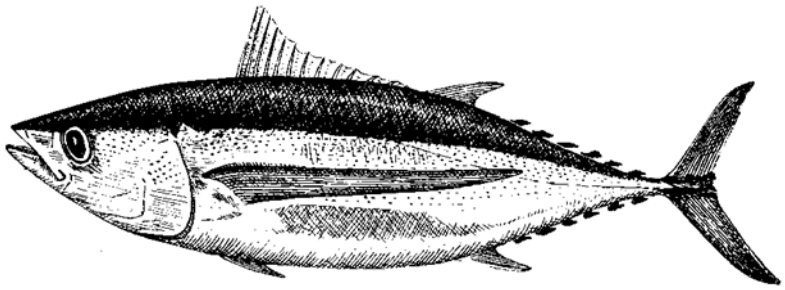
PACIFIC REGION

# INTEGRATED FISHERIES MANAGEMENT PLAN

## April 1, 2020 – March 31, 2021

ALBACORE TUNA



Albacore Tuna *(Thunnus alalunga)*

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# GLOSSARY AND LIST OF ACRONYMS

| | |
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| 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). |

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| Ecologically and Biologically Significant Area (EBSA) | An EBSA is an area that has particularly high Ecological or Biological Significance, and should receive a greater-than-usual degree of risk aversion in management of activities in order to protect overall ecosystem structure and function within the LOMA. |
| 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 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 Traditional Knowledge (ITK) | Knowledge that is held by, and unique to Indigenous peoples. It is a living body of knowledge that is cumulative and dynamic and adapted over time to reflect changes in the social, economic, environmental, spiritual, and political spheres of the Indigenous knowledge holders. |
| Interaction | Incidental mortality and serious injury (usually refers to marine mammals). This includes entanglements and collisions. |

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| 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. |
| Large Ocean Management Area (LOMA) | Integrated management planning in Canada is focused in five high priority LOMAs, these are: Placentia Bay and the Grand Banks, the Gulf of St. Lawrence, the Scotian Shelf, the Beaufort Sea and the Pacific North Coast. |
| lb | Imperial pound(s), which is equal to 0.45359237 kg. |
| 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. |
| Maximum Sustainable Yield (MSY) | Largest average catch that can continuously be taken from a stock. |
| 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 and issues fishery licence applications through the NOLS. For more information on the PFLU, please visit: http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.htm |
| Population | Group of individuals of the same species, forming a breeding unit, and sharing a habitat. |

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| 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. |
| Research Survey | Survey at sea, on a research vessel, allowing scientists to obtain information on the abundance and distribution of various species and/or collect oceanographic data. E.g. bottom trawl survey, plankton survey, hydroacoustic survey, etc. |
| RFMO | Regional Fisheries Management Organization (international). |
| Sampling Program | A program in which representative samples of animals are collected for the calculation of parameter estimates that describe such things as weight, length or age within the general population. |
| Spawner | Sexually mature individual. |
| 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. |

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| Stock Assessment Area | Stock assessment groupings used since 1993 by the PSARC to monitor, assess, forecast and harvest herring. |
| Tonne | Metric tonne, which is 1000kg or 2204.6 lb. |
| Total Allowable Catch (TAC) | The amount of catch that may be taken from a stock, determined by analytical procedures, to achieve management objectives. |
| Traditional Ecological Knowledge (TEK) | A cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. |
| 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 Albacore Tuna covers the period from April 1, 2020 to March 31, 2021.

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 to 9 describe allocation and management procedures. Finally, Section 10 outlines how the performance of the fishery will be evaluated with regards to the objectives described in Section 5.

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 for Pacific Albacore Tuna. Specific selected changes are highlighted briefly here. More information on these changes can be found in conditions of licence or in the relevant sections and appendices of the IFMP.

**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, 2019. 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 regime will take place in early 2020. 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.

**Expanded Information on the Recreational Fishery**

The Department has been working with members of the Sport Fishing Advisory board (SFAB) to improve information provided in the IFMP on the recreational Albacore Tuna fishery. The SFAB has provided background used to expand the description of the fishery and has provided links to additional information that are included in the Recreational Fishing Plan (Appendix 5). Discussions are ongoing, both within DFO and with external stakeholders, regarding future improvements to the collection and reporting of catch information for the recreational fishery.

**Retention Limits for Incidental Catch under CT Licences**

Beginning in the 2020 season, CT licence holders may retain a maximum of 100kg (approximately 220lbs) of each of the species, other than Albacore Tuna, for which retention is permitted in conditions of licence. There will continue to be no limit on the amount of Albacore Tuna that can be retained in 2020. Harvesters are reminded that it is prohibited to retain any amount of any species not specified in conditions of licence.

This change is part of DFO's efforts to ensure that we are meeting our international obligations, and is being implemented following an analysis of catch history and consultation with the Tuna Advisory Board. Given that interception of non-Albacore species is rare, and these rare incidents result in only very small amounts being retained, this change is not expected to have a significant operational impact. Harvesters wishing to engage in directed fishing of non-Albacore tuna species should discuss appropriate authorization with the Tuna Resource Manager.

## 1.3 Background

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). The Pacific Canadian tuna fishery is focused on highly migratory Albacore Tuna. 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.

For recent catch and effort information, please see the post-season review in Appendix 1.

## 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 (as of April 1, 2011) and the Tla'amin First Nation (as of April 5, 2016), 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.

First Nations are permitted to harvest fish for food, social and ceremonial (FSC) purposes coast wide where authorized by a communal licence. There is no known FSC fishing for tuna species in the Pacific Region. For more information about communal licences, please visit: http://www.pac.dfo-mpo.gc.ca/abor-autoc/licences-permis-eng.html

**Recreational**

Recreational tuna fishing is permitted coast wide, subject to specific area closures. Access to 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. Commercial tuna fishing in 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. From 2013 to 2019, 45 Canadian vessels each year were eligible for a USA68 licence permitting fishing for Albacore Tuna in the USA EEZ. Approximately 120-160 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 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; however; there has been no reported Canadian activity or catch in the South Pacific Ocean since 2007. 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 primarily takes place from July to September, but can start earlier and run later depending on the migration of Albacore Tuna and the oceanic conditions that support this. In recent years, eligible Canadian vessels have been permitted to harvest Albacore Tuna in the USA EEZ from June 15 to September 15 each year. Albacore Tuna harvest on the high seas takes place in approximately the same time period in the North Pacific, and from December to March in the South Pacific.

Recreational harvest of Albacore Tuna is possible 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. Depending on water conditions, recreational harvesters report encountering Albacore Tuna as far as approximately 170 km offshore.

## 1.6 Fishery Characteristics

**Indigenous People of British Columbia**
Tuna fishing for Food, Social, and Ceremonial (FSC) purposes is permitted; however, there are very few First Nations requests for FSC tuna fishing access.

**Recreational**
Sport fishing for Albacore Tuna is known to occur 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 utilize 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.

The Canadian high seas fleet typically have crews of two to four people, can remain at sea for several weeks or months and are equipped with larger freezers than smaller, coastal vessels.

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. Effort in the Canadian coastal fishery normally peaks in August and September, after the salmon troll season.

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 6-8.

## 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 then implemented by DFO within the framework of Canada's domestic legislation and regulations.

Additionally, 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).

**National**

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* (effective date of April 5, 2016),
- The *British Columbia Sport Fishing Regulations*,
- The *Oceans Act*, and,
- The *Species at Risk Act*.

These documents are available on the Internet at: http://www.dfo-mpo.gc.ca/acts-loi-eng.htm.

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

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

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

Additionally, the national Fishery Monitoring Policy has recently been finalized and is now available at: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm. This policy aims to bring consistency in the development, delivery and evaluation of monitoring programs for all federally-managed wild capture fisheries in Canada, and will supersede the existing Pacific Region Strategic Framework. To discuss the national Fishery Monitoring Policy with regional staff, please contact Amy Mar at Amy.Mar@dfo-mpo.gc.ca or 604-666-1090.

**International**

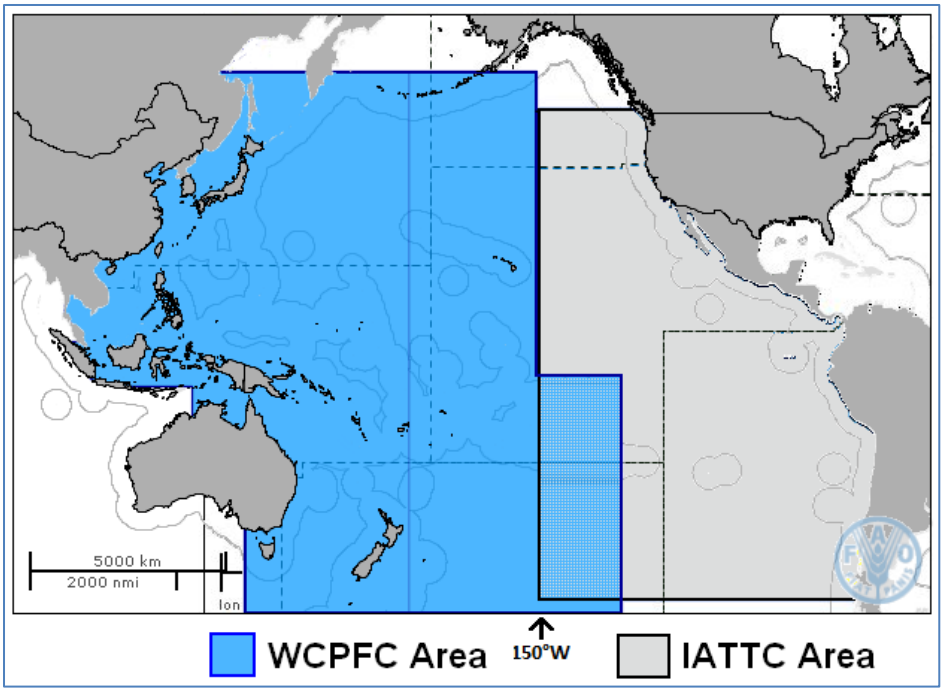
Widespread and growing concern over the state of the world's commercial fisheries, many of which suffer from resource over-exploitation and fleet over-capacity, has led to international

agreements that 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. This area includes part of EEZ and 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 (CMM's) 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/).

Canada has numerous obligations related to the management of Pacific Albacore Tuna which are a result of IATTC and WCPFC resolutions. These obligations include specifying and enforcing certain requirements for Canadian tuna harvesting vessels, which is often done through conditions of licence.

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.

As well as the *Treaty between the Government of Canada and the Government of the United States of America on Pacific Albacore Tuna Vessels and Port Privileges* (described below).

**Canada-USA Pacific Albacore Tuna Treaty**

Fishing for Albacore Tuna by Canadian fishing vessels in USA fisheries waters is governed by the *Treaty Between the Government of Canada and the Government of the United States of America on Pacific 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.

The Canada-USA Tuna Treaty was established in 1981 and was initiated by the USA to ensure that their fleet had access to Albacore Tuna in Canadian waters after the implementation of the EEZs in the late 1970s. Limitations on fishing effort were first introduced through an amendment to the treaty in 2002.

DFO introduced a separate licence for Canadian vessels fishing in USA waters (the USA68 licence) in 2003. In 2004, only vessels meeting specific criteria were issued this licence and effort was limited to 680 vessel fishing months. In 2005, a licence limitation regime was adopted which considered past participation before and after a control date of April 15, 2000. This limitation regime provided priority access to the Canadian vessels most consistently active in the USA EEZ.

Vessels on the 2005 eligibility list needed to have been commercially licensed as of December 31, 2004, have recorded Albacore Tuna catch in USA waters between 1995 and 1999, and have continued participation between 2000 and 2002. The Department then ranked the vessels based on participation and catch history, resulting in an eligibility list of 175 vessels. In 2005, an independent licence appeal process was initiated as the final stage in the licence limitation program. The Albacore Tuna Review Committee reviewed 58 appeals, approving 23 and denying 35; this resulted in a final eligibility list of 179 vessels.

In 2008, Canadian and USA officials signed amendments to the Treaty which included a defined fishing season of 4.5 months (June 15 to October 31) with in-season licence transfers (vessel replacements) prohibited except under extraordinary circumstances. As part of the revised 2008 Treaty, vessels ranked from 1-110 on the eligibility list of 179 vessels were permitted to harvest tuna in the USA EEZ until the end of the 2011 season. By June 1 each year, the list of 110 authorized vessels was forwarded to USA officials. From 2009 to 2011, an average of 108 Canadian vessels entered the USA EEZ to harvest Albacore Tuna.

The revised 2008 Treaty expired on December 31, 2011 and discussions between Canada and the USA in late 2011 determined that further work was required before agreement could be reached on a new fishing regime. At those meetings, the USA government identified some concerns raised by their industry representatives, including the economic impact or benefit of the Treaty on USA coastal communities and harvesters, crowding on the fishing grounds in the USA EEZ, and the overall capacity of the Canadian tuna fleet. Canada tabled several proposals in order to address the concerns; however, the USA government advised that they would not be entering into an agreement for the 2012 season and reciprocal fishing and port access was suspended for that year.

Canada and the USA met again in February and April 2013 and were able to agree to a new fishing regime for the 2013 season. This regime included a shortened season for Canadian vessels fishing in the USA EEZ (from June 15 to September 15) and access to the USA EEZ being limited to the top 45 Canadian vessels on the USA68 eligibility list. The number of USA vessels permitted to access the Canadian EEZ was not limited beyond historical levels and USA vessels were allowed to fish in the Canadian EEZ from June 15 to October 31 and access Canadian ports from June 1 to December 31. Subsequent bilateral discussions extended this same regime through to December 31, 2019. As of January 2020 no regime is in place; negotiations to establish a new regime are anticipated before the commencement of the fishing season.

## 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 9.

## 1.9 Approval Process

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

# 2 STOCK ASSESSMENT, SCIENCE AND TRADITIONAL KNOWLEDGE

## 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.

Albacore are a valuable species with a long history of exploitation in the North Pacific Ocean (NPO). The total catch of Albacore in the NPO for all nations combined peaked at 126,175 metric tonnes (t) in 1976 and then declined to a low of 37,274t in 1991. In the early 1990s, catches increased again, peaking in 1999 at 119,297t. During the 5 year period from 2011 to 2015 catches have averaged 82,596t. During this period, fisheries based in Japan accounted for 62% of the total harvest, followed by fisheries in the USA (17%), Canada (5%) and Chinese Taipei (4%). Other countries harvested 12% of the NPO Albacore catch and included Korea, Mexico, China, Vanuatu, Tonga, Belize, Cook Islands and Ecuador.

While various fishing gears have been employed over the years to harvest Albacore in the NPO, the main gears used over the 2011-2015 period were longline (40%), pole and line (35%), and troll (21%). Pole and line and troll gears fish the surface waters and catch immature juvenile Albacore. Longline gear fishes deeper in the water column and targets sexually mature adult Albacore. Other gears used to harvest NPO Albacore since the mid-1990s include purse seine, gill net, set nets, and recreational fishing gears, which combined accounted for roughly 4% of the total catch between 2008 and 2012.

## 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 Precautionary Approach

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

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

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

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

The framework requires that a harvest strategy be incorporated into respective fisheries management plans to keep the removal rate moderate when the stock status is healthy, to promote rebuilding when stock status is low, and to ensure a low risk of serious or irreversible harm to the stock. A key component of the Precautionary Approach Framework requires that when a stock has declined to the Critical Zone, a rebuilding plan must be in place with the aim of having a high probability of the stock growing out of the Critical Zone within a reasonable timeframe.

More information related to the precautionary approach is available at: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precautionary-precaution-eng.htm

## 2.4 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 Albacore stock assessment due to the lack of sex-specific size or growth data, shortened modeling period, and simplified treatment of the spatial structure of north Pacific Albacore population.

The ALBWG has identified and prioritized some research needs. The top six priorities are: (1) further investigation of sex-specific growth; (2) evaluation of the use of Japan longline juvenile index to represent juvenile Albacore abundance trends instead of the use of the Japan pole-and-line index; (3) investigating ways of resolving the data conflict issue when incorporating the

data in the early period (1966-1992) into the modelling process; (4) evaluation of sampling protocols and accuracies of historical and current size frequency data for all fleets; (5) standardization of size composition data to the CPUE index they represent; (6) collection of high quality samples for development of genetic sex markers.

## 2.5 Stock Assessment

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 2017. In this assessment the ALBWG concluded that the North Pacific Albacore stock is healthy, current productivity is sufficient to sustain recent exploitation levels, the stock is likely not overfished, and overfishing is likely not occurring (ISC, 2017). An executive summary of the 2017 stock assessment can be found in Appendix 3. An updated stock assessment will be completed and made public shortly after the meeting of the ISC in July 2020.

# 3 SOCIAL, CULTURAL, AND ECONOMIC IMPORTANCE

## 3.1 Indigenous

Tuna fishing for Food, Social, and Ceremonial (FSC) purposes is permitted; however, information on access and use is limited.

## 3.2 Recreational

Over 340,000 anglers[1] enjoy recreational fishing in British Columbia's tidal waters in many ways and in all seasons. Sport fishing gives anglers access to their land and its 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. The Sport Fishing Advisory Board (SFAB) has gathered data indicating that at least 3800 Albacore Tuna were captured in the recreational fishery in 2019, with more than 25% of this number released.

Expenditures related to the fishery are not well documented, and efforts are underway improve the collection and analysis of catch and effort data.

## 3.3 Commercial

Pacific Albacore Tuna is one of the most valuable finfish in Canada's major Pacific fisheries, both in terms of price per kilogram and total landed value in the fishery.[3] The Pacific Albacore

[1] DFO Internal Tidal Waters Sport Fishing Licences sales statistics
[2] BC Stats. BC Fisheries and Aquaculture Sector, 2016 Edition, 2018.
[3] For comparison to other fisheries see: British Columbia Seafood Industry Year in Review 2016, BC Ministry of Agriculture, 2017.

Tuna fishery contributed to around 4% of the landed value, and around 6% of the wholesale value for all wild caught BC seafood in 2017.[4] The average annual total landed value from 2009-2018 was approximately $19 million (in 2018 dollars), although, as seen in Table 1, total catch has varied considerably from year.

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

| Year | Total Catch (Kg)* | Average Price per Kg (nominal)** | Average Price per Kg (2018$) | Total Value (Expanded 2018$) |
|---|---|---|---|---|
| 2009 | 5630883.974 | $2.75 | $3.20 | $18,018,828.72 |
| 2010 | 6215294.838 | $3.40 | $3.83 | $23,804,579.23 |
| 2011 | 5323543.904 | $5.33 | $5.83 | $31,036,260.96 |
| 2012 | 2484069.958 | $4.45 | $4.81 | $11,948,376.5 |
| 2013 | 5070479.348 | $4.58 | $4.86 | $24,642,529.63 |
| 2014 | 4780268.357 | $3.12 | $3.25 | $15,535,872.16 |
| 2015 | 4382786.741 | $3.19 | $3.35 | $14,682,335.58 |
| 2016 | 2841763.789 | $7.09 | $7.39 | $21,000,634.40 |
| 2017 | 1829974.689 | $8.93 | $9.08 | $16,616,170.18 |
| 2018 | 2716797.074 | $5.35 | $5.35 | $14,534,864.35 |

*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[5]. More recent processor employment survey data are not available.

[4] See British Columbia Seafood Industry Year in Review 2017: 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

[5] 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 Albacore Tuna. Shorter-term and/or annual management issues are identified in fishing plans for each fishery (Appendices 4-8).

## 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

**Expiration of the Canada-USA Tuna Treaty Fishing Regime**

The fishing regime under the Canada-USA Tuna Treaty expired on December 31, 2019. 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 regime are expected to take place in early 2020. In advance of the fishing season, 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.

**International Progress on a Management Strategy Evaluation**

Work to advance a management strategy evaluation (MSE) for North Pacific Albacore Tuna is ongoing. The MSE evaluates possible target reference points and alternative harvest control rules and supports the application of the precautionary approach at the international level. This work is being led by the Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (the ISC), a group that includes DFO scientists and is associated with both the IATTC and WCPFC.

Management objectives have been established and a suite of candidate reference points have been proposed through three Albacore Tuna MSE workshops involving managers, scientists and stakeholders. The ALBWG of the ISC has been working on evaluation of performances of

these proposed biological reference points and harvest control rules through the MSE processes. Additional information may be posted on the ISC website (http://isc.fra.go.jp/) as it becomes available.

# 5 OCEANS AND ECOLOGICAL CONSIDERATIONS

## 5.1 Gear Impacts

Albacore Tuna vessels currently use hook and line gear, primarily troll. Tuna fishing gear is deployed at the very top of the water column and under normal operating circumstances, there is no contact with benthic features and habitats, and minimal to no environmental impacts. Tuna fishing by troll is highly targeted; based on harvester reports there is minimal bycatch and little to no impact to marine mammals or sea birds.

## 5.2 Other Species Concerns

**Species at Risk Act**

The *Species at Risk Act* (SARA) came into force in 2003. The purposes of the *Act* are "to prevent wildlife species from being extirpated or becoming extinct, and to provide for the recovery of a wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened."

Encounters with SARA-listed species and other marine mammals and seabirds may occur in the tuna fishery. The Department and the fishing industry collect information on these encounters on behalf of the Species at Risk program and Marine Mammal Unit of DFO and Canadian Wildlife Service of Environment Canada.

Under SARA it is illegal to kill, harm, harass, capture, take, possess, collect, buy, sell or trade any marine species listed as endangered or threatened. It is also prohibited to take, possess, collect, buy, sell or trade any part or derivative of an individual of these species. These prohibitions apply unless a person is authorized, by a permit, licence or other similar document issued in accordance with SARA, to engage in an activity affecting the listed species or the residences of its individuals.

To view the list of species currently listed under Schedule 1 of SARA, please visit: http://dfo-mpo.gc.ca/species-especes/sara-lep/identify-eng.htm.

**Shark Codes of Conduct**

Out of the fourteen shark species in Canadian Pacific waters, three species are listed under SARA. The Basking Shark (*Cetorhinus maximus*) is listed as Endangered, and the Bluntnose Sixgill Shark (*Hexanchus griseus*) and Tope Shark (*Galeorhinus galeus*) are listed as species of

Special Concern. The primary threats to shark species have been identified as bycatch and entanglement. In order to address the conservation concerns with shark species, it is important that measures are taken to reduce the mortality of sharks resulting from these primary threats. As such, commercial fishing licences have been amended to include a Condition of Licence for Basking Sharks that specify mitigation measures in accordance with SARA permit requirements. Additionally, two 'Code of Conduct for Shark Encounters' documents have been developed to reduce the mortality of Basking Shark, as well as other Canadian Pacific shark species such as Bluntnose Sixgill and Tope Shark resulting from entanglement and bycatch in commercial, aquaculture, and recreational fisheries. These guidelines include boat handling procedures during visual encounters with Basking Sharks, as well as best practices for handling Canadian Pacific shark species during entanglement encounters.

The code of conduct for sharks can be found at http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/shark-requin/conduct_shark-conduite_requin-eng.html and the code of conduct for Basking Sharks is available at http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/shark-requin/conduct_basking-conduite_pelerin-eng.html.

**Whale and Leatherback Turtle Sightings**

DFO welcomes assistance in the reporting of any whale or leatherback turtle sightings or entanglement. Sightings for leatherback turtles and many whale species are infrequent in Pacific Canadian waters, and the collection of sightings data is very useful to scientists in determining population size and distribution. Establishing this information can in turn help in the recovery planning under SARA.

To report an injured, distressed or entangled sea turtle or marine mammal please call the 24 hr DFO hotline at 1-800-465-4336.

To report a whale sighting, contact the BC Cetacean Sighting Network. More information on how to report can be found here: http://wildwhales.org/sightings/.

To report a sea turtle contact the BC Sea Turtle Sighting Network. More information on how to report can be found here: https://seaturtle.ca/turtle-sighting/.

**Resident Killer Whale**

In May 2018, DFO determined that the Southern Resident Killer Whale (SRKW) faces an imminent threat to its survival and recovery in Canada.

In May 2019, Canada worked with stakeholders, Indigenous groups and other levels of government to develop additional measures for the recovery of SRKW in 2019, including increasing prey abundance and accessibility in key foraging areas.

For the 2020/2021 fishing season, the Department is reviewing the 2019 fishery management actions that were implemented to support increased Chinook prey availability and minimize physical and acoustic disturbance in key SRKW foraging areas within the established Critical Habitat.

The Government of Canada intends to ensure that any updates to actions for the 2020/2021 season can be implemented by spring 2020 to coincide with the return of SRKW in greater numbers to the Salish Sea. Further discussion with First Nations and stakeholders on potential measures will occur as part of the SRKW Technical Working Group meetings, which will include advancing recommendations for longer-term actions to support SRKW recovery.

**Amended Marine Mammal Regulations**

On June 22, 2018 the amended *Marine Mammal Regulations* came into force. These amendments include requirements for boats to maintain a minimum approach distance of 200m from all Killer Whales. The amended regulations also provide clarification on what it means to disturb a marine mammal, including feeding, swimming or interacting with them, moving an individual (or enticing/causing it to move), separating a marine mammal from its group or going between it and a calf, trapping marine mammals between a vessel and the shore or between boats, as well as tagging or marking a marine mammal.

Further information regarding the Marine Mammal Regulations can be obtained by contacting the DFO Marine Mammal Unit (Paul Cottrell, Marine Mammal Coordinator, Paul.Cottrell@dfo-mpo.gc.ca).

**USA Marine Mammal Protection Act**

In 2016, the USA published new regulations (80 FR 54390) implementing the *Marine Mammal Protection Act* (MMPA) import provisions pertaining to the reduction of marine mammal bycatch in foreign commercial fishing operations. Every four years, the US publishes information on all fisheries that export to the USA in the List of Foreign Fisheries (LFF). A harvesting nation intending to export fish and fish products to the USA after January 1, 2022, must apply to the US National Oceanic and Atmospheric Administration (NOAA) for a comparability finding for each of its commercial fisheries listed in the LFF.

To receive a comparability finding for a fishery, the USA MMPA import provisions mandate that the harvesting nation demonstrate (1) the prohibition of intentional mortality or serious injury of marine mammals in the course of commercial fishing operations, and (2) the implementation of a regulatory program comparable in effectiveness to the USA, including bycatch estimates from at-sea observer programs and management/mitigation measures.

DFO will be working closely with the commercial fishing industry and other stakeholders to facilitate the process under these new regulatory requirements in the US. Further information regarding the US-MMPA import provisions can be obtained by contacting the DFO Marine Mammal Unit (Lee Harber, Marine Mammal Advisor, Lee.Harber@dfo-mpo.gc.ca).

## 5.3 Oceans and Habitat Considerations

**Canada's Marine and Coastal Areas Conservation Mandate**

In October 2017, the Government of Canada announced that it had reached its first milestone of protecting 5% of marine and coastal areas. On August 1st 2019, the government announced that Canada had surpassed its 2020 marine conservation target of 10 percent. To date, Canada has established 14 MPAs under the *Oceans Act*, three National Marine Conservation Areas, one marine National Wildlife Area and 59 marine refuges. These areas protect 13.81% of Canada's marine and coastal areas. The 2020 target is both a domestic target (Canada's Biodiversity Target 1) and an international target as reflected in the Convention on Biological Diversity's Aichi Target 11 and the United Nations General Assembly's 2030 Agenda for Sustainable Development under Goal 14. More information on the background and drivers for Canada's marine conservation targets is available http://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html.

**Marine Protected Areas (MPAs)**

DFO is responsible for designating Marine Protected Areas (MPAs) under Canada's *Oceans Act*. Under this authority, DFO has designated three MPAs in the Pacific Region. MPA regulations and management plans articulate any restrictions on activities taking place within the MPA, where applicable. More information on MPAs can be found at: http://dfo-mpo.gc.ca/oceans/mpa-zpm/index-eng.html.

**SGaan Kinghlas-Bowie Seamount (SK-B) MPA**

The SK-B MPA (180 km west of Haida Gwaii) was designated in 2008 and was established to conserve and protect the unique biodiversity and biological productivity of the area's marine ecosystem, including the surrounding waters, seabed and subsoil. The MPA is cooperatively managed by DFO and the Council of the Haida Nation (CHN) through the SK-B Management

Board (The Board). The Board (in consultation with the SK-B Advisory Committee) recently finalized the SK-B MPA Management Plan which guides the conservation and protection of the SK-B ecosystem. In 2018, the Government of Canada and the Haida Nation closed all bottom-contact fishing at SK-B MPA as a precautionary management approach to protect sensitive benthic habitats, resulting in the MPA being closed to all commercial fishing activities. More information can be found online at: http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html

**Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA**

The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Marine Protected Area (Hecate MPA) was designated under the *Oceans Act* in February 2017 to conserve the biological diversity, structural habitat and ecosystem function of the glass sponge reefs. The Hecate MPA Regulations are available online at: http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html. The Hecate MPA is located in the Northern Shelf Bioregion of the Pacific Region southeast of Haida Gwaii, North and South of the entrance to the Douglas Channel, covering an area of approximately 2,410 square kilometers. The Hecate MPA zoning approach involves different management measures within each zone. Under the Hecate MPA Regulations, each glass sponge reefs Core Protection Zone (CPZ) is closed to all commercial, recreational, and Aboriginal fishing. Anchoring, cable installation, maintenance and repair are also prohibited in the CPZ. The Vertical Adaptive Management Zone (VAMZ) and Adaptive Management Zone (AMZ) is currently closed to all commercial bottom contact fishing activities for prawn, shrimp, crab and groundfish (including halibut), as well as for midwater trawl for hake.

For more detail on the fishery closure within the Hecate MPA, review Fishery Notice FN0198 found here: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?DOC_ID=194216&ID=all&pg=view_notice.

Scientific research or monitoring or educational activities are allowed in the Hecate MPA if a proponent submits an activity plan to DFO and it receives Ministerial approval.

Additional maps and shapefiles of the Hecate MPA are available at: https://open.canada.ca/data/en/dataset/a1e18963-25dd-4219-a33f-1a38c4971250.

For further detail on the ecological significance or management plan for the MPA, visit our website at: http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html

**Offshore Pacific Area of Interest**

In May 2017, DFO announced a new Area of Interest (AOI) with the intention of making it a MPA by 2020. The proposed MPA extends from the toe of the continental slope to the westward boundary of Canada's EEZ in the southern portion of the Offshore Pacific Bioregion. On average, the proposed MPA would be approximately 150 km away from the west coast of Vancouver Island, and would have an approximate area of 132,964 $km^2$. The conservation objective for the proposed MPA is to conserve, protect and enhance understanding of unique seafloor features including seamounts and hydrothermal vents and the marine ecosystems they support. More information on the Offshore Pacific AOI can be found on the internet here: http://www.dfo-mpo.gc.ca/oceans/aoi-si/offshore-hauturiere-eng.html

**Offshore Pacific Seamounts and Vents Closure**

Fishery closures to restrict commercial and recreational bottom-contact fishing activities within the Offshore Pacific AOI were announced in October 2017. At approximately 83,000 $km^2$ in size, the closure serves to protect and conserve unique seafloor features including seamounts and hydrothermal vents identified through a Canadian Science Advisory Secretariat process, as well as a number of species of regional importance including corals, sponges and other endemic or rare species. The closure boundary was informed by available science and input received during consultations with First Nations, federal and provincial government agencies, industry and conservation organizations. Specific details of the closure can be found in the fishery notice here: https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=203516&ID=all.

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

**Northern Shelf Bioregion MPA Network**

The Province of BC, the Government of Canada and 16 First Nations are working together to develop a Network of marine protected areas for the Northern Shelf Bioregion which extends from the top of Vancouver Island (Quadra Island/Bute Inlet) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as the Pacific North Coast Integrated Management Area. The planning process is being developed under the policy direction outlined in the National Framework for Canada's Network of MPAs as well as the Canada-British Columbia MPA Network Strategy.

A draft MPA network design, which consists of a map of areas proposed for conservation as

well as potential management measures for proposed sites, was shared with First Nations, who are currently not part of the collaborative governance arrangement, and with members of the Network Advisory Committees in February 2019. Various sectors are engaged in a review of the draft network design; the deadline for input is January 30, 2020. Thereafter, the governance partners will consider all input received and anticipate sharing a revised network design with sectors and the general public for further review in late Fall 2020. Following endorsement of a MPA Network Action Plan, implementation of sites is anticipated to occur over time and there will be additional site specific assessment and consultation prior to introduction of regulatory measures.

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

**Race Rocks Area of Interest**

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

**Other Marine Conservation Initiatives**

**Strait of Georgia and Howe Sound Glass Sponge Reef Marine Refuges**

All commercial, recreational and FSC bottom-contact fishing activities for prawn, shrimp, crab and groundfish are prohibited within 17 areas in Howe Sound and the Strait of Georgia to protect glass sponge reefs, as marine refuges.

This includes prohibitions of the following fishing activities:

- prawn and crab by trap
- shrimp and groundfish by trawl
- groundfish by hook and line
- use of downrigger gear in recreational salmon trolling (restricted via Condition of Licence in eight of the 17 areas)

Nine areas were closed to all commercial, recreational and FSC bottom-contact fishing activities in 2015 (2016 for FSC), followed by an additional eight areas in 2019. Nine remaining areas in Howe Sound require ground-truthing to assess their ecological significance and management measures may be considered in the future.

For further information on this, please contact Deirdre Finn at Deirdre.Finn@dfo-mpo.gc.ca. Current closure locations and more information are available at: http://www.canada.ca/glass-sponge-closures

**Rockfish Conservation Areas**

Between 2003 and 2007, DFO established 164 Rockfish Conservation Areas (RCAs) in the Pacific Region for the long-term protection and conservation of a portion of inshore rockfish populations and their habitat. As of May 1, 2019, South Moresby and Lyell Island RCAs have been superseded and replaced by the strict protection zones of the Gwaii Haanas National Marine Conservation Area Reserve. There are currently 162 RCAs.

DFO is undertaking a multi-year review of the conservation effectiveness of RCAs in order to determine whether some RCAs can meet the Other Effective Area Based Conservation Measures criteria. The conservation effectiveness of RCAs might be improved by adjusting boundaries or through relocation, changing management measures, conducting more research, and increasing monitoring and compliance.

RCAs in the Northern Shelf Bioregion have been selected for the first phase of engagement to align with the MPA network planning process in that area. Engagement in other bioregions will occur in subsequent years. Further information on RCAs and the boundary proposals are available online at: http://dfo-mpo.gc.ca/rockfish-conservation or for further information on this, please contact DFO.RCA-ACS.MPO@dfo-mpo.gc.ca.

**National Marine Conservation Area Reserves (NMCARs)**

**Gwaii Haanas**

Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve and Haida Heritage Site is a 5000 km$^2$ land-and-sea protected area in the southern part of Haida Gwaii (formerly the Queen Charlotte Islands) approximately 100 kilometres off the north coast of British Columbia. The Haida Nation designated the area a Haida Heritage Site in 1985. The terrestrial part of Gwaii Haanas was designated a National Park Reserve by the Government of Canada soon after, and Canada and the Haida Nation have been managing the area cooperatively since 1993. In 2010, the Gwaii Haanas marine area was designated a National Marine Conservation Area Reserve.

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

In November 2018, following an extensive consultation process, a new management plan for

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

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

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

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

Implementation of the Land-Sea-People plan will also involve cooperative management of fisheries using an ecosystem-based management framework and monitoring activities will be supported through partnerships. For more information on Gwaii Haanas and the Archipelago Management Board, visit www.parkscanada.gc.ca/gwaiihaanas.

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

**Southern Strait of Georgia NMCAR**

Parks Canada, in partnership with the Government of British Columbia, launched a feasibility assessment for a National Marine Conservation Area Reserve (NMCAR) in the southern Strait of Georgia in 2004. Since then, consultations with First Nations, key stakeholders, communities

and the public have occurred. Informed by those discussions, a proposed boundary for consultation was announced by the provincial and federal Ministers of Environment in 2011.

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

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

**Scott Islands Marine National Wildlife Area**

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

For further information on this, please contact Aleria Ladwig at Aleria.ladwig@dfo-mpo.gc.ca.

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

The Scott Islands Protected Marine Area Regulations can be found at: https://laws-lois.justice.gc.ca/eng/regul42ations/SOR-2018-119/index.html

**Pacific North Coast Integrated Management Area (PNCIMA)**

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

The endorsement of the PNCIMA plan supports the Government of Canada's commitment to collaborative oceans management for the Pacific North Coast and provides a joint federal-provincial-First Nations planning framework for conservation and the management of human activities in the Pacific North Coast. The plan includes MPA network development as a planning priority. It is anticipated that the network development will support the Government of Canada's commitment to protecting 10% of Canada's marine and coastal areas by 2020.

The PNCIMA Plan is available online at: http://www.pncima.org/.

# 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 Albacore Tuna Resource Management

The Department has specific objectives for the management of Pacific Albacore Tuna for each of the five issues specified below. Details on how performance with regards to these objectives will be evaluated are provided in Section 9.

**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.

**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.

**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. For more information, see Appendix 4 or visit: http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.html

**Consultation:** to maintain an open and transparent consultation process for discussions of harvest management issues for 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.

**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 Albacore Tuna for FSC purposes may occur coast wide where authorized by a communal licence.

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 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 within their Fishing Territories and to sell that fish. The Department has developed a 2019/20 Five Nations Multi-species Fishery Management Plan (FMP) in consultation with the Five Nations. The FMP includes specific details about the fishery, such as allocation/access, licensing and designations, fishing area, harvesting opportunities, and fishery monitoring and catch reporting. For further information see the FMP at: https://waves-vagues.dfompo.gc.ca/Library/4079393x.pdf.

## 7.2 Recreational

Recreational harvest of Pacific Albacore Tuna is permitted through a British Columbia Tidal Waters Sport Fishing Licence. The daily limit for Pacific Albacore Tuna is 20 pieces and the possession limit is 40 pieces.

## 7.3 Commercial

Commercial harvest of Pacific Albacore Tuna is permitted in the high seas, Canadian waters and USA waters 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.

# 8 MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

Please see the Indigenous, Recreational and Commercial Fishing Plans, Appendix 4 to 8 for details on the fishery including:

- Fishing Season,
- Closed Areas
- Control and Monitoring of Removals,
- Licensing,
- Fishery Monitoring Programs; and
- Habitat Protection Measures.

# 9 PERFORMANCE / EVALUATION CRITERIA

## 9.1 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.

## 9.2 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.

## 9.3 Pacific Albacore Tuna Resource Management

**Stock Conservation**

- Fishing effort is maintained at or below levels specified in the IATTC resolution 2005-02.
- 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; requests that received are processed in a timely manner.

**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, 2017. Stock Assessment of Albacore Tuna in the North Pacific Ocean in 2017. Report of the Albacore Working Group, Vancouver, Canada, July 12-17, 2017.

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 2019/20 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 2019. |
| 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.<br><br>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 Albacore Tuna for FSC purposes may occur coast wide where authorized by a communal licence. |
| Consultation: to maintain an open and transparent consultation process for | The TAB pre-season planning meeting was held on February 14, 2019 and post-season |

| | |
|---|---|
| discussions of harvest management issues for 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. | review meeting was held on November 28, 2019. Additional calls with and meetings were held with TAB advisors as necessary to discuss specific items related to management planning.<br><br>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 (100% in 2019) and reported all aggregated catch (including bycatch) and effort data to the IATTC and WCPFC prior to the annual reporting deadline.<br><br>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.<br><br>Hail information related to Canadian vessels entering and exiting USA waters was regularly provided to USA authorities. |

# 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**
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.

**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.

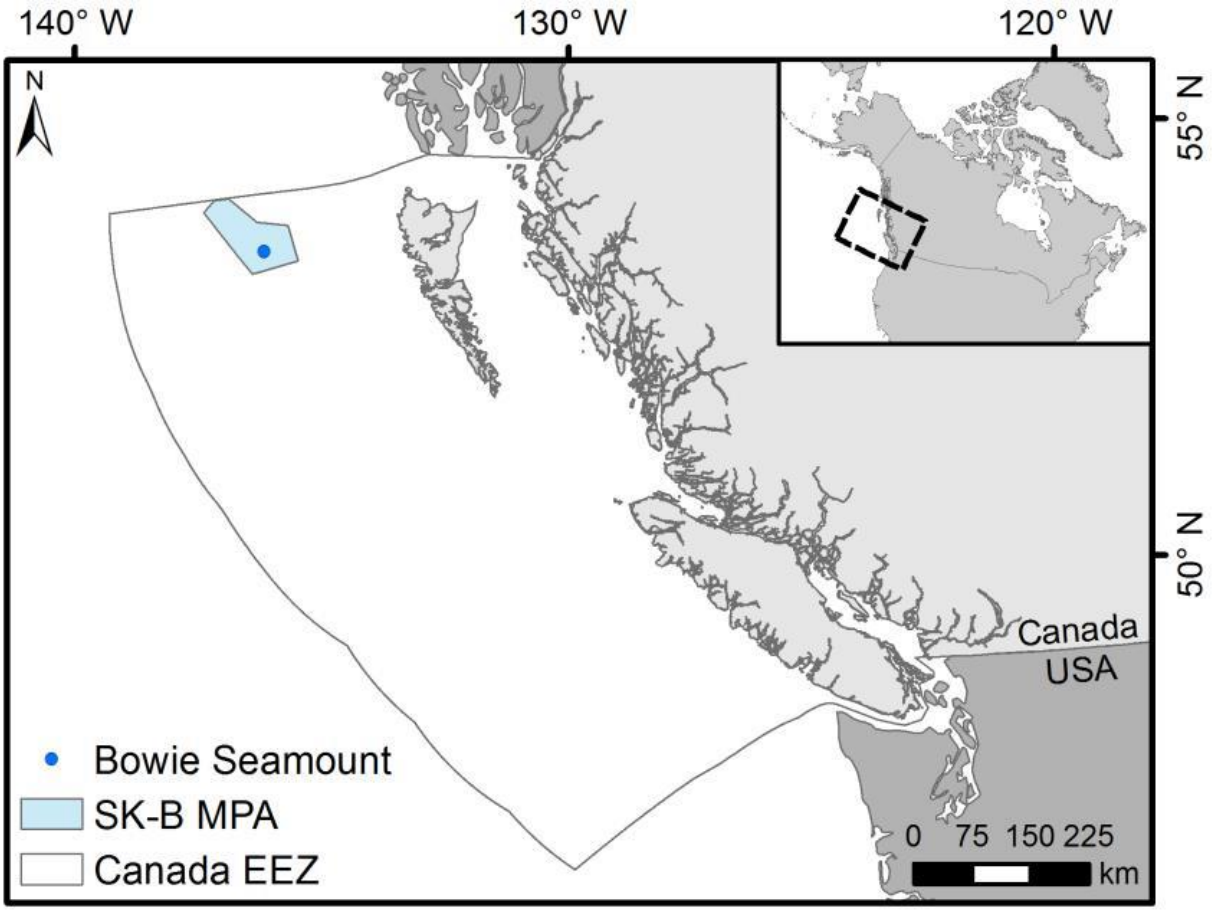
A description of the closures, including their geographic coordinates, is available in the Fishery Notice FN0536 (https://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=view_notice&DOC_ID=222098&ID=all)

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.

**Figure 4: Location of Bowie Seamount and SGaan Kinghlas-Bowie Marine Protected Area (SK-B MPA) within Canada's EEZ (Exclusive Economic Zone)**



# APPENDIX 3. STOCK ASSESSMENT SUMMARY

**Stock Identification and Distribution:** The north Pacific Albacore Tuna (*Thunnus alalunga*) stock area consists of all waters in the Pacific Ocean north of the equator to 55°N. All available fishery data from this area were used for the stock assessment, assuming that there is instantaneous mixing of albacore on a quarterly basis, i.e., a single well-mixed stock.

**Major changes from the 2014 assessment:** There were three major changes to the base case model compared to the previous assessment in 2014. **1**) Most importantly, a new procedure was used to standardize the Japanese longline abundance index (1996 – 2015) used to indicate trends in adult albacore abundance and the results represent a substantial improvement relative to 2014 and earlier assessments. This new index had good contrast and, based on Age-Structured Production Model (ASPM) diagnostic analyses, informative on both population trend and scale. **2**) The start year of the base case model was changed from 1966 (in 2014) to 1993 (in 2017). This change eliminated the influence of poorly fit size composition data from the Japanese longline fleets in 1975 – 1992, and eliminated the conflict between these size composition data and the primary adult albacore indices. **3**) In previous assessments, the instantaneous rate of natural mortality (M) was assumed to be 0.3 y-1 for both sexes at all ages. The basis for this assumption was reviewed and found to be poorly supported. Sex-specific M-at-age vectors were developed from a meta-analysis, with a sex-combined M that scaled with size for ages 0-2, and sex-specific M fixed at 0.39 and 0.48 y- 1 for age-3+ males and females, respectively.

**Catches:** During the modeling period (1993-2015), the total reported catch of north Pacific albacore reached a peak of 119,300 t in 1999 and then declined in the early 2000s, followed by a recovery in later years with catches fluctuating between 68,900 and 93,100 t in recent years (2010- 2015) (Fig. ES1). Surface gears (troll, pole-and-line), which primarily harvest juvenile albacore, have accounted for approximately twice as much albacore catch as longline gear (Fig. ES2).

**Data and Assessment:** All north Pacific albacore catch and size composition data from ISC member countries (Canada, China, Chinese Taipei, Japan, Korea, and USA) and non-member countries were compiled for the assessment. Coherent fishery definitions, especially for the Japan longline and pole-and-line fisheries, improved model fits to the data and model diagnostics. Thirteen relative abundance indices (standardized catch-per-unit-effort) were provided by Japan, USA, and Chinese Taipei. Based on a thorough review of all fishery data and preliminary model runs, the Albacore Working Group (ALBWG) fitted the base case model to one abundance index, the Japanese longline index (S1) from the fleet operating south of 30°N

and west of 160 °E (1996-2015). The S1 index was chosen because it represented the best information on trends for the adult age-classes of female albacore, had good contrast, and the results of ASPM analyses provided evidence that the S1 index was informative on both population trend and scale.

The north Pacific Albacore Tuna stock was assessed using a length-based, age-, and sex-structured Stock Synthesis (SS Version 3.24AB) model over the 1993-2015 period. Sex-specific growth curves from the 2014 assessment were used because of evidence of sexually dimorphic growth, with adult males attaining a larger size-at-age than females after maturity. Sex-specific M-at-age vectors were developed from a meta-analysis, with a sex-combined M that scaled with size for ages 0-2, and sex- specific M fixed at 0.48 and 0.39 y-1 for age-3+ females and males, respectively. The steepness of the Beverton-Holt stock-recruitment relationship was assumed to be 0.9, based on two prior analyses. The assessment model was fitted to the S1 index (1996-2015) and all representative size composition data in a likelihood-based statistical framework. All fleets were assumed to have dome-shaped length selectivity, and age-based selectivity for ages 1-5 was also estimated for surface fleets (troll and pole-and-line) to address age-based changes in juvenile albacore availability and movement. Selectivity was assumed to vary over time for fleets with important changes in fishing operations. Maximum likelihood estimates of model parameters, derived outputs, and their variances were used to characterize stock status. Several sensitivity analyses were conducted to evaluate changes in model performance or the range of uncertainty resulting from changes in model parameters, including natural mortality, stock-recruitment steepness, starting year, selectivity estimation, variability of size-at-age and weighting of size composition data.

An age-structured production model diagnostic analysis, showed that the estimated catch-at-age and fixed productivity parameters (growth, mortality and stock-recruitment relationship without annual recruitment deviates) were able to explain trends in the S1 index. Based on these findings, the ALBWG concluded that the base case model was able to estimate the stock production function and the effect of fishing on the abundance of the north Pacific albacore stock. The link between catch-at-age and the S1 index adds confidence to the data used, and represents a major improvement in the 2017 assessment of the north Pacific albacore stock. Due to the moderate exploitation levels relative to the productivity, the production function was weakly informative about north Pacific albacore stock size, resulting in asymmetric uncertainty in the absolute scale of the stock, with more uncertainty in the upper limit of the stock than the lower limit. It is important to note that the primary aim of estimating the female spawning biomass (SSB) in this assessment was to determine if the estimated SSB was lower than the limit reference point (i.e., determine whether the stock is in an overfished condition). Since the lower

bound is better defined, it adds confidence to the ALBWG's evaluation of stock condition relative to the limit reference point.

**Stock Status**: Estimated total stock biomass (males and female at age-1+) declines at the beginning of the time series until 2000, after which biomass becomes relatively stable (Fig. ES3A). Estimated female SSB exhibits a similar population trend, with an initial decline until 2003 followed by fluctuations without a clear trend through 2015 (Fig. ES3B). The estimated SPR (spawners per recruit relative to the unfished population) in 2015 is 0.53, which corresponds to a moderate exploitation intensity (i.e., 1-SPR = 0.47). Instantaneous fishing mortality at age (F-at-age) is similar in both sexes through age-5, peaking at age-4 and declining to a low at age-6, after which males experience higher F-at-age than females up to age 13 (Fig. ES4). Juvenile albacore aged 2 to 4 years comprised, on average, 70% of the annual catch between 1993 and 2015 (Fig. ES5) as reflected by the larger impact of the surface fisheries (primarily troll, pole-and-line) which remove juvenile fish, relative to longline fisheries, which primarily remove adult fish (Fig. ES6).

Stock status is depicted in relation to the limit reference point (LRP; 20%SSBcurrent, F=0) adopted by the Northern Committee (NC) of the Western and Central Pacific Fisheries Commission (WCPFC) for the stock and the equivalent fishing intensity (F20%; calculated as 1-SPR20%) (Fig. ES7A). The Kobe plot shows that the estimated female SSB has never fallen below the LRP since 1993, albeit with large uncertainty in the terminal year (2015) estimates. Even when alternative hypotheses about key model uncertainties such as natural mortality and growth were evaluated, the point estimate of female SSB in 2015 (SSB2015) did not fall below the LRP, although the risk increases with these more extreme assumptions (Fig. ES7B). The SSB2015 was estimated to be 80,618 t and was 2.47 times greater than the LRP threshold of 32,614 t (Table ES1). Current fishing intensity, F2012- 2014 (calculated as 1- SPR2012-2014), was lower than potential F-based reference points identified for the north Pacific albacore stock, except F50% (calculated as 1-SPR50%) (Table ES1). Based on these findings, the ALBWG concludes that: 1) the stock is likely not overfished, and 2) overfishing is likely not occurring.

**Biological Reference Points:** Biological reference points were computed with the base case model (Table ES1). It should be noted that the 20%SSBcurrent, F=0 LRP is based on dynamic biomass and fluctuates depending on changes in recruitment (Fig. ES3B). In addition, all F-based reference points were calculated as the fishing intensity (1-SPR) equivalents of the reference points. The point estimate of maximum sustainable yield (MSY; includes male and female of all age classes removed by fisheries) was 132,072 t and the point estimate of female SSB to produce MSY (SSBMSY) was 24,770 t. The ratio of F2012-2014/FMSY was estimated to be

0.61 and the ratio of SSB2015/20%SSBcurrent, F=0 was estimated to be 2.47. Current fishing intensity (F2012-2014) is below FMSY and all MSY-proxy reference points except F50%, and SSB2015 is well above the LRP threshold (Table ES1).

**Future Projections**: Two 10-yr projection scenarios, constant F2012-2014 and constant catch (average of 2010-2014 = 82,432 t) were conducted externally to the base case model to evaluate impacts on future female SSB. Future recruitment was based on the expected recruitment variability ($\sigma R = 0.5$) and estimated autocorrelation (R = -0.13) of the recruitment time series (1993 – 2015) in the base case model. The overall sex-specific F-at-age was estimated from the base case model and used (scaled to the appropriate catch in the constant catch scenario) to remove albacore from the appropriate age and sex in the projected populations. There were two main sources of uncertainty in the projections: 1) uncertainty in the total biomass estimates; and 2) uncertainty in the future recruitment. Projections started in 2015 and continued for 10 years through 2025.

The projections show that the current fishing intensity (F2012-2014) is expected to reduce female SSB to 63,483 t (CI: 36,046 - 90,921 t) by 2025, with a 0.2 and <0.01 % probability of being below the LRP by 2020 and 2025, respectively (Fig. ES8). Median catch is expected to increase in 2017 and 2018 and then decline to about 60,000 t in 2024 when fishing at F2012-2014 (Fig. ES8). However, median future catch is expected to be below the average catch level for 2010-2014 (82,432 t – red line in Fig. ES8). This result is most likely due to low estimated recruitment in 2011, which is expected to reduce female SSB beginning in 2015, the first year of the projection period. In contrast, employing the constant catch harvest scenario is expected to reduce female spawning biomass to 47,591 t (CI: 5,223 - 89,958 t) by 2025 and increases the probability that female SSB will be below the LRP to about 3.5 and 30 % in 2020 and 2025, respectively (Fig. ES9). The probabilities of female SSB falling below the LRP may be higher than estimated here because the future projections software does not incorporate all the estimated uncertainty from the base case model into the projections. It should be noted that the constant catch scenario is inconsistent with current management approaches for north Pacific Albacore Tuna adopted by the Inter-American Tropical Tuna Commission (IATTC) and the WCPFC.

**Conservation Advice:** Based on the projection results, the stock performs better under the constant F2012-2014 harvest intensity scenario with respect to the LRP than the constant catch scenario. Median female SSB is expected to decline slightly over 10 years with a negligible probability of declining below the LRP threshold during this period, when a constant fishing intensity harvest scenario is applied to the stock. In contrast, there is a substantially greater probability that female SSB will decline below the LRP by 2025 under a constant catch harvest

scenario. Although the probabilities of declining below the LRP in both harvest scenarios are likely higher in the future, even the most extreme results from other model runs with plausible alternative assumptions showed that female SSB is not likely to decline below the LRP. Thus, the ALBWG concludes that: 1) the north Pacific albacore stock is healthy, and 2) that current productivity is sufficient to sustain recent exploitation levels.

**Key Uncertainties**: The ALBWG notes that the lack of sex-specific size data, uncertainty in growth and natural mortality, and the simplified treatment of the spatial structure of north Pacific albacore population dynamics are important sources of uncertainty in the assessment.

| Quantity | Base Case | Growth | CV = 0.06 for Linf |
|---|---|---|---|
| MSY (t) A | 132,072 | 92,027 | 118,836 |
| SSBMSY (t) B | 24,770 | 42,098 | 22,351 |
| SSB0 (t) B | 171,869 | 270,879 | 156,336 |
| SSB2015 (t) B | 80,618 | 68,169 | 63,719 |
| SSB2015/20%SSBcurrent, F=0 B | 2.47 | 1.31 | 2.15 |
| F2012-2014/FMSY | 0.61 | 0.89 | 0.68 |
| F2012-2014/F0.1 | 0.58 | 0.90 | 0.65 |
| F2012-2014/F10% | 0.56 | 0.81 | 0.63 |
| F2012-2014/F20% | 0.63 | 0.91 | 0.71 |
| F2012-2014/F30% | 0.72 | 1.04 | 0.81 |
| F2012-2014/F40% | 0.85 | 1.21 | 0.96 |
| F2012-2014/F50% | 1.01 | 1.47 | 1.16 |

A – MSY includes male and female juvenile and adult fish

B – Spawning stock biomass (SSB) in this assessment refers to mature female biomass only.

**Table ES1**. Estimates of maximum sustainable yield (MSY), female spawning biomass (SSB) quantities, and fishing intensity (F) based reference point ratios for north Pacific Albacore Tuna for the base case assessment and important sensitivity analyses. SSB0 and SSBMSY are the unfished biomass of mature female fish and at MSY, respectively. The Fs in this table are not based on instantaneous fishing mortality. Instead, the Fs are indicators of fishing intensity based on SPR and calculated as 1-SPR so that the Fs reflects changes in fishing mortality. SPR is the equilibrium SSB per recruit that would result from the current year's pattern and intensity of fishing mortality. Current fishing intensity is based on the average fishing intensity during 2012-2014 (F2012-2014).

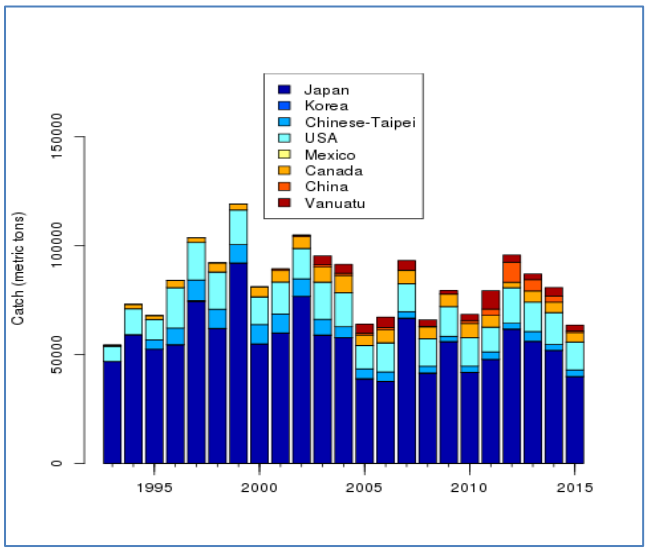



**Figure ES1.** Estimated total annual catch of north Pacific albacore (*Thunnus alalunga*) by all countries harvesting the stock, 1993-2015. ISC member country catches and catches by Vanuatu, which might include small catches by other countries such as Tonga, Belize, Cook Islands, and Marshall Islands.

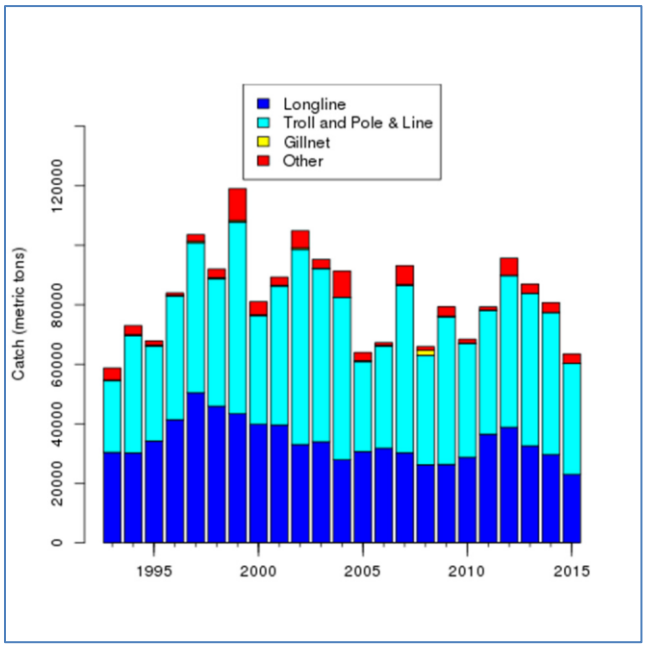



**Figure ES2.** Estimated catches of north Pacific albacore (*Thunnus alalunga*) by major gear types, 1993-2015. The Other gear category includes catches with purse seine, recreational gear, hand lines, and harpoons.

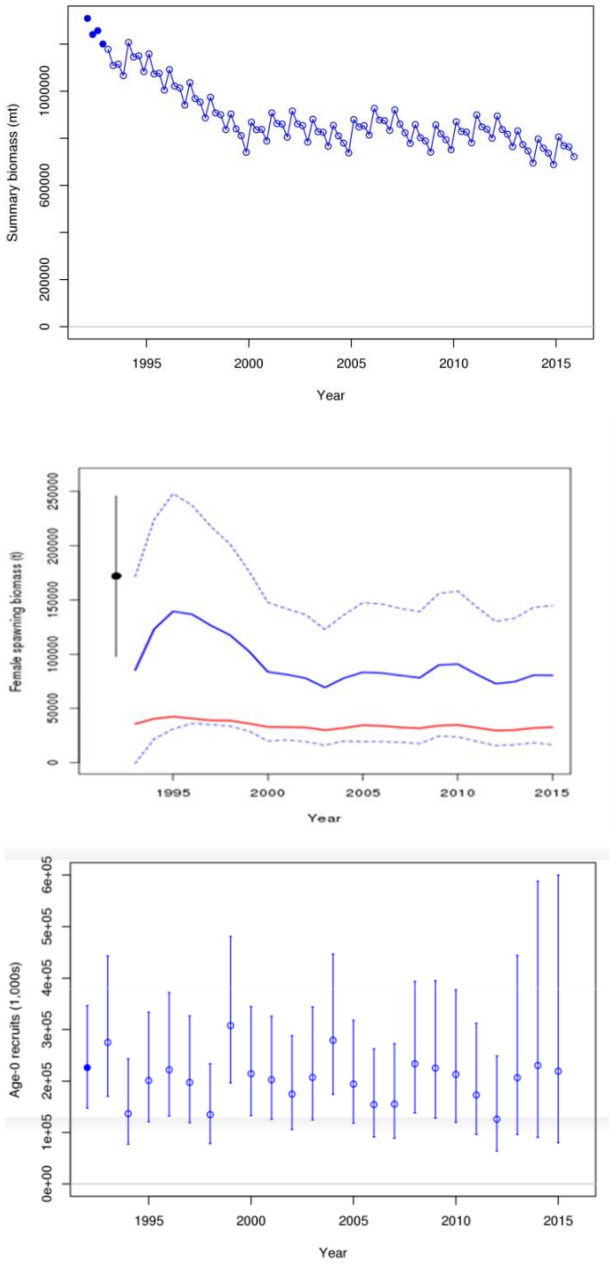



**Figure ES3.** Maximum likelihood estimates of (A) total age-1+ biomass (open circles) (B), female spawning biomass (SSB) (solid blue line), and (C) age-0 recruitment (open circles) of north Pacific Albacore Tuna (*Thunnus alalunga*). Dashed lines (B) and vertical bars (C) indicate 95% confidence intervals of the female SSB and recruitment estimates respectively. Red line indicates the 20%SSBcurrent, F=0 limit reference point, which is based on dynamic SSB0. Closed black circle and error bars in (B) are the maximum likelihood estimate and 95% confidence intervals of unfished female spawning biomass, SSB0. Since the assessment model represents time on a quarterly basis, there are four estimates of total biomass (A) for each year, but only one annual estimate of female SSB (B) and recruitment (C).

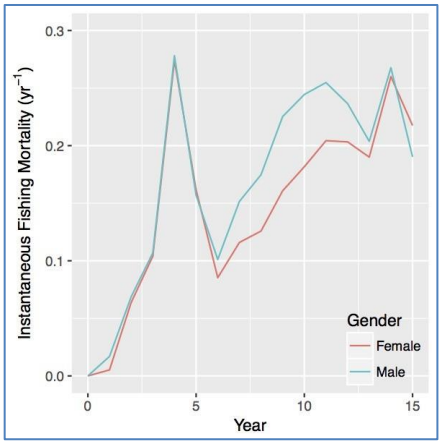



**Figure ES4.** Estimated sex-specific instantaneous fishing mortality-at-age (F-at-age) for the 2017 base case model, averaged across 2012-2014.

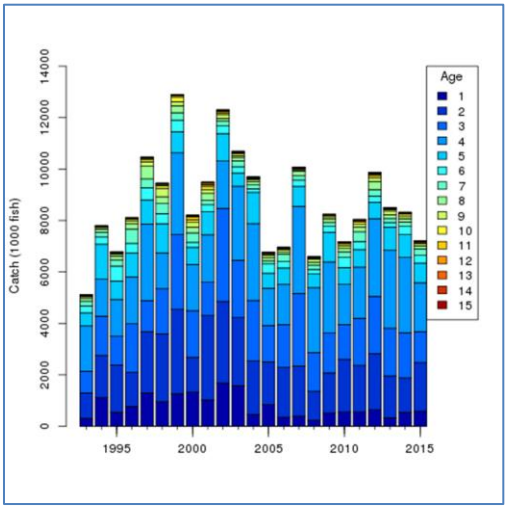



**Figure ES5.** Historical catch-at-age of north Pacific albacore (*Thunnus alalunga*) estimated by the 2017 base case model.

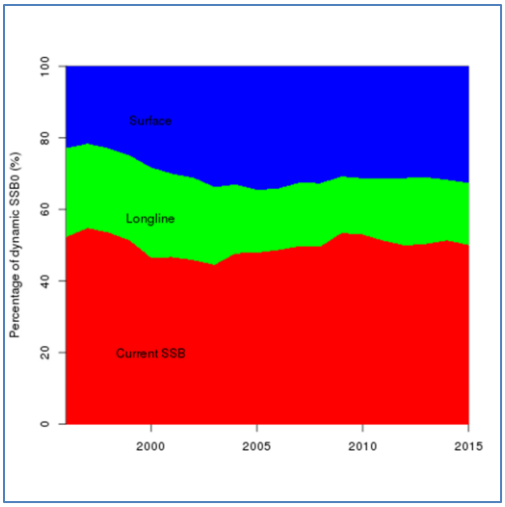



**Figure ES6.** Fishery impact analysis on north Pacific albacore (*Thunnus alalunga*) showing female spawning biomass (SSB) (red) estimated by the 2017 base case model as a percentage of dynamic unfished female SSB (SSB0). Colored areas show the relative proportion of fishing impact attributed to longline (USA, Japan, Chinese-Taipei, Korea and others) (green) and surface (USA, Canada, and Japan) (blue) fisheries (primarily troll and pole-and-line gear, but including all other gears except longline).

# 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. In some cases, a portion of a PFMA may be closed to fishing except for fishing by a First Nation organization. These closures may be for the season or for specified times. Whenever possible, the appropriate annual fishing plan will identify such closures. It is possible that situations may arise in the implementation of the plan where in-season closure adjustments will be required to ensure access to the fishery by First Nations organizations for FSC purposes.

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

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 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/distributed, both to reduce costs and in recognition that the online guide does a better job at reporting in-season changes, which was not possible with the printed guide. You may also call your local fishery office to obtain regulatory information for your area of interest – visit us at http://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html or call 604-666-0384 or email info@dfo-mpo.gc.ca.

## 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. Check for applicable fees and purchase your licence online via the National Recreational Licensing System: http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/application-eng.html

**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 – 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). The commercial fishing plan for USA vessels operating in Canada's EEZ can be found in Appendix 7. The commercial plan for Canadian vessels operating in the USA EEZ can be found in Appendix 8.

**Changes from Previous Season**

Beginning in the 2020 season, CT licence holders may retain a maximum of 100kg (approximately 220lbs) of each of the species, other than Albacore Tuna, for which retention is permitted in conditions of licence. This change is part of DFO's efforts to ensure that we are meeting our international obligations, and is being implemented following an analysis of catch history and consultation with the Tuna Advisory Board. Given that interception of non-Albacore species is rare, and these rare incidents result in only very small amounts being retained, this change is not expected to have a significant operational impact. This change also helps to clarify that the CT licence category is intended for directed Albacore Tuna fishing only. Harvesters wishing to engage in directed fishing of other tuna species may do so under the authority of Section 68 High Seas licences in coordination with the Tuna Resource Manager.

**Conditions of Licence**

The Conditions of Licence provided with each licence issued stipulate specific requirements harvesters must meet. The IFMP outlines only some of these requirements and does not provide the full information necessary to ensure compliance. Harvesters are required to comply with Regulations and Conditions of Licence.

## 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.

**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. The IATTC Convention Area can be generally considered to encompass the Eastern Pacific Ocean (see Figure 1 in Section 1.6 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 1.7 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 (Bradley.Langman@dfo-mpo.gc.ca / 604-666-2188).

**Times**
CT licences authorize fishing from April 1, 2020 to March 31, 2021. Section 68 High Seas licences authorize fishing from January 1, 2020 to December 31, 2020.

**Gear**
Harvesters operating under the authority of a CT licence are permitted to use hook and line gear, not including longline gear. No other gear types are permitted.

Harvesters operating under the authority of a Section 68 High Seas licence are permitted to use hook and line gear; longline gear may be permitted if requested and relevant requirements can be met. No other gear types are permitted.

**Permitted Species**
These five species are authorized for capture and retention under Schedule II to the Pacific Fishery Regulations, 1993:

- Albacore Tuna (*Thunnus alalunga*)
- Pacific Bluefin Tuna (*Thunnus orientalis*)
- Pacific Bonito (*Sarda chiliensis*)
- Skipjack Tuna (*Katsuwonus pelamis*)

- Yellowfin Tuna (*Thunnus albacares*)
- Yellowtail Amberjack (*Seriola lalandi*)

Capture and retention of the following additional species may be permitted as incidental catch under authority of a Section 68 High Seas licence. Vessels fishing under the authority of a CT licence are not permitted to retain these species:

- Bigeye Tuna (*Thunnus obesus*)
- Marlins (*Tetrapturus sp.; Makaira* sp.)
- Yellowtail (*Seriola lalandi*)
- 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*)

**Maximum Retention Amounts**

Under the authority of a CT licence, there is no limit to the amount of Albacore Tuna that may be retained. For all other species, each licence holder is permitted to retain a maximum of 100kg per species.

Under the authority of a Section 68 High Seas Licence, there is similarly no limit to the amount of Albacore Tuna that may be retained. For all other species, the licence applicant must discuss fishing intentions with the Tuna Resource Manager in order to determine the applicable requirements under Regional Fisheries Management Organizations; following these discussions the retention limits will be established and specified in conditions of licence.

# 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, 2021. Section 68 documents are valid from the date of issue to March 31, 2021. 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 from the Tuna Resource Manager (Bradley.Langman@dfo-mpo.gc.ca / 604-666-2188).

As part of their registration with the IATTC, all vessels over 12 metres in length must have an International Maritime Organization (IMO) number. IMO numbers can be obtained at no cost online at https://imonumbers.lrfairplay.com. Harvesters must provide this number to the Tuna Resource Manager before receiving a tuna fishing licence for 2020/21.

**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 (Bradley.Langman@dfo-mpo.gc.ca / 604-666-2188).

# 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, 2020 and data must be provided to the

Department in an acceptable electronic format. A sample logbook page is included in Appendix 10.

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.

In the event that a CT licenced vessel does not fish the current fishing season, the vessel owner is required to submit a nil report. One page from the harvest log identifying the vessel, licence tab number and the year with 'nil' entered in the body of the log and signed by the licence holder constitutes a nil report.

**Vessel Hail Program**

The telephone and email hail component of the fishery monitoring program for the Pacific Albacore Tuna fishery collects data such as vessel name, date, time and location of fishing activities. The objective of this program is for DFO to be able to accurately determine and report on which vessels are fishing, and the fishing zones they are active in, at any given time during the fishing season. This information is also needed as part of the post season reporting of fishing effort and catch areas. All hail reports must be submitted to the industry selected hail service provider (Archipelago Marine Research Ltd.) who then provides the data to DFO. The costs for this service are provided through the purchase of a CHMSF logbook. Licence holders who have not purchased a CHMSF logbook must make alternative arrangements with the service provider.

All vessel operators are required to submit a "Hail-Out Report" before leaving port to start fishing at the beginning of the season or after having submitted a "Hail-In Report" during the season. A "Hail-In Report" is required if the vessel has ceased fishing for more than 7 days.

All vessel operators are required to submit a "Change of Zone Report" if they cross into a different zone for a period of greater than 48 hours. There are 4 fishing zones in Canada's Pacific Albacore Tuna fishery: (1) the Canadian EEZ, (2) the USA EEZ, (3) the High Seas of the IATTC Convention Area, and (4) the High Seas of the WCPFC Convention Area (a map of the IATTC and WCPFC convention areas is included in Section 1.7 of the IFMP). Hails must be made within 24 hours, or the next business day, and may be provided by telephone or email. Specific on hail requirements are provided in the 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 – 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, 2019. 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 2020. 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.

The previous (2019-2020) Commercial Fishing Plan for USA Vessels in the Canadian EEZ can be found at: https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf. This previous plan provides an example of the type information that will be included in the updated fishing plan when this is available.

# APPENDIX 8. COMMERCIAL FISHING PLAN – 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.

The fishing regime under the Canada-USA Tuna Treaty expired on December 31, 2019. 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 2020. 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.

The previous (2019-2020) Commercial Fishing Plan for USA Vessels in the Canadian EEZ can be found at: https://waves-vagues.dfo-mpo.gc.ca/Library/4077790x.pdf. This previous plan provides an example of the type information that will be included in the updated fishing plan when this is available.

# APPENDIX 9. TUNA ADVISORY BOARD MEMBERSHIP

| Advisor Name | Representation | Term Start (January 1st) | Term End (December 31st) |
|---|---|---|---|
| Gregg Holm | USA Zone | 2017 | 2020 |
| Ian Bryce | USA Zone | 2017 | 2020 |
| Tad Larden | USA Zone | 2019 | 2022 |
| Peter de Greef | USA Zone | 2019 | 2022 |
| John Jenkins | Canadian Zone | 2019 | 2022 |
| Gordon Brooks | Canadian Zone | 2019 | 2022 |
| Bud Schuler | Canadian Zone | 2017 | 2020 |
| Troy Sawyer | Canadian Zone | 2017 | 2020 |
| Tom Hearty | High Seas Zone | 2019 | 2022 |
| Ron Kay | High Seas Zone | 2017 | 2020 |
| Lorne Clayton | Canadian Highly Migratory Species Foundation (CHMSF) | N/A | N/A |
| Mike Kelly | Sport Fishing Advisory Board | N/A | N/A |
| Scott Wallace | Marine Conservation Caucus | N/A | N/A |
| Blake Tipton | Processor/Buyer | N/A | N/A |
| Brad Mirau | Processor/Buyer | N/A | N/A |
| Larry Neilson | Province of BC | N/A | N/A |
| VACANT | First Nations Representative | N/A | N/A |
| Bradley Langman | DFO – Fisheries Management | N/A | N/A |
| Zane Zhang | DFO – Science | N/A | N/A |
| Nicole Gallant | DFO – Conservation and Protection | N/A | N/A |

# APPENDIX 10. SAMPLE COMMERCIAL LOGBOOK PAGE



2018 CANADIAN PACIFIC ALBACORE TUNA LOGBOOK - PLEASE PRINT CLEARLY

Submission Deadline: 1-Nov-2018

VESSEL NAME | VRN | SKIPPER Name: Tel: ( ) - Email:

OWNER Name: Tel: ( ) - Email:

| Date (mm/dd) | Time (hh:mm) | | LAT (xx yy) | | LONG (xxx yy) | | Water Temp (°F) | Species Code | KEPT Number | KEPT Avg Fish Wt (lbs) | RELEASED Number | RELEASED Avg Fish Wt (lbs) | Vessel Trip Data (Required) (Please start new page for new trip) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | START | | | | | | | Albacore | | | | | TIN | |
| | | | N | S | E | W | | Seabird | | | | | TRIP # | |
| | STOP | | | | | | | | | | | | # Jigs | |
| Length (cm) | 1. | 2. | 3. | | 4. | | 5. | 6. | 7. | 8. | 9. | 10. | # Days Fished | |
| | START | | | | | | | Albacore | | | | | Trip Offload Data (Required) (Fill out once per trip) | |
| | | | N | S | E | W | | Seabird | | | | | | |
| | STOP | | | | | | | | | | | | Date (mm/dd) | |
| Length (cm) | 1. | 2. | 3. | | 4. | | 5. | 6. | 7. | 8. | 9. | 10. | | |
| | START | | | | | | | Albacore | | | | | Port | |
| | | | N | S | E | W | | Seabird | | | | | | |
| | STOP | | | | | | | | | | | | | |
| Length (cm) | 1. | 2. | 3. | | 4. | | 5. | 6. | 7. | 8. | 9. | 10. | Buyer | |
| | START | | | | | | | Albacore | | | | | | |
| | | | N | S | E | W | | Seabird | | | | | Sales Slip # | |
| | STOP | | | | | | | | | | | | | |
| Length (cm) | 1. | 2. | 3. | | 4. | | 5. | 6. | 7. | 8. | 9. | 10. | OFFLOAD | FISH / WT (lbs) |
| | START | | | | | | | Albacore | | | | | To Buyer | |
| | | | N | S | E | W | | Seabird | | | | | Dock Sales | |
| | STOP | | | | | | | | | | | | Take Home | |
| Length (cm) | 1. | 2. | 3. | | 4. | | 5. | 6. | 7. | 8. | 9. | 10. | TOTAL OFFLOAD | |

Date: Comment:

Date: Comment:

Page ____ of ____ for Trip ____

WHITE PAGES: Send to CHNSF, c/o H. Stiff, General Delivery, Gabriola Island, BC V0R 1X0 (tel 250-247-8259 fax 888-906-1360) TweetLogbook@shaw.ca YELLOW PAGES: Retain for your files

# 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, crew training, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel owner, crew and other workers must be aware of the latest legislation, policies and guidelines prior to each trip.

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

Education and training programs

- Marine emergency duties training
- Fish Safe – Stability Education Program & 1 Day Stability Workshop
- Fish Safe – SVOP (Subsidized rate for BC commercial fishers provided)
- Fish Safe – Safest Catch Program – **FREE** for BC commercial fishers
- First Aid training
- Radio Operators Course (Subsidized rate for BC commercial fishers provided)
- Fishing Masters Certificate training

- Small Vessel Operators Certificate training

Publications:

- Transport Canada Publication TP 10038 *Small Fishing Vessel Safety Manual* (http://www.tc.gc.ca/eng/marinesafety/tp-tp10038-menu-548.htm)
- Amendments to the *Small Fishing Vessel Inspection Regulations* (http://www.gazette.gc.ca/rp-pr/p2/2016/2016-07-13/html/sor-dors163-eng.php)
- Transportation Safety Board's investigation into fishing safety in Canada (http://www.bst-tsb.gc.ca/eng/rapports-reports/marine/etudes-studies/M09Z0001/M09Z0001.html)
- Gearing Up for Safety – WorkSafeBC
- Safe At Sea DVD Series – Fish Safe
- Stability Handbook – Safe at Sea and Safest Catch – DVD Series
- Safest Catch Log Book
- Safety Quick

For further information see:

- www.tc.gc.ca/eng/marinesafety/menu.htm
- www.fishsafebc.com
- www.worksafebc.com
- www.tsb.gc.ca

## Important priorities for vessel safety

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

## Fishing Vessel Stability

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

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

The *Fishing Vessel Safety Regulations* currently require, with certain exceptions, a full stability assessment for vessels between 15 and 150 gross tons that do not exceed 24.4 metres in length for fishing vessels involved in the catch of Herring or Capelin. In 2017, Transport Canada Marine Safety (TC) issued Ship Safety Bulletin (SSB) No. 03/2017 announcing the coming into force of the *New Fishing Vessel Safety Regulations*. The initial regulations were published in the Canada Gazette Part II on July 13, 2016 and came into force on July 13, 2017. The bulletin includes important information on changes to requirements for Written Safety Procedures, Safety Equipment and Vessel Stability.

As of July 13, 2017, new regulations pertaining to stability assessments to be performed by a competent person came into force, 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.

A fishing vessel that is not required to undergo a stability assessment shall have adequate stability to safely carry out the vessel's intended operations. Guidelines have been developed and are available online to help small fishing vessel owners and operators meet their regulatory requirements. Additionally, Transport Canada published a Stability Questionnaire (SSB No. 04/2006) and Fishing Vessel Modifications Form (SSB No. 01/2008) which enable operators to identify the criteria which will trigger a stability assessment. Please contact the nearest Transport Canada office if you need to determine whether your vessel requires one or to receive guidance on obtaining competent assessor.

In 2008, TC is updating SSB No. 01/2008, which sets out a voluntary record of modifications for the benefit of owners/masters of any fishing vessels. For vessels of more than 15 gross tons, the record of modifications was to be reviewed by TC inspectors during regular inspections and entered on the vessel's inspection record. However, information gathered during the Transportation Safety Board's (TSB) Safety Issues Investigation into the fishing industry showed minimal recording of vessel modifications prior to this date.

The TSB has investigated several fishing vessel accidents since 2005 and found a variety of factors that effected the vessel's stability were identified as contributing factors in vessels capsizing, such as with: M05W0110 - *Morning Sunrise*, M07M0088 - *Big Sisters*, M08W0189 - *Love and Anarchy*, M09L0074 – *Le Marsouin I*, M10M0014 - *Craig and Justin*, M12W0054 – *Jessie G*, M12W0062 - *Pacific Siren*, M14P0121 – *Five Star*, M15P0286 – *Caledonian*, M16A0140 – *C19496NB*, M17C0061 – *Emma Joan*, M17P0052 – *Miss Cory and M18P0073 – Western Commander*.

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

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

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. Alternatively, please contact Ryan Ford at Fish Safe for a copy of the program materials they developed to address safety and vessel stability in these fisheries. Ryan Ford – Cell phone: (604) 739-0540 - Email: ryan@fishsafebc.com.

## 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 reports findings highlighted the lack of safety drills and safety procedures and practices.

The Safest Catch program, delivered by Fish Safe and free to BC commercial fishers, includes comprehensive practice of drills such as abandon ship, man overboard and firefighting drills.

## 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.

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).

Current WorkSafeBC regulations essentially require fishers to always wear a PFD when working on deck. 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. The use of a PFD will prepare a crew member to remain afloat, to survive the effects of cold shock, reduce the need to swim and give rescuers time to respond.

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

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

## 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). It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons should be registered with the National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources.

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

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

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on MCTS and DSC can be obtained by contacting a local Coast Guard MCTS centre (located in Victoria or Prince Rupert or from the Coast Guard website: www.ccg-gcc.gc.ca/Pacific).

**Collision Regulations**

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

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

d) where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

**Exceptions include:**

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

More detailed information on VTS can be obtained by calling (250) 363-8904 or from the Coast Guard website: http://www.ccg-gcc.gc.ca/eng/CCG/Home.

**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.

# WORK SAFE BC

WorkSafeBC exercises jurisdiction over workplace health and safety, including the activities of crews of fishing vessels. Commercial fishing, diving and other marine operations are subject to the provisions of the *Workers Compensation Act (WCA,)* and requirements in Part 24 of the Occupational Health and Safety Regulation (OHSR).

Examples of Part 24 regulatory requirements related to fishing include, but are not limited to, the requirement to establish emergency procedures, to conduct emergency drills, to provide immersion suits for the crew, to provide stability documentation for the vessel, safe work procedures, injury reporting, correction of unsafe working conditions, the requirement to wear personal flotation devices (PFDs), etc.

Other sections of the OHSR also apply to commercial fishing operations. For example, Part 3 addresses training of young and new workers, first aid and employer incident/accident investigations. Part 4 addresses general conditions such as maintenance of equipment, workplace conduct and impairment. Part 8 addresses issues related to safety headgear, safety footwear, eye and face protection, limb and body protection and personal flotation devices

(PFDs) when working on the dock. Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.
Both owners and masters of fishing vessels are considered to be employers. Under the *Workers Compensation Act* and the OHS Regulation (OHSR) they have varying and overlapping duties and responsibilities. Masters, because they have the most control during fishing and related activities, are considered to be the employer with primary responsibility for the health and safety of the crew.
The OHSR and the *WCA* are available from the Provincial Crown Printers or by visiting the WorkSafeBC website: www.worksafebc.com
NOTE: Regarding the OHSR requirement to wear PFD's, WorkSafeBC has produced a video entitled "Turning the Tide – PFD's in the Fishing Industry". For more information on PFD use, including a link to the video, please access the following site:
https://www.worksafebc.com/en/about-us/news-events/news-releases/2018/November/new-fishing-industry-safety-video?origin=s&returnurl=https%3A%2F%2Fwww.worksafebc.com%2Fen%2Fsearch%23q%3DTurning%2520the%2520Tide%26sort%3Drelevancy%26f%3Alanguage-facet%3D%5BEnglish%5D

For further information, contact an Occupational Safety Officer:

| | | |
|---|---|---|
| Bruce Logan | Vancouver/Richmond/Delta | (604) 244-6477 |
| Mark Lunny | Courtenay | (250) 334-8732 |
| Cody King | Courtenay | (250) 334-8733 |
| Gregory Matthews | Courtenay | (250) 334-8734 |
| Jessie Kunce | Victoria | (250) 881-3461 |
| Paul Matthews | Courtenay | (250) 334-8741 |
| Wayne Tracy | Port Moody | (604) 232-1939 |

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

For information on projects and initiatives related to commercial fishing health and safety please contact Tom Pawlowski, Manager, Industry and Labour Services, at (604) 233-4062 or by email: tom.pawlowski@worksafebc.com

## 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 (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 released three investigation reports:

- the collision between trawl fishing vessel *Viking Storm* and US long line fishing vessel *Maverick* and the subsequent fatality,
- the person over board off the prawn fishing vessel *Diane Louise* and the subsequent fatality, and
- the capsizing of the crab fishing vessel *Five Star* and subsequent fatality.

In 2016 the TSB released one investigation report:

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

In 2018 the TSB released two investigation reports:

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

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

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

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

The other two recommendations address the most basic step that fishers can take: wearing a personal flotation device. Here in British Columbia, roughly 70 percent of all fishing-related fatalities in the past decade came while not wearing a PFD. Yet many fishers still don't wear them. Regulations currently require that PFDs be worn only if fishers identify a risk, however; you never know when you could end up in the water. So the TSB is recommending to TC and WorksafeBC to require persons to wear suitable personal flotation devices at all times when on the deck of a commercial fishing vessel or when on board a commercial fishing vessel without a deck or deck structure and that programs are developed to confirm compliance. In June 2019, WorksafeBC amended its fishing regulation related to the use of PFDs. Under the new 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/2018/marine.asp

Recently the TSB produced a Safe at Sea: Activity book on fishing safety intended for the next generation of fish harvesters (ages 4-7). You can download a copy from: *www.tsb.gc.ca › eng › medias-media › prudence-safe › safe-at-sea*

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.

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