range of human activities planned for a given marine area over time (such as fishing, cultural uses, conservation areas, energy development, etc.) to keep our oceans healthy and productive for generations to come.

For more information on marine spatial planning in Canada: https://www.dfo-mpo.gc.ca/oceans/management-gestion/msp-psm/index-eng.html

Marine Spatial Planning North

The Northern Shelf Bioregion, which extends from the top of Vancouver Island and reaches north to the Canada - Alaska border, has a long history of marine spatial planning as highlighted below.

More information on marine spatial planning on Pacific's north coast can be found at: https://www.dfo-mpo.gc.ca/oceans/publications/backgrounder-fiche/marinespatialplanning-planificationespacemarin/index-eng.html

Pacific North Coast Integrated Management Area (PNCIMA)

Endorsed in 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.

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

Northern Shelf Bioregion Marine Protected Area Network Planning Process

The Government of Canada, the Province of BC and First Nations are working together to develop a planned approach for a Network of marine protected areas for the Northern Shelf Bioregion. 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 and the BC Marine Planning Process.

More information on the MPA Network planning process is available at: http://www.mpanetwork.ca

Marine Spatial Planning Southern BC

As part of a national marine spatial planning (MSP) initiative, DFO in collaboration with the Province of BC, federal departments (Transport Canada, Natural Resources Canada, Environment and Climate Change Canada, Parks Canada and others), Indigenous groups, and stakeholders are amidst 'early planning' efforts in the Strait of Georgia and Southern Shelf bioregions (Southern BC planning area). Early Planning is focused on gathering information and setting the stage for working collaboratively.

Marine spatial planning is a collaborative process that brings federal and provincial governments, indigenous communities as well as organizations, and stakeholders together to coordinate how we collectively use marine spaces to achieve ecological, cultural, social, and economic objectives. Key deliverables for the Southern BC MSP process include the Canada Marine Planning Atlas (Pacific), and a Framework (or guide) that gathers information from the 'early planning' phases to inform future planning phases.

More information on marine spatial planning can be found at: https://www.dfo-mpo.gc.ca/oceans/management-gestion/msp-psm/index-eng.html

6 OBJECTIVES

6.1 National

DFO aims to:

- Meet conservation objectives and ensure healthy and productive fisheries and ecosystems
- Base management decisions on the best available scientific information
- Manage First Nations fisheries for FSC purposes in a manner consistent with the Sparrow Decision (SCC 1990) and other relevant court decisions (*R v. Gladstone 1996 and Ahousaht*) and treaty obligations
- Work collaboratively with commercial and recreational sectors to provide fishing opportunities in a manner that ensures the long term sustainability of the resource
- Provide stability and predictability in fisheries management and improved governance through an open and transparent consultation process
- Foster shared stewardship
- Manage commercial fisheries to improve economic performance, provide certainty for participants and to optimize harvest opportunities

6.2 Pacific Region

The overall goal of Fisheries Management in the Pacific Region is the conservation of Canada's fisheries resources and sustainable resource utilization to ensure priority (after conservation) FSC access for First Nations and generate economic prosperity. This is accomplished through close collaboration with resource users and stakeholders based on shared stewardship consistent with treaty and Indigenous rights. Fisheries Management is responsible for management of the Indigenous, commercial, and recreational fishing in the Pacific Ocean and creating the conditions for a vibrant and innovative aquaculture industry.

Fisheries Management will continue to develop and implement the Sustainable Fisheries Framework by integrating the precautionary and ecosystem approach frameworks into IFMPs with the goal of protecting vulnerable marine and freshwater ecosystems and vulnerable stocks from significant adverse impacts, and to help ensure long term sustainable management and support economic prosperity.

6.3 Pacific Tuna Resource Management

The Department has specific objectives for the management of Pacific tuna for each of the five issues specified below.

Stock Conservation: to ensure that harvest of Pacific tuna species is conducted in a sustainable manner and to support the use of the precautionary approach to fisheries management within Regional Fisheries Management Organizations.

Ecosystem Processes: to ensure conservation of the Pacific tuna stocks, and manage for ecosystem impacts of fish harvest activities. Scientific management principles will be applied in a risk-based and precautionary manner based on the best scientific advice available, and through comprehensive monitoring of fish harvest activities.

Access for Indigenous People: to continue to provide opportunities for First Nations to harvest for food, social and ceremonial purposes, in a manner consistent with the *Sparrow Decision* (SCC 1990), and other court decisions. Access is also granted through treaty agreements, including the Maa-nulth Harvest Document.

Consultation: to maintain an open and transparent consultation process for discussions of harvest management issues for Pacific tuna fisheries, including the development of the annual IFMP, activities related to Regional Fisheries Management Organisations, and the long-term direction of the fishery.

Compliance: to continue to monitor fishing activity using hails, logbooks and aerial surveillance in cooperation with the US Coast Guard and other enforcement authorities. This program will be annually assessed for compliance and effectiveness.

7 ACCESS AND ALLOCATION

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

7.1 Indigenous

Indigenous harvest of Pacific tuna for FSC or domestic purposes may occur coast wide where authorized by a communal licence or Harvest Document.

Fisheries chapters in modern Indigenous treaties may articulate a treaty fishing right for FSC purposes that could be protected under Section 35 of the *Constitution Act*, 1982. Commercial access may be provided either through the general commercial fishery or a Harvest Agreement, which is negotiated at the same time as the treaty and is referenced in the treaty, but is not protected under the *Constitution Act*.

Four modern treaties (Nisga'a Final Agreement, Tsawwassen First Nation Final Agreement (TFA), Maa-nulth First Nations Final Agreement (MNA) and Tla'amin Final Agreement) have been ratified in British Columbia. Tsawwassen and Maa-nulth First Nations Treaties came into effect on April 3, 2009 and April 1, 2011, respectively. Most recently, the Tla'amin First Nations Treaty came into effect on April 5, 2016. These agreements articulate a treaty right to food, social and ceremonial harvest of fish and describe the role for First Nations in fisheries management.

Five Nations Right-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 2022/23 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 2022/23 FMP by DFO where possible.

The implementation of the Five Nations' right-based sale fishery continues to be an ongoing process. The 2022/23 FMP is the fourth Multi-Species FMP 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. Version 2 of the 2021 FMP, issued on

December 2, 2021, was the first Multi-Species FMP developed following the British Columbia Court of Appeal (BCCA) decision of April 19, 2021, in *Ahousaht Indian Band and Nation v. Canada*, 2021 BCCA 155, but it only partially implemented it. The 2022/23 FMP addresses most of the remaining issues raised by the BCCA decision, leaving some items left to review. It is DFO's intention to continue to review the FMP and make further changes in-season and amend the FMP if required.

7.2 Recreational

Recreational harvest of tuna is permitted through a British Columbia Tidal Waters Sport Fishing Licence. For all Pacific tuna species, the daily limit is 20 pieces and the possession limit is 40 pieces.

7.3 Commercial

Commercial harvest of Pacific Albacore Tuna is permitted in Canadian waters, USA waters, and in the high seas where appropriately licenced. There is no restriction on the number of licences available to Canadian harvesters for harvest in the high seas or Canadian waters, while the number of Canadian vessels permitted to harvest in the USA EEZ is set-out under the fishing regime of the Canada-USA Tuna Treaty. There is no limit to the total allowable catch in Canada's commercial Pacific Albacore Tuna fishery.

Commercial harvest of Pacific tuna species other than Pacific Albacore Tuna may be permitted in the high seas where appropriately licenced. Limits on effort and total allowable catch are established through the RFMOs and are specific to species targeted, gear-type used, and harvest location. See Appendix 9 for more information.

8 PERFORMANCE / EVALUATION CRITERIA

8.1 National

- Pacific Albacore Tuna conservation objectives are met such that fisheries and ecosystems are healthy and productive.
- Harvest opportunities are provided in a manner consistent with the Sparrow Decision (SCC 1990) and other relevant court decisions and treaty obligations.
- Reasonable effort has been made to provide opportunities for economic prosperity while meeting conservation objectives.
- Consultation and management processes are stable, transparent, and predictable.

8.2 Pacific Region

- The Pacific Albacore Tuna fishery is executed in accordance with the requirements outlined in the IFMP.
- The monitoring program provides accurate information on catch and effort as necessary for management of the tuna resource.
- Proper controls are in place for management and control of the fishery and the conservation and protection of fish.
- First Nations and stakeholders are engaged and informed with regards to management decisions; solutions to issues related to management of the tuna fishery are cooperatively developed.

8.3 Pacific Tuna Resource Management

Stock Conservation

- The ISC is engaged to determine stock levels and provide advice to RFMOs consistent with the precautionary approach.

Ecosystem Processes

- Mechanisms are in place to monitor the fishery by gathering catch and effort information through the hail and logbook programs.

Access for Indigenous People

- Mechanisms are in place for the Department to receive requests for FSC harvest authorizations or include tuna harvest as appropriate in Harvest Documents.

Consultation

- A draft IFMP is distributed with 30 days for review and feedback.
- Pre-season and post-season meetings are held with the Tuna Advisory Board.

- The Department participates in bilateral meetings with the USA in order to facilitate Treaty-related discussions and negotiations.

Compliance

- Aerial surveillance is conducted and results compared to relevant authorizations.
- Hail and logbook compliance is reviewed; non-compliance is addressed through appropriate measures.
- U.S. and international enforcement counterparts are engaged where appropriate.

REFERENCES

BC Ministry of Agriculture, 2017. British Columbia Seafood Industry Year in Review 2016.

BC Statistics, 2018. BC Fisheries and Aquaculture Sector, 2016.

Shaw, W. and A.W. Argue. 2000. The 1999 Canadian North Pacific Albacore troll fishery. Document submitted by DFO to the Seventeenth Meeting of the North Pacific Albacore Workshop, Taipei, Taiwan, December 6-13, 2000.

ISC, 2020. Stock Assessment of Albacore Tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group, Web Meeting, July 15 - 20, 2020.

Ware, D.M. and K.L. Yamanaka. 1991 MS. Catch statistics for the Canadian Albacore Tuna fishery: 1945-1990. Document submitted by DFO to the Annual Meeting of the International North Pacific Fisheries Commission, Tokyo, Japan.

APPENDIX 1. POST-SEASON REVIEW

Performance against objectives is reviewed here for the 2022 season and reflect the objectives laid out in the IFMP covering that season.

Objective	DFO Activity
Stock Conservation: to ensure that harvest of Pacific Albacore Tuna is conducted in a sustainable manner and to support the use of the precautionary approach to fisheries management within Regional Fisheries Management Organizations.	Through the relevant Regional Fisheries Management Organizations, Canada is obligated to maintain fishing effort at or below historic levels. Hails and logbook data indicate that Canada did not surpass these effort limits in 2022.
Ecosystem Processes: to ensure conservation of the Pacific Albacore Tuna stock, and manage for ecosystem impacts of fish harvest activities. Scientific management principles will be applied in a risk-based and precautionary manner based on the best scientific advice available, and through comprehensive monitoring of fish harvest activities.	DFO led the ALBWG in conducting the most recent stock assessment for North Pacific Albacore. The assessment concluded that the stock is healthy, current productivity is sufficient to sustain recent exploitation levels, the stock is likely not overfished, and overfishing is likely not occurring. All vessels participating in the fishery were required to maintain a logbook of daily catch (and bycatch), effort, and landings. DFO reviewed logbook data and engages with harvesters to understand impacts of the fishery. No significant negative impacts to other species or ecosystems have been identified.
Access for Indigenous People: to continue to provide opportunities for First Nations to harvest for food, social and ceremonial purposes, in a manner consistent with the Sparrow Decision (SCC 1990), and other court decisions.	Indigenous harvest of Pacific tuna for FSC or domestic purposes may occur coast wide where authorized by a communal licence or Harvest Document.
Consultation: to maintain an open and transparent consultation process for discussions of harvest management issues for	The TAB pre-season planning meeting was held in February 2022 and post-season review meeting was held in November 2022.

the Pacific Albacore Tuna fishery, including the development of the annual IFMP, activities related to Regional Fisheries Management Organisations, and the long-term direction of the fishery.	Additional calls with and meetings were held with TAB advisors as necessary to discuss specific items related to management planning. The draft IFMP was made available for review and comment and the public was advised via Fishery Notice.
Compliance: to continue to monitor fishing activity using hails, logbooks and aerial surveillance in cooperation with the US Coast Guard and other enforcement authorities. This program will be annually assessed for compliance and effectiveness.	Canada had a high logbook compliance rate and reported all aggregated catch (including bycatch) and effort data being prepared for the IATTC and WCPFC for the annual reporting deadline. As a Condition of Licence, all vessel masters were required to notify Canadian authorities of their fishing activities through the hail program, to maintain and submit harvest logbooks, and register vessels with the IATTC and WCPFC as appropriate.

APPENDIX 2. TUNA FISHERY AREA CLOSURES

Area 2
Closed year-round in Subareas 2-1, 2-63 to 2-68 and that portion of Subarea 2-69 from Hunter Point to Fame Point inside the 50-fathom contour line. (CHS Chart 3869). The intent of the closure is to reduce harvesting pressure on localized stocks of fish and to provide improved access to First Nations for Food, Social and Ceremonial purposes.

Areas 12 to 20, 28 and 29
Strait of Georgia/Johnstone/Juan de Fuca and Fraser River.

Area 121 (Swiftsure Bank)
Portions of Subareas 121-1 and 121-2 inside a line connecting the following latitude and longitude co-ordinates: 48°34'N, 125°06'W thence to 48°34'N, 124°54.20'W thence to 48°29.62'N, 124°43.40'W thence following the International Boundary between Canada and the USA to 48°29.30'N, 124°58'W then to the beginning point. This area falls within the Maa-nulth Domestic Fishing Area.

Rockfish Conservation Areas
Effective February 1, 2007, a suite of Rockfish Conservation Areas (RCAs) came into effect. There are currently 162 RCAs; the majority of the closed areas are located within the Strait of Georgia. Commercial tuna fishing is prohibited in all RCAs. The descriptions associated with the RCAs can be found at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.htm.

Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site
A management plan for the Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site was approved by Canada and the Haida Nation in November 2018, following an extensive consultation process. On May 1, 2019, the new Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage management plan was implemented by closing all commercial and recreational fishing in strict protection zones.

A description of the closures, including their geographic coordinates, is available in the Fishery Notice FN0536 (https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all)

The Gwaii Haanas Gina 'Waadluxan KilGuhlGa Land-Sea-People Management Plan is available here: https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/info/consultations.

SGaan Kinghlas-Bowie Seamount Marine Protected Area

The SK-B MPA is closed year-round. The MPA's regulations establish the outer boundary of the MPA as the area of the Pacific Ocean that includes the SK-B, Hodgkins and Davidson Seamounts — consisting of the seabed, the subsoil and the water column above the seabed — which is bounded by a series of rhumb lines drawn from a point 53°03′07.6″ N, 135°50′25.9″ W, to a point 53°16′20.9″ N, 134°59′55.4″ W, then to a point 53°39′49.2″ N, 135°17′04.9″ W, then to a point 53°39′18.0″ N, 135°53′46.5″ W, then to a point 53°52′16.7″ N, 136°30′23.1″ W, then to a point 53°49′19.6″ N, 136°47′33.1″ W, then to a point 53°40′02.5″ N, 136°57′03.5″ W, then to a point 53°13′59.2″ N, 136°10′00.0″ W, then back to the point of commencement.

APPENDIX 3. STOCK ASSESSMENT INFORMATION

Pacific Albacore Tuna

Stock assessments for North Pacific Albacore Tuna (*Thunnus alalunga*) are conducted by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC). Canada is a member of the ISC and scientists from Fisheries and Oceans Canada participate in the stock assessments.

The most recent stock assessment for North Pacific Albacore Tuna was completed in July, 2020. The assessment found that the stock is likely not overfished relative to the limit reference point adopted by the international body responsible for the stock[5] and the fishing intensity during the period evaluated was likely at or below all seven potential reference points examined.

The complete ISC stock assessment document is available here: http://isc.fra.go.jp/pdf/ISC20/ISC20_ANNEX12_Stock_Assessment_Report_for_Albacore_Tuna_in_NorthPacific.pdf.

Stock assessments for South Pacific Albacore Tuna (*Thunnus alalunga*) are conducted by the Secretariat of the Pacific Community (SPC). The most recent stock assessment was completed in 2021 and is available here: https://www.wcpfc.int/doc/04/south-pacific-albacore-tuna

Pacific Bluefin Tuna

The most recent stock assessment for Pacific Bluefin Tuna (*Thunnus orientalis*) was completed by the ISC in July 2022. No reference points have been adopted to evaluate the status of this stock; however, when compared to the potential biomass-based reference points adopted for other tuna species by the IATTC and WCPFC, the stock appears to be overfished. The stock does however appear to be rebuilding as it reached its initial rebuilding target in 2019, 5 years earlier than originally anticipated. The full stock assessment document is available here: ISC22_ANNEX13_Stock_Assessment_for_Pacific_Bluefin_Tuna.pdf (fra.go.jp)

Bigeye Tuna, Yellowfin Tuna, and Skipjack Tuna

[5] The Northern Committee of the Western and Central Pacific Fisheries Commission manages the stock together with the Inter American Tropical Tuna Commission. The Northern Committee adopted a biomass-based limit reference point in 2014 of 20% of the current spawning stock biomass (https://www.wcpfc.int/harveststrategy)

Stock assessments and science advice for all three tropical tuna species is provided by the IATTC Secretariat's scientific staff for the eastern Pacific Ocean (EPO), and by the SPC for the western and central Pacific Ocean (WCPO). The latest stock assessments for Bigeye Tuna (*Thunnus obesus*), Yellowfin Tuna (*Thunnus albacares*), and Skipjack Tuna (*Katsuwonus pelamis*) in the EPO and WCPO are not available. However, updates on stock status and harvest advice are available from the Scientific Committee of the Western and Central Pacific Fisheries Commission as follows:

- Bigeye Tuna: https://www.wcpfc.int/doc/01/bigeye-tuna
- Yellowfin Tuna: https://www.wcpfc.int/doc/02/yellowfin-tuna
- Skipjack Tuna: https://www.wcpfc.int/doc/03/skipjack-tuna

APPENDIX 4. INDIGENOUS FISHING PLAN

The Department is committed to improving its relationship with Indigenous people. Indigenous fisheries play an important role in this relationship and, therefore, are an integral part of fisheries resource management in the Pacific Region. Through consultation, cooperative management and stewardship activities, DFO and Indigenous groups are working together to build strong, healthy relationships and a sustainable fishery.

Through the Aboriginal Fisheries Strategy, the Department seeks to negotiate with Aboriginal organizations access for Food, Social, and Ceremonial (FSC) purposes. Subject to conservation, this access has priority over access for commercial and recreational harvest. FSC fisheries are managed through communal licences that are issued to First Nations organizations. The Department will consult with First Nations organizations to determine appropriate levels of access.

For additional information on DFO's Treaty and Indigenous Fisheries programs, please visit: http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.html

APPENDIX 5. RECREATIONAL FISHING PLAN

Overview and Special Considerations

The recreational tuna fishery in British Columbia is limited to Pacific Albacore Tuna as only this species is regularly present in Canadian waters.

Albacore Tuna harvest typically occurs much further offshore than is common with other species. The safety precautions that should be observed may therefore be different, and likely considerably more stringent, than what fishers might consider appropriate when fishing closer to shore.

Further, Albacore Tuna require special handling after capture to maintain quality. Improperly handled Albacore Tuna can cause severe illness if consumed.

To promote safety and catch quality, the Sport Fishing Advisory Board (SFAB) has developed Catch Handling & Vessel Safety guidelines to assist recreational fishers. These guidelines are available at: https://sportfishing.bc.ca/tuna/.

General Stipulations

Online Regulations

The regulations for recreational fishing are summarized online in the British Columbia Tidal Waters Sport Fishing Guide, which lists open and closed times, catch limits, size limits (where applicable) and open/closed areas: http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html.

When required, Fishery Notices are issued to advise of changes to the regulations which are kept up-to-date in the online Sport Fishing Guide; view or sign-up to receive Fishery Notice notifications by email at: http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm. The old printed Sport Fish Guide booklet is no longer being produced, both to reduce costs and in recognition that the online guide does a better job at reporting in-season changes. You may also call your local fishery office to obtain regulatory information for your area of interest – visit http://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html or call 604-666-0384 or email info@dfo-mpo.gc.ca.

Licencing

Tidal Water Sport Fishing – Licensing and Regulations

The recreational harvest of various fish and invertebrate species in BC is regulated via the *British Columbia Sport Fishing Regulations, 1996* made under the *Fisheries Act*. A DFO Tidal Waters Sport Fishing licence is required for the recreational harvest of all species of fish and invertebrates. The daily maximum for Pacific Albacore Tuna is 20 pieces, with a possession limit of 40 pieces. Tidal Waters Sport Fishing licences may be purchased for a 1, 3, 5 day, or annual period. Fees depend on licence duration, age (senior, adult, juvenile) and residency status. Licences for juveniles (ages 15 and under) are free. In accordance with the Service Fees Act, the annual licence renewal fees will be adjusted by the annual rate of inflation determined by Consumer Price Index published by Statistics Canada. Licence renewal fees may be found at: https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html

Purchase your licence online via the National Recreational Licensing System: http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html

E-licences and Paper licences

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

Using Mobile Devices and the FishingBC App

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

Catch Reporting

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

The Internet Recreational Effort and Catch (iREC) Survey was initiated in 2012 to provide monthly estimates of effort for all methods of recreational fishing. Survey participants will be selected at time of licence purchase, and have their iREC survey access code printed to their

licence. A reminder notice will also be sent by email. By completing the survey, fishers provide information essential to understanding the full impacts of the recreational fishery, and thus support sustainable fishery management. More information on the iREC Survey is available at: http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/irec-iarc/index-eng.html.

Participants in the recreational tuna fishery may also be requested to complete and submit a harvest log documenting the location, times, and amounts of tuna catch retained and released.

APPENDIX 6. COMMERCIAL FISHING PLAN FOR PACIFIC ALBACORE TUNA – CANADIAN VESSELS IN THE CANADIAN EEZ AND HIGH SEAS

Overview

Fishery Covered

This commercial fishing plan covers Canadian vessels harvesting Albacore Tuna in Canada's Exclusive Economic Zone (EEZ) and the high seas of the Pacific Ocean (i.e. areas outside the EEZs of Canada or other states).

Conditions of Licence

Licences authorizing the harvest of Pacific tuna species are issued with attached "Conditions of Licence" which stipulate requirements specific to each licence. Harvesters operating under the authority of a fishing licence are legally obligated to comply with the requirements specified in the Conditions of Licence. The IFMP outlines only some of these requirements and does not provide the full information necessary to ensure compliance. Harvesters should review and understand their Conditions of Licence prior to commencing fishing.

General Stipulations

Licences

Commercial harvest of Albacore Tuna is permitted under the authority of vessel-based category CT licence for Canadian waters and the high seas or a vessel-based Section 68 High Seas licence for high seas waters only.

Licence Fees

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

The commercial Albacore Tuna (Category CT) and Section 68 High Seas (Category SEC68) licence renewal fee may be found on the following link: http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/renewalfees-fraisrenouvellement-eng.html .

Areas
Harvesters operating under the authority of a CT licence are permitted to harvest tuna in Canada's EEZ with the exception of those closed areas specified in Appendix 2.

Harvesters operating under the authority of a CT licence or under the authority of a Section 68 High Seas licence are permitted to harvest tuna in the high seas area (outside the EEZ of any state) of the IATTC Convention Area if an IMO number has been obtained for the vessel and provided to the tuna manager (vessels without an IMO number are not permitted to harvest in the high seas). The IATTC Convention Area can be generally considered to encompass the Eastern Pacific Ocean (see Figure 1 in Section 1.8 of the IFMP); detailed boundaries are specified in Conditions of Licence.

Harvesters operating under the authority of a CT licence or under the authority of a Section 68 High Seas licence are not permitted to harvest tuna in the WCPFC Convention Area unless authorized through amended Conditions of Licence. The WCPFC Convention Area can be generally considered to encompass the Western Pacific Ocean, west of 150 degrees west latitude (see Figure 1 in Section 1.8 of the IFMP); detailed boundaries are specified in Licence Conditions. Harvesters can request amended Conditions of Licence authorizing harvest in the WCPFC Convention Area from the Tuna Resource Manager.

Times
Both CT licences and Section 68 High Seas licences are valid from April 1, 2022 to March 31, 2023.

Gear
Harvesters targeting Pacific Albacore Tuna in Canadian waters are permitted to use hook and line gear, not including longline gear. No other gear types are permitted.

Harvesters targeting Pacific Albacore Tuna in the high seas are permitted to use hook and line gear, not including longline gear unless specifically authorized through amended Conditions of Licence. Authorization to use longline gear may be requested from the Tuna Resource Manager and will be subject to a detailed plan ensuring that relevant requirements can be met. No other gear types are permitted.

Permitted Species
Harvesters operating under the authority of a CT or Section 68 High Seas licence are authorized to capture and retain Pacific Albacore Tuna (*Thunnus alalunga*).

Harvesters targeting Pacific Albacore Tuna under the authority of a CT or Section 68 High Seas licence may retain the following species when encountered as bycatch:

- Pacific Bluefin Tuna (*Thunnus orientalis*)
- Pacific Bonito (*Sarda chiliensis*)
- Skipjack Tuna (*Katsuwonus pelamis*)
- Yellowfin Tuna (*Thunnus albacares*)
- Yellowtail Amberjack (*Seriola lalandi*)

Harvesters targeting Pacific Albacore Tuna under the authority of a Section 68 High Seas licence may retain the following species additional species when encountered as bycatch:

- Bigeye Tuna (*Thunnus obesus*)
- Marlins (*Tetrapturus sp.; Makaira* sp.)
- Sail-fishes (I*stiophorus* sp.)
- Blackfin Tuna (*Thunnus atlanticus*)
- Swordfishes (*Xiphias gladius*)
- Little Tuna (*Euthynnus* sp.)
- Sauries (*Scomberesox* sp.*; Colobais* sp.)
- Frigate Mackeral (*Auzis* sp.)
- Dolphin fish (Mahi Mahi) (*Coryphaena* sp.)
- Pomfrets (Family *Bramidae*)

Vessels fishing under the authority of a CT licence are not permitted to retain these species.

Maximum Retention Amounts

There is no limit to the amount of Pacific Albacore Tuna that may be retained.

Each licence holder is permitted to retain a maximum of 100kg of each of the species other than Pacific Albacore Tuna listed above when encountered as bycatch in the Pacific Albacore Tuna fishery.

For information on targeted harvest of species other than Pacific Albacore Tuna please see Appendix 9.

Licencing

Eligibility

Both the CT and the Section 68 High Seas licences are vessel-based; all vessels receiving these licences must be registered Canadian commercial vessels.

In order to be eligible for a CT licence, a commercial or communal commercial licence with Schedule II privileges is required. If the primary licence with Schedule II privileges is replaced or relinquished an associated CT licence will no longer be valid.

Section 68 High Seas licences do not require a primary licence.

Licence Issuance

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 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 client support.

Completed applications for Section 68 High Seas licences may be submitted through NOLS or by email to the Pacific Fisheries Licencing Unit. The vessel owner or authorized representative must sign the application form. High Seas applications for species other than tuna will be forwarded to the appropriate DFO Fishery Manager or Co-ordinator for review and approval prior to licence issue.

Licence Documents

Schedule II Species Tuna documents are valid from the date of issue to March 31, 2023. Section 68 documents are also valid from the date of issue to March 31, 2023. Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the NOLS.

Regional Fishery Management Organizations

Inter-American Tropical Tuna Commission (IATTC)

All Canadian tuna vessels operating in the Pacific Ocean, including within Canada's Pacific EEZ, must be listed on the IATTC Regional Vessel Registry. Harvesters can check the IATTC Regional Vessel Registry (www.iattc.org/VesselDataBaseENG.htm) to ensure that their vessel is registered. Registration forms are available here: https://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/pelagic-pelagique/tuna-thon/form/wcpfc_iattc-cppoc_citt-eng.pdf.

As part of their registration with the IATTC, all vessels over 12 metres in length must have an International Maritime Organization (IMO) number if fishing in the high seas. IMO numbers can be obtained at no cost. The steps to obtain an IMO number are as follows:

1. Register for an account here: https://imonumbers.lrfairplay.com/Account/Register
2. Once logged on, go to: https://imonumbers.lrfairplay.com/Ships
3. Then under "Request a Number" fill-out an online form or download a copy
4. Complete the form as indicated; for "Official Number" put Transport Canada (D.O.T.) Register of Vessels Number, and for "Fishing Number" use DFO vessel registration number (VRN).
5. Submit online forms using the indicated button, or email downloaded forms to ship.imo@ihs.com.

Western and Central Pacific Fisheries Commission (WCPFC)

Harvesters wishing to fish for tuna in the WCPFC Convention Area will need to request amended Conditions of Licence from the Tuna Resource Manager. These amended Conditions of Licence will be issued once it has been confirmed that the various requirements specific to harvesting in the WCPFC Convention Area have been met.

All vessels used to harvest tuna in the WCPFC Convention Area must be listed on the WCPFC Record of Fishing Vessels (https://www.wcpfc.int/record-fishing-vessel-database). Vessels on this list must be authorized annually.

All vessels used to harvest tuna in the WCPFC Convention Area must also have a vessel monitoring system (VMS) approved and registered with the WCPFC Secretariat. Only certain VMS units and service providers are accepted. Vessel operators must sign an authorization form permitting the WCPFC Secretariat to track the vessel while operating in the WCPFC Convention Area.

Certain additional requirements for fishing in the WCPFC Convention Area depend on the specific location, type of harvest (fresh or frozen fish), gear type, and other considerations. Harvesters will need to discuss with the Tuna Resource Manager how these requirements relate to their intentions for fishing in the WCPFC Convention Area.

To request authorization to fish in the WCPFC Convention Area and obtain the necessary registration forms contact the Tuna Resource Manager.

Fishery Monitoring

Financial Responsibilities

Commercial tuna licence holders fund the fishery monitoring program which consists of, logbooks, vessel hails, associated data entry, and the provision of data to DFO. Licence holders are also responsible for the cost of VMS units, installation, operation, and maintenance; however, the costs associated with management of VMS data are covered by the Department.

Logbook

Harvesters must keep an accurate harvest log (logbook) with complete records of all catch (including bycatch), dates and times, coordinates, and offload information. Harvesters are also requested to provide length measurements for a sample 10 fish at the start of each successful day. Logbooks must be submitted by November 1 each year, or the vessel master must contact the Tuna Resource Manager if continuing to fish beyond the November 1 deadline.

Logbooks that meet the requirements of the Department are available for purchase from the Canadian Highly Migratory Species Foundation (CHMSF) by calling (250) 658-0179. The purchase of the CHMSF logbook includes a service to receive hard copy (paper) logbooks and to verify, edit, keypunch, and provide the data in the required format to the Department.

Vessel Hail Program

Vessel masters must report the beginning and end of each fishing trip. A "Start Fishing Trip Report" (Hail-out) is required prior to leaving port to begin a fishing trip. An "End Fishing Trip Report" (Hail-In) is required when any fish are offloaded or the vessel has ceased fishing for a period greater than 72 hours.

Reports must be made to the designated hail service provider, Archipelago Marine Research Ltd. (AMR). Reports may be submitted via telephone or email. AMR's contact information and office hours are provided in the CHMSF logbook.

Additional details regarding hail requirements are specified in conditions of licence.

Other Information

National Oceanic and Atmospheric Administration Fisheries Southwest Science Center Tagging Project

The Southwest Fisheries Science Centre (SWFSC) is working with The American Fishermen's Research Foundation (AFRF) on an albacore tagging project. The objective of the project is to

better understand the movements of North Pacific Albacore. Tags can be identified by the presence of a green dart tag behind the dorsal fin and a plastic coated stalk protruding from the rear portion of the belly. The SWFSC is offering a $500 (U.S. dollars) reward for the return of a tagged fish with the archival tag in place along with the date, latitude and longitude of where the tagged fish was caught and the gear used to catch the fish. The reward can be obtained by returning the tagged fish and capture information to:

National Marine Fisheries Service
Southwest Fisheries Science Centre
8604 La Jolla Shores Dr.
La Jolla, CA 92037

More information on the tagging program can be found at:
http://swfsc.noaa.gov/textblock.aspx?Division=FRD&id=1194

APPENDIX 7. COMMERCIAL FISHING PLAN FOR PACIFIC ALBACORE TUNA – USA VESSELS IN THE CANADIAN EEZ

The activities of USA-flagged tuna vessels (USA vessels) in the Canadian EEZ are governed by the *Treaty between the Government of the United States of America and the Government of Canada on Pacific Coast Albacore Tuna Vessels and Port Privileges* (the Canada-USA Tuna Treaty) and by Canada's domestic legislation and regulations.

The fishing regime under the Canada-USA Tuna Treaty expired on December 31, 2023. Without an established fishing regime USA tuna vessels cannot fish in Canadian waters. Negotiations to establish a new fishing regime are expected to take place in early 2023. Upon conclusion of these negotiations DFO will provide an updated commercial fishing plan for USA vessels fishing in the Canadian EEZ by way of an amended IFMP. The Department will issue a fishery notice when the amended IFMP is available.

The Tuna Advisory Board and additional stakeholders will continue to be engaged through the treaty re-negotiation process. If the negotiations result in notable changes to the treaty fishing regime relative to recent years, broader consultation will be conducted with regards to how these changes might be reflected in the updated commercial fishing plan.

APPENDIX 8. COMMERCIAL FISHING PLAN FOR PACIFIC ALBACORE TUNA – CANADIAN VESSELS IN THE USA EEZ

The activities of Canadian tuna vessels in the Exclusive Economic Zone (EEZ) of the USA are governed by the *Treaty between the Government of the United States of America and the Government of Canada on Pacific Coast Albacore Tuna Vessels and Port Privileges* (the Canada-USA Tuna Treaty) as well as Canada's domestic legislation and regulations. Additionally, the entirety of the USA EEZ falls within the IATTC Convention Area and Canada is therefore obliged to ensure that Canadian vessels operating in the USA EEZ comply with the requirements of relevant IATTC resolutions.

The fishing regime under the Canada-USA Tuna Treaty expired on December 31, 2022. Without an established fishing regime Canadian tuna vessels will not be able to fish in USA waters. Negotiations to establish a new fishing regime are expected to take place in early 2023. Upon conclusion of these negotiations DFO will provide an updated commercial fishing plan for Canadian vessels fishing in the USA EEZ by way of an amended IFMP. The Department will issue a fishery notice when the amended IFMP is available.

The Tuna Advisory Board and additional stakeholders will continue to be engaged through the treaty re-negotiation process. If the negotiations result in notable changes to the treaty fishing regime relative to recent years, broader consultation will be conducted with regards to how these changes might be reflected in the updated commercial fishing plan.

APPENDIX 9. COMMERCIAL FISHING PLAN FOR BIGEYE TUNA, PACIFIC BLUEFIN TUNA, SKIPJACK TUNA, AND YELLOWFIN TUNA – CANADIAN VESSELS IN THE HIGH SEAS

Overview

Fishery Covered

This commercial fishing plan covers Canadian vessels harvesting Bigeye Tuna, Pacific Bluefin Tuna, Skipjack Tuna, or Yellowfin Tuna in the high seas of the Pacific Ocean (i.e. areas outside the EEZs of Canada or other states).

All harvesters wishing to participate in this fishery must contact the Tuna Resource Manager to obtain authorization. Licences issued for the harvest of Pacific Albacore Tuna do not authorize targeted harvest of non-Albacore species unless amendments are made to the Conditions of Licence.

Conditions of Licence

Licences authorizing the harvest of Pacific tuna species are issued with attached "Conditions of Licence" which stipulate requirements specific to each licence. Harvesters operating under the authority of a fishing licence are legally obligated to comply with the requirements specified in the Conditions of Licence. The IFMP outlines only some of these requirements and does not provide the full information necessary to ensure compliance. Harvesters should review and understand their Conditions of Licence prior to commencing fishing.

General Stipulations

Licences

Commercial harvest of Pacific tuna species in the high seas may be permitted under the authority of a vessel-based category CT licence or a vessel-based Section 68 High Seas licence.

Areas

This commercial fishing plan covers fishing operation in the high seas of the Pacific Ocean (areas that are not included in the Exclusive Economic Zone, the territorial sea, or the internal waters of any state).

Times

Both CT licences and Section 68 High Seas licences are valid from April 1, 2022 to March 31, 2023.

Gear

Harvesters operating in the high seas under the authority of a CT or Section 68 High Seas licence are permitted to use hook and line gear, not including longline gear unless specifically authorized through amended Conditions of Licence. Authorization to use longline gear may be requested from the Tuna Resource Manager and will be subject to a detailed plan ensuring that relevant requirements can be met. No other gear types are permitted.

Permitted Species

Harvesters operating under the authority of a CT or Section 68 High Seas licence may be permitted to capture and retain the following non-Albacore species:

- Pacific Bluefin Tuna (*Thunnus orientalis*)
- Pacific Bonito (*Sarda chiliensis*)
- Skipjack Tuna (*Katsuwonus pelamis*)
- Yellowfin Tuna (*Thunnus albacares*)
- Yellowtail Amberjack (*Seriola lalandi*)

Harvesters operating under the authority of a Section 68 High Seas licence may retain the following species additional species:

- Bigeye Tuna (*Thunnus obesus*)
- Marlins (*Tetrapturus sp.; Makaira* sp.)
- Sail-fishes (I*stiophorus* sp.)
- Blackfin Tuna (*Thunnus atlanticus*)
- Swordfishes (*Xiphias gladius*)
- Little Tuna (*Euthynnus* sp.)
- Sauries (*Scomberesox* sp.; *Colobais* sp.)
- Frigate Mackeral (*Auzis* sp.)
- Dolphin fish (Mahi Mahi) (*Coryphaena* sp.)
- Pomfrets (Family *Bramidae*)

Vessels fishing under the authority of a CT licence are not permitted to retain these species.

Maximum Retention Amounts

Retention amounts for the targeted harvest of Bigeye Tuna, Pacific Bluefin Tuna, Skipjack Tuna, and Yellowfin Tuna will be established on a case by case basis upon request an in accordance with Canada's relevant obligations under the IATTC and WCPFC. The authorized amounts will be specified in licence conditions.

Each licence holder will typically be permitted to retain a maximum of 100kg of each of the other permitted species when encountered as bycatch.

Licencing

Eligibility

Both the CT and the Section 68 High Seas licences are vessel-based and all vessels receiving these licences must be registered Canadian commercial vessels.

In order to be eligible to apply for a CT licence, a commercial or communal commercial licence with Schedule II privileges is required. If the primary licence with Schedule II privileges is replaced or relinquished an associated CT licence will no longer be valid.

Section 68 High Seas licences do not require a primary licence.

Licence Issuance

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 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 client support.

Completed applications for Section 68 High Seas licences may be submitted through NOLS or by email to the Pacific Fisheries Licencing Unit. The vessel owner or authorized representative must sign the application form. High Seas applications for species other than tuna will be forwarded to the appropriate DFO Fishery Manager or Co-ordinator for review and approval prior to licence issue.

Licence Documents

Schedule II Species Tuna documents are valid from the date of issue to March 31, 2023. Section 68 documents are also valid from the date of issue to March 31, 2023. Replacements for lost or destroyed licence documents may be obtained by reprinting the licence documents through the NOLS.

Regional Fishery Management Organizations

Inter-American Tropical Tuna Commission (IATTC)

All Canadian tuna vessels operating in the Pacific Ocean, including within Canada's Pacific EEZ, must be listed on the IATTC Regional Vessel Registry. Harvesters can check the IATTC Regional Vessel Registry (www.iattc.org/VesselDataBaseENG.htm) to ensure that their vessel is registered. Registration forms are available here: https://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/pelagic-pelagique/tuna-thon/form/wcpfc_iattc-cppoc_citt-eng.pdf.

As part of their registration with the IATTC, all vessels over 12 metres in length authorized to fish on the high seas must have an International Maritime Organization (IMO) number. IMO numbers can be obtained at no cost. The steps to obtain an IMO number are as follows:

6. Register for an account here: https://imonumbers.lrfairplay.com/Account/Register
7. Once logged on, go to: https://imonumbers.lrfairplay.com/Ships
8. Then under "Request a Number" fill-out an online form or download a copy
9. Complete the form as indicated; for "Official Number" put Transport Canada (D.O.T.) Register of Vessels Number, and for "Fishing Number" use DFO vessel registration number (VRN).
10. Submit online forms using the indicated button, or email downloaded forms to ship.imo@ihs.com.

Western and Central Pacific Fisheries Commission (WCPFC)

Harvesters wishing to fish for tuna in the WCPFC Convention Area will need to request amended Conditions of Licence from the Tuna Resource Manager. These amended Conditions of Licence will be issued once it has been confirmed that the various requirements specific to harvesting in the WCPFC Convention Area have been met.

All vessels used to harvest tuna in the WCPFC Convention Area must be listed on the WCPFC Record of Fishing Vessels (https://www.wcpfc.int/record-fishing-vessel-database). Vessels on this list must be authorized annually.

All vessels used to harvest tuna in the WCPFC Convention Area must also have a vessel monitoring system (VMS) approved and registered with the WCPFC Secretariat. Only certain VMS units and service providers are accepted. Vessel operators must sign an authorization form permitting the WCPFC Secretariat to track the vessel while operating in the WCPFC Convention Area.

Certain additional requirements for fishing in the WCPFC Convention Area depend on the specific location, type of harvest (fresh or frozen fish), gear type, and other considerations. Harvesters will need to discuss with the Tuna Resource Manager how these requirements relate to their intentions for fishing in the WCPFC Convention Area.

To request authorization to fish in the WCPFC Convention Area and obtain the necessary registration forms contact the Tuna Resource Manager.

Fishery Monitoring

Financial Responsibilities

Commercial tuna licence holders fund the fishery monitoring program which consists of, logbooks, vessel hails, associated data entry, and the provision of data to DFO. Licence holders are also responsible for the cost of VMS units, installation, operation, and maintenance; however, the costs associated with management of VMS data are covered by the Department.

Logbook

Harvesters must keep an accurate harvest log (logbook) with complete records of all catch (including bycatch), dates and times, coordinates, and offload information.

Logbooks that meet the requirements of the Department are available for purchase from the Canadian Highly Migratory Species Foundation (CHMSF) by calling (250) 658-0179. The purchase of the CHMSF logbook includes a service to receive hard copy (paper) logbooks and to verify, edit, keypunch, and provide the data in the required format to the Department.

Vessel Hail Program

Vessel masters must report the beginning and end of each fishing trip. A "Start Fishing Trip Report" (Hail-out) is required prior to leaving port to begin a fishing trip. An "End Fishing Trip Report" (Hail-In) is required when any fish are offloaded or the vessel has ceased fishing for a period greater than 72 hours.

Reports must be made to the designated hail service provider, Archipelago Marine Research Ltd. (AMR). Reports may be submitted via telephone or email. AMR's contact information and office hours are provided in the CHMSF logbook.

Additional details regarding hail requirements are specified in conditions of licence.

APPENDIX 10. TUNA ADVISORY BOARD MEMBERSHIP

Advisor Name	Representation	Term Start (January 1st)	Term End (December 31st)
Fraser MacDonald	USA Zone	2021	2024
Gregg Holm	USA Zone	2021	2024
Peter de Greef	USA Zone	2023	2026
Anare Rokotuiwakaya	USA Zone	2023	2026
Graham Milicheap	Canadian Zone	2021	2024
VACANT	Canadian Zone	2021	2024
Tad Larden	Canadian Zone	2023	2026
John Jenkins	Canadian Zone	2023	2026
Ron Kay	High Seas Zone	2021	2024
VACANT	High Seas Zone	--	--
Lorne Clayton	Canadian Highly Migratory Species Foundation	N/A	N/A
VACANT	British Columbia Tuna Fishermen's Association	N/A	N/A
Mike Kelly	Sport Fishing Advisory Board	N/A	N/A
Killian Stenhfest	Marine Conservation Caucus	N/A	N/A
VACANT	Processor/Buyer	N/A	N/A
VACANT	Processor/Buyer	N/A	N/A
Larry Neilson	Province of BC	N/A	N/A
Harold Amos	First Nations Representative	N/A	N/A
Brad Langman	DFO – Fisheries Management	N/A	N/A
Sarah Hawkshaw	DFO – Science	N/A	N/A
Jason Gibson	DFO – Conservation and Protection	N/A	N/A

APPENDIX 11. FISHING VESSEL SAFETY

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

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.

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 aa 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 03/2019SSB 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.

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.

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.

Other Issues

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

Emergency Radio Procedures

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

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)363-63336333 or from the Coast Guard website: https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/part3-eng.html

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.

WorkSafeBC

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

Other sections of the OHSR also apply to commercial fishing operations. For example, Part 3 addresses training of young and new workers, first aid, and employer incident/accident investigations. Part 4 addresses general conditions such as maintenance of equipment, workplace conduct and impairment. Part 8 addresses issues related to safety headgear, safety footwear, eye and face protection, limb and body protection and personal flotation devices (PFDs) when working on the dock. Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.

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

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

NOTE: Regarding the OHSR requirement to wear PFD's, WorkSafe BC 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
Cody King – Courtenay – (250) 334-8733
Paul Matthews – Courtenay – (250) 334-8741
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 Helen Chandler, OHS Consultant at (604) 276-3174 or by email: helen.chandler@worksafebc.com.

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

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, 2020.

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