PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

November 7 2023 – November 6, 2024

PACIFIC HERRING

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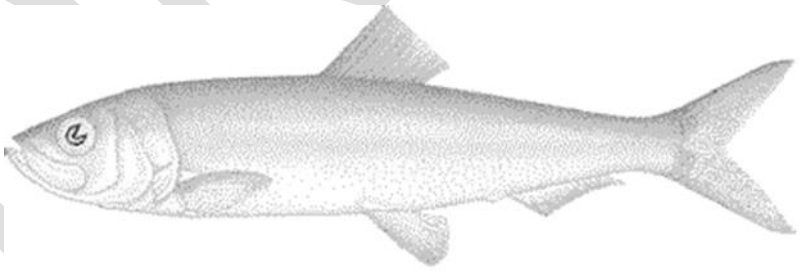

Pacific Herring, Clupea pallasii

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DEPARTMENT CONTACTS

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http://www.pac.dfo-mpo.gc.ca/fm-gp/contacts-eng.html

Fisheries and Oceans Canada – Pacific Region

Observe, Record, and Report	1-800-465-4336
National On-Line Licensing System (NOLS)	1-877-535-7307

Lead Fisheries Resource Managers

Roe and Food & Bait Herring	Eamon Miyagi	(250) 286-5896
Spawn-on-Kelp	Amanda Beckett	(778) 361-0695
Special Use Herring	Marisa Keefe	(604) 354-0352

Regional Headquarters

Regional Director, Fisheries Management Branch	Neil Davis	(604) 666-0115
A/Director, Resource Management and Sustainability	Danielle Scriven	(236) 330-0154
Regional Pelagics Coordinator	Bryan Rusch	(250) 618-4066
A/Sustainability Coordinator, Pelagics Fisheries	Marisa Keefe	(604) 354-0352
Regional Herring Officer	Marisa Keefe	(604) 354-0352
Director, Conservation and Protection	Nicole Gallant	(604) 666-0604
Director, Aboriginal Programs Directorate	David Lau	(236) 330-3815
A/SARA Marine Team Lead	Alannah Biega	(604) 666-2043
A/Regional Manager, Marine Mammal Unit	Kendra Moore	(604) 666-8072

Science Branch

Regional Director, Science Branch	Andrew Thomson	(250) 756-7177
Section Head, Quantitative Assessment Methods	Chris Rooper	(250) 756-7050
Head, Herring Dynamics Program	Jaclyn Cleary	(250) 756-7321

South Coast Area

Area Director	Linda Higgins	(250) 756-7280
Fisheries Management Coordinator - SOG/WCVI	Peter Hall	(250) 918-8179
A/Fisheries Management Coordinator - J Straits	Christine Bukta	(250) 286-5880
Fisheries Resource Manager - SOG gillnet	Kevin Bruce	(250) 286-5896
Fisheries Resource Manager - SOG seine	Eamon Miyagi	(250) 286-5896
A/Fisheries Resource Manager - WCVI	TBD	

North Coast Area

Area Director	Sandra Davies	(250) 627-3426
A/Section Head – Invertebrate and Herring	Coral Cargill	(250) 627-3021
Herring Manager	Amanda Beckett	(778) 361-0695

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Fisheries Resource Manager – PRD gillnet	Corey Martens	(250) 627-3404
Fisheries Resource Manager – PRD seine	Karlena Lord	(250) 922-4266
Fisheries Resource Manager – Bella Coola SOK	Justin Savickas	(250) 799-5345
Fisheries Resource Manager – Bella Coola	Justin Savickas	(250) 799-5345
Fisheries Resource Manager – Haida Gwaii	Patrick Fairweather	(250) 559-0039

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https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/index-eng.html
Links to Groundfish, Herring, Salmon, Shellfish and New and Emerging Fisheries homepages; Selective Fishing, Test Fishing Information, Fishing Areas, Canadian Tide Tables, Summary Fishery Management Plans, Commercial Fishery Notices (openings and closures).
Full Management Plans can be found at the Library website: https://science-libraries.canada.ca/eng/fisheries-oceans/

FISHERIES NOTICES

http://www-ops2.pac.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?
Want to receive fishery notices by e-mail? If you are a recreational sport fisher, processor, multiple boat owner or re-distribute fishery notices, register your name and/or company at the web-site address above. Openings and closures, updates, and other relevant information regarding your chosen fishery are sent directly to your registered email. It's quick, it's easy and it's free.

LICENSING

http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html
Contact information; Recreational Licensing Information, Commercial Licence Types, Commercial Licence Areas, Licence Listings, Vessel Information, Vessel Directory, Licence Statistics and Application Forms

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NATIONAL ON-LINE LICENSING SYSTEM (NOLS)

https://fishing-peche.dfo-mpo.gc.ca
E-mail: fishing-peche@dfo-mpo.gc.ca
(Please include your name and the DFO Region in which you are located.)
Telephone: 1-877-535-7307
Fax: 613-990-1866
TTY: 1-800-465-7735

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GLOSSARY AND LIST OF ACRONYMS

Abundance	Number of individuals in a stock or a population.
AFS	Aboriginal Fisheries Strategy
Age Composition	Proportion of individuals of different ages in a stock or in the catches.
Area and Subarea	Defined in Section 2 of the Pacific Fishery Management Area Regulations. A map of Pacific Fishery Management Areas is available on the Department's Internet site at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/areas-secteurs/index-eng.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)	Formerly named PSARC, CSAP is 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)	Coordinates the peer review of scientific issues for DFO.
Catch Validation Program	A program designed to monitor, record, and verify catches.
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.

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Communal Licence	A licence issued to Indigenous organizations under Section 4 of the Aboriginal Communal Fishing Licences Regulations, pursuant to the Fisheries Act, to carry out fishing and related activities.
Container	A bag, box, tray, tote, frozen block or anything that contains fish, but not a herring enclosure.
Cut-off	In Major Stock Assessment areas, the Cut-off levels were established at 25% of the unfished biomass, as determined by simulation analyses; these are associated with a harvest control rule that was in place in all major areas from 1986-2018.
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).
Dockside Monitoring Program (DMP)	A monitoring program that is conducted by a company that has been designated by the Department, which verifies the species composition and landed weight of all fish landed from a commercial fishing vessel.
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.
Ecosystem-Based Management	Taking into account of species interactions and the interdependencies between species and their habitats when making resource management decisions.
Electronic Monitoring	Electronic-based monitoring system including equipment to digitally record fishing activity on board a licensed vessel while fishing, used in place of a designated at-sea observer.

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Entanglement	An entanglement occurs when a marine mammal or sea bird is caught, ensnared in the infrastructure (nets) of a herring enclosure or fishing gear.
Fishing Effort (Effort)	Quantity of effort using a given fishing gear over a given period of time.
Fishing Mortality	Death caused by fishing, often symbolized by the mathematical symbol F.
Food, Social and Ceremonial (FSC)	A fishery conducted by Indigenous groups for food, social and ceremonial purposes.
Harvest Control Rule	A rule applied in fisheries management that sets catch limits, and may also include how that catch is taken (e.g. timing). In the current MSE process, the HCR is comprised of variations in control points, catch caps, and harvest rates.
Harvest Quotas	A fixed amount of catch provided as an opportunity for harvest to a licenced party or vessel.
Herring Industry Advisory Board (HIAB)	An advisory body comprised of representatives from the commercial herring sector.
Herring Conservation and Research Society (HCRS)	A non-profit society formed to promote and enhance the conservation of herring stocks on the west coast of Canada.
Indigenous Knowledge	There is no universal definition of Indigenous knowledge, and the composition of Indigenous knowledge is for Indigenous peoples to determine. Indigenous knowledge is intricately tied to Indigenous worldviews and ways of life, and is a complex and dynamic product of the unique cultures, languages, governance systems and histories of the Indigenous peoples of the specific area.

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	The term Indigenous knowledge may not be universally used, and other terms such as Indigenous Knowledge Systems, Traditional Knowledge, Traditional Ecological Knowledge, or Aboriginal Traditional Knowledge, which all convey similar concepts, may be used instead. When working with Inuit, the term Inuit Qaujimajatuqangit (IQ) is more likely to be used than Indigenous knowledge. Similarly, when working with Métis knowledge holders, the term Métis Traditional Knowledge is more likely to be used than Indigenous knowledge. Knowledge-holders are the only people who can truly define Indigenous knowledge for their communities. The term Indigenous knowledge is used throughout this document in line with the terminology in the *Fisheries Act*.
Integrated Herring Harvest Planning Committee (IHHPC)	A representative cross-sectoral advisory process for integrated harvest planning and post-season review.
Interaction	Interactions or encounters with seabirds must be reported. Any interaction between a marine mammal and fishing gear (including herring enclosures) or a vessel must be reported as per s.39 of the *Marine Mammal Regulations*. Incidental mortality and serious injury (usually refers to marine mammals). This includes entanglements, accidental drowning, depredation and collisions, and must be reported as soon as an encounter is discovered to the DFO Reporting Hotline (1-800-465-4336).
Intertidal	The area of the ocean shoreline located between the highest high water and lowest low water tidal levels.
Landed Value	Value of the product when landed by the licenced vessel.
Landing	Quantity of a species caught and landed. Harvested animals transferred from a vessel to land.
lb	Imperial pound(s), which is equal to 0.45359237 kg.
Limit Reference Point (LRP)	Point of possible harm to a stock, currently established at $0.3SB_0$ (unfished spawning biomass)

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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.
Markov Chain Monte Carlo (MCMC)	Markov Chain Monte Carlo. In statistics, Markov chain Monte Carlo (MCMC) methods comprise a class of algorithms for sampling from a probability distribution. By constructing a Markov chain that has the desired distribution as its equilibrium distribution, one can obtain a sample of the desired distribution by recording states from the chain.
Natural Mortality	Mortality due to natural causes, symbolized by the mathematical symbol M.
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.
Observer	An individual who has been designated as an Observer by the Regional Director General for the Pacific Region of DFO pursuant to section 39 of the Fishery (General) Regulations and in the employ of a service provider company that has been certified by the Canadian General Standards Board (CGSB) for Dockside Monitoring.
Observer Coverage	When a licence holder is required to carry an officially recognized observer onboard their vessel for a specific period of time to verify the amount of fish caught, the area in which it was caught and the method by which it was caught.

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Operational Control Point	A biomass point that indicates a catch level or harvest rate change.
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
Pelagic	Living in the surface or middle depths of the sea.
Population	Group of individuals of the same species, forming a breeding unit, and sharing a habitat.
Precautionary Approach	In Fisheries Management, the principle of being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone action or failure to take action to avoid serious harm to fish stocks or their ecosystem.
Recruitment	Amount of individuals becoming part of the exploitable stock e.g. that can be caught in a fishery. The process whereby young animals are added to a fishable stock or population.
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.
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/Biomass	Sexually mature individuals in a stock.

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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. It provides the legal protection of wildlife species and the conservation of their biological diversity.
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.
Stock Assessment Area	Stock assessment groupings used since 1993 by the CSAP to monitor, assess, forecast and harvest herring.
Substrate	The ground (often the ocean bottom) and its composition, in or on which animals live.
Sub tidal	A portion of the bottom of the ocean that is not exposed at low tide stages. The ocean bottom at elevations below low water or chart datum.
Ton	Short ton, 2000 lb., traditionally used as a unit of measure by fish harvesters in British Columbia.
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.

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Total Validated Landings	The sum of all landed herring which have been validated by the Validation Program.
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.
Validation	The verification, by an observer, of the weight of fish landed.
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 Pacific Herring 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.

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1 OVERVIEW

1.1 Introduction

This Integrated Fisheries Management Plan (IFMP) for Pacific Herring covers the period from November 7, 2023 to November 6, 2024.

This IFMP provides a broad context to the management of the Pacific Herring fisheries and the interrelationships of all fishing sectors involved in these fisheries. Section 2 considers herring science and stock assessment, while Sections 3, 4 and 5 consider Indigenous knowledge, the social, cultural, and economic values and performance of the fishery, as well as broader management issues and initiatives. Section 6 and 7 describe allocation and management procedures. Section 8 highlights key shared stewardship arrangements with First Nations and other organizations, and then Sections 9 and 10 describes the Fisheries Management objectives for Pacific Herring and the performance criteria for the Resource Management branch.

The Appendices provided with the IFMP provide the post season review, stock assessment results, expected use table, fishing plans by sector and by fishery, information on vessel safety and compliance, and catch monitoring risk assessments.

1.2 History

The commercial Pacific Herring fishery started in British Columbia in the 19th century for the local food market, and quickly expanded into a dry salt fishery for Asia. In 1937, a reduction fishery was also established to produce fish meal and fish oil (Hourston and Haegele, 1980). After the collapse of Pacific Sardine in the late 1940s, Pacific Herring became the major fishery off Canada's Pacific coast, and catches steadily increased to over 200,000 tons in the early 1960s (Beamish et al. 2004). This fishery was unsustainable and by 1965 most of the older fish had been removed from the spawning population by a combination of over fishing, a sequence of weak year-classes attributed to unfavourable environmental conditions, and a low spawning biomass. As a result, the commercial fishery collapsed in 1967 and was closed to rebuild the stock. Following the fishery closure, a series of above average year-classes in the early 1970s quickly rebuilt the stocks and the fishery was re-opened in 1973 (DFO 2008).

During the closure from 1967-1971, small fisheries continued locally for food and bait (Hourston and Haegele, 1980). At this time there was a growing interest to harvest roe herring for export to Japan. A small experimental roe harvest began in 1971, and limited entry licences were

introduced in 1974. This fishery expanded rapidly, and in 1983 a 20% harvest rate for Pacific Herring was introduced, followed by addition of a commercial fishing thresholds or cut-off levels in 1986.Today most Pacific Herring are fished for roe, which is sold in Japan. The remainder of the commercial fisheries is divided between spawn on kelp production and the food and bait market.

1.3 Type of Fishery and Participants

1.3.1 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), Five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht (the T'aaq-wiihak First Nations) - have aboriginal rights to fish for any species of fish, with the exception of Geoduck, within their Fishing Territories and to sell that fish. The Heiltsuk Nation also has established an Aboriginal right to commercially fish herring spawn-on-kelp.

The Department works collaboratively with Indigenous people on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. During the fishing season, there may be requirements to avoid specific locations to support FSC harvest. Indigenous people are encouraged to contact the respective Area Resource Managers to provide information on placement of boughs or locations of other FSC harvests so that the commercial fleets can be directed to avoid these areas.

1.3.2 Recreational

Recreational harvest may occur coast wide, however fishing effort and catch is very minimal.

1.3.3 Commercial

There are four commercial herring fisheries:

Roe: Licence eligibilities are party based and limited; there are 252 seine licences and 1,267 gillnet licences.

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Spawn on Kelp: Licence eligibilities are party based and limited; there are 46 licences. Sixteen First Nations organizations operate 26 of the licence eligibilities, while 20 are held by individual eligibility holders.

Food and Bait: Licence eligibilities are party based and access is provided to the 252 roe seine licence holders on an equal share basis.

Special Use: Licence eligibilities are party based and are open access on a first come first serve basis. There are several fishery participants who hold unique quotas for specific purposes.

1.4 Location of Fisheries

1.4.1 Indigenous People of British Columbia

Indigenous people harvest whole herring, spawn on kelp, and spawn on boughs for FSC purposes according to their customs, laws, and/or treaties within their traditional territory, while engaging in protocols with other communities to harvest in other areas outside established boundaries. The harvest by Indigenous communities occurs coast wide, subject to appropriate licensing and area closures. There are also treaty and Indigenous commercial fisheries occurring in some management areas.

1.4.2 Recreational

Recreational harvest of Pacific Herring may also occur coastwide, subject to appropriate licensing and area closures.

1.4.3 Commercial

With the exception of permanent closures for various purposes Pacific Herring commercial fisheries may occur coast wide in units described as Major Stock Assessment Areas, Minor Stock Assessment Areas, and in other management areas and subareas. Areas and subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing Major and Minor Stock Assessment Areas.

1.5 Fishery Characteristics

1.5.1 Indigenous People of British Columbia

Indigenous people fish for whole herring and herring roe for FSC purposes. Whole herring are fished by seine, gillnet, rake, dip net, and jig, and herring eggs are collected as spawn on kelp or other seaweed, or spawn-on-tree boughs. Treaty and Indigenous commercial fisheries may occur in some specific management areas. The importance of the herring fishery to Indigenous people is detailed in Section 4.2.

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1.5.2 Recreational

Whole herring may be fished for recreational purposes with no closed times. The daily maximum limit for herring is 20 kg, with a two day possession limit of 40 kg. Recreational harvesting may occur by means of dip net, herring jig, herring rake, or cast net.

1.5.3 Commercial

The gear type, commercial licence year, and fishing period varies for each of the four commercial herring fisheries. Details on each fishery are provided in Appendices 7-10.

A range of fixed and mobile gear is used, depending on the fishery. Whole herring commercial fisheries use seine nets and gillnets and the Spawn-on-Kelp (SOK) and Special Use fisheries also use enclosures. Rakes, dip nets, gill nets and hoop nets may be used in the Special Use fishery.

All herring licences are party based, and quota related to Total Allowable Catch (TAC) or specific allocations is distributed across the four commercial fisheries. All commercial fisheries licences are limited entry, with the exception of the Special Use fishery, which is open access.

1.6 Governance

Management of Pacific Herring is directed by the *Fisheries Act* and other acts and regulations including:

- Areas and Subareas, as described in the *Pacific Fishery Management Area Regulations*, are referenced in describing Pacific Herring Management Areas;
- The *Fishery (General) Regulations* (i.e. Conditions of Licence) and the *Pacific Fishery Regulations*, 1993 (i.e. open times);
- The *Aboriginal Communal Fishing Licences Regulations*;
- The *Maa-nulth First Nations Final Agreement Act;*
- The *Tla'amin Final Agreement Act;*
- The *British Columbia Sport Fishing Regulations*;
- The *Oceans Act*; and;
- The *Species at Risk Act*.

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

In addition, the new 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;

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- 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; and;
- Ecological Risk Assessment Framework (ERAF) for Coldwater Corals and Sponge Dominated Communities.

Along with existing economic and shared stewardship policies, these help the Department achieve and maintain sustainable fish stocks, protect biodiversity and fisheries habitats, and ensure productive fisheries.

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

1.7 Consultations

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.

For more information on the consultative process for herring, please visit:
http://www.pac.dfo-mpo.gc.ca/consultation/pelag/index-eng.html

1.7.1 Indigenous People of British Columbia

The Department consults with Indigenous nations on the annual Pacific Herring IFMP and the management of Pacific Herring more broadly in an effort to ensure that the duty to consult is fulfilled and that the proposed plans are informed by the best available information, including traditional knowledge and understanding of fisheries practices. Consultation occurs through a variety of means including through bi-lateral discussions, group advisory processes including a Tier 2 (multi-nation government to government) process, and other processes that may be available or requested. Consultation, as provided for under Final Agreements (currently the Tla'amin Final Agreement, Tsawwassen First Nation Final Agreement; Maa-nulth First Nations Final Agreement and Nisga'a Final Agreement) are also undertaken.

1.7.2 Integrated Herring Harvest Planning Committee

The Integrated Herring Harvest Planning Committee (IHHPC) is the primary multi-stakeholder body providing input and advice to DFO's decision making processes for Pacific Herring fisheries. The IHHPC was established by DFO to promote a more streamlined, representative, cross-sectoral advisory process related to herring harvest planning, management, and post-season review.

The goal of the IHHPC is to support the development of fishing plans that are coordinated and integrated, to identify potential conflicts, and to make recommendations for resolving disputes. The committee operates on a consensus basis where possible. Membership in the IHHPC is comprised of representatives from Indigenous communities coastwide, the Herring Industry Advisory Board (HIAB), the Spawn-on-Kelp fishery, the Special Use fishery, the Marine Conservation Caucus (MCC), the Sport Fishing Advisory Board (SFAB), the Province of BC, and DFO.

For more information on the IHHPC, please visit:
https://www.pac.dfo-mpo.gc.ca/consultation/pelag/ihhpc-cciph/index-eng.html

1.8 Approval Process

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

2 HERRING SCIENCE AND STOCK ASSESSMENT

2.1 Biological Synopsis

Pacific Herring (*Clupea pallasii*) is a pelagic species which occurs in inshore and offshore waters of the North Pacific. In the eastern Pacific waters, Pacific Herring are found from Baja California to the Beaufort Sea in Alaska.

Pacific Herring mature and recruit to the spawning stock primarily between ages three and five, with some as young as age two. Within this range, age-at-recruitment tends to increase with latitude. Adult males and females migrate from the open ocean to sheltered bays around November or December, although in the far north of the range, these dates may be somewhat later.

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Conditions that trigger spawning are not altogether clear, but after spending weeks congregating in the deeper channels, both males and females will begin to enter shallower inter-tidal or sub-tidal waters. Preferred spawning locations are sheltered bays and estuaries, commonly on eelgrass or other submerged vegetation. A single female may produce as many as 20,000 eggs in one spawn, however the juvenile survival rate is only about one resultant adult per ten thousand eggs, due to high predation by numerous other species (Hay 1985).

2.2 Ecosystem Interactions

Herring plays a critical, foundational role in the ecosystem, supporting numerous economically, ecologically, and culturally significant species. These species include seabirds, especially diving birds such as cormorants and murres, fish, including salmon, perch, and hake, and several marine mammals. The harvest rates are based on mature spawning biomass forecasts, with the intention of leaving juvenile fish and a significant proportion of the adult population available to support ecosystem processes.

Research indicates that the interplay of food supply and predation impacts on herring survival and production is complex and not readily predictable (Schweigert et al. 2010).

The Pacific Herring assessment models environmental variability implicitly via time varying natural mortality and recruitment (e.g., implied predation and other environmental impacts); however, ecosystem indicators are not directly incorporated into the assessment model. However examining qualitative and quantitative summaries and analyses can help to fill this knowledge gap. As a step towards improving the understanding of the environmental conditions that affect herring, directed and standardized literature searches were conducted to identify mechanistic hypotheses that link environmental and biological pressures to Pacific Herring outcomes (responses), such as distribution, growth, migration, productivity, reproduction, and survival (Boldt et al. 2022). This is examined in detail for Haida Gwaii Herring where indicators of these mechanistically-linked pressures and responses were assembled from multiple sources (e.g., Boldt et al. 2023), detailed in DFO 2023.

Finally, there are a variety of research initiatives undertaken by DFO and other organizations that may provide relevant and useful ecosystem information to inform management and Science decisions. Ongoing discussions within DFO and with partners and stakeholders aim to improve coordination and communication of information.

2.3 Precautionary Approach

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

The precautionary approach in fisheries management requires caution when scientific knowledge is uncertain. The absence of adequate scientific information should not result in postponed action or failure to take action to avoid the risk of serious harm to the resource.

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

- identify three stock status zones – Healthy, Cautious, and Critical – delineated by an upper stock reference point and a limit reference point;
- set the removal rate at which fish may be harvested within each stock status zone; and
- adjust the removal rate according to fish stock status (i.e. spawning stock biomass or another index/metric relevant to population productivity), based on pre-agreed decision rules.

The framework requires that a harvest strategy be incorporated into respective fisheries management plans to keep the removal rate moderate when the stock status is in the Healthy Zone, to promote rebuilding when stock status is low, and to ensure a low risk of serious or irreversible harm to the stock.

A key component of the Precautionary Approach Framework requires that when a stock has declined to the Critical Zone, a rebuilding plan must be in place with the aim of having a high probability of the stock growing out of the Critical Zone within a reasonable timeframe: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precautionary-precaution-eng.htm

2.3.1 Fisheries Act: Fish Stock Provisions

Amendments to the *Fisheries Act* (Bill C-68) were passed into legislation in 2019 and include new authorities to amend the Fishery (General) Regulations and requirements to maintain major fish stocks at sustainable levels, and to develop and implement rebuilding plans for stocks that have declined to their critical zone. Amendments are available at: https://www.parl.ca/LegisInfo/en/bill/42-1/C-68

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

Haida Gwaii Pacific Herring was the first Pacific Herring stock to be listed in regulation, and to which the Fish Stocks Provisions (FSPs) in the *Fisheries Act* apply. Haida Gwaii Herring is subject to section 6.2 of the FSPs, requiring development of a rebuilding plan. More information on this plan can be found in section 2.5.3. The remaining major herring stocks are proposed to

be listed in the next regulatory amendment process, during which there will be an opportunity to submit feedback on the proposed amendment once the draft regulation is published in *Canada Gazette*, Part I.

2.4 Science Research and Other Activities

An ongoing survey has examined the fall distribution and relative abundance of juvenile herring in the Strait of Georgia since 1991. Among other things, this survey examines the distribution, abundance, food and feeding of juvenile herring and salmonids to address the role of forage fish in an ecosystem.

DFO is undertaking a Management Strategy Evaluation (MSE) process for Pacific Herring, with engagement of managers and resource-users, focusing on evaluation of reference points and management procedures to fully align the Pacific Herring management framework with the DFO PA Framework (DFO 2009). More detail in Section 2.6.1.

Parallel to the MSE process, DFO has discussed objectives and rebuilding plans as part of the broader Pacific Herring Renewal/MSE process with the Council of the Haida Nation. A process was identified to address the development of a rebuilding plan for Haida Gwaii herring, and the development of this rebuilding plan has been undertaken by a DFO-Haida Nation-Parks Canada Technical Working Group. The rebuilding plan includes a work plan to evaluate stock status relative to rebuilding objectives, and performance metrics for objectives using data such as survey data and Haida knowledge. The draft Haida Gwaii Rebuilding Plan was released for consultation in fall 2022; final publication of the plan is expected in late 2023.

2.5 Stock Assessment

2.5.1 Stock Assessment and Management Strategy Evaluation Overview

Pacific Herring are currently managed in five major and two minor stock areas. Accordingly, catch and survey information is collected independently for each of these seven areas, and DFO science advice is provided on the same scale.

Since the early 1980s, a statistical catch-age model has been used to provide stock assessment advice for the major stock areas (Haist and Stocker 1984). In 2006, the catch-age model was updated in a Bayesian framework as the Herring Catch Age Model (HCAM, Haist and Schweigert 2006), used for the 2006 through 2010 stock assessments with additional modifications (Christensen et al. 2009, Cleary et al. 2010). A new version of the model was introduced in 2011. This Integrated Statistical Catch Age Model (ISCAM, Martell et al. 2011) was

used for stock assessment from 2011-2018. In 2017, the assessment included minor updates to the analytical procedures within ISCAM, bringing the assessment in line with best practices.

In 2018, a biological limit reference (LRP) point of 30% of the long-term average unfished spawning biomass was first implemented for the major Pacific Herring stocks (Kronlund et al. 2018) and in 2022, a provisional upper stock reference (USR) was implemented (DFO 2022; DFO 2022b). Full implementation of these reference points as biomass objectives occurs through the management strategy evaluation process where the LRP is represented as a conservation objective (biomass level to be avoided with high probability) and the USR as a biomass target.

To advance work on Management Strategy Evaluation (MSE), part of a DFO commitment to a multi-year renewal of the management framework (Pacific Herring Renewal), DFO Science Branch led the development of a peer reviewed paper "Performance of management procedures for British Columbia Pacific Herring *(Clupea pallasii*) in the presence of model uncertainty: closing the gap between precautionary fisheries theory and practice (Benson et al., 2022)". This research uses closed-loop simulations to test the performance of various management procedures (MPs) (specifically different harvest control rules) against conservation, biomass, and yield objectives under three natural mortality scenarios.

The first cycle of Pacific Herring MSE includes, as a starting point, four DFO proposed fisheries management objectives (DFO 2019) which reflect DFO policy, and were applied to each major stock:

1. Avoid the LRP with at least 75% probability over three Pacific Herring generations (i.e., avoid a biomass limit; $P(SBt > 0.3SB0) \geq 0.75$); this is referred to as the 'conservation objective';
2. Maintain spawning biomass at or above the USR with a 50% probability over three Pacific Herring generations (i.e., achieve a target biomass; $P(SBt \geq 0.6SB_0) \geq 0.5$),
3. Maintain average annual variability (AAV) in catch below 25% over three Pacific Herring generations (goal reflecting catch variability; AAV < 0.25), and
4. Maximize average annual catch over three Pacific Herring generations (goal reflecting catch biomass).

In addition, some First Nations, the Herring Industry Advisory Board, the Marine Conservation Caucus, and the Sport Fish Advisory Board have proposed additional objectives or expressed support for existing ones.

Since initiation of the Pacific Herring MSE process, MP evaluations have been included in the annual stock assessment as follows:

1. The 2018 stock assessment includes MP recommendations for the SoG and WCVI SARs (DFO 2019).

2. The 2019 stock assessment includes MP recommendations for the HG, PRD, and CC SARs (DFO 2020b), and implements the previous years' MP recommendations for the SoG and WCVI SARs.
3. The 2020 stock assessment includes an update to MP recommendations for the SoG and WCVI SARs (DFO 2021a), and implements the previous years' MP recommendations for the HG, PRD, and CC SARs.
4. The 2021 stock assessment includes an update to MP recommendations for the PRD and CC SARs (DFO 2021b), and implements the previous years MP recommendations for the SoG and WCVI SARs.
5. The 2022 stock assessment includes an update to MP recommendations for the PRD, CC, SoG, and WCVI SARs (DFO 2022a).

As a fully specified set of objectives has not yet been developed for each management area, DFO will continue to collaborate with coastal First Nations to develop area-specific objectives specific to Food, Social and Ceremonial fisheries as well as commercial fisheries. In addition, DFO will continue to engage with the herring industry, government, and nongovernment organizations to describe broader objectives related to conservation, economics, and access.

Science Branch assessed the status of Pacific Herring stocks in 2023 and provided projections of potential herring abundance for 2024 to inform the development of the annual IFMP. The 2023 Science Response "Stock Status Update with Application of Management Procedures for Pacific Herring *(Clupea pallasii)* in British Columbia: Status in 2023 and Forecast for 2024" (September 2023) presents current estimates of spawning biomass for each major stock with updated MSE simulations for 4 of the major stocks (PRD, CC, SOG, WCVI).

2.5.2 Management Procedures for Major Stocks

For the SOG, in the most recent evaluations which included data from 1951-2021, MPs utilizing harvest rates up to 10% can meet the conservation objective with the minimum 75% probability over both natural mortality scenarios. MPs with 20% harvest rates, which previously met the minimum 75% probability level, now show probability values ranging from 70% to 74%. The initial MSE simulations for SOG were presented in 2018 and following MP updates were conducted in both 2020, and 2022. Each update shows differences in MP performance against the conservation objective for both operating model (OM) scenarios, with the 2020 update showing a decline in conservation performance probabilities, and then another subsequent decline following the 2022 MP update. Science advice notes that these comparisons highlight the importance of considering how recent MP updates are influenced by the last three to five years of natural mortality trends used to condition the OM. In situations where estimated natural mortality trends show a sudden increasing or decreasing trend in the terminal three to five years, MP evaluations may be more reflective of short term performance. In all cases the simulated MP performance from previous years can inform selection or elimination of MPs.

For WCVI evaluations were updated to include all data from 1951-2022. Results show MPs with a 5, 10, and 15% harvest rate met the conservation objective of maintaining the spawning stock biomass above the LRP with a relatively high probability (between 80 and 84% probability) under the density-dependent mortality (DDM) OM. This improved MP performance relative to the 2018 evaluations is due to an increasing spawn index and increased status relative to the unfished spawning biomass (SB_0). The WCVI stock persisted in a low biomass, low productivity state from approximately 2004 to 2014, however an increasing trend has been observed in recent years. Biomass remains low relative to historical levels, trending around the LRP of $0.3SB_0$.

In the 2023 MSE update, there were also several MPs that could meet the conservation objective for both PRD and CC. In PRD, all MPs with a harvest rates up to 20% met the conservation objective under both natural mortality scenarios. In the CC, all MPs with harvest rates up to 10% met the conservation objective, and these included a range of operational control point choices.

All MPs which meet the minimum conservation criteria are applied to the 2024 forecasted biomass and therefore a range of harvest options for 2024 are reported for SOG, WCVI, PRD, and CC (Tables 3.7, 3.8, 3.9, and 3.10). In the 2019 MSE cycle for HG, none of the MPs tested could meet the conservation objective with at least 75% probability (DFO 2019). MP updates for HG are provided within the Rebuilding Plan process.

2.5.3 A Rebuilding Plan for Haida Gwaii

DFO has committed to developing a rebuilding plan for Haida Gwaii Pacific Herring, through the Gina 'Waadluxan KilGuhlGa Land-Sea-People Plan. A draft was released for consultation in fall, 2022, and is anticipated to be finalized and published in late 2023/early 2024.

The draft rebuilding plan for Haida Gwaii herring was co-developed by a Technical Working Group comprising the Council of Haida Nation, Parks Canada and DFO. It provides an overview of Pacific herring ecosystem attributes in Haida Gwaii, and meets the requirements under the new Fish Stocks provisions in the amended *Fisheries Act*. The draft plan is in line with DFO's *Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework: Growing Stocks out of the Critical Zone (DFO, 2013),* which states that the primary objective of any rebuilding plan is to promote stock growth out of the Critical Zone (i.e., to grow the stock above the status-based LRP) by ensuring removals from all fishing sources are kept to the lowest possible level until the stock has cleared this zone with high probability. In addition, it incorporates an ecosystem-based management approach and Haida Traditional Knowledge that supports objectives and targets laid out in the Gwaii Haanas Gina 'Waadluxan KilGuhlGa Land-Sea-People Management Plan.

The draft plan proposes some key changes to the management of herring in Haida Gwaii; these include managing Haida Gwaii herring at a finer-scale spatial stock structure, establishing rebuilding targets with associated ecosystem considerations, prioritizing low-impact

commercial fisheries during the rebuilding phase, recommending monitoring and research priorities, and establishing a foundation for an ecosystem-based management approach.

The HG stock has persisted in a low biomass, low productivity state since 2000. The stock was below the LRP for much of that period and shows little evidence of sustained stock growth despite the absence of commercial fisheries since 2002 (2004 for the SOK fishery). In the absence of fishing, spawning biomass in 2024 is forecast at 4,272 t (posterior median). Results of the simulation evaluations found that none of the proposed MPs, including the historical and no-fishing MPs, performed satisfactorily against the conservation objective of maintaining spawning biomass above the LRP with high probability.

2.6 Reference Points

As part of the broader renewal of the management framework for Pacific Herring, the Department is currently evaluating the performance of harvest control rules for herring, using closed-loop feedback simulations through a Management Strategy Evaluation (MSE) process.

A fully specified set of objectives that includes LRPs, Upper Stock Reference (USR) points, and Target Reference Points (TRPs) is being developed to meet goals for renewal of the Pacific Herring management system and ensure consistency with the DFO PA Framework.

To ensure consistency with the Sustainable Fisheries Framework and full implementation of the Precautionary Approach (PA) Policy to Pacific Herring, an Upper Stock Reference (USR) point for each major stock is required. Candidate USRs were considered by Cleary et al. (2019), and have appeared in stock assessments and MSE updates, however consultations around USR selection were incomplete. As a result, in 2022, a Science-Resource Management Working Group was established to evaluate USR options for the major herring stock areas. This evaluation was presented in the Science Response "Management Strategy Evaluation Update and Evaluation of Upper Stock Reference Point Options for Pacific Herring (*Clupea pallasii*) in British Columbia Canada" (Cleary et al. 2022), in which the role of the USR for Pacific herring is described, USR options are documented and evaluated, and considerations for selection of USRs are described. This work was completed for PRD, CC, SOG and WCVI; Haida Gwaii herring reference points are developed in the draft rebuilding plan. The analysis also included simulation-evaluation to examine the probability of meeting USR options under different management procedures.

Consultations about defining a USR occurred throughout Spring and Summer of 2022. After considering the USR options proposed in the science response, as well as all feedback received during consultations , provisional USRs were formalized in the approved IFMP for 2022/2023. Based on feedback received, DFO Resource Management set the provisional USR based on a productive period (B_{MSY} proxy) in each area. This approach is stable and repeatable in application, and year-to-year differences in productive period spawning biomass are unlikely to

change with the addition of new survey and fishery data. A 10-year productive period is used for PRD (1983-1992), CC (1990-1999) and WCVI (1990-1999), and a 20-year period for SOG (1987-2007) as there was insufficient variability demonstrated in a 10-year only period.

In the SOG area, the identified productive period contains the highest biomass levels in the time series and represents a period of successful annual fisheries and continued positive production and therefore is identified as a suitable proxy to recent estimates of B_{msy}. As such, the USR for the SOG was set at 80% of the average spawning biomass during the productive period. Productive periods in other areas yield average spawning biomass levels that are lower than historical highs and these areas have incurred recent low productively states and therefore the USR levels were set at the average biomass levels of the productive periods.

3 INDIGENOUS KNOWLEDGE

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

In 2019, the *Fisheries Act* was amended to include provisions for the where the Minister may or shall consider provided Indigenous knowledge in making decisions pertaining to fisheries, fish and fish habitat. Section 61 of the act ensures this knowledge is protected and can only be provided with consent. There are also provisions under the *Species At Risk Act* (s.10.2, s.15.2, s.16, s.18.1) that support inclusion of Indigenous knowledge to inform the assessment and protection of species at risk. Likewise, the *Oceans Act* (s.42) allows the Minister to consider Indigenous knowledge in oceans related decisions.

The Government of Canada and the scientific community acknowledge the need incorporate Indigenous knowledge in meaningful and respectful ways. Work is underway at a National level to develop processes for how DFO receives Indigenous knowledge and applies it to inform decision making. Many outstanding questions remain on how to move forward in a way that respects, meaningfully incorporates, and protects the knowledge that may be shared with DFO, to mutual benefit. For example, how to engage knowledge holders, and how to ensure that the knowledge can be shared and considered in a mutually acceptable manner by both knowledge holders and the broader community of First Nations, stakeholders, managers, and policy makers involved in the fisheries. Given the diversity of knowledge and relationships, regional work will involve an iterative process in collaboration with First Nations, Indigenous groups and knowledge holders, to ensure appropriate inclusion and protection of the knowledge provided. The Department is committed to finding a way forward that respects the knowledge and the knowledge holders, and upholds the Principles respecting the Government of Canada's

relationship with Indigenous peoples, which are available online at: https://www.justice.gc.ca/eng/csj-sjc/principles-principes.html.

More information on the updates to the *Fisheries Act*: https://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/reconciliation-eng.html
See Sections 2.5, 34.1, and 61.2 in the *Fisheries Act* (2019): https://laws-lois.justice.gc.ca/eng/acts/f-14/.

Section 61.2 protections for Indigenous knowledge have also been included in the *Access to Information Act*, Schedule 2: https://laws-lois.justice.gc.ca/eng/acts/a-1/page-15.html#h-1230

3.1 Indigenous Traditional Knowledge

Indigenous nations provide information to DFO on Pacific Herring behavior, spawn timing, abundance, ecosystem relationships, and fishing methods, based on their historic and cultural knowledge of the species and of their local areas. This information sharing contributes to the base of knowledge regarding fish behavior, spawn timing, and abundance.

3.2 Traditional Ecological Knowledge

Traditional ecological knowledge (TEK) in the form of observations and comments provided by members of the public, and DFO staff contribute to the base of knowledge regarding Pacific Herring behavior, spawn timing, and abundance. Fishery participants provide information to DFO on herring behavior, spawn timing, abundance, ecosystem relationships and fishing methods, based on their historic and cultural knowledge of the species and of the areas harvested.

4 SOCIAL, CULTURAL, AND ECONOMIC IMPORTANCE

4.1 Overview

Pacific Herring has been an important species for British Columbia's commercial fisheries for over 100 years. They are harvested in the Roe, Spawn-on-Kelp, Food and Bait, and Special Use fisheries, creating employment and contributing significantly to revenue generated from fisheries in BC. Herring fisheries have also been extremely important to BC First Nations since

time immemorial (500 generations) and continue to be important, both commercially and as traditional food.

4.2 Value and Importance of Herring to Indigenous People

The Island Marine Aquatic Working Group (IMAWG) is a participant in the Department's Aboriginal Aquatic Resources and Oceans Management program (AAROM). IMAWG, in collaboration with South Coast DFO, described the value and importance of herring to Indigenous people, and submitted the following paragraphs. The following is a summary of conversations IMAWG staff had with their member communities mentioned below. We invite and encourage similar submissions from other Indigenous groups or Nations for this IFMP or in the future. The full text of the IMAWG submissions can be found at their webpage at https://imawg.ca/. We also invite other Indigenous groups or Nations to provide similar links to their webpages in order to access more information about Indigenous views and knowledge of Pacific Herring.

Herring are the foundation of the marine ecosystem which coastal Indigenous people have respected and honoured since time immemorial. This is illustrated by the significant role that herring play in the culture and society of coastal communities. Traditional Ecological Knowledge (TEK) shared by elders indicates that as children they were taught to have the deepest respect for herring because it was a *"gift from the creator"*. *"Herring is the basis of the food chain. If we kill all of the herring we kill all of the salmon, we kill all of the halibut, and we kill all of the whales and so on."* The value of herring for Indigenous people goes much deeper than an economic or monetary value, instead the value of herring is looked at as a part of a much larger picture in which "*everything is one and connected"*. This is the earliest form of what is referred to today as, Ecosystem Based Management.

Traditional harvest, knowledge and handling methods, passed down through the generations, varied from families and language groups. These methods were performed in a way that ensured there was the least amount of disturbance to the spawning herring, and their habitat, to make sure they returned every year. Today, Indigenous communities, on and around Vancouver Island, practice a multitude of adaptive harvest methods:

- Nuu-chah-nulth (West Coast of Vancouver Island): elders indicate that when the herring arrived to spawn, the entire community was engaged, from harvesting to processing. Tree boughs for the harvest of roe, (Qwikmiss), were placed in the water very quietly and carefully, so as not to disturb the schooling herring. The roe was collected from boughs and dried. Historical observations indicate the spawn used to be ten layers thick. Today, it varies from one to three layers in thickness. Harvesting methods utilized today involve using cedar trees and canoes whereas the tree is left in the water for about a week until the herring spawn. The roe is removed and salted or frozen to preserve it. Local observations on

the West Coast indicate that herring are spawning in deeper water and in different locations compared to where they spawned historically.

- Kwakwaka'wakw (North Coast of Vancouver Island): elders indicate that individual groups from the community would harvest herring using nets made out of spruce roots and kelp. The harvested herring would be brought back to the community to share and primarily eaten fresh or preserved using salt. The spawn used to be over six inches thick. Today, northern Vancouver Island communities must rely on Central Coast or Haida to provide herring roe because of the limited spawn in the area and the lack of resources to access the herring.

- Coast Salish (South Coast of Vancouver Island): elders indicate that herring was traditionally harvested by individual families, rather than by the entire community. A herring rake (a long pole with spikes), was used as the primary harvest tool. This method was successful because the herring were so abundant in this area. Captured herring would be smoked or eaten fresh. Herring roe was traditionally, and currently, harvested by using trees or boughs placed in the water allowing the herring eggs to collect on the boughs. Today, some of the Hul'qumi'num can't harvest herring at all because a very small number of herring spawn in this area, and where they do spawn, it is in very low densities. Community members must travel north to Comox or Deep Bay to harvest herring and roe, and often it is harvested from kelp, which is not the method/source preferred by elders.

Herring provide more value than just the individual fish or their roe. When the herring returned to spawn in the winter, they brought with them sea birds, Chinook salmon, lingcod, halibut and other groundfish species, which could then be harvested to feed communities, or to trade with other people. TEK shared by some elders indicate that Vancouver Island Indigenous people bartered and traded smoked herring with interior communities as far as northern Alberta and down into the United States. During other times of the year, many other species were sometimes not accessible to harvest locally, but as the herring returned to spawn, so did the species that fed on them. This meant there was a much easier access for local Indigenous People to harvest these other resources. Various Indigenous people across the Island would use canoes and traditional circle hooks, baited with the available herring, to troll or jig for animals such as halibut and salmon. When European settlers arrived, they learned how to fish from the local Indigenous people. This has formed the basis of modern fishing methods and techniques we use today.

The physical connection to the resource, and the ability to harvest fresh resources brought physical, emotional, spiritual and mental well-being to entire communities. Herring, and the other animals that herring brought, provided a nutrient-rich food source to sustain communities throughout the year. This is what wealth means to Indigenous people. Wealth also means sharing within and outside of the community. West coast of Vancouver Island communities would plan their feasts and ceremonies to coincide with the spawning of the

herring. This would showcase their "wealth" to other communities, who were invited to come and share in the festivities. Within the traditional hereditary system, wealth meant giving and sharing. Without being able to share the wealth, communities and leaders would feel de-valued.

Often, today, you hear Indigenous people speak of wanting to "own" the herring in their traditional territory. By this, they mean that they want the ability to manage the herring in their territory as they had since time immemorial, so that they have a voice in how the "wealth" is brought to the community; both to the families and the ecosystem. There is an utmost respect for herring because it feeds the entire marine ecosystem as well as Indigenous people.

Traditional use, harvest and processing methods vary by families and language groups, but the importance and the value of herring is shared by all coastal Indigenous people. Indigenous culture teaches to take only what is needed (need being related to sustainability), and to respect and honour the ecosystem and the resources. In doing so, this will ensure access to the resource for generations to come. Indigenous People culture teaches to be the stewards of the land, to manage in a way that ensures enough for everybody and for generations to come.

The Department has engaged with Indigenous groups and Nations and stakeholders to progress on a renewal of Pacific Herring fisheries management, via a structured decision-making process. The Department hopes to build on this work with additional interested Indigenous organizations and Nations in the coming years. For Indigenous organizations that would like to explore this work, please contact the Aboriginal Affairs Advisors in your area:

Melanie Anthony, North Coast (Melanie.Anthony@dfo-mpo.gc.ca)
Jorn Meier, South Coast (Jorn.Meier@dfo-mpo.gc.ca)
Sheldon Evers, Fraser and Interior (Sheldon.Evers@dfo-mpo.gc.ca)

4.3 Commercial

4.3.1 Commercial Viability and Market Trends

Of the four commercial herring fisheries, roe herring is the most significant (Figure 1). In 2018 and 2019, the total amount of roe herring landed (a combination of the roe gillnet and roe seine landings) was approximately 14,965 and 15,552 short tons. The 2017 catch of 22,527 short tons was the highest roe catch volume recorded in the previous 10 years, more than 2 times the size of the 2012 low of 9,515 short tons. However, in 2020, the COVID-19 pandemic caused overall herring landings to decrease, including roe herring, with only 9,090 short tons landed that year. The roe herring share of total herring landed value was 79% in 2020, much higher than its average share of 64% in recent years (2012-2022). This discrepancy was due to a lack of supply in the roe herring market in 2020, as the Alaskan roe fisheries, such as Sitka herring, did not harvest much. This lack of supply led to an increase in prices and landed value. However, the roe herring share of total herring landed value dropped back to 65% with 11,293 short tons

landed in 2021. In 2022, the roe herring share of total herring landed value reached its highest level of 83% in this decade. This recent change is attributed to the smaller overall TAC combined with slightly increase prices of roe herring in 2022.

The primary market for roe products is Japan. In 2017, total herring exports to the country were valued at $38M (in 2022$), the highest since over the past decade. However, exports to Japan started declining in 2018 ($23M, 2022$) and 2019 ($22M, 2022$), and even further in 2020 ($17M, 2022$). However, the total value of herring exports to Japan increased in 2021 at $24M (in 2022$) and reached the highest percentage of total value of herring exports to all countries (73%) over the whole time period. The total value of herring exports to all countries in 2021 was $32.1M. In 2022, total value of herring exports to Japan was $19M (in 2022$) and contributed to 71% of total export value of herring.

Most of BC's spawn-on-kelp is also exported to Japan. Prices have declined significantly from historic peaks achieved when it was a higher value product. After many years of steady spawn-on-kelp production in BC (up to 2004), the volume of landings fell dramatically, hitting a record low of 77 short tons (153,000 lb) in 2013. However, in 2017, the spawn-on-kelp harvest level reached 310 short tons (619,000 lb), almost quadruple the 2013 landings. In 2018 and 2019 landings were 189 and 217 short tons, respectively, but fell again in 2020 to 57 short tons. This was due to the effects of COVID-19 on fishing communities, exacerbated by more fishing area closures compared to previous years. In 2021, the spawn-on-kelp harvest level increased again and reached 176 short tons (351,000 lb). Spawn-on-kelp fisheries were closed in BC in 2022.

The total value of herring landed in 2022 was negligible as this fishery was closed in this year. The spawn-on-kelp fishery's share of total herring landed value was 28% in 2021, a year that also saw a fall in price to $8.15/lb (2022$). The price for spawn-on-kelp peaked in the mid/late 1990s and has been highly variable in recent years. The record low was $6.06/lb (2022$) in 2010 which recovered to $15.58/lb (2022$) in 2013, before falling back to $9.81/lb (2022$) in 2014. Spawn-on-kelp prices have averaged a little over $12.66/lb (2022$) from 2019 to 2021.

Since 2012, the food and bait fishery has shown a notable increase in its landed value. Catch volume rose from less than 3,950 short tons in 2012 to almost 10,000 short tons in 2016, though average landings for the past 5 years (2018-2022) have been less than this at 2,701 short tons. Catch volume for food and bait fishery fell substantially from 3,082 short tons in 2021 to 541 short tons in 2022. The food and bait fishery's share of the total herring catch in 2022 was 10% which was the record low in the recent 10 years. The drop was due to the lower available quota and the industry chose to fish the majority of their TAC in the roe fishery rather than the food and bait fishery.

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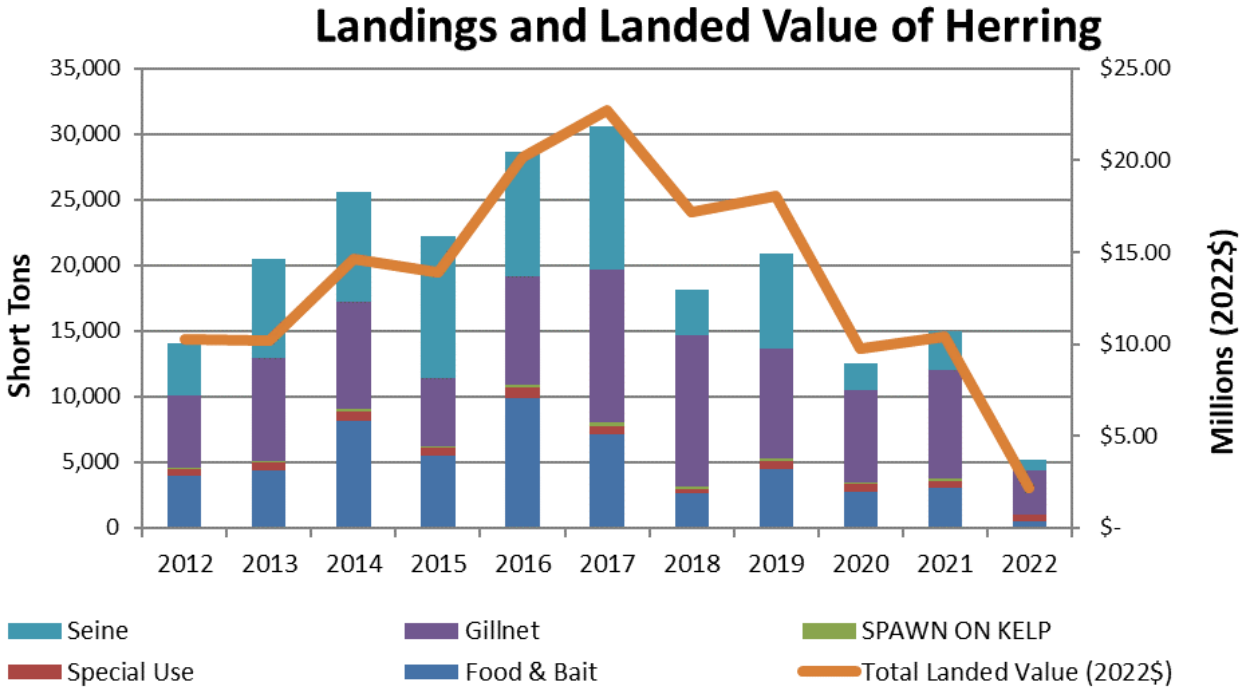

Figure 1. Annual share of herring landed value. To convert from short tons to pounds, multiply by 2000.

Source: Fisheries and Oceans Canada

4.4 Processing and Exporting

Once processed, the value of roe and food & bait herring increases significantly. Roe herring and food & bait herring approximately triple in value after processing, while spawn-on-kelp only increases by ~15%.

Figure 2 shows the value added from processing to the various product types. It is evident that the roe fishery has the largest value added from processing, consistent through time. This is followed by the food & bait and special use fisheries which benefit equally from processing. Finally, the spawn-on-kelp fishery has very little value added through processing, despite commanding very high processing prices (discussed in section 3.4.1).

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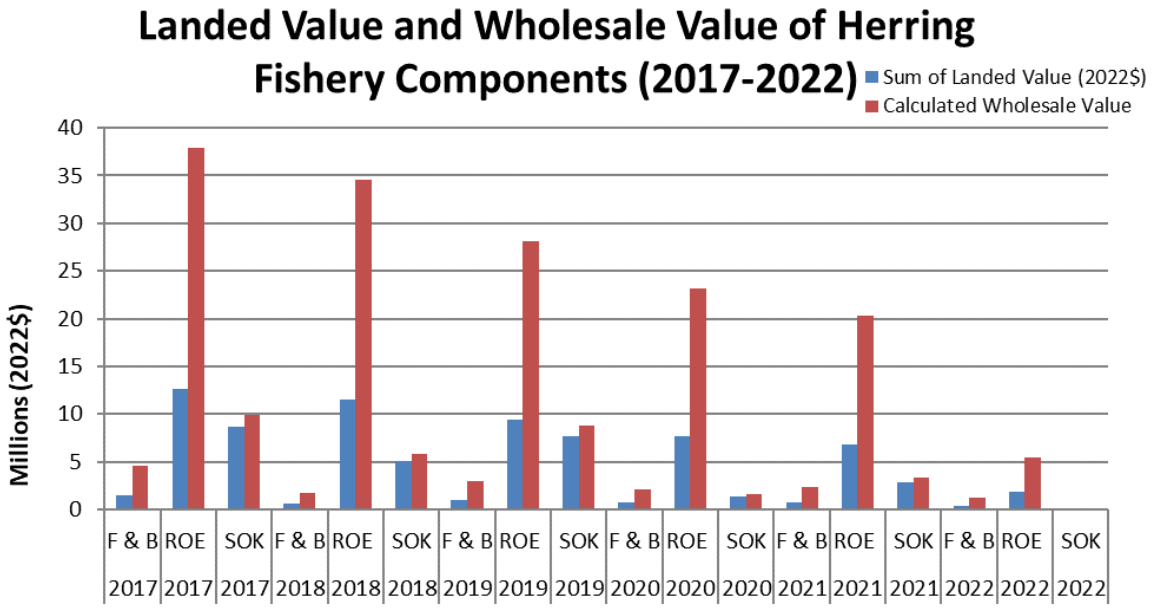

Figure 2. Landed Value and Wholesale Value of Herring Roe fishery, Spawn-on-Kelp fishery, and Food & Bait and other fisheries, 2022$.

Source: Fisheries and Oceans Canada, Pacific Region Economic Analysis Unit.

Nearly all of BC's herring products are sold to Japan, China and the US. Japan is the dominant market, having imported about 65% of BC's herring products export value, on average, from 2018-2022. Over the same time period, China accounted for approximately 22% and the US held an 8% share. Fiji imported a significant amount of BC herring products in 2014 and 2015, making up 4% and 10% (respectively) of BC herring total export value in those years. Figure 3 shows BC's export value for herring products by importing country. "Other markets" has accounted for an increasing amount of herring exports since 2012; in 2019 significant markets in this category included Australia and Vietnam. However, in 2020, the share of herring exports to "Other markets" fell due to the COVID-19 pandemic, along with overall herring exports. In 2021, there was a slight increase in the herring export value to "Other markets" with 5% share of the total herring export value and this percentage share remains the same in 2022

Total export value was low from 2012 through 2015 compared with previous years, largely due to a reduced export of roe herring. While this trend reversed in 2016 and 2017, higher roe volumes coupled with higher roe prices in 2017 helped export values climb above 2016 levels. Following 2017, herring quantities and values fell, with total export quantity in 2020 dropping 50% from 2019 due to the COVID-19 pandemic. However, total export value did not see as significant of a drop (14% compared to 2019) due to an increase in prices. Although the total export quantity in 2021 increased by 36% from 2020, the total export value dropped by 3% from

2020 because of the decrease in prices. In 2022, the total export quantity dropped substantially by almost 70% from 2021 due to the decrease in herring landings in BC. However, the total export value only dropped by 22% because there was an increase in prices of various herring products from 2021.

Figure 3 illustrates the total quantity of BC's herring exports for 2012-2022. The volume of exported herring products was 3.1M kg in 2022, decreased from 10.3M kg in 2021, while the total value of exports (2022$) decreased to $26.8M in 2022 from $34.5M in 2021.

The average (2012-2022) export price (all markets, 2022$) for herring roe has been $19.74/kg, fresh herring has been $0.55/kg, and for frozen and other product types has been $1.72/kg and $1.96/kg, respectively. This highlights that the vast majority of the value in the BC herring fishery is in the roe, especially for international markets, and how small changes in the quantity of roe exported can have large impacts on the overall value of the export market. This phenomenon is contributing to the divergence in export volumes and values in 2019 in Fig. 4 – the per kg export price (2022$) of roe herring products dropped from $22.0 in 2018 to $19.68 in 2019. However, in 2020, the per kg export price of roe herring products was the highest it has been in the last 10 years at $22.87 (2022$), which allowed the total export value to remain relatively steady from 2019 despite export quantities being halved. Although the export quantities rose in 2021, the price per kg of roe herring for export (2022$) fell to $16.49 in that year. As a result, the overall export value increased. The export quantities dropped in 2022 but the price per kg of roe herring for export (2022$) increased to $20.50.

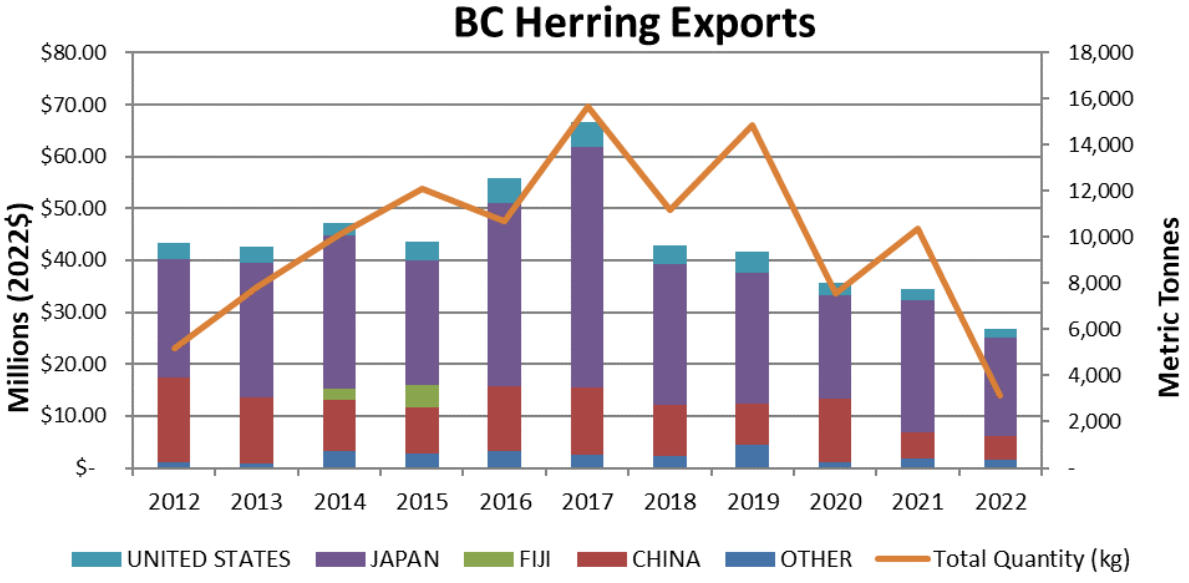

Figure 3. Total herring export value by country adjusted for inflation (2022 dollars) and total export quantity.

Source: Fisheries and Oceans Canada

In Figure 4 we see that the vast majority of herring licences in BC are in the gillnet fleet, followed by the seine fleet. In recent years, the number of active food and bait licences has increased substantially, from 120 in 2012 to an average (2018-2022) of 254 active licences. This is almost on par with the average number of active herring seine licences (2018-2022) of 252. In 2016, the criteria for providing access to the food and bait fishery was changed to an equal share for all 252 of the eligible roe herring seine licences. Note that for 2019, 52 of the reported roe herring seine licenses elected to convert to food and bait licenses. The active license counts in other categories has remained relatively stable since 2011.

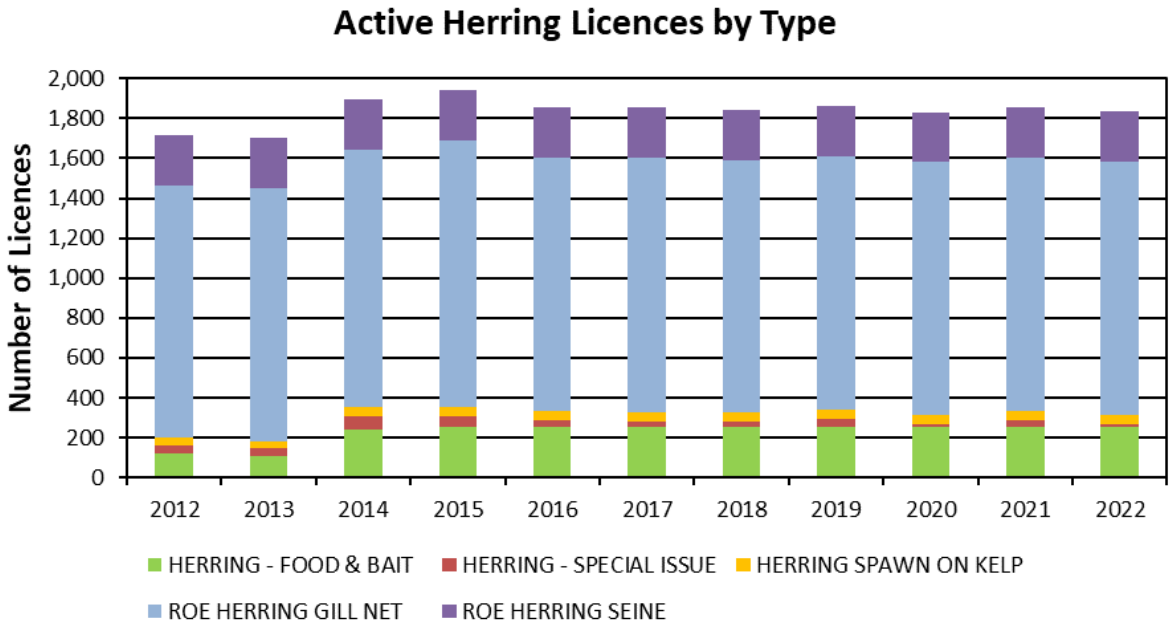

Figure 4. Active herring licences by type, 2011-2022.

Source: Department of Fisheries and Oceans Canada.

4.4.1 Processing Employment Capacity

According to a survey commissioned by DFO to link seafood landings with processing areas and employment, on average the processing of spawn-on-kelp requires 36 hrs/metric ton at a wage of $25/hr. In contrast, the processing of roe herring requires 22 hrs/metric ton at a wage of

$25/hr, and the processing of food and bait herring requires 12.5 hrs/metric ton at a wage of $20/hr.

Based on the landings data reported above, an average of 125 full time equivalent (FTE) jobs[1] were required annually over the years 2018 to 2022 for herring processing and paid wages (on average) of $6.3M/yr, combined. According to a report produced by the province of British Columbia on total processing employment, this accounts for approximately 3.6% of the total annual average fish processing jobs in BC. Processing operations are primarily focused on the production of roe herring products.

Spawn-on-kelp landings, while comparatively low in volume, are landed and processed almost exclusively on the North Coast, while roe herring is landed and processed almost exclusively in the Lower Mainland. Food & bait and special use landings are processed both on Vancouver Island and in the Lower Mainland roughly equally.

[1] Doesn't account for administrative and maintenance jobs required by processing plants.

5 MANAGEMENT ISSUES

The following section highlights a number of ongoing, longer-term issues identified with respect to the management of Pacific Herring. Shorter-term and/or annual management issues are identified in the commercial fishing plans for each fishery (Appendices 7-10).

5.1 First Nations

DFO has received reports that some Indigenous nations have been unable to successfully harvest FSC and treaty allocations in their traditional areas. In addition to pre-season and post-season consultation, catch monitoring and co-management programs are developed in collaboration with some Indigenous communities and organizations to improve DFO's understanding of these fisheries and potential barriers to successful FSC and treaty related fisheries.

Some Indigenous nations have expressed concern regarding the status of herring stocks in some areas. In particular they have indicated that stock abundances may not be able to support FSC access and commercial fisheries while ensuring long-term conservation and sustainability. In that context, continued efforts to consult and collaborate with First Nations (and others) regarding the management approach for Pacific Herring, as well as a broad renewal of the management framework, remain a priority for DFO. For example, the Department has

broadened pre-season and post-season consultation with First Nations to share science and other information for planning purposes.

DFO has proposed in-season management measures to address concerns identified by First Nations regarding levels of herring spawn or herring abundance observed in some areas. These measures are outlined in the applicable fishing plans for Roe (Appendix 7), Food and Bait (Appendix 9), and Special Use (Appendix 10).

5.2 Recreational

There is limited catch information available for the recreational herring sector; however, catch is estimated to be very low.

5.3 Commercial

5.3.1 Roe Herring

Commercial fishing licence renewal fees: Commercial roe herring licence eligibility holders and the Herring Industry Advisory Board (HIAB) have identified lowering commercial licence renewal fees for herring as an urgent issue for the fishery. Specifically, licence eligibility holders have recommended licence renewal fees for BC herring fisheries be adjusted to a more equitable fee structure that aligns with fishing revenue.

Annual fluctuations of coast wide TAC: The Roe herring sector requires relatively stable allocation of herring in order to preserve the market from year to year. Global economics and herring catch fluctuations in other countries impact market considerations, and the profitability of the Roe fishery. The Roe herring sector also requires access to as many fishing areas as possible in order to minimize risk of fishery failure due to timing of spawn events or stock distribution.

Fishery timing: Ensuring that fisheries are timed to optimize roe quality and that product arrives at processing facilities in a time frame that the offloading and processing of catch does not impact the roe quality is challenging for both industry and DFO Fisheries Management, requiring on-grounds Roe quality testing.

In-season management: The dynamic nature of the Roe fishery requires extensive in-season management and cooperation from industry to provide opportunity for quotas to be met and not exceeded. Additionally, the Department has no obligation and provides no assurance or guarantee that the maximum or any amount of fish specified in a licence will be harvested and openings will not be maintained for an indefinite time period. Fishery openings may be spatially and temporally separated to avoid gear conflicts or closed to avoid sensitive areas, for navigational purposes, or to provide access to First Nations to harvest fish or spawn.

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5.3.2 Spawn-on-Kelp

Licence eligibility nomination: The restriction on licence eligibility nominations (non-transferability) in this fishery has been identified as an issue, as some individual fishery participants are no longer able or do not wish to continue to participate in the fishery. There has been renewed interest to resolve this issue and DFO Fisheries Management will undertake work with interested Spawn-on-Kelp licence eligibility holders.

Herring enclosures: The quantity of herring used in a herring enclosure, number of enclosures, disease impacts, mortality estimates, and general enclosure management practices for this fishery require further examination to improve understanding stock and ecosystem impacts.

5.3.3 Food and Bait

Weather: The ability to harvest the vessel quotas may be difficult in a given year, due to the timing of this fishery (November to February) to harvest food and bait quality fish.

Management Measures: Based on the scale of the fishery, the Department has implemented enhanced management measures for proper management and control of harvest. The management controls and measures for this fishery will continue to be assessed, and future management adjustments may be made to address emerging fishery developments.

5.3.4 Special Use

Herring enclosures: The quantity of herring used in a herring enclosure, number of enclosures, disease impacts, and mortality estimates, and general enclosure management practices for this fishery require further examination to ensure that stock and ecosystem impacts are better understood.

5.4 Gear Impacts

5.4.1 Habitat

Under responsible operation, there are minimal environmental impacts from gear types used in the Pacific Herring fishery. During the Roe fishery, efforts are made to conduct fisheries in areas which avoid impact to sensitive spawning habitat, such as eelgrass beds. In the Spawn-on-Kelp fishery, participants are encouraged to avoid local impacts. There is potential for impacts to the benthic habitat in this fishery if poor enclosure husbandry is exercised or if there is large mortality of ponded herring.

5.4.2 Marine Mammals and Seabird Encounters

There is some ecological impact with respect to marine mammal and sea bird encounters, specifically with herring enclosures. Mitigation measures, including use of predator netting, weekly enclosure inspections, and post-season release of ponded herring, are in place.

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Sea lions and other abundant marine mammals continue to be a significant issue in the Roe, Food and Bait, and Special Use seine fisheries. Sea lions (South Coast) and humpback whales (North Coast) are increasingly abundant in important fishing areas. There may be safety concerns as a result of contact with marine mammals. The presence of sea lions also impacts vessel stability and leads to longer set (when the fishing gear is in the water) times which may result in increased chances of herring dying and increases wear on gear. Some fishing areas experience this issue more than others.

5.4.3 Lost and Abandoned Gear

One of the biggest threats to oceans internationally is marine litter, and in particular, ghost fishing gear. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost or otherwise discarded and is some of the most harmful and deadly debris found in oceans. It is estimated that between 5% - 30% of harvestable fish stocks are impacted by ghost gear across the world, posing a major threat to human health and livelihoods as well as to global food security. Additionally, ghost gear can cause large-scale damage to marine ecosystems through habitat disturbance and causes direct harm to the welfare and conservation of marine animals via entanglement and/or ingestion.

In support of international efforts to reduce marine litter, Canada signed the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities. In addition to this commitment, Canada committed to the implementation of the Oceans Plastics Charter; and strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.

These commitments were further strengthened in the Canadian Council of Ministers of the Environment's Canada-Wide Action Plan on Zero Plastic Waste Phase 2 and DFO's recent Minister's Mandate Letters (2021 and 2022), emphasizing the importance of this work to Canadians.

For more information on the Ghost Gear program, visit: https://www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/index-eng.html

5.4.4 Conditions of Licence to Report Lost and Retrieved Gear

All commercial harvesters must report their lost and subsequently retrieved fishing gear. While the Department is taking a stewardship approach to ghost gear, and working with harvesters to reduce the effects of ghost fishing, the inclusion of the reporting requirement in conditions of licence does mean that not reporting lost and/or retrieved gear is now a chargeable offence.

Lost gear can be reported through the online Fishing Gear Reporting System, available at: https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html

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

5.5 Annual Science Assessment Program

Larocque-relief funding was utilized from 2006 to 2013 to fund the spawn assessment surveys, test fishing and co-management to provide data from spawn measurements and collection of biological samples for stock assessment and forecasting purposes. Amendments to Section 10 of the *Fisheries Act* grant the Minister the authority to allocate fish for the purpose of funding science and fisheries management activities.

DFO Fisheries Management and Science will continue to work with partners to assess options for a stock assessment program that is affordable. For 2024, a funding strategy has been identified to support stock assessment activities at similar levels to recent years.

5.6 Aquaculture

DFO is the lead federal department for sustainable management of fisheries and aquaculture. Under the *Fisheries Act*, *Pacific Aquaculture Regulations*, *Aquaculture Activities Regulations* and *Fishery (General) Regulations*, DFO regulates finfish, shellfish and freshwater/land-based aquaculture operations in BC. Cultivation of fish within the province requires a federal aquaculture licence issued under the *Pacific Aquaculture Regulations*, and, where applicable, a federal *Canadian Navigable Waters Act* permit and a provincial Crown Lands tenure. Other government agency approvals may also be necessary.

Applications currently under review by the Department are available on the DFO website at: .

To view the Pacific Aquaculture Regulations: http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-270/FullText.html

As part of the aquaculture regulatory framework in British Columbia, DFO has developed Integrated Management of Aquaculture Plans (IMAPs). IMAPs are modelled after Integrated Fisheries Management Plans, which are used to govern wild harvest fisheries. Consultations with First Nations, interested parties, and stakeholders were and continue to be important to the IMAP process, allowing for the integration of advice, as well as environmental and social interests, into the management objectives for each aquaculture sector.

For further information refer to the following web link: http://www.dfo-mpo.gc.ca/aquaculture/aquaculture-eng.html.

DFO conducts aquaculture assessments on applications for licensing of new or proposed amendments to aquaculture sites. As part of the aquaculture application assessment process, the implications for other existing fisheries, any potential stock conservation concerns and ecosystem impacts will be carefully considered by the department. The Integrated Management of Aquaculture Plans (IMAPs) help to guide the management of aquaculture in BC. Consultation information relating to these plans is available at: http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html. DFO has also established Aquaculture Management Advisory Committees, which provide feedback related to the use and evolution of IMAPs.

Stakeholders have requested information on the application process as it relates to development of sites in the Baynes Sound area, which is a primary location for herring fisheries. DFO is currently trialing a two-year pilot project implementing an Area-Based approach in Aquaculture Management. The purpose will be to share information, build relationships and collaboratively develop tools and materials to support pilot area Aquaculture Management. They will consider local area economic, environmental, social and cultural values, and make collaborative recommendations to decision makers.

Human Waste Containment Regulations Disposal of human waste into waters where shellfish are harvested or adjacent to shellfish harvest areas creates unnecessary and potentially serious health risks for shellfish consumers. In accordance with the Canadian Shellfish Sanitation Program (CSSP) and Regulations administered by Transport Canada, raw sewage (Human wastes, sewage or refuse) shall not be discharged from vessels while in or adjacent to shellfish areas. Vessels operating at a distance which does not allow for timely access to on-shore washroom facilities are expected to have a designated human waste receptacle on board. Receptacles could include a portable toilet, a fixed toilet, or other containment device as appropriate. Such devices must be made of impervious, cleanable materials and have a tight-fitting lid. (Refer to Division 4, Transport Canada's Vessel Pollution and Dangerous Chemicals Regulations under the *Canada Shipping Act*):

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

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

5.7 Other Species Concerns

5.7.1 Species at Risk Act

Encounters with SARA-listed species (e.g. Steller Sea Lion) and other marine mammals and seabirds may occur in herring fisheries. 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.

The *Species at Risk Act* (SARA) came into force in 2003 "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."

SARA contains several prohibitions to protect species listed on Schedule 1 of SARA. Under sections 32 and 33 of SARA, it is an offence to: 1) kill, harm, harass, capture or take an individual of a wildlife species listed as extirpated, endangered or threatened under SARA; 2) possess, collect, buy, sell or trade an individual (or any part or derivative of such an individual) of a wildlife species listed as extirpated, endangered or threatened under SARA; and 3) damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered or threatened species, or that is listed as an extirpated species if a recovery strategy has recommended its reintroduction into the wild in Canada. 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. Species listed as special concern are not included in these prohibitions. Section 58(1) contains provisions to prohibit the destruction of any part of the critical habitat of listed endangered or threatened species or of any listed extirpated species if a recovery strategy has recommended the reintroduction of the species in the wild in Canada. Critical habitat is the habitat necessary for the survival or recovery of a listed wildlife species and is identified in the recovery strategy or an action plan for the species.

Please visit the Species at Risk Public Registry for the most up to date list of aquatic species that are currently listed under the Species at Risk Act, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) status reports and associated recovery documents.

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

1. Basking Shark, Pacific population - Endangered
2. Blue Whale, Pacific population – Endangered
3. Bluntnose Sixgill Shark – Special Concern

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

COSEWIC was formed in 1977 to provide Canadians with a single, scientifically sound classification of wildlife species at risk of extinction. COSEWIC began its assessments in 1978 and has met each year since then to review information collected to assess wildlife species. With the proclamation of SARA, COSEWIC has been established as an independent advisory panel responsible for identifying and assessing wildlife species considered to be in danger of disappearing in Canada. The assessments are carried out in accordance with section 15 of SARA, which, among other provisions, requires COSEWIC to determine the status of species it considers and to identify existing and potential threats. This is the first step towards protecting wildlife species at risk. Subsequent steps include COSEWIC reporting its results to the Canadian government and the public, and the Minister of Environment and Climate Change's official response to the assessment results. Wildlife species that have been designated by COSEWIC may then qualify for legal protection and recovery under SARA.

Additional marine species, including marine or anadromous species of fish designated by COSEWIC that are currently under consideration for listing under SARA include:

- Bocaccio Rockfish – Endangered
- Darkblotched Rockfish – Special Concern
- Quillback Rockfish – Threatened
- Yelloweye Rockfish, Outside Population – Threatened (currently listed as Special Concern)
- Yelloweye Rockfish, Inside Population – Threatened (currently listed as Special Concern)

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

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- Middle Fraser, Stream, Spring (MFR+GStr) population – Threatened
- Middle Fraser, Stream, Spring population – Endangered
- North Thompson, Stream, Spring population – Endangered
- North Thompson, Stream, Summer population – Endangered
- South Thompson, Stream, Summer 1.2 population – Endangered
- Upper Fraser, Stream, Spring population – Endangered
- Southern Mainland-Boundary Bay, Ocean, Fall population – Threatened
- South Thompson, Stream, Summer 1.3 population - Endangered
- Lower Thompson, Stream, Spring population - Endangered
- East Vancouver Island, Ocean, Summer population - Endangered
- East Vancouver Island, Ocean, Fall population – Special Concern
- West Vancouver Island, Ocean, Fall (South) population - Threatened
- West Vancouver Island, Ocean, Fall (Nootka & Kyuquot) population - Threatened

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

A sturgeon species identification guide can be found here: https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/identify-identifier-eng.html

5.7.2 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. In Canadian waters, the primary threats to shark species have been identified as bycatch and entanglement. In order to address 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, Bluntnose Sixgill, Tope Shark, and other Canadian Pacific shark species resulting from entanglement and bycatch in commercial and recreational fisheries, and aquaculture. These guidelines include boat handling procedures during visual encounters with Basking Sharks, and best practices for handling Canadian Pacific shark species during entanglement encounters.

These documents have been posted online and can be found at the following URL links.

Code of conduct for sharks: https://dfo-mpo.gc.ca/species-especes/publications/sharks/coc/coc-sharks/index-eng.html

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Code of conduct for Basking Sharks: https://dfo-mpo.gc.ca/species-especes/publications/sharks/coc/coc-basking/index-eng.html

5.7.3 Marine Mammals

To address conservation concerns with marine mammals it is important that measures are taken to reduce the harm to and mortality of marine mammals resulting from primary threats they face, including those that may be associated with fishing activity, as well as to improve data quality of any interactions. As such, commercial fishing licenses have been amended to include a Condition of License for Marine Mammals that specify mitigation measures and reporting requirements. This includes mandatory reporting of all interactions with marine mammals, prohibition to disturb marine mammals and requirement for minimum approach distances to marine mammals as set out under the Marine Mammal Regulations.

5.7.4 Whale, Turtle and Basking Shark Incident and Sighting Reports

Incident Reporting

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

1-800-465-4336 OR VHF CHANNEL 16

What to report:

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

Best practices to reduce entanglement and reporting an incident: Keeping whales free from fishing gear | Pacific Region | Fisheries and Oceans Canada (dfo-mpo.gc.ca).

Sighting Reporting

The Department appreciates your assistance in tracking the sightings of live cetaceans (whales, dolphins and porpoises), sea turtles and Basking Sharks. While there are many whale species

found in Pacific Canadian waters, sightings of Basking Shark and Leatherback Sea Turtles are infrequent. The collection of sighting data is useful to scientists in determining population size and species distribution and aids in recovery efforts under the Species at Risk Act (SARA).

To report whale or turtle sightings contact the BC Cetacean Sighting Network:
Toll free: 1.866.I.SAW.ONE (1-866-472-9663)
Email: sightings@ocean.org
Website: http://wildwhales.org/
App : WhaleReport

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

Toll free: 1-877-50-SHARK (1-877-507-4275)
Email: Sharks@dfo-mpo.gc.ca
Website: www.pac.dfo-mpo.gc.ca/SharkSightings
Species identification guides for Sharks are available at https://waves-vagues.dfo-mpo.gc.ca/Library/40757067.pdf

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

River Otters: https://wildwhales.org/wp-content/uploads/2020/05/BCCSN_IDGuide_Otters_vertical_4.pdf

5.7.5 Depredation

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

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

The most important approach to prevent this from spreading is by NOT feeding whales directly or indirectly and not hauling gear in the vicinity of killer whales and sperm whales. It is prohibited to approach marine mammals to feed or attempt to feed them under s.7 of the Marine Mammal Regulations. Typically killer whales pass quickly through an area allowing

fishing to resume. It is also recommended that you advise other fish harvesters in the area if you encounter depredation. Additional tips on avoiding depredation events can be found in the DFO Marine Mammal Bulletin #2: Depredation by whales (dfo-mpo.gc.ca)

A useful depredation handout can be found at the BC Cetacean Sightings Network website: https://wildwhales.org/threats/depredation/
If you experience depredation by whales, please report the incident by email Mammals.Marine@dfo-mpo.gc.ca, or by calling 1-800-465-4336 or by reporting accidental contact through the marine mammal interaction from: Fish-Harvester-Form-Eng.pdf (dfo-mpo.gc.ca). Reporting all incidents will assist DFO mangers and fish harvesters in understanding this problem and help in developing strategies.

5.7.6 Resident Killer Whale

Two distinct populations of Resident Killer Whales, known as the Northern and Southern Residents, occupy the waters off the west coast of British Columbia. Northern Resident Killer Whales are listed as Threatened and Southern Resident Killer Whales are listed as Endangered on Schedule 1 of the *Species at Risk Act* (SARA). Broad strategies for recovery are identified in the Recovery Strategy for the Northern and Southern Resident Killer Whales (*Orcinus orca*) in Canada (hereafter referred to as the "Recovery Strategy"), which was finalized in March 2008, and amended in 2011 and 2018 to include amendments to the critical habitat section. The Recovery Strategy also identifies key threats to Resident Killer Whales as (1) reduced prey availability, (2) physical and acoustic disturbance, and (3) environmental contaminants along with an additional emerging threat of vessel strikes. It can be viewed at: https://sararegistry.gc.ca/virtual_sara/files/plans/Rs-ResidentKillerWhale-v00-2018dec-Eng.pdf.

Critical habitat and its associated functions, features, and attributes have been identified for both populations in the Recovery Strategy, and are protected from destruction through Critical Habitat Orders made under SARA sections 58(4) and (5). The update to the Recovery Strategy in 2018 resulted in the identification and protection of two additional areas of critical habitat: the waters on the continental shelf off southwestern Vancouver Island, including Swiftsure and La Pérouse Banks (important for both Northern and Southern Resident Killer Whales), and the waters of west Dixon Entrance, along the north coast of Graham Island from Langara to Rose Spit (important for Northern Resident Killer Whales). The *Action Plan for Northern and Southern Resident Killer Whale* (Orcinus orca*) in Canada* (DFO 2017) supports the strategic direction set out in the Recovery Strategy, and outlines measures that provide the best chance of achieving the recovery goal for the species, including the measures to be taken to address the threats and monitor the recovery of the species.

The *Fisheries Act* provides for the protection and conservation of fish and prohibits the harmful alteration, disruption or destruction of fish habitat. The Marine Mammal Regulations, which are made under the *Fisheries Act*, prohibits the disturbance of marine mammals such as Killer Whales. The *Species at Risk Act* (SARA) contains prohibitions against the killing, harming,

harassing, capturing, taking, possessing, collecting, buying, selling or trading of individuals of endangered, threatened and extirpated species listed in Schedule 1 of the Act, including Killer Whales.

Applications for works, undertakings or activities in fish habitat, including habitats designated as critical habitat under SARA, are reviewed to ensure suitable avoidance and mitigation measures are incorporated to protect fish and fish habitat, Species at Risk, their residences and critical habitat.

Monitoring is carried out to confirm compliance with regulatory instruments and conformity with advice. Non-compliance may lead to charges under the *Fisheries Act*, Marine Mammal Regulations, and/or the SARA.

Guidelines for marine mammal viewing have also been developed. To avoid disturbing Killer Whales and other marine mammals, all vessel operators, including fish harvesters, are advised to follow the Be Whale Wise (BWW): Marine Wildlife Guidelines for Boaters, Paddlers and Viewers, which are available from local Fishery Offices or on-line at: https://www.bewhalewise.org/marine-wildlife-guidelines/.

5.7.1.1 Key Threat: Reduced Prey Availability

Northern and Southern Resident Killer Whales feed primarily on salmon. The seasonal distribution and movement patterns of Resident Killer Whales are strongly associated with the availability of their preferred prey, Chinook salmon (Oncorhynchus tshawytscha), and secondarily, Chum salmon (O. keta) during summer and fall. There is less known about the winter and spring diet and winter distribution of Resident Killer Whales, but recent and ongoing research continues to further our understanding and provide more information about the principal threats facing the population.
DFO and other researchers continue to advance new scientific information and analyses regarding the ecology of Resident Killer Whales. Much of this new information focuses on their feeding habits and preference for Chinook salmon, particularly in the Salish Sea with southern BC Chinook stocks experiencing poor returns in recent years.

5.7.1.2 Key Threat: Environmental Contaminants

There are numerous chemical and biological pollutants that may directly or indirectly impact Resident Killer Whales, ranging from persistent organic pollutants to antibiotic resistant bacteria and exotic species. Recent studies indicate Resident Killer Whales have high levels of some contaminants with males having the highest levels, including polychlorinated biphenyls (PCBs) and certain fire-retardant persistent organic pollutants which have been banned in Canada. Canadian and US researchers continue to monitor the health of the Resident Killer Whale populations.

5.7.1.3 Key Threat: Physical and Acoustic Disturbance

All cetaceans, including Resident Killer Whales, have been subjected to increasing amounts of disturbance from vessels, aircraft and other anthropogenic noise in recent years. This includes chronic noise from shipping, and acute noise from industrial activities such as dredging, pile driving, and construction, as well as seismic testing, military sonar, and other vessel use of low and mid-frequency sonars. Physical and/or acoustic disturbance can affect Resident Killer Whales at both the individual and population level, and research is ongoing to further determine the short and longer-term impacts of disturbance to individuals and their populations.

5.7.7 Southern Resident Killer Whales – Management Measures to Address Reduced Prey Availability, and Physical and Acoustic Disturbance

The Government of Canada is taking important steps to protect and recover the Southern Resident Killer Whale population, in keeping with direction provided in *Species at Risk Act* (SARA) recovery documents. In May 2018, the Minister of Fisheries and Oceans and Minister of Environment and Climate Change determined the Southern Resident Killer Whale population faces imminent threats to its survival and recovery. Since 2018, the Government of Canada, with input from Indigenous Multi-Nation Group, the Indigenous and Multi-Stakeholder Advisory Group, Technical Working Groups and consultation with Indigenous groups, stakeholders and the public, has implemented a number of measures aimed at increasing prey availability and accessibility for Southern Resident Killer Whales - particularly Chinook salmon—and reducing physical and acoustic disturbance by focusing on protecting key foraging areas within Southern Resident Killer Whale critical habitat. These measures include fishing closures, Interim Sanctuary Zones (i.e. no go zones), Speed Restricted Zones for vessels, vessel approach distances and a number of voluntary measures in the presence of killer whales.

For the 2024 fishing season, the Department is working with Indigenous groups and stakeholders to inform potential changes for 2024. The Department intends for actions for the 2024 season be implemented to coincide with the return of Southern Resident Killer Whales in typically greater numbers to Canadian Pacific waters. For up-to-date information regarding the Southern Resident Killer Whale management measures, please visit: https://www.canada.ca/southern-resident-killer-whales.

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

- Stop fishing (do not haul gear) within 1,000 metres of killer whales and let them pass;
- Reduce speed to less than 7 knots when within 1000m of the nearest marine mammal
- When safe to do so, turn off echo sounders and fish finders
- Place engine in neutral idle and allow animals to pass if your vessel is not in compliance with the

approach distance regulations

- For more information on the best ways to help whales while on the water, when on both sides of the border, please visit: bewhalewise.org

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

5.7.8 Marine Mammal Protection Act

U.S. Marine Mammal Protection Act Fish and Fish Product Import Provisions

In 2016, the U.S. published new regulations (80 FR 54390) pursuant to the Marine Mammal Protection Act (MMPA) which focus on the reduction of marine mammal bycatch in foreign commercial fishing operations. Under these regulations, harvesting nations intending to continue to export fish and fish products to the U.S. after January 1, 2024, had to apply to the U.S. National Oceanic and Atmospheric Administration (NOAA) for a comparability finding for each of its commercial fisheries listed in the 2020 U.S. List of Foreign Fisheries. Harvesting nations must demonstrate: 1) the prohibition of intentional mortality or serious injury of marine mammals in the course of commercial fishing operations; and 2) the implementation of a regulatory program comparable in effectiveness to the U.S., including mandatory reporting of marine mammal bycatch, monitoring programs and management/mitigation measures where appropriate.

Depending on information provided, foreign commercial fisheries that export fish and fish products to the United States can be classified as either "export" or "exempt" based on the frequency and likelihood of incidental mortality and serious injury of marine mammals. On October 8, 2020, the 2020 U.S. List of Foreign Fisheries was published on the NOAA public registry. For the Pacific Region, all Herring Gillnet and Entangling net fisheries are classified as *Export* (LOFF pg.64), and all Herring Purse Seine and Hoop net fisheries are classified as *Exempt* (LOFF pg.28, 32, 49).

On October 20, 2022, NOAA extended the exemption period under the U.S. MMPA Fish and Fish Product Import Provisions to December 31, 2023. NOAA continues to review and evaluate comparability finding applications towards making its final determinations, which will be published by November 30, 2023, for this cycle of comparability finding applications. NOAA will notify harvesting nations in advance of the publication in the event that a fishery is denied a comparability finding. These comparability findings are important because they ensure that foreign nations' bycatch programs meet U.S. standards as a condition to allow import of the fish and fish products from these fisheries.

DFO will continue to share information about the U.S. Marine Mammal Protection Act Fish and Fish Product Import Provisions and the process for ensuring continued access to US markets.

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Further information can be found on the NOAA website, or by contacting the Regional Fisheries Coordinator or the DFO Marine Mammal Unit (MMU) Mammals.Marine@dfo-mpo.gc.ca.

5.7.9 Marine Mammal Regulations

The *Marine Mammal Regulations* provide direction on conservation and protection of marine mammals, provide guidance for recovery of Endangered Species under the *Species at Risk Act*, and set out provisions related to reducing human disturbance of marine mammals (e.g. viewing of marine mammals) and mandatory reporting requirements in the case there is accidental contact with a marine mammal and a vessel or fishing gear. These regulations were amended in 2018 and now specify mandatory requirements to reduce disturbance of marine mammals.

As per section 7(2) of the Marine Mammal Regulations, disturbance is defined as a number of human actions including:

- Feeding, swimming or interacting with a marine mammal.
- Moving a marine mammal (or enticing/causing it to move).
- Separating a marine mammal from its group or going between it and a calf.
- Trapping a marine mammal or a group either between a vessel and the shore, or between a vessel and other vessels.
- Tagging or marking a marine mammal.

Boats are required to maintain a minimum approach distance of 100 metres for whales, dolphins or porpoises, 200 metres when whales, dolphins or porpoises are in a resting position or with a calf, and 200 metres from all Killer Whales in Pacific Canadian waters except when in southern BC coastal waters which has an increased approach distance in support of Southern Resident Killer Whale recovery. Please visit the Southern Resident Killer Whale management measures website for more information on the management measures: https://www.canada.ca/southern-resident-killer-whales

Any operator of a vessel or fishing gear involved in accidental contact with a marine mammal must notify DFO of the incident, as per section 39 of the Marine Mammal Regulations. Incident reporting includes:

- Reporting an injured, stranded, entangled or dead marine mammal to the BC Marine Mammal Response Network (Observe, Record, Report) 1-800-465-4336.
- Reporting as bycatch in a log book
- Reporting accidental contact through the marine mammal interaction form
- Depredation reporting to DFO by email at Mammals.Marine@dfo-mpo.gc.ca, by calling 1-800-465-4336 or reporting accidental contact through the marine mammal interaction form.

Please note, incidents involving abuse or harassment of a marine mammal should be reported as a fisheries violation, while injured, stranded, entangled or dead marine mammals should be reported to the BC Marine Mammal Response Network to enable a response if appropriate.

For more information on safe boating behavior around whales please visit: Watching Marine Mammals and Be Whale Wise or by contacting your regional fisheries coordinator or the DFO Marine Mammal Unit (MMU) (Mammals.Marine@dfo-mpo.gc.ca)

5.8 Oceans and Habitat Considerations

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

Canada's Marine and Coastal Areas Conservation Mandate

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

More information is available online for:
Canada's marine conservation targets: https://www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html

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

Marine Protected and Conserved Areas

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

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

For more information see relevant legislation:

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

An overview map of federal marine conservation initiatives in Pacific region is provided in Figure 5, followed by a table outlining relevant details by initiative – both established and in progress. Many initiatives are types of marine protected areas (MPAs) or marine refuges (OECMs). See site-specific regulations and management plans for any restrictions on activities, or fisheries notices where applicable.

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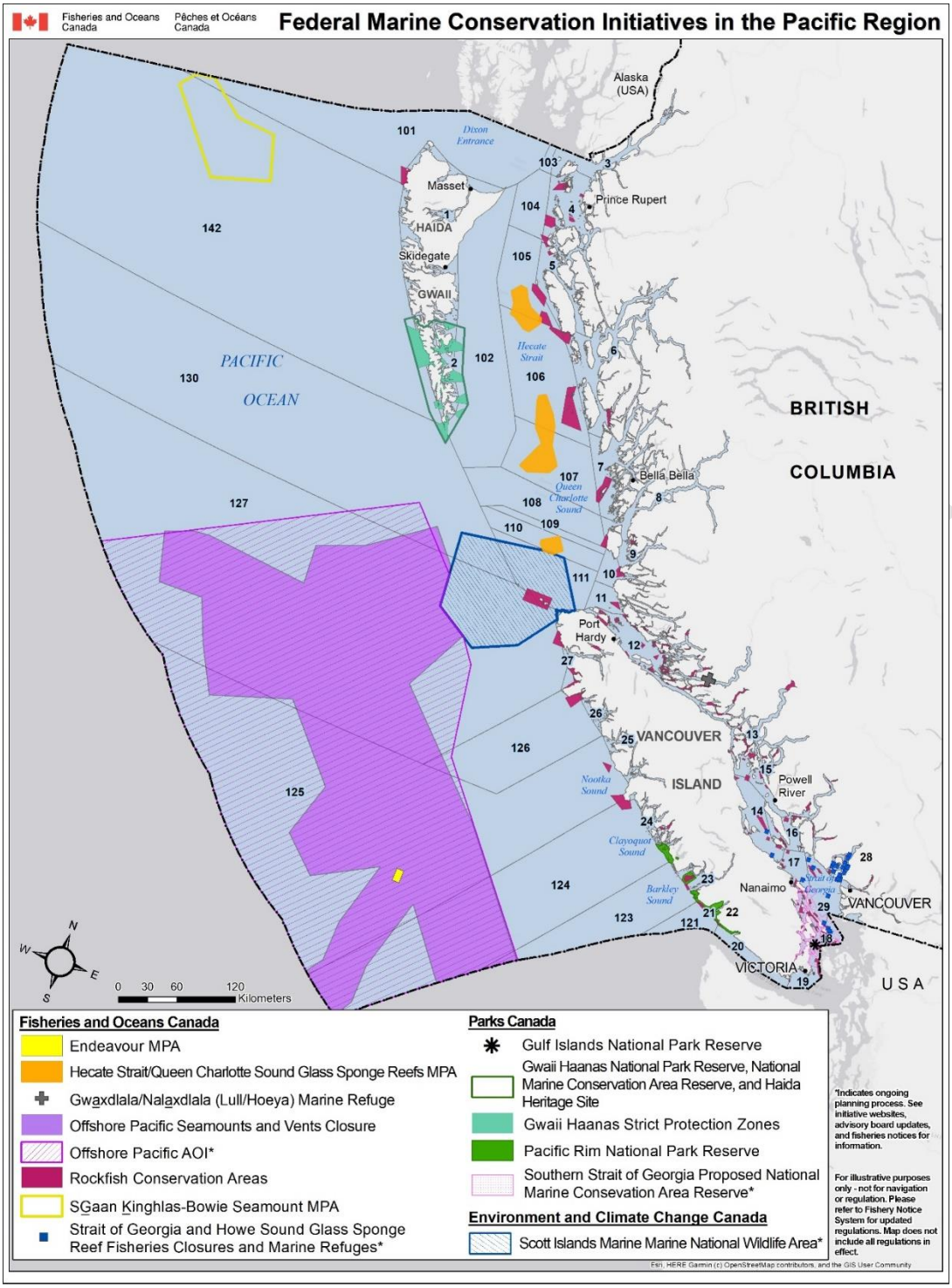

Figure 5. Pacific Fisheries Management Areas and Federal Marine Conservation Initiatives and Closures

Table 1. Overview of Federal Marine Conservation Initiatives in DFO Pacific Region (see Figure 5 map)

Name	Type	Lead	Weblinks	Contact	Fishery Considerations
Fisheries and Oceans Canada, *Ocean's Act* and *Fisheries Act*					
Endeavour Hydrothermal Vents MPA (EHV MPA)	MPA	DFO	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/endeavour/index-eng.html	DFO.OceansPacific-OceansPacifique.MPO@dfo-mpo.gc.ca	See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2003-87/ The EHV MPA is closed to all commercial and recreational fishing activities.
SGaan Kinghlas – Bowie Seamount MPA (SK-B MPA)	MPA	DFO & Council of Haida Nation	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/bowie-eng.html	DFO.OceansPacific-OceansPacifique.MPO@dfo-mpo.gc.ca	See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-124/ The SK-B MPA is closed to all commercial fishing activities. The SK-B MPA is also closed to recreational and FSC bottom-contact fishing activities.
Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs MPA (Hecate MPA)	MPA	DFO	http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/hecate-charlotte/index-eng.html	DFO.OceansPacific-OceansPacifique.MPO@dfo-mpo.gc.ca	See MPA regulations for details: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2017-15/index.html In the Hecate MPA there are 3 different management zone types: **The entire MPA is closed to commercial bottom-contact fishing activities. Core Protection Zones (CPZ) are closed to anchoring and all fishing activities**. Vertical Adaptative Management Zones (VAMZs) and Adaptive Management Zones (AMZs) are closed to some commercial and recreational fishing activities.
Offshore Pacific Area of Interest & Fishery Closure*	Area of Interest for future MPA	DFO	https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/offshore-hauturiere-eng.html.	DFO.OceansPacific-OceansPacifique.MPO@dfo-mpo.gc.ca	Specific details of the Offshore Pacific Seamounts and Vents Closure (Offshore Fishery Closure) can be found in the Fishery Notice FN1241 (2017). All bottom-contact commercial and recreational fishing activities are prohibited.
Strait of Georgia and Howe Sound Glass Sponge Reef Marine Refuges*	Marine Refuges	DFO	https://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/closures-fermetures-eng.html	DFO.PACFMMCT-OCMGPPAC.MPO@dfo-mpo.gc.ca	Specific details of the closures and restrictions on a site-by-site basis can be found in **Fisheries Notices FN0205** (2019), **FN0571** (2015), and **FN0039*** (2022). Prohibited commercial, recreational and Indigenous food, social and

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					ceremonial (FSC) bottom-contact fishing activities include: • prawn and crab by trap • shrimp and groundfish by trawl • groundfish by hook and line • use of downrigger gear in recreational salmon trolling (in select sites via **Condition of Licence**). (Restrictions vary by site)
Rockfish Conservation Areas (RCAs)	RCAs	DFO	https://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.html	DFO.PACFMMCT-OCMGPPAC.MPO@dfo-mpo.gc.ca	There are 162 Rockfish Conservation Areas (RCAs) in British Columbia, covering roughly 4,350km^2 of the Canadian Pacific Coast. These areas are closed to a range of recreational and commercial fisheries to protect inshore rockfish and their habitat. On website, see individual RCAs by area for details.
Gwaxdlala/Nalaxdlala (Lull / Hoeya)	Marine refuge	DFO	Gwaxdlala/Nalaxdlala (Lull/Hoeya) marine refuge (dfo-mpo.gc.ca)	DFO.PACFMMCT-OCMGPPAC.MPO@dfo-mpo.gc.ca	Specific details of the closures and restrictions on a site-by-site basis can be found in Fisheries Notices FN 0118 (2023). The Gwaxdlala/Nalaxdlala (Lull/Hoeya) marine refuge is closed to all fisheries (commercial, recreational and FSC fishing activities).
Parks Canada, *National Marine Conservation Areas Act*					
Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site	NMCAR	Parks Canada	https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas	gwaiihaanas@pc.gc.ca	Refer to Fishery Notice **FN0536** (2019), released June 13, 2019 for a detailed description of the Strict Protection Zones. There is "no extraction or harvesting by anyone of the resources of the lands and non-tidal waters of the Archipelago for or in support of commercial enterprise" (s3.3). Contact the Gwaii Haanas administration office: 1-877-559-8818
Pacific Rim National Park Reserve	National park marine area	Parks Canada	https://www.pc.gc.ca/en/pn-np/bc/pacificrim	Pacrim.info@pc.gc.ca	Park regulations can be found at: https://laws-lois.justice.gc.ca/eng/acts/N-14.01/page-8.html#h-362395
Southern Strait of Georgia National Marine Conservation Area Reserve*	NMCAR	Parks Canada	https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnnmca/dgs-ssg	straitofgeorgianmca@pc.gc.ca	The most up to date information can be found at: https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnnmca/dgs-ssg/savoir-learn

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

Marine Spatial Planning in Canada

Marine Spatial Planning (MSP) is a process for managing ocean spaces to achieve ecological, economic, cultural, and social objectives. It is an internationally recognized and collaborative process that brings together rightsholders, responsible ocean authorities, and stakeholders to better coordinate how we use and manage marine spaces. In general, MSP is adaptive, ecosystem based, integrated, place based, strategic/anticipatory, and participatory In Canada, MSP does not replace regulatory responsibilities of existing authorities, rather through this collaborative process, MSP develops a shared vision, principles, and knowledge base, as well as decision support tools, to make appropriate and evidence based decisions about ocean use and management.

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

Pacific North Coast

MSP in the Pacific North Coast is being undertaken in the Pacific North Coast Integrated Management Area (PNCIMA).

PNCIMA encompasses approximately 102,000km^2 of marine area and occupies approximately two-thirds of the B.C. coast. The boundary of PNCIMA was defined based on a mix of ecological considerations and administrative boundaries. Ecologically, the PNCIMA boundary represents the Northern Shelf Bioregion of the Pacific Ocean. The boundary extends from the base of the continental shelf slope in the west to the coastal watershed in the east (adjacent terrestrial watersheds are not included). North to south, PNCIMA extends from the Canada–U.S. border of Alaska to Brooks Peninsula on northwest Vancouver Island and to Quadra Island in the south.

Pacific North Coast Integrated Management Area (PNCIMA)

The PNCIMA Plan (2017) is the product of a collaborative process led through an oceans governance agreement between the federal, provincial and First Nations governments, and

contributed to by a diverse group of organizations, stakeholders and interested parties. The plan is high level and strategic, and provides direction on and commitment to integrated, ecosystem-based and adaptive management of marine activities and resources in the planning area.

The plan outlines a framework for ecosystem-based management (EBM) for PNCIMA that includes assumptions, principles, goals, objectives and strategies.

Five priorities are identified for short-term implementation of the plan:

- governance arrangements for implementation
- marine protected area network planning
- monitoring and adaptive management
- integrated economic opportunities
- tools to support plan implementation

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

Northern Shelf Bioregion Marine Protected Area Network Planning Process

In February 2023, the Marine Protected Area (MPA) Network Action Plan (NAP) for the Northern Shelf Bioregion (NSB) was endorsed by the trilateral partnership of First Nations, the Province of BC, and Canada. The NAP is a key priority of the PNCIMA Plan and provides a framework for how to achieve an ecologically comprehensive, resilient and representative Network of MPAs in the NSB, and proposes the use of Indigenous, provincial, and federal conservation tools for consideration for potential new protected areas. The proposed MPA Network includes 30,493 km^2 (or about 30%) of the NSB. More than half of this area (about 62%) is comprised of existing MPAs.

Currently, trilateral partners are focused on network coordination and implementation, including establishing governance and development of a network workplan that will focus on monitoring, cumulative effects, reporting and engagement on Network implementation.

The MPA Network Action Plan for the Northern Shelf Bioregion is available online at: https://mpanetwork.ca/nap/

Marine Spatial Planning Southern BC

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

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Key deliverables for the Southern BC MSP process include the Canada Marine Planning Atlas (Pacific), and the Marine Spatial Planning Framework for the Southern BC Planning Area. The framework summarizes the work undertaken to date on the Government of Canada's MSP program in Southern BC and provides guidance on future phases of MSP in Southern BC.

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

5.9 Sustainable Fisheries Framework

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

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

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

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

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

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5.9.1 Precautionary Approach Framework

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

The precautionary approach in fisheries management requires caution when scientific knowledge is uncertain. The absence of adequate scientific information should not result in postponed action or failure to take action to avoid the risk of serious harm to fish stocks or their ecosystem.

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

- identify three stock status zones – Healthy, Cautious, and Critical – delineated by an upper stock reference point and a limit reference point;
- set the removal rate at which fish may be harvested within each stock status zone; and
- adjust the removal rate according to fish stock status (i.e. spawning stock biomass or another index/metric relevant to population productivity), based on pre-agreed decision rules.

The framework requires that a harvest strategy be incorporated into respective fisheries management plans to keep the removal rate moderate when the stock status is in the Healthy Zone, to promote rebuilding when stock status is low, and to ensure a low risk of serious or irreversible harm to the stock.
A key component of the *Precautionary Approach Framework* requires that when a stock has declined to the Critical Zone, a rebuilding plan must be in place with the aim of having a high probability of the stock growing out of the Critical Zone within a reasonable timeframe: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precautionary-precaution-eng.htm

5.9.2 Fisheries Act: Fish Stock Provisions

Amendments to the *Fisheries Act* (Bill C-68) were passed into legislation in 2019 and include new authorities to amend the Fishery (General) Regulations and requirements to maintain major fish stocks at sustainable levels, and to develop and implement rebuilding plans for stocks that have declined to their critical zone. Amendments are available at: https://www.parl.ca/LegisInfo/en/bill/42-1/C-68

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

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

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

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

5.9.4 Fishery Monitoring and Catch Reporting

DFO released the national *Fishery Monitoring Policy* in 2019, which will replace the regional *Strategic Framework for Fisheries Monitoring and Catch Reporting* in the Pacific Fisheries (2012). The national policy seeks to provide dependable, timely and accessible fishery information through application of a common set of steps used to establish fishery monitoring requirements across fisheries. Available at: https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm

The 2012 Pacific *Strategic Framework for Fisheries Monitoring and Catch Reporting* is available at: https://www.pac.dfo-mpo.gc.ca/fm-gp/docs/framework-monitoring-cadre-surveillance-eng.html

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

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

To avoid serious or irreversible harm to sensitive benthic habitat, species and communities and to otherwise address impacts to benthic habitat, communities and species, this policy outlines a five (5) step process. Available at: http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/benthi-eng.htm

5.9.6 Policy on Managing Bycatch

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

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

5.9.7 Policy on New Fisheries for Forage Species

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

5.10 Indigenous Fisheries Programs

5.10.1 Pacific Integrated Commercial Fisheries Initiative (PICFI)

The Pacific Integrated Commercial Fisheries Initiative (PICFI) was announced in 2007 and is aimed at achieving environmentally sustainable and economically viable commercial fisheries, where conservation is the first priority and Indigenous aspirations are supported. The Government of Canada committed $175 million over five years to implement the initiative. PICFI builds on fisheries reform work begun in response to the 2004 reports of the First Nations Panel on Fisheries and the Joint Task Group on Post-treaty Fisheries, as well as subsequent discussions in a wide variety of forums that have confirmed the need for PICFI.

In 2017, it was announced that the Integrated Commercial Fisheries Initiative will receive permanent funding to expand Pacific and Atlantic programs. PICFI currently receives an ongoing $22.05M annually. Commercial Fisheries Enterprises (CFE) receive a notional funding of up to $325K under the Business Development Source (BDS) funding envelope and a notional funding of up to $130K under Capacity Building Support (CBS).

Beginning 2018/2019, a $1.5M Aquaculture Development Source (ADS) funding envelope was launched to support aquaculture projects under PICFI. Beginning in 2018/19, a $4.7M fund over 5 years was initiated for the Indigenous Marine Servicing Initiative (IMSI). The IMSI is administered nationally in collaboration with PICFI to support activities including vessel servicing and marina services.

PICFI works with eligible participants, Indigenous organizations, and other stakeholders to develop outcomes that achieves DFO's intended results of improved outcomes for Indigenous peoples. Six key structures are currently in place to support the delivery of these outcomes These six structures use collaborative methods to support the delivery of the program; these include the Business Management Committee (BDMC), the Business Development team (BDT), Capacity Development & Training advisor, Independent Third Party Evaluator (ITPE), Application Review Committee (ARC), and Special Planning Sessions. This collaborative

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method of delivery contributes to an effective relationship and collaboration with indigenous communities.

The BDMC is co-chaired by a senior DFO official and an executive of a First Nation Organization, and includes other DFO personnel, Indigenous organizations, and program delivery partners to set the direction, provide guidance to the program, and oversee development of the program. ARC, the ITPE, and the BDT operate away from the DFO, limiting direct government involvement, which adds an element of independence to provide transparency to Commercial Fisheries Enterprises and First Nations alike.

PICFI supports 28 Indigenous owned Commercial Fishing Enterprises comprised of 109 member Nations.

More information on PICFI is available at: http://www.pac.dfo-mpo.gc.ca/fm-gp/picfi-ipcip/index-eng.html

5.10.2 Allocation Transfer Program (ATP)

The Allocation Transfer Program (ATP) was created in 1994 under the Aboriginal Fisheries Strategy. Its purpose is to support fisheries-based economic development for First Nations groups in coastal communities by providing opportunities to get more involved in the commercial fishing industry. The program can provide commercial fisheries access to eligible Indigenous groups through a voluntary relinquishment process, where commercial licence holders are offered the opportunity to permanently relinquish licences in exchange for payment. The equivalent commercial fishing capacity is then re-issued to Indigenous groups, so the ATP does not add to the existing effort on the resource. As of 2011, no further federal funding has been budgeted for ATP in the Pacific Region. With the renewal of the PICFI, DFO is focused on supporting Indigenous Commercial Fishing Enterprises (CFEs). ATP will continue as a source of distribution of communal commercial licences. The ATP is considered fully allocated with the exception of some licences and quota that are generally low value, low interest, and/or not economically viable. The Department works on plans to allocate available licences on a temporary or ongoing basis. Once a plan has been approved, eligible groups are informed of the opportunities through a call out process.

Through the PICFI and ATP programs, DFO has acquired a total of 288 roe herring gill net licence eligibilities and 11 roe herring seine licence eligibilities.

More information on ATP is available at: http://www.pac.dfo-mpo.gc.ca/abor-autoc/atp-ptaa-eng.html

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6 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*.

6.1 Indigenous People of British Columbia

DFO is committed to the recognition and implementation of Indigenous and treaty rights related to fisheries, oceans, aquatic habitat, and marine waterways in a manner consistent with section 35 of the *Constitution Act, 1982*, the United Nations Declaration on the Rights of Indigenous Peoples, and the federal Principles Respecting the Government of Canada's Relationship with Indigenous Peoples. DFO-CCG Reconciliation Strategy provides a guidance document to better understand why and how reconciliation informs the work of the Department.

Fish and marine resources (including species like herring) are central to the culture, society, well-being, and economy of First Nations and provide a critical connection to language, traditional knowledge, and health of communities. DFO remains committed to upholding First Nations' constitutionally protected priority right to fish for FSC purposes. This means the FSC allocation, as set out in the AFS, Treaty or Reconciliation agreement, has priority – after conservation – over other users of the resource.

Section 35(1) of the *Constitution Act* recognizes and affirms the existing Aboriginal and Treaty rights of the Aboriginal Peoples in Canada. However, it does not specify the nature or content of the rights that are protected. In 1990, the Supreme Court of Canada issued a landmark ruling in the Sparrow decision which found that the Musqueam First Nation has an Aboriginal right to fish for food, social and ceremonial (FSC) purposes. The Supreme Court found that where an Aboriginal group has a right to fish for FSC purposes, it takes priority, after conservation, over other uses of the resource. The Supreme Court has also indicated the duty to consult with Aboriginal Peoples when their fishing rights might be affected.

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

- Improving relations with First Nations
- Providing a framework for the management of the First Nations fishery in a manner that was consistent with the Supreme Court of Canada's 1990 *Sparrow* decision
- Greater involvement of First Nations in the management of fisheries
- Increased participation in commercial fisheries (Allocation Transfer Program (ATP))

AFS continues to be one of the principal mechanisms – in addition to Treaties and reconciliation agreements - to support the development of relationships with First Nations including the

consultation, planning and implementation of fisheries, and the development of capacity to undertake fisheries management, stock assessment, enhancement and habitat protection programs.

Indigenous harvest of herring for FSC purposes may occur coast wide where authorized by a communal licence. DFO will ensure Indigenous communities have priority access to the resource for FSC purposes, and FSC allocations for each Major Stock Assessment Area are determined through bilateral discussions.

Canada and First Nation Long-term agreements: Treaties and Reconciliation Agreements
Treaties
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. There are also historic treaties in British Columbia (Douglas Treaties and Treaty 8).

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

Since 2019, DFO has released an annual Five Nations Multi-Species Fishery Management Plan (FMP). The FMP provides for a right-based multi-species sale fishery that DFO considers to accommodate the Five Nations' Aboriginal commercial fishing rights. The FMP outlines the Five Nations' fishing opportunities for salmon, groundfish, crab, prawn, Sea Cucumber and Gooseneck Barnacle and the fishery management regime.

The 2023/24 FMP is the fifth Multi-Species FMP developed by DFO since the 2018 BC Supreme Court Order and integrates changes following the 2021 BC Court of Appeal decision. DFO may make further changes in-season and amend the FMP as needed.

DFO and the Five Nations will continue to work together to identify opportunities to harvest additional species and expand the multi-species sale fishery in future years. These opportunities

will be developed, where possible, based on other access that DFO provides the Five Nations outside the FMP.

A PDF version of the 2023/24 FMP is available here.

The Supreme Court of Canada found in its *Gladstone* decision that the Heiltsuk First Nation had an Aboriginal right to commercially fish herring spawn-on-kelp (SOK). The Heiltsuk currently hold nine SOK licences in the Central Coast area. This SOK is harvested using the preferred means of the Heiltsuk, which is open ponding.

Reconciliation Agreements

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

Reconciliation agreements work within the legislative framework of the *Fisheries Act*. The *Act* provides the Minister of Fisheries and Oceans Canada with the legislative authority for the proper management and control of the fisheries, the conservation and protection of fish, and regulation of the fishery.

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

- *Coastal First Nations Fisheries Resource Reconciliation Agreement* between Canada and Metlakatla, Gitxaala, Gitga'at, Kitasoo/Xai-Xais, Nuxalk, Heiltsuk, Wuikinuxv, and Haida Nations, Heiltsuk and Canada *Haíłcístut Incremental House Post Agreement*
- Tsilhqot'in, Canada and BC *Gwet'sen Nilt'I Pathway Agreement*
- A-Tlegay Member Nations (We Wai Kai Nation, Wei Wai Kum First Nation, Kwiakah First Nation, Tlowitsis Nation, and K'ómoks First Nation), Canada *Reconciliation Framework Agreement for Fisheries Resources*

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

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

Information on the Government of Canada work to advance reconciliation can be found here: Reconciliation (rcaanc-cirnac.gc.ca)

6.2 Recreational

Recreational harvest of herring may occur coast wide, and requires a British Columbia Tidal Waters Sport Fishing licence. Herring may be fished for recreational purposes year-round. The daily maximum sport limit for herring is 20 kg, with a two-day possession limit of 40 kg.

6.3 Commercial

The harvest level for herring in each Major and Minor Stock Assessment Area is based on science advice (provided through the CSAS process) and is derived from estimates of annual stock biomass. Science advice is provided in metric tonnes, which are then converted to short tons for fishery planning purposes. After providing for FSC needs, commercial fishery quotas are set and allocations are distributed across the four commercial herring fisheries by the Department, and proposed allocations are discussed with commercial fishery representatives through consultation. The annual distribution of quotas are presented as an expected use table (Appendix 4).

7 MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

This year's stock assessment advice, in the form of a Science Response, includes results from Management Strategy Evaluation (MSE) simulations for all areas. Catch calculations are informed by the management procedures that met the conservation objective of avoiding the limit reference point of 30% of the unfished herring biomass with a high (>75%) probability over 15 years of application. Details on this work is included in section 2.6 and Appendix 3.

The stock assessment advice also includes the probability that the stocks will be below the LRP. Probabilities are used because there is inherent uncertainty in forecasting what the state of the stock will be for this year's fisheries. The Science Response included analysis using only AM2 formulations of the assessment model because AM2 provides lower absolute stock estimates and therefore is well aligned with the Sustainable Fisheries Framework, as it assumes a 'catchability' factor of 1 for the dive survey (assumes all the spawn has been observed rather than estimating that some has not been observed).

Indigenous groups will continue to have priority access for Food, Social, and Ceremonial (FSC) fisheries in all stock areas.

The Department is seeking Feedback on the following harvest options for each area. Harvest options presented in this section are summarized from the harvest options tables provided in the updated stock assessment, summarized in Appendix 3:

HG: Closed to commercial harvest. No MSE tested management procedures could meet the conservation objective of avoiding the LRP, even in the absence of fishing. Stock biomass and growth have been low for almost 20 years. Spawning biomass in 2024 is forecast to be 4,699 short tons (range: 1,796-12,509 tons) and to be below the LRP with a 77% probability in the absence of fishing. As HG herring is now subject to s. 6.2 of the Fish Stocks Provisions, a rebuilding plan is required. The draft rebuilding plan is currently in the approval process; final publication of the plan is anticipated in late 2023/early 2024. To support this work, and in accordance with 70(5) of the *Fishery (General) Regulations*, this area will continue to be closed for the 2023/24 fishing season.

PRD: In this area, stock biomass and growth has remained low but steady, fluctuating around the LRP from around 2005 to 2018 and has recently increased in abundance. Spawning biomass in 2024 is forecast to be 46,843 short tons (range: 24,446–85,484 tons) and to be below the LRP with a 2% probability in the absence of fishing. MSE results show that harvest control rules with harvest rates up to and including 20% will meet the conservation objective over the fifteen year simulation period, with a high degree of certainty.

The median forecast of biomass for this stock in 2024 is projected to be above the USR. Harvest options for consideration for PRD include:

1. No commercial fishery, FSC access only.
2. A 5% harvest rate that uses 0.6B0 as an upper control point – 2,271 ton TAC to support FSC, SOK and roe herring fisheries.
3. A 20% harvest rate that uses 0.6B0 as an upper control point and employs a 2,756 ton (2,500 tonne) cap – 2,756 ton TAC to support FSC, commercial fisheries.
4. A 10% harvest rate that uses 0.6B0 as an upper control point and employs a 2,756 ton (2,500 tonne) cap – 2,756 ton TAC to support FSC and commercial fisheries.
5. A 10% harvest rate, minimum escapement rule – 4,534 ton TAC to support FSC and commercial fisheries.
6. A 10% harvest rate, minimum escapement rule - – 4,685 ton TAC to support FSC and commercial fisheries.
7. A 20% harvest rate, minimum escapement rule – 8,830 ton TAC to support FSC and commercial fisheries.

CC: This stock showed an increase in spawning biomass from a low in the late 2000s through to 2019, and has since decreased for the last three years . Spawning biomass in 2024 is forecast to be 17,889 short tons (range: 9,287-36,232 tons) and to be below the LRP with a 41% probability in the absence of fishing. In the CC area, harvest rates up to 10% meet the conservation objective in the MSE analysis over the 15 year simulation period. Harvest control rules with higher harvest rates have not been tested in the CC area.

The median forecast for the CC stock in 2024 is projected to be below the USR. Harvest options for consideration include:

1. No commercial fishery, FSC access only.
2. A harvest rate of up to 10 per cent to provide TAC to support FSC and commercial SOK fisheries only.

SOG: Spawning biomass in the SOG for 2024 is forecast to be 80,882 tons (range: 44,040- 146,621 tons) and below the LRP with an 20% probability in the absence of fishing. The SOG area has the largest biomass of all the major stock assessment areas. The median forecast of 2024 biomass is projected to be above the USR. Harvest control rules using harvest rates up to 15% continue to meet the conservation objective in the updated MSE analysis over the 15 year simulation period. Performance of harvest control rules in MSE simulations has been shown to be significantly influenced by natural mortality and spawn index values in the last 3 to 5 years. In the SOG, the most recent model estimates of natural mortality suggest an increasing trend while spawn index values have been variable which results in reduced performance of all harvest control rules in the simulation analysis.

Harvest Options for the SOG area include:

1. No commercial fishery, FSC access only.
2. A 10% harvest rate that uses 0.6B0 as an upper control point – 5,908 ton TAC to support FSC, and commercial fisheries.
3. A 10% harvest rate, minimum escapement rule – 8,058 ton TAC to support FSC, and commercial fisheries.
4. A 15% harvest rate that uses 0.6B0 as an upper control point – 8,874 ton TAC to support FSC commercial fisheries.
5. A 20% harvest rate that uses 0.6B0 as an upper control point – 11,828 ton TAC to support FSC and commercial fisheries.
6. A 15% harvest rate, minimum escapement rule – 12,081 ton TAC to support FSC and commercial fisheries.
7. A 20% harvest rate, minimum escapement rule – 16,083 ton TAC to support FSC and commercial fisheries.

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SOK commercial fisheries do not occur in the SOG.

WCVI: The WCVI stock persisted in a low biomass, low productivity state from approximately 2004 to 2014. In recent years there has been a slow increasing trend, with a large increase in spawning biomass in 2023, as well as improved performance in the MSE simulations. The spawning biomass in 2024 is forecast to be 41,244 short tons (range: 22,119-75,185 tons) and below the LRP with a 15% probability in the absence of fishing. MSE results show that harvest control rules with harvest rates up to and including 15% meet the conservation objective over the fifteen year simulation period, with a high degree of certainty.

The median forecast of biomass for this stock in 2024 is projected to be above the USR. Harvest options for consideration for WCVI include:

1. No commercial fishery, FSC access only.
2. A 10% harvest rate that uses 0.6B0 as an upper control point and employs a 2,205 ton (2,000 tonne) cap – 2,205 ton TAC to support FSC and commercial fisheries.
3. A 5% harvest rate, minimum escapement rule – 2,061 ton TAC to support FSC and commercial fisheries.
4. A 10% harvest rate that uses 0.6B0 as an upper control point – 4,112 ton TAC to support FSC and commercial fisheries.
5. A 15% harvest rate that uses 0.6B0 as an upper control point and employs a 2,205 ton (2,000 tonne) cap – 2,205 ton TAC to support FSC and commercial fisheries.
6. A 15% harvest rate that uses 0.6B0 as an upper control point – 6,173 ton TAC to support FSC and commercial fisheries.
7. A 10% harvest rate, minimum escapement rule – 4,123 ton TAC to support FSC and commercial fisheries.

Minor Stocks and Special Areas:

Area 2 West: The spawn index for 2023 is 1,313 tons. As per the recommended Haida Gwaii Rebuilding Plan management actions, SOK harvest only, up to a maximum of a 10% harvest rate may be considered for this area.

Area 27: The spawn index for 2023 is 14,893 tons. There are three SOK licences assigned to the area in total.

Area 10: On-grounds observations indicate very little spawn was observed in 2023. There are three SOK licences assigned to the area in total.

Area 12: On-grounds observations indicate higher than average spawn in portions of area 12 was observed in 2023. There is one SOK licence assigned to the area in total.

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See Appendix 5 to 10 for information regarding the Aboriginal Fishing Plan, Recreational Fishing Plan, and Commercial Fishing Plans for each commercial herring fishery, including:

- Total Allowable Catch (TAC);
- Fishing Seasons/Areas;
- Closed Areas;
- Control and Monitoring of Removals;
- Decision Rules;
- Licensing; and
- Fishery Monitoring Programs.

8 SHARED STEWARDSHIP ARRANGEMENTS

Indigenous groups and stakeholders work closely with Fisheries Management staff in pre-season, in-season, and post-season processes, providing expert knowledge and specialized experience to inform management decisions and cooperatively develop solutions to management issues. Some examples include:

The Gina 'Waadluxan KilGuhlGa Land-Sea-People Management Plan was signed and approved in November, 2018. Gwaii Haanas is managed cooperatively by the Haida Nation and the Government of Canada through the Archipelago Management Board (AMB). This one-of-a-kind management plan includes a single integrated vision for Gwaii Haanas, as well as principles to guide the AMB in how they manage this globally renowned protected area. More information on this plan can be found at: https://www.pc.gc.ca/en/pn-np/bc/gwaiihaanas/info/consultations

Additionally, development of a rebuilding plan for Haida Gwaii herring has been undertaken by a DFO-Council of Haida Nation-Parks Canada Technical Working Group. The draft rebuilding plan was released for consultation in Fall, 2022, and is expected to be finalized in late 2023/early 2024.

On March 31, 2015, Heiltsuk and DFO signed a Letter of Understanding (LOU) committing to the development of a Joint Management Plan (JMP) for each herring fishery season in the Central Coast, which, if agreed to, reflects management decisions for that season. When developed, a 2023-24 JMP may be provided by representatives.

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9 OBJECTIVES

9.1 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

9.2 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.

9.3 Pacific Herring Resource Management

Objectives for Pacific Herring Resource Management include stock conservation, First Nations access to FSC fish, monitoring and research of ecosystem processes, sustainable harvest and economic considerations, renewal of the management framework, and transparent and open consultation processes. More detail is outlined below.

9.3.1 Stock Conservation

The biological objective is to conserve and protect Pacific Herring stocks.

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9.3.2 Access for Indigenous People

DFO will continue to work collaboratively with Indigenous communities to provide priority opportunities to harvest fish for food, social, and ceremonial (FSC) purposes, in a manner consistent with the *Sparrow* Decision (SCC 1990) and for treaty and Indigenous commercial fisheries.

For more information see Appendix 5 or visit: http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.html

9.3.3 Ecosystem Processes

The ecosystem objective is to manage ecosystem impacts to Pacific Herring using the best available science, Indigenous traditional knowledge/traditional ecological knowledge (ITK/TEK), and through application of the precautionary approach and comprehensive monitoring of Pacific Herring fisheries.

9.3.4 Sustainable Harvest and Economic Opportunities

DFO will work collaboratively with commercial fishery participants to:

- Provide reasonable fishing opportunities in a manner that ensures long-term sustainability of the resource, through the application of decision rules and management measures.
- Monitor fish stocks and fish harvest to allow for sustainable management decisions and improve knowledge of the stock.

DFO will continue to provide opportunities for a recreational fishery for Pacific Herring. For more information, see Appendix 6.

9.3.5 Renewal of the Management Framework for Pacific Herring

In 2015, DFO initiated the Pacific Herring Renewal (PHR) initiative in order to renew the current management framework for Pacific Herring and better align with the Sustainable Fisheries Framework. The PHR is comprised of three main elements: (1) Renewal of the Management Framework, (2) Fisheries Management Reforms, and (3) Survey Program Review.

The Department's objectives undertaking this process are to provide transparent decision making, and choose the best performing management procedures for Pacific Herring. Additionally, the Department aims to facilitate collaboration, as well as fulfill many of the other objectives listed in section 8.3, including sustainable harvest, Indigenous FSC access, and economic opportunities.

More detail on this initiative and progress to date is provided in Sections 2.6 and 2.7.

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9.3.6 Consultation

An open and transparent consultation process will be maintained for management issues related to Pacific Herring, including the annual development of an IFMP and long-term planning of the fishery with Indigenous groups and stakeholders.

9.3.7 Compliance

Key priorities for the Pacific Herring fishery for DFO Conservation and Protection are:

- Ensure fisheries are carried out in an orderly manner and in compliance with legislation and licence conditions.
- Ensure compliance with the herring fishery monitoring programs.
- Provide regular reports on enforcement and compliance for this fishery through the Record of Management Strategies report (RMS), the Fisheries Enforcement Activity Tracking System (FEATS), and through the Departmental Violation System (DVS).

For more information, see Appendix 11.

10 PERFORMANCE/EVALUATION CRITERIA

10.1 National

- Pacific Herring conservation objectives are met such that fisheries and ecosystems are healthy and productive.
- Ensure harvest opportunities 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.

10.2 Pacific Region

- Execution of the Pacific Herring fisheries in accordance with the requirements outlined in the IFMP.
- Monitoring programs provide accurate information on catch and effort and is designed to provide information necessary for effective management of the herring resource. This includes ensuring the required level of fisheries monitoring to support the fishery and conservation objectives.
- Proper controls in place for management and control of the fisheries and the conservation and protection of fish.
- Engagement with First Nations and stakeholders for informed management decisions and cooperatively developed solutions to issues related to management of Pacific Herring fisheries.

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- Review of progress on renewal of the herring management framework through a collaborative process.

10.3 Pacific Herring Resource Management

10.3.1 Stock Conservation

- Application of a precautionary approach to inform harvest decisions.
- Development and implementation of a rebuilding plan for herring stocks that fall into the critical zone, as defined by the Sustainable Fisheries Framework

10.3.2 Access for Indigenous Nations

- Work collaboratively with Indigenous Nations to provide priority access, after conservation, for FSC purposes.

10.3.3 Ecosystem Processes

- Consider impacts to the ecosystem from management decisions using best available Science, Indigenous traditional knowledge/traditional ecological knowledge and application of the precautionary approach and monitoring of the herring fisheries.
- Coordinate and communicate with Science to understand on-going research, information gaps, and plan future work.

10.3.4 Sustainable Harvest and Economic Opportunities

- When available, provide reasonable fishing opportunities in a manner that ensures long-term sustainability of the resource, through the application of decision rules and management measures.
- Enact and enforce regulations through licences and licence conditions.
- Develop standards and monitor compliance of the various herring monitoring programs funded by individual licence eligibility holders.
- Collect accurate and timely catch, effort, landings, and other relevant information (e.g. marine mammal and seabird interactions and encounters) by geographic location and time period.
- Collect data to assist in management decisions and monitor size and age distribution of herring caught.
- Through post-season reviews and data analysis, assess catch monitoring, management measures, fishery implementation processes and emerging issues.

10.3.5 Renewal of the Management Framework for Pacific Herring

- Use decision rules which consider the stock status relative biological and operational control points, such as the risk of stocks breaching the limit reference point of $0.3SB_0$,
- Provide transparent decision making in regards to harvest levels and area closures.
- Facilitate Indigenous and multi-stakeholder collaboration on management procedures.
- Use an MSE approach to achieve resource management and other objectives.

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10.3.6 Consultation

- Hold pre-season planning meetings and seek stakeholder and First Nations advice on development of the IFMP allowing up to 30 days for review and feedback on IFMP draft content.
- Engage in bilateral consultations supported by Tier Two engagement processes with Indigenous communities, and participate in collaborative engagement meetings with First nations from watershed groups and industry to discuss fishing plans and priorities for the management of the fishery.
- Hold post-season meetings to review issues encountered and to develop options for addressing and resolving them.

10.3.7 Compliance

Performance criteria for DFO Conservation and Protection can be found in Appendix 11.

REFERENCES

Beamish, R. J., A. J. Benson, R. M. Sweeting and C. M. Neville. 2004. Regimes and the history of the major fisheries off Canada's west coast. Progress in Oceanography. 60(2-4):355-385.

Benson, A.J., Cleary, J.S., Cox, S.P., Johnson, S., and Grinnell, M.H. 2022. Performance of management procedures for British Columbia Pacific Herring (Clupea pallasii) in the presence of model uncertainty: closing the gap between precautionary fisheries theory and practice. DFO Can. Sci. Advis. Sec. Res. Doc. 2022/048.

Boldt, J.L., Murphy, H.M., Chamberland, J.-M., Debertin, A., Gauthier, S., Hackett, B., Hagel, P.S., Majewski, A.R., McDermid, J.L., Mérette, D., Robinson, C., Rooper, C.N., Sherbo, B., Van Beveren, E., and Walkusz, W. 2022. Canada's forage fish: An important but poorly understood component of marine ecosystem. Can. J. Fish. Aquat. Sci. 79: 1911–1933.

Boldt, J.L., Joyce, E., Tucker, S., and Gautier, S. 2023. State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2022. Can. Tech. Rep. Fish. Aquat. Sci. 3542: viii + 312p.

Christensen, L. B., V. Haist, and J. Schweigert. 2009. Modeling herring population dynamics. Herring Catch-at-Age Model version 2. DFO Canadian Science Advisory Secretariat Research Document. 2009/073. 60 pages.

DRAFT

Cleary, J. S., Cox, S. P., and Schweigert, J. F. 2010. Performance evaluation of harvest control rules for Pacific Herring management in British Columbia, Canada. ICES Journal of Marine Science, 67: 2005–2011.

DFO. 2008. Stock Assessment on Central Coast Pacific Herring. DFO Canadian Science Advisory Secretariat. Science Advisory Report 2008/010.

DFO. 2009. A fishery decision-making approach incorporating the precautionary approach. DFO. https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.htm (last accessed 3 December 2018).

DFO. 2013. Guidance for the development of rebuilding plans under the precautionary approach framework: growing stocks out of the critical zone. Sustainable Fisheries Framework (SFF): a fishery decision-making framework incorporating the precautionary approach.

DFO. 2015. Candidate limit reference points as a basis for choosing among alternative harvest control rules for Pacific Herring *(Clupea pallasii*) in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2015/062.

DFO. 2019. Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in the Strait of Georgia and the West Coast of Vancouver Island Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/001.

DFO. 2019. Status of Pacific Herring (*Clupea pallasii*) in 2018 and forecast for 2019. DFO Can. Sci. Advis. Sec. Sci. Resp. 2019/001.

DFO. 2020. Evaluation of Management Procedures for Pacific Herring (*Clupea pallasii*) in Haida Gwaii, Prince Rupert District, and the Central Coast Management Areas of British Columbia. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/003.

DFO. 2020. Stock Status Update with Application of Management Procedures for Pacific Herring (*Clupea pallasii)* in British Columbia: Status in 2019 and Forecast for 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/004.

DFO. 2021. Stock status update with application of management procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status in 2020 and forecast for 2021. DFO Can. Sci. Advis. Sec. Sci. Resp. 2021/001.

DFO. 2021. Stock status update with application of management procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status in 2021 and forecast for 2022. DFO Can. Sci. Advis. Sec. Sci. Resp. 2023/039.

DFO. 2022. Stock status update with application of management procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status in 2022 and forecast for 2023. DFO Can. Sci. Advis. Sec. Sci. Resp. 2022/046.

DFO. 2022. Management strategy evaluation update and evaluation of upper stock reference point options for Pacific Herring (*Clupea pallasii*) in British Columbia, Canada. DFO Can. Sci. Advis. Sec. Sci. Resp. 2023/002.

DFO. 2022. Stock status update with application of management procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status in 2023 and forecast for 2024. DFO Can. Sci. Advis. Sec. Sci. Resp. In press.

Haist, V. and M. Stocker. 1984. Stock Assessment for British Columbia herring in 1983 and forecasts of the potential catch in 1984. Canadian Manuscript Report of Fisheries and Aquatic Sciences. 1751.

Haist, V. and J. Schweigert. 2006. Catch-age models for Pacific Herring: Evaluation of alternative assumptions about fishery and stock dynamics and alternative error distributions. DFO Canadian Science Advisory Secretariat Research Document. 2006-064. 55 pages.

Hall, D., R. Hilborn, M. Stocker, and C. Walters. 1988. Alternative harvest strategies for Pacific Herring (*Clupea harengus pallasii*). Canadian Journal of Fisheries and Aquatic Science. 45:888-897.

Hay, D. 1985. Reproductive Biology of Pacific Herring (*Clupea harengus pallasii*). Canadian Journal of Fisheries and Aquatic Science. 42(S1):111-126.

Hourston, A. S. and C. W. Haegele. 1980. Herring on Canada's Pacific Coast. Canadian Special Publication of Fisheries and Aquatic Sciences. Issue 48. 23 pages. Ottawa: National Research Council.

Kronlund, A. R., Forrest, R. E., Cleary, JK. S., and M. H. Grinnell. 2018. The selection and role of limit reference points for Pacific herring (*Clupea pallasii*) in British Columbia, Canada. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/009. ix +125 p.

Martell, S.J.D., Schweigert, J., Cleary, J., and V. Haist. 2011. Part I: Moving towards the sustainable fisheries framework for Pacific Herring: data, models, and alternative assumptions. Part II: Stock Assessment and Management Advice for the British Columbia Pacific Herring Stocks: 2011 Assessment and 2012 Forecasts. CSAS Working Paper.

DRAFT

Schweigert, J., and D. Ware. 1995. Review of the biological basis for B.C. herring stock harvest rates and conservation levels. PSARC Working Paper H95: 2.

Zheng, J., Funk, F. C., Kruse, G. H., and Fagen, R. 1993. Evaluation of threshold management strategies for Pacific herring in Alaska. In Proceedings of the International Symposium on Management Strategies for Exploited Fish Populations, pp. 141–165. Alaska Sea Grant Report 93-02. University of Alaska, Fairbanks.

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APPENDIX 1. 2022/2023 POST-SEASON REVIEW

Table 1.2. 2022/2023 Resource Management Performance Evaluation

Objective Category	Performance Measure	DFO Activity
Stock conservation	Application of a precautionary approach to inform harvest decisions.	• In 2022/2023, two of the five major management areas (HG and WCVI) remained closed to commercial fisheries to support stock rebuilding. • A rebuilding plan has been developed for the HG major stock area, due to the stock being below the LRP for a prolonged period of time, and DFO supports fishery closures in this area until the end of the 2023/2024 season. • An LRP has been established and applied to all stock areas, and form the basis of management decisions annually • A provisional Upper Stock Reference has been established and applied to all stock areas, and is used to inform management decisions annually
Access for Indigenous Nations	Work collaboratively with Indigenous Nations to provide priority access, after conservation, for FSC purposes.	• In the SOG, subareas (Area 15, 17S for the Roe fishery and portions of Area 17, all of Area 18, and Subarea 29-5 for the Food & Bait and Special Use fisheries) were closed on advice from First Nations due to low spawn in those areas and reports of First

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		Nations inability to access herring for FSC purposes. • Commercial industry participants were asked to avoid areas where there could be potential for gear conflict with FSC gear • Ongoing concern from PRD and Area 10 First Nations about inability to obtain herring for FSC purposes
Ecosystem Processes	• Consider impacts to the ecosystem from management decisions using best available Science, Indigenous traditional knowledge/traditional ecological knowledge and application of the precautionary approach and monitoring of the herring fisheries • Coordinate and communicate with Science to understand on-going research, information gaps, and plan future work.	• A maximum of 20% of the spawning stock biomass can be harvested annually from each stock area, leaving 80% of the biomass and all juveniles remaining to support ecosystem processes • Through the MSE work, it was identified that in some areas, such as CC, a lower harvest rate is more appropriate (e.g. 5 or 10%). • More work is needed to coordinate with Science to understand on-going Science research and information gaps.
Sustainable harvest and economic opportunities	• Provide reasonable fishing opportunities in a manner that ensures long-term sustainability of the resource, through the application of decision rules and management measures. • Enact and enforce regulations through licences and licence conditions, to ensure proper management and control of fisheries. • Develop standards and monitor compliance of the various herring monitoring programs funded by	• Management and control of fisheries was achieved by measures such as at sea observers, dockside monitoring, hail requirements, on-grounds management, and enforcement of licence conditions. • The SOG was opened at a 10% harvest rate to allow for Food & Bait, Special Use, and Roe fisheries. Simulations showed that a 10% harvest could maintain the stock above the LRP

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individual licence eligibility holders.
- Collection of accurate and timely catch, effort, landings, and other relevant information (e.g. marine mammal and seabird encounters or interactions) by geographic location and time period.
- Collect data to assist in management decisions and monitor size and age distribution of herring caught.
- Through post-season reviews and data analysis, assess catch monitoring, management measures, fishery implementation processes and emerging issues.

with a high probability over 15 years.
- The CC management area shows steady increases in spawning biomass since a low in the late 2000s. The area was opened at a 7% harvest rate to FSC and SOK fisheries to continue to allow the stock to rebuild.
- The PRD management area was open for FSC, SOK and roe herring harvest. In this area, stock biomass and growth has remained low but steady, and has recently increased in abundance. In 2022, there was a 95% probability of the stock being above the LRP.
- The HG management area was open for FSC harvest only due to the stock being below the LRP for a prolonged period of time.
- All minor stock areas were closed to commercial harvest.
- Each of the herring fisheries were monitored by an industry-funded monitoring program which collects information on each of the listed metrics and provides regular updates to DFO throughout the fishing season.
- Fisheries Management coordinated with Science, First Nations and industry to collect biological samples (to monitor size and age) through the test-fishing program and other opportunities to augment samples collected through scientific surveys.

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Renewal of the Management Framework	• Use decision rules which consider the stock status relative to biological and operational control points, such as the risk of stocks breaching the limit reference point of $0.3SB_0$, • Provide transparent decision making in regards to harvest levels and area closures. • Facilitate Indigenous and multi-stakeholder collaboration on management procedures. • Use an MSE approach to achieve resource management and other objectives.	• MSE simulations assessed the ability of management procedures to maintain the stock above the LRP with a high probability over a 15 year timeframe (the "conservation objective"), and these results were used to guide decision making for all areas (including WCVI and SOG, which underwent the first cycle of MSE in 2018).
Consultation	• Hold pre-season planning meetings and seek stakeholder and First Nations advice on development of the IFMP, allowing up to 30 days for review and feedback on IFMP draft content. • Engage in bilateral consultations supported by Tier Two engagement processes with Indigenous communities, and participate in collaborative engagement meetings with First nations from watershed groups and industry to discuss fishing plans and priorities for the management of the fishery. • Hold post-season meetings to review issues encountered and to develop options for addressing and resolving them.	• The pre-season Integrated Herring Harvest Planning Committee (IHHPC) planning meeting was held on October 5, 2022, seeking First Nation and stakeholder advice on development of the IFMP (meeting minutes available on request) • DFO and First Nations met for a coastwide Pacific Herring Tier 2 process on October 4, 2022 to discuss 2022/2023 advice and priorities • DFO met with the Herring Industry Advisory Board (HIAB) on October 6, 2022 to discuss pre-season planning • Draft IFMP released for consultation from December 20, 2022-January 19, 2023 (30 days); draft Food & Bait and Special Use plans distributed for consultation from October 17-November 16, 2022 (30 days)

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		• DFO engaged in bilateral and area or group based Tier Two meetings with Indigenous communities to discuss fishing plans and priorities for the 2022/2023 season, during or prior to the IFMP consultation period. • The coastwide DFO-First Nations Tier 2 post-season meeting was held on May 31, 2023 to review the season and issues encountered. • The post-season IHHPC meeting was held on June 1, 2023 to review the season and issues encountered (meeting minutes available on request) • DFO and HIAB met via Zoom on June 2, 2023 to review the season and issues encountered.
Compliance	Monitor compliance of the herring fisheries with monitoring programs funded by individual licence eligibility holders.	Lead resource managers and C&P staff worked closely with the service provider and industry. Monitoring requirements were tailored to address fishery specific compliance issues and few occurrences were reported. More detail on compliance performance detailed in Appendix 11.

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Table 1.2. Management decisions for 2022/2023 harvest opportunities in major and minor stock assessment areas (short tons)

Area	Forecast (in brackets: 95% confidence interval)	Limit Reference Point	Harvest Option	Management Decision
2W	3,637	N/A	0	Area was closed to commercial fishing. Forecast in minor areas is the previous year's spawn index.
HG	14,835 (6,808-32,589)	7,539	150	FSC only; area was closed to commercial fishing to support continued stock rebuilding and rebuilding plan work.
PRD	40,009 (22,012-69,459)	19,880	600	Area was open to commercial fishing with a 5% harvest rate, based on application of an MSE-tested management procedure that meets the conservation objective of being above the LRP with a high probability over 15 years. This harvest rate provided for FSC, commercial SOK, and a roe herring fishery.
CC	20,565 (10,528-41,908)	17,098	600	Area was open to commercial fishing with a 7% harvest rate, based on application of an MSE-tested management procedure. This harvest rate provided for FSC, and some commercial SOK fisheries.

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Area	Forecast (in brackets: 95% confidence interval)	Limit Reference Point	Harvest Option	Management Decision
SOG	68,114 (36,412-135,049)	46,866	8,653	Area was open to commercial fishing with a 10% harvest rate, based on application of an MSE-tested management procedure that meets the conservation objective of being above the LRP with a high probability over 15 years. This harvest rate provided for FSC, and commercial Food & Bait, Special Use, and Roe fisheries; commercial SOK fisheries do not occur in this area.
WCVI	22,375 (11,425-44,181)	14,702	150	FSC only; area was closed to commercial fishing due to the persistent low biomass relative to historical levels, and an only recent trend of slow rebuilding. This area remained closed to support rebuilding.
Area 27	N/A	N/A	0	This area was closed to commercial harvest.

Season Summaries

Roe Herring

Table 1.3. Roe Herring Seine Fishery 2022/2023 Summary

	Strait of Georgia
Expected Use	4,464 tons
Quota Issued*	2,304 tons
Landings	2320.71 tons
# Pools	6
# Licences	182
Tons per licence	12.663 tons
Open	Mar. 8, 2023 14:30

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Closed	Mar. 13, 2023 18:00
Areas Fished	14-1 to 14-13, and 14-15

*(after 70 licence eligibility transfers from Roe SN to Food & Bait fishery).

Table 1.4. Roe Herring Gillnet Fishery 2022/2023 Summary

	Strait of Georgia
Expected Use	2,611 tons
Quota Issued*	2,611 tons
Landings	2,704 tons
# Pools	15
# Licences	1,193
Tons per licence	2.1886 tons/GN licence
Open	Mar 14, 2023 12:00
Closed	Mar 16, 2023 22:00
Areas Fished	Areas 14 and 17 in Subareas: 14-1 to 14-13, 14-15, 17-10, 17-12, 17-13, 17-18, 17-19 and 17-21

	Prince Rupert District
Expected Use	186 tons
Quota Issued	186 tons
Landings	185.3 tons
# Pools	1
# Licences	4
Tons per licence	46.5 tons/GN licence
Open	Mar 28, 2023 13:00
Closed	Mar 30, 2023 13:00
Areas Fished	4

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Spawn on Kelp

Table 1.5. SOK Herring Fishery 2022/2023 Summary

	2W	Prince Rupert District	Central Coast	Area 10/12
Quota Issued	0 lbs	0 lbs	372,000 lbs	0 lbs
Landings	N/A	N/A	42,022 lbs	N/A
# Licences	0	0	11	0
# of closed ponds	0	0	5	0
Open ponding	N/A	N/A	Yes	N/A
Location(s)	-	-	Kitasu Bay, Spiller Inlet, Outer Seaforth	-

Food and Bait

Table 1.6. Food & Bait Herring Fishery 2022/2023 Summary

	Strait of Georgia
Expected Use	50 tons
Quota (including transfers from Roe seine)	936.389 tons
Landings	933.384 tons
# Licences	1 + 70*
# Licences converted from Roe Seine into F&B	70 @ 12.6627 tons
Quota converted from Roe Seine into F&B	886.3890 tons
Quota towards Charity ZM Licence	50 tons
Quota per licence	12.6627 tons
Release occurrences	4 (100 tons)
Fishing Location(s)	Nanaimo, NW Bay, Nanoose Bay.
Areas Fished	14-1, 14-5, 17-12, 17-18, 17-19.

*1 ZM tab was used as industry designated "charity licence", and there were 70 HS to ZM conversions.

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Special Use

Table 1.7. Special Use Herring Fishery 2022/2023 Quota and Catch Summary. Quota and landings occurred in Strait of Georgia only.

Licence	Category	Expected Use (tons)	Quota Issued (tons)	Landings (tons)
ZX	Personal Use	6	0	0
ZY1	Sport Bait	472	424	370
ZY2	Commercial Bait	0	0	0
ZY3	Human Food & Bait	150	150	*N/A
ZY4	Zoo & Aquarium	110	110	*N/A
Total		738	684	605

* Cannot be displayed due to privacy reasons

Table 1.8. Special Use Herring Fishery 2022/2023 Ponding Summary.

	Fresh/Frozen	Live	Total
# of ponding operations	1	1	*N/A
Pond locations	Area 13-7 (Deepwater Bay)	Area 16 (Secret Cove)	
# of ponds	3	1	4
# of ponds per operator	3	1	4
Size of Ponds	Large (100x100x50 feet = 500,000 cubic feet)	Small (24x16x12 feet = 4,608 cubic feet)	

* Cannot be displayed due to privacy reasons

Table 1.9. Special Use Herring Fishery 2022/2023 Licensing Summary.

Number of vessels, licences issued, and licence eligibility holders			
Licence	Number of Vessels	Number of Licences	Number of Licence Eligibility Holders

ZX	0	0	0
ZY1	2	11	7
ZY3	1	3	1
ZY4	1	1	1

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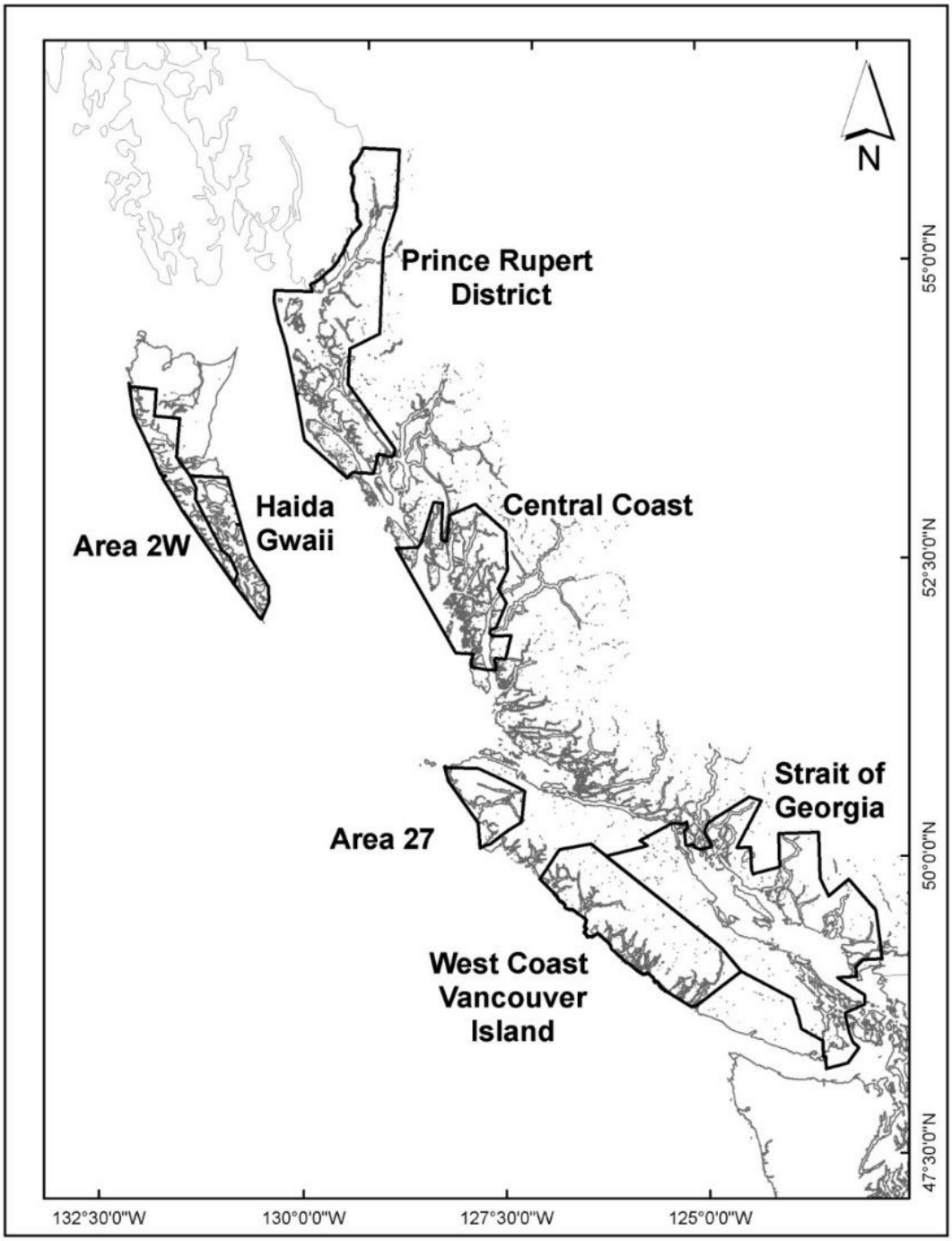
APPENDIX 2. MAP OF MAJOR STOCK ASSESSMENT AREAS



APPENDIX 3. STOCK ASSESSMENT RESULTS

Forecasting Pacific Herring spawning biomass requires an assessment of current abundance and an understanding of the factors affecting their dynamics. Pacific Herring are strongly affected by annual variations in environmental conditions, which produce large fluctuations in recruitment and stock abundance. An assessment of current abundance for all stock areas is obtained using a statistical catch-age model (SCA). Forecast estimates of spawning biomass for 2024 are projected based on recent estimates of survival, growth and recruitment. For all stocks, stock assessment results and harvest advice reflects the AM2 parameterization of the SCA model (defined in the CSAS Science Response; DFO, 2023).

The Pacific Herring SCA model is driven by four sources of data from 1951 to 2023: commercial catch landings, a spawn survey index, as well as age composition and weight-at-age data. DFO Pacific Science assesses current abundance for the five BC Pacific Herring major stock areas: Haida Gwaii (HG), Prince Rupert District (PRD), Central Coast (CC), Strait of Georgia (SOG), and West Coast of Vancouver Island (WCVI).

Stock Assessment Summary for the Current Year

Projected median spawning biomasses assuming zero catch in 2024, as well as the projected relative contribution of age-3 and ages 4-10 fish are presented in Table 3.1. Stock status is assessed against the Limit Reference Point (LRP) of $0.3SB_0$ (unfished spawning biomass), estimated for 2023 and projected for 2024 (under an assumption of zero catch). For example, for the HG stock in 2024, there is a 77% probability that the estimated pre-fishery spawning biomass (SB_{2024}) will be below the LRP given zero catch (i.e., row $P(SB_{2024} < 0.3SB_0)$; Table 3.2).

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Table 3.1. Estimates of projected spawning biomass in thousands of metric tonnes (t x 10^3) in 2024 given zero catch, as well as predicted proportion aged 3 and aged 4-10 fish for all BC Pacific Herring major stocks. Legend: Haida Gwaii (HG), Prince Rupert District (PRD), Central Coast (CC), Strait of Georgia (SoG), and West Coast of Vancouver Island (WCVI).

	Projected spawning biomass in 2024 given zero catch (t x 10^3)			Projected proportion aged 3 fish in 2024			Projected proportion aged 4-10 fish in 2024		
Stock	5th %ile	Median	95th %ile	5th %ile	Median	95th %ile	5th %ile	Median	95th %ile
HG	1.629	4.272	11.348	0.09	0.36	0.63	0.12	0.34	0.63
PRD	22.177	42.495	77.550	0.04	0.14	0.40	0.54	0.80	0.92
CC	8.425	16.229	32.869	0.07	0.22	0.52	0.37	0.63	0.83
SoG	39.952	73.375	133.012	0.09	0.26	0.53	0.37	0.61	0.80
WCVI	20.066	37.416	68.207	0.08	0.23	0.50	0.41	0.66	0.85

Table 3.2 Posterior (5th percentile, Median, and 95th percentile) estimates of proposed reference points for the Haida Gwaii model. Legend: spawning stock biomass, *SB*; pre-fishery spawning biomass, SB_{2022}; estimated unfished spawning biomass, SB_0. All biomass numbers are in thousands of metric tonnes (t x 10^3). Note: probabilities of $SB_{2024} < 0.3SB_0$ and $SB_{2024} < 0.6SB_0$ are based on zero catch.

Reference point	5%	50%	95%
SB_0	16.951	21.158	27.565
$0.3SB_0$	5.085	6.347	8.270
$0.75\overline{SB}_{Prod}$	18.192	24.435	34.556
SB_{2023}	1.445	3.204	6.982
SB_{2023}/SB_0	0.068	0.150	0.334
$P\ (SB_{2023} < 0.3SB_0)$	–	0.926	–
$P\ (SB_{2023} < 0.75\overline{SB}_{Prod})$	–	1.000	–
SB_{2024}	1.629	4.272	11.348
SB_{2024}/SB_0	0.077	0.199	0.526
$P\ (SB_{2024} < 0.3SB_0)$	–	0.766	–
$P\ (SB_{2024} < 0.75\overline{SB}_{Prod})$	–	0.995	–
Proportion aged 3	0.09	0.36	0.73
Proportion aged 4 to 10	0.12	0.34	0.63

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Table 3.3 Posterior (5th percentile, Median, and 95th percentile) estimates of proposed reference points for the Prince Rupert District model. See Table 3.2 for description.

Reference point	5%	50%	95%
SB_0	45.092	58.800	88.710
$0.3SB_0$	13.528	17.640	26.613
$\overline{SB}_{Prod}$	27.870	33.917	41.970
SB_{2023}	26.026	44.725	72.888
SB_{2023}/SB_0	0.408	0.747	1.271
$P\ (SB_{2023} < 0.3SB_0)$	–	0.007	–
$P\ (SB_{2023} < \overline{SB}_{Prod})$	–	0.214	–
SB_{2024}	22.177	42.495	77.550
SB_{2024}/SB_0	0.358	0.702	1.321
$P\ (SB_{2024} < 0.3SB_0)$	–	0.021	–
$P\ (SB_{2024} < \overline{SB}_{Prod})$	–	0.296	–
Proportion aged 3	0.04	0.14	0.40
Proportion aged 4 to 10	0.54	0.80	0.92

Table 3.4 Posterior (5th percentile, Median, and 95th percentile) estimates of proposed reference points for the Central Coast model. See Table 3.2 for description.

Reference point	5%	50%	95%
SB_0	40.117	49.515	63.028
$0.3SB_0$	12.035	14.854	18.908
$\overline{SB}_{Prod}$	26.724	31.465	37.592
SB_{2023}	10.816	18.950	32.741
SB_{2023}/SB_0	0.212	0.381	0.658
$P\ (SB_{2023} < 0.3SB_0)$	–	0.250	–
$P\ (SB_{2023} < \overline{SB}_{Prod})$	–	0.927	–
SB_{2024}	8.425	16.229	32.869
SB_{2024}/SB_0	0.168	0.330	0.656
$P\ (SB_{2024} < 0.3SB_0)$	–	0.409	–
$P\ (SB_{2024} < \overline{SB}_{Prod})$	–	0.939	–
Proportion aged 3	0.07	0.22	0.52
Proportion aged 4 to 10	0.37	0.63	0.83

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Table 3.5 Posterior (5th percentile, Median, and 95th percentile) estimates of proposed reference points for the Strait of Georgia model. See Table 3.2 for description.

Reference point	5%	50%	95%
SB_0	110.173	138.491	195.779
$0.3SB_0$	33.052	41.547	58.734
$0.8\overline{SB}_{Prod}$	55.213	64.476	75.919
SB_{2023}	44.374	72.782	118.224
SB_{2023}/SB_0	0.293	0.521	0.872
$P\ (SB_{2023} < 0.3SB_0)$	–	0.057	–
$P\ (SB_{2023} < 0.8\overline{SB}_{Prod})$	–	0.356	–
SB_{2024}	39.952	73.375	133.012
SB_{2024}/SB_0	0.275	0.520	0.953
$P\ (SB_{2024} < 0.3SB_0)$	–	0.080	–
$P\ (SB_{2024} < 0.8\overline{SB}_{Prod})$	–	0.369	–
Proportion aged 3	0.09	0.26	0.53
Proportion aged 4 to 10	0.37	0.61	0.80

Table 3.6 Posterior (5th percentile, Median, and 95th percentile) estimates of proposed reference points for the West Coast of Vancouver Island model. See Table 3.2 for description.

Reference point	5%	50%	95%
SB_0	37.836	46.537	59.598
$0.3SB_0$	11.351	13.961	17.879
$\overline{SB}_{Prod}$	27.227	33.582	41.714
SB_{2023}	24.419	41.190	67.475
SB_{2023}/SB_0	0.502	0.879	1.454
$P\ (SB_{2023} < 0.3SB_0)$	–	0.000	–
$P\ (SB_{2023} < \overline{SB}_{Prod})$	–	0.287	–
SB_{2024}	20.066	37.416	68.207
SB_{2024}/SB_0	0.425	0.804	1.480
$P\ (SB_{2024} < 0.3SB_0)$	–	0.004	–
$P\ (SB_{2024} < \overline{SB}_{Prod})$	–	0.404	–
Proportion aged 3	0.08	0.23	0.50
Proportion aged 4 to 10	0.41	0.66	0.85

Harvest Advice for 2024

Provision of harvest options to managers for 2024 is presented for each major stock based on the application of simulation-tested management procedures (MPs) evaluated through the Management Strategy Evaluation (MSE) process. MPs that perform the best at achieving the conservation objective under three different operating model scenarios (which include three different hypotheses about natural mortality) are used to provide catch level options. Management procedure performance is summarized below.

In the first MSE cycle for HG, none of the MPs tested could meet the conservation objective with a minimum of 75% probability (DFO 2019), thus harvest options are not provided for this stock. The HG stock has been in a low biomass, low productivity state since 2000. DFO has committed to developing and implementing a rebuilding plan for Haida Gwaii herring, which was released for public consultation on September 26, 2022, and final approval is anticipated by late 2023/early 2024. Based on MP evaluations, and as per the recommended Haida Gwaii Rebuilding Plan management actions, the harvest recommendation for the HG SAR is 0 t.

Closed-loop feedback simulations were used to evaluate MPs for PRD where MPs differed in the configuration of the harvest control rule (HCR), and application (or not) of a fixed catch cap. In the summer of 2022, conditioning of the MSE operating model for PRD was updated to include 2021 spawn, catch, and biological data. MSE simulations were re-run to generate new probability values for the same MPs as presented in September 2019. The updated closed-loop feedback simulations for PRD show that MPs with harvest rates at 5, 10, and 20% maintain spawning biomass above the LRP with 85 to 98% probability, over both OM scenarios (Table 3.7). While MPs with harvest rates ranging from 5% to 20% were able to meet the core conservation objective of maintaining spawning biomass above the LRP with a high probability (at least 75%), they also imply different trade-offs among biomass (e.g., ecosystem) and yield outcomes. For management regions where multiple MPs meet the conservation objective, further ranking of the remaining objectives is needed in order to provide decision-makers with a set of trade-off choices. This has not yet been undertaken as it requires a fully specified set of objectives for each management area.

Similar to PRD, in the summer of 2022, conditioning of the MSE operating model for CC was updated to include 2021 spawn, catch, and biological data. MSE simulations were re-run to generate new probability values for the same MPs as presented in September 2019. The updated simulations show that MPs with harvest rates at 5% and 10% maintain spawning biomass above the LRP with 81 to 92% probability over both OM scenarios (Table 3.8). Similar to PRD, the simulation results for CC indicate there are multiple MPs that meet the conservation objective of maintaining the spawning biomass above the LRP with high probability (at least 75%) and further ranking of the remaining objectives is needed in order to provide decision-makers with a set of trade-off choices.

Conditioning of the MSE operating model for SOG was updated in the summer of 2022 to include 2021 spawn, catch, and biological data. Updated evaluations showed that all tested MPs could maintain the spawning biomass above the LRP with 67 to 80% probability across all natural mortality *(M)* scenarios (Table 3.9). Each update has shown differences in MP performance against the conservation objective for both operating model (OM) scenarios, with the 2020 updates showing a decline in conservation performance probabilities, and then another subsequent decline following the 2022 MP updates. These comparisons highlight the importance of considering how recent MP updates may be influenced by the last three to five years of natural mortality trends used to condition the OM. In situations where estimated

natural mortality trends show a sudden increasing or decreasing trend in the terminal three to five years, MP evaluations may more reliably reflect short term performance. In all cases the simulated MP performance from previous years can inform selection or elimination of MPs.

Conditioning of the MSE operating model for WCVI was updated in the summer of 2022 to include 2021 spawn, catch, and biological data. Updated evaluations showed that all tested MPs could maintain the spawning biomass above the LRP with between 61 and 84% probability over both OM scenarios (Table 3.10).

Table 3.7. Management procedure (MP) performance for Pacific Herring in the Prince Rupert District major stock assessment region under two operating model (OM) scenarios: density-dependent natural mortality (DDM), and density-independent natural mortality (DIM); the constant natural mortality (conM) scenario has been removed from the evaluation. Performance criteria are calculated over three Pacific Herring generations (i.e., 15 years) from the start of the projection period for all objectives. MPs are ordered within each scenario by performance of achieving Objective 1. The recommended total allowable catch (TAC) in thousands of tonnes (t) and associated harvest rate (HR) are reported for each MP. Legend: limit reference point (LRP); SBt is spawning biomass in year t; SB_0 is estimated unfished spawning biomass; average annual variability (AAV); Ct is catch in year t; and C is average catch. MPs are defined in DFO (2019a) and DFO (2020c). Note: dashes indicate that TAC and HR do not apply, either because the MP specifies no fishing, or because the MP fails to meet Objective 1.

Scenario		Conservation		Yield			
		Obj 1 (LRP)	Obj 2 (USR)	Obj 3	Obj 4		
		$P \geq 75\%$	P	$< 25\%$	Max	2024	
OM	MP	$SB_t \geq 0.3SB_0$	$SB_t \geq \overline{SB}_{Prod}$	AAV	$\overline{C}$	TAC	HR
DDM	NoFish_FSC	98%	86%	0.00	0.14	–	–
DDM	HS30-60_HR05	97%	82%	45.71	2.33	2.06	0.05
DDM	HS50-60_HR20_Cap2.5	97%	80%	36.62	2.13	2.50	0.05
DDM	HS30-60_HR10_Cap2.5	96%	79%	26.53	2.25	2.50	0.05
DDM	MinE50_HR10	96%	79%	39.83	4.21	4.14	0.10
DDM	MinE30_HR10	94%	67%	30.73	4.48	4.25	0.10
DDM	MinE50_HR20	93%	55%	50.09	6.43	8.01	0.20
DIM	NoFish_FSC	94%	71%	0.00	0.14	–	–
DIM	HS30-60_HR05	93%	65%	51.69	1.82	2.06	0.05
DIM	HS50-60_HR20_Cap2.5	92%	63%	42.60	1.96	2.50	0.05
DIM	HS30-60_HR10_Cap2.5	91%	61%	35.58	2.07	2.50	0.05
DIM	MinE50_HR10	89%	56%	52.38	3.35	4.14	0.10
DIM	MinE30_HR10	87%	52%	33.96	3.77	4.25	0.10
DIM	MinE50_HR20	85%	31%	63.44	5.10	8.01	0.20

Table 3.8. Management procedure performance for Pacific Herring in the Central Coast major stock assessment region. See Table 3.7 for description.

		Conservation		Yield			
		Obj 1 (LRP)	Obj 2 (USR)	Obj 3	Obj 4		
	Scenario	$P \geq 75\%$	P	$< 25\%$	Max	2024	
OM	MP	$SB_t \geq 0.3SB_0$	$SB_t \geq \overline{SB}_{Prod}$	AAV	$\overline{C}$	TAC	HR
DDM	NoFish_FSC	92%	69%	0.00	0.14	–	–
DDM	HS30-60_HR05	91%	64%	40.76	1.74	0.08	0.01
DDM	HS30-60_HR10_Cap5	90%	58%	38.83	2.92	0.16	0.01
DDM	MinE50_HR10	90%	58%	53.22	2.92	0.00	0.00
DIM	NoFish_FSC	85%	54%	0.00	0.14	–	–
DIM	HS30-60_HR05	83%	48%	50.38	1.38	0.08	0.01
DIM	MinE50_HR10	82%	43%	70.82	2.21	0.00	0.00
DIM	HS30-60_HR10_Cap5	81%	43%	52.19	2.45	0.16	0.01

Table 3.9. Management procedure performance for Pacific Herring in the Strait of Georgia major stock assessment region. See Table 3.7 **for description.**

		Conservation		Yield			
		Obj 1 (LRP)	Obj 2 (USR)	Obj 3	Obj 4		
	Scenario	$P \geq 75\%$	P	$< 25\%$	Max	2024	
OM	MP	$SB_t \geq 0.3SB_0$	$SB_t \geq 0.8\overline{SB}_{Prod}$	AAV	$\overline{C}$	TAC	HR
DDM	NoFish_FSC	80%	60%	0.00	0.14	–	–
DDM	HS30-60_HR10	77%	53%	69.87	4.92	5.36	0.07
DDM	MinE30_HR10	76%	50%	47.88	6.15	7.31	0.10
DDM	HS30-60_HR15	76%	49%	64.75	6.97	8.05	0.11
DDM	HS30-60_HR20	74%	44%	65.70	8.80	10.73	0.15
DDM	MinE30_HR15	73%	45%	45.96	8.59	10.96	0.15
DDM	MinE30_HR20	70%	39%	49.45	10.79	14.59	0.20
DIM	NoFish_FSC	78%	57%	0.00	0.14	–	–
DIM	HS30-60_HR10	75%	51%	71.39	4.58	5.36	0.07
DIM	MinE30_HR10	74%	51%	67.87	4.36	7.31	0.10
DIM	HS30-60_HR15	73%	48%	68.93	6.48	8.05	0.11
DIM	HS30-60_HR20	72%	43%	67.81	8.18	10.73	0.15
DIM	MinE30_HR15	70%	45%	50.49	7.88	10.96	0.15
DIM	MinE30_HR20	67%	40%	48.10	10.04	14.59	0.20

Table 3.10. Management procedure performance for Pacific Herring in the West Coast Vancouver Island major stock assessment region. See Table 3.7 for description. Note that SBprod reflects a previously stated objective from the Nuu-chah-nulth Nations, calculated as the average spawning biomass from 1990 to 1999.

Scenario		Conservation Obj 1 (LRP) $P \geq 75\%$ $SB_t \geq 0.3SB_0$	Obj 2 (USR) P $SB_t \geq \overline{SB}_{Prod}$	Yield Obj 3 $< 25\%$ AAV	Obj 4 Max $\overline{C}$	2024 TAC	2024 HR
OM	MP						
DDM	NoFish_FSC	84%	33%	0.00	0.14	–	–
DDM	HS30-60_HR10_Cap2	82%	27%	60.72	1.15	2.00	0.05
DDM	MinE30_HR05	82%	27%	59.45	1.01	1.87	0.05
DDM	HS50-60_HR10	82%	25%	89.73	1.28	3.73	0.10
DDM	HS30-60_HR15_Cap2	81%	27%	57.13	1.30	2.00	0.05
DDM	HS50-60_HR15	81%	23%	82.56	2.08	5.60	0.15
DDM	MinE30_HR10	80%	24%	75.21	1.87	3.74	0.10
DIM	NoFish_FSC	65%	17%	0.00	0.14	–	–
DIM	HS30-60_HR10_Cap2	63%	15%	71.81	0.79	2.00	0.05
DIM	MinE30_HR05	63%	15%	70.09	0.76	1.87	0.05
DIM	HS30-60_HR15_Cap2	62%	15%	80.94	0.83	2.00	0.05
DIM	HS50-60_HR10	62%	14%	96.54	0.72	3.73	0.10
DIM	MinE30_HR10	61%	13%	83.98	1.26	3.74	0.10
DIM	HS50-60_HR15	61%	12%	107.55	1.00	5.60	0.15

Minor stock areas and Special areas

Formal stock assessments are not conducted for the two Pacific Herring minor stock areas (Area 27 and Area 2 West), nor for Area 10 (special area).

A commercial spawn-on-kelp fishery last occurred in Area 27 in 2014, and the last commercial roe fishery occurred in 1994. No survey was conducted in 2022, and the spawn index in 2023 was 13,511 tonnes.

A commercial spawn-on-kelp fishery last occurred in Area 2 West in 2020, and the last commercial roe fishery occurred in 1998. The spawn index in 2023 was 1,191 tonnes.

The survey index for Area 10 was deemed incomplete at the time of publishing the 2023 Science Response.

APPENDIX 4. EXPECTED USE TABLE

The expected use of herring for 2023/2024 in short tons will be determined for each of the stock assessment areas and fisheries in the final version of the plan. Fishery specific TAC's in the SOG area may change as the result of transfers.

2023/2024 EXPECTED HERRING USE BY FISHERY AND AREA
Values In Short Tons (T)

			SOK		ROE-HERRING			SPECIAL USE					
AREA	Harvest Option	FSC	ABORIG COMML	J - LICENCE	SEINE[7]	GILLNET	WINTER FOOD & BAIT (ZM)	PERS'L USE BAIT (ZX)	SPORT BAIT (ZY1)	COMML BAIT (ZY2)	HUMAN FOOD (ZY3)	ZOO & AQUAR (ZY4)	TOTAL
[6]Area 2W	TBD												
[1]HG	TBD	150											
[2]PRD	TBD	600											
Area 10													
[3]CC	TBD	600											
Area 12													
[4]SOG	TBD	35											
[8]Area 27													
[5]WCVI	TBD	150											
TOTAL	**TBD**	**1,535**											

Areas shaded in grey are minor or outside stock assessment areas

1.10231131 short tons = 1 metric tonne

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APPENDIX 5. ABORIGINAL FISHING PLAN

DFO 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 the Aboriginal Fisheries Strategy, DFO seeks to negotiate with Indigenous organizations access for Food, Social, and Ceremonial (FSC) purposes. Subject to conservation, FSC has priority over access for commercial and recreational purposes. FSC fisheries are managed through communal licences that are issued to Indigenous organizations. The Department consults with Indigenous organizations to determine appropriate levels of access. In some cases, a portion of a PFMA may be closed to fishing except for FSC 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 Indigenous organizations for FSC purposes.

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

Nisga'a Domestic Fishing
The Harvest agreement for domestic (FSC) purposes under the Nisga'a Final Agreement (Treaty) came into effect on May 11, 2000. The Nisga'a territory is located within the Nass River valley on the northwest coast of British Columbia. More information on the Treaty and the Nisga'a annual fishing plan can be found at: https://www.rcaanc-cirnac.gc.ca/eng/1100100031747/1543410863980

Tsawwassen Domestic Fishing
The Tsawwassen fishery for domestic (FSC) purposes under the Tsawwassen Final Agreement (Treaty) came into effect on April 3, 2009. The Tsawwassen First Nation is located in the lower mainland near the city of Vancouver, and their territory spans portions the Strait of Georgia near the mouth of the Fraser River as well as portions of the lower Fraser River and Boundary Bay. More information on the Treaty can be found at: https://www.canada.ca/en/crown-indigenous-relations-northern-affairs.html

Maa-nulth First Nations Domestic Fishery
The Maa-nulth First Nations fishery for domestic (FSC) purposes under the Maa-nulth First Nations Final Agreement (Treaty) came into effect on April 1, 2011. The Maa-nulth First Nations comprise five individual First Nations; Huu-ay-aht First Nations, Ka:'yu:'k't'h'/Che:k'tles7et'h'

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First Nations, Toquaht Nation, Uchucklesaht Tribe and the Yuułuʔiłʔath First Nation on the west coast of Vancouver Island.

The Domestic Allocation for herring under the Maa-nulth First Nations Final Agreement:
Each year the Maa-nulth Fish Allocation for whole herring is 90 short tons or a corresponding amount of herring spawn on kelp or herring spawn on boughs in accordance with the conversion rates for whole herring to herring spawn on kelp or herring spawn on bough as described in the Maa-nulth Fisheries Operational Guidelines.

More information on the MFA can be found at:
http://www.maanulth.ca/downloads/treaty/2010_maa-nulth_final_agreement_english.pdf

Tla'amin Nation Domestic Fishing
The Tla'amin fishery for domestic (FSC) purposes under the Tla'amin Final Agreement (Treaty) came into effect on April 5, 2016. The Tla'amin Nation is located near the City of Powell River, 130 km northwest of Vancouver.

The Domestic Allocation for herring under the Tla'amin Nation Final Agreement:
In any year, the Tla'amin Fish Allocation for herring is a maximum of 62,600 lbs. of whole herring or a corresponding amount of herring spawn on kelp or of herring spawn on boughs, in accordance with the conversion rates for whole herring to herring spawn on kelp or herring spawn on boughs as described in the Tla'amin Fisheries Operational Guidelines.

More information on the Treaty can be found at:
https://www.rcaanc-cirnac.gc.ca/eng/1397152724601/1542999321074

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

Since 2019, DFO has released an annual Five Nations Multi-Species Fishery Management Plan (FMP). The FMP provides for a right-based multi-species sale fishery that DFO considers to accommodate the Five Nations' Aboriginal commercial fishing rights. The FMP outlines the Five Nations' fishing opportunities for salmon, groundfish, crab, prawn, Sea Cucumber and Gooseneck Barnacle and the fishery management regime.

The 2023/24 FMP is the fifth Multi-Species FMP developed by DFO since the 2018 BC Supreme Court Order and integrates changes following the 2021 BC Court of Appeal decision. DFO may make further changes in-season and amend the FMP as needed.

DFO and the Five Nations will continue to work together to identify opportunities to harvest additional species and expand the multi-species sale fishery in future years. These opportunities

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will be developed, where possible, based on other access that DFO provides the Five Nations outside the FMP.

A PDF version of the 2023/24 FMP is available here.

Heiltsuk Communal Commercial Spawn On Kelp Fishery

In 1996, the Supreme Court of Canada found in its *Gladstone* decision that the Heiltsuk First Nation had an Aboriginal right to commercially fish herring spawn-on-kelp (SOK). The Heiltsuk currently hold nine SOK licences in the Central Coast area, with an annual quota of 304,000 pounds. This SOK is harvested using the preferred means of the Heiltsuk, which is open ponding.

As in previous seasons, DFO is committed to working with Heiltsuk First Nation, as well as Kitasoo / Xia'xais First Nation and the commercial harvest sector on a management plan for the Central Coast area. DFO will also be working directly with Heiltsuk First Nation on a plan for the Heiltsuk communal commercial spawn on kelp (SOK) fishery.

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APPENDIX 6. RECREATIONAL FISHING PLAN

Tidal Waters Sport Fishing Licence

The recreational harvest of various fish and invertebrate species in BC is regulated via the *British Columbia Sport Fishing Regulations*, 1996 made under the *Fisheries Act*. A DFO Tidal Waters Sport Fishing licence is required for the recreational harvest of all species of fish and marine invertebrates.

Tidal Waters Sport Fishing licences may be purchased for a 1 day, 3 day, or 5 day period, or as an annual licence, covering the period April 1 (or date of purchase, whichever is later) to March 31 the following year. The annual licence fee is not pro-rated for annual licences purchased mid-season. Fees depend on licence duration, age (senior, adult, juvenile) and residency status. Licences for juveniles (under 16 years old) are free. Concessionary fees are not otherwise available. There were over 297,000 adult fishers participating in BC's tidal waters recreational fishery in 2022/23.

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

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

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

Online Regulations

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

Changes to regulations are issued in Fishery Notices which are posted online and sent to subscribers by email.

The printed Sport Fishing Guide booklet is no longer being produced or distributed to reduce costs and environmental impacts. The online Sport Fishing Guide allows for in-season regulations to be accurately provided and ensures all the regulations are current. Staff at local DFO offices can also provide regulatory information.
The British Columbia Tidal Waters Sport Fishing Guide is available at:
http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html

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Viewing Fishery Notices and application to receive Fishery Notices by email is available at:
http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm

Contact information for DFO offices is available at:
https://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html

For questions or comments of a general nature regarding DFO in the Pacific Region, call 604-666-0384 or email info@dfo-mpo.gc.ca

Using Mobile Devices and the FishingBC App

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

Please note: the DFO Sport Fishing Guide website is the official site for regulatory information in the event of a discrepancy with the FishingBC App.

The FishingBC App may be downloaded at:
http://www.fishingbcapp.ca/

The online DFO Sport Fishing Guide is available at:
https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html

E-licences and Paper licences

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

Please consider these licensing requirements before fishing in tidal waters:

- For all recreational tidal waters fishers that do not have an electronic copy of their licence on their mobile device, fishers must have a paper copy of their licence to show to a fishery officer.
- For users of the FishingBC App or on any electronic device, a PDF copy of their license on the device is acceptable and must be immediately presented to a fishery officer upon request.
- **Catch recording requirement**: Immediately upon retention of Chinook, and Halibut in any Management Area and Lingcod in Management Areas 12 to 19 (excluding Subarea 12-14), Subareas 20-5 to 20-7 and 29-5, fishers must record these catches on their paper licence (preferred) or in their National Recreational Licensing System account (which requires internet access).
    - The catch recording requirement above applies even to fishers with an e-licence

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and catch details in the FishingBC App or in their mobile device.

- Fishers who record their Chinook, Halibut and Lingcod catch records in their National Recreational Licensing system account may find it helpful to immediately take a screenshot of their catch records when they have internet access should they subsequently move out of range of a mobile network.

Supporting Sustainable Fisheries - Catch Reporting The Sport Fishing Advisory Board (SFAB) is the primary consultative body for the recreational fishing community and includes individual representatives from all geographic regions in BC as well as delegates from a number of fishing and service provider organizations. The SFAB and the recreational fishing sector strongly support effective fishery monitoring and catch reporting programs in recreational fisheries. The SFAB continues to work with DFO on initiatives to strengthen fishing monitoring and catch reporting in the recreational fishery.

Recreational fishers are required as a condition of the Tidal Waters Sport Fishing Licence to report accurate information on their recreational fishing activity and catch upon request of designated authorities including creel surveyors, fishery officers and fishery guardians and if selected to the online iREC reporting program (see below).

internet Recreational Effort and Catch (iREC) Reporting program

The internet Recreational Effort and Catch (iREC) reporting program is an online program that has been collecting effort and catch information from Tidal Waters Sport Fishing licence holders since July 2012. All 2023/24 adult Tidal Water Recreational Fishing licences will be selected to iREC reporting program and assigned to a reporting period. Annual licence holders are required to report for only one month to limit their reporting burden. Term licence holders are required to report for all or most of the days that their licence is valid. Information regarding the iREC reporting requirement is printed on each licence including the reporting period, the website at which to report, a unique iREC Access ID and reporting deadline. Further, licence holders with a valid email address in the National Recreational Licencing system will receive emails reminding them to complete their iREC reports. Providing complete and accurate information to the iREC program when selected is a condition of licence (i.e., mandatory requirement).

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

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by the marine creel surveys, which cover only boat-based angling, and for months and areas not covered by marine creel surveys.

More information about the iREC reporting program is available at:
https://www.pac.dfo-mpo.gc.ca/fm-gp/rec/report-declarez-eng.html

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APPENDIX 7. COMMERCIAL FISHING PLAN FOR ROE HERRING

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1 PURPOSE

This document is a Commercial Fishing Plan for roe herring in British Columbia, for the period from February 13, 2024 to April 30, 2024.

2 OVERVIEW

Pacific Herring are fished for the roe (eggs), which is highly valued in Japan. The fisheries take place as the herring move into the shallow inland waters to spawn from late February to mid-April. Herring spawn earliest in southern BC, and progressively later at higher latitudes. Opening dates and times for the commercial roe herring fisheries are typically announced on the fishing grounds once the roe has matured to optimum quality. The commercial roe herring fisheries may occur in five areas which correspond to the major stock assessment regions: Haida Gwaii (HG, previously Queen Charlotte Islands), Prince Rupert (PRD), Central Coast (CC) Strait of Georgia (SOG) and the west coast of Vancouver Island (WCVI). Commercial roe herring fisheries are only planned in areas where the stocks are forecast to have available abundance based on stock assessment advice. The stock assessment advice includes a Management Strategy Evaluation (MSE) approach and stock forecasts are provided on an annual basis by the Centre for Scientific Advice – Pacific (CSAP). Specific fishing timing and locations are determined by a number of variables such as major concentrations of fish and roe yield.

A roe herring seine licence (category HS or FHS) or gill net licence (category HG or FH) is required to participate in the commercial roe herring fishery. Roe herring licence eligibilities are party-based and limited entry; where there are currently 252 seine and 1,267 gill net licence eligibilities. For each area where there will be a fishery in a given year, the licences are grouped into pools by gear type. This pool fishery structure was established in 1998 to address fishery concerns and improve fishery quota compliance.

3 HERRING FISHERY REPRESENTATION

The Herring Industry Advisory Board (HIAB) provides advice regarding commercial Roe and Food and Bait herring fisheries. This role includes submitting recommendations for Roe herring harvesting plans for all areas with a Roe herring TAC. The HIAB's advice on harvest levels is reviewed with the Integrated Herring Harvest Planning Committee (IHHPC). The HIAB has ten seats on the IHHPC (see section 1.7.2). The ten participants are selected by the Roe herring sector from a pool of: (a) 10 individuals elected by Roe herring Licence holders (5 seine and 5 gill net); (b) 4 appointed processors; and (c) 5 appointed individuals representing: the United Fishermen and Allied Workers Union; the Native Brotherhood of BC; the Aboriginal Fishing

Vessel Owners Association; the Fishing Vessel Owners Association, and the Herring Conservation and Research Society (HCRS).

4 FINANCIAL RESPONSIBILITIES

4.1 Fishery Monitoring Program

Commercial Roe herring licence eligibility holders fund the fishery monitoring program which consists of vessel hails and 100% dockside weight validation of all roe herring landings. This program is administered by the HCRS. In recent years this service has been provided by J.O. Thomas and Associates. At-sea observers may be required in some areas or time periods in order to monitor commercial roe herring seine fisheries.

4.2 Roe Quality Testing Program

Since 2008, the Roe herring sector, through the HCRS, has planned and delivered an on-grounds Roe herring quality assessment program, and it is anticipated that this program will continue.

5 MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

5.1 Changes from Previous Seasons

5.1.1 Implementation of Management Strategy Evaluation (MSE) approach in Stock Assessment Advice

The commercial fishery management approach for the 2024 roe herring season included a Management Strategy Evaluation (MSE) approach to inform quota levels for all major stock areas. The MSE simulations to inform the management approach were updated in 2022 for PRD, CC, SOG and WCVI.

5.1.2 Strait of Georgia Roe Herring Areas

Since 2018, Areas 15, 18 and 17 South of Nanaimo (which includes Sub areas 17-1 to 17 -10 and portions of 17-16) have been closed to Roe herring commercial fisheries and this will continue in the 2024 season. This management measure is due to lack of observed spawn in these areas over the past several years, and concerns expressed by Indigenous nations with respect to the inability to access herring for FSC in these areas adjacent to their communities.

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5.1.3 Updates to Licence Conditions

There are no significant updates to licence conditions proposed for 2024.

5.1.4 Licensing Changes

For several years, HIAB has requested that DFO reduce Roe herring licence renewal fees, especially for Roe seine licences, due to the high cost compared to the limited commercial opportunities. An avenue to support this request has not been identified and licence renewal fees will not be reduced for this season.

License flexibility (transfer of allocation from Roe Seine licence category HS/FHS to Roe Gillnet licence category HG/FH) within the roe fishery may be considered for the 2023/2024 season.

HIAB has requested the ability for roe herring seine licence eligibility holders to move unfished quota associated with their Food and Bait license (category ZM) to the roe herring seine fishery. Such requests will be considered by the Department prior to the final approved version of this plan and all allocations would be accounted for within the final TAC established for the Strait of Georgia.

5.2 Allocation, Harvest Levels, and Fishing Areas

The Department will attempt to provide reasonable fishing opportunities for seine and gillnet fisheries in each management area where fishing opportunities may be identified.

Fishery openings will be focused on the major bodies of fish or significant spawn events in the areas. Fishery openings will not be undertaken in sensitive areas, or maintained for an indefinite time period. Once an area is open, closures may be implemented if fish of unacceptable quality are prevalent. The Department has no obligation and provides no assurance or guarantee to participants that the maximum or any amount of fish specified in a licence will be harvested.

Commercial fleets should avoid locations where local Indigenous people are gathering fish, or fishing for herring spawn-on-boughs or spawn-on-kelp. DFO managers will coordinate with First Nations to identify areas where boughs have been placed or locations of other FSC harvests so that the commercial fleets can be directed to avoid these areas. Additionally, the Department works collaboratively with Indigenous nations on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. During the fishing season, requirements to avoid specific locations to support FSC harvest may be implemented.

The quotas in open areas are allocated between seine and gillnet gear types based on recommendations from HIAB on a 55:45 coast wide basis.

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5.2.1 Selection of Food and Bait Roe Seine Licences

Roe seine licence eligibility holders may have the option to select into the Food and Bait fishery in the SOG instead of the Roe seine fishery.

HIAB has requested the ability for roe herring seine licence eligibility holders to move unfished quota associated with their Food and Bait license (category ZM) to the roe herring seine fishery. This request will be considered by the Department prior to the final approved version of this plan

The initial SOG Food and Bait allocation will increase if Roe seine licence eligibility holders elect to transfer quota. The SOG Roe fishery quota will be reduced by the same amount of quota that is transferred. All allocations would be accounted for within the final TAC established for the Strait of Georgia.

Details of the transfer process will be described via Fishery Notice.

5.2.2 Haida Gwaii

The Haida Gwaii major stock assessment area will be closed to commercial fishing in 2024.

5.2.3 Prince Rupert District

The Department is seeking feedback through this draft plan on the management approach including fisheries and total harvest for the Prince Rupert area for the coming season. In recent years, roe herring and spawn on kelp commercial opportunities have been available.

5.2.4 Central Coast

The Department is seeking feedback through this draft plan on the management approach including fisheries and total harvest for the Central Coast area. Given the stock status in this area, roe herring fishing opportunities are not anticipated.

5.2.5 Strait of Georgia

The Department is seeking feedback through this draft plan on the management approach including fisheries and total harvest for the Strait of Georgia area. Roe, Food and Bait, and Special Use fisheries are anticipated with the total catch target TBD.

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5.2.6 West Coast Vancouver Island

The Department is seeking feedback through this draft plan on the management approach including fisheries and total harvest for the West Coast Vancouver Island area.

5.3 Catch Target, Licence Distribution, and Quota Table

The expected use of herring for commercial Roe herring fisheries for each of the stock assessment areas will be described in Table 7.1. in the final version of this plan. Also to be provided is the number of tons per licence and gear type. The actual licence quota will be based on the number of licences that select to fish in a specific area. The quota may be adjusted based on the actual numbers of commercial seine and gillnet licences that will be available for issuance, and may not include all licences held by DFO in PICFI or ATP inventories. The quota amount per gear allocation, the final number of licences, and quotas by gear type will be provided by way of Fishery Notice. The SOG Roe seine catch targets are reduced by the number of tons based on the number of licences selected to harvest in the SOG Food and Bait fishery.

Table 7.1. Roe herring catch targets (short tons) and proportional licence distribution by gear type/area

Licence Area	Total Roe Quota (tons)	Seine			Gill Net		
		Catch Target (tons)	Fishing Area	Ideal # Licences*	Catch Target (tons)	Fishing Area	Ideal # Licences
HG	closed						
PRD	TBD						
CC	TBD						
SOG	TBD						
WCVI	TBD						
TOTAL							
# of Licences							
Tons/Licence							

*** The ideal number of licences will change with the number of licences that select to harvest in the Food and Bait or Special Use fishery.**

5.4 Open Times

The commercial fishing plan for Roe herring is in effect from February 10, 2024 to April 30, 2024. Fisheries will be timed to coincide with major bodies of fish that are acceptable to industry in terms of roe maturity and fish size. Areas will be opened to seine or gillnet gear in specific areas and at specific times by way of Variation Order made under the authority of the Fishery (General) Regulations. Historically, fishing begins in late February and finishes by early April.

DFO will continue to provide the commercial sector opportunity to achieve optimum Roe quality within the bounds of maintaining management control, coordination with other fisheries and sound conservation principles. It is the intention of DFO to open Roe herring fisheries in consultation with the on-grounds industry advisors to provide reasonable fishing opportunities. Safety of the fleet, roe quality, gear compatibility, FSC access, and weather conditions will be taken into consideration in the conduct of fisheries, including the determination of a fishery opening.

5.5 Fishery Openings

5.5.1 Areas

Assessment areas open for the roe herring fishery will be determined in the final IFMP.

Open areas for each fishery will be subject to in season decisions and opened by Variation Order. Potential fishing areas will be subject to the permanent area closures detailed in the following section.

Fishery managers will endeavor to ensure that sensitive herring spawning areas are protected from gear damage by establishing shallow water net boundaries inside which no fishing shall take place. Herring spawning grounds may be designated under Section 41(1) of the Pacific Fishery Regulations, 1993. Vessels shall not anchor or transfer herring within a designated herring spawning ground.

The fleet is requested to avoid excessive disturbance of herring caused by vessels running back and forth over schools prior to openings.

Commercial fleets are also requested to avoid locations where local First Nations are gathering fish, or fishing for herring spawn on boughs or spawn on kelp. Additionally, the Department works collaboratively with First Nations on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. As the fishery season progresses, in some cases, specific requirements to remain out of particular locations to support FSC harvest will be broadcast for adherence by fish harvesters.

5.5.2 Areas 15 & 17 South

Spawn information and local observations indicate recent low levels of spawn in PFMAs 15 and 17S, beginning with a marked decrease in spawn in the mid-1990s. Migratory patterns for herring shift and it is unclear what impact fisheries may have on the distribution of spawn in these areas. For the 2017 season, DFO implemented in-season spawn criteria that are required prior to consideration of a commercial Roe herring fishery in these areas. There was no significant spawn in these areas in the 2017 season, and for the 2018 season, a further measure

of not opening to commercial Roe fisheries was put in place. Minimal spawn has been observed in these areas in recent years. For 2024, the areas will remain closed.

5.5.3 Areas 3 & 4

The following closure may be implemented to provide for increased access for FSC harvest in the Prince Rupert Area if required:

Subarea 4-6, specifically: those waters of Pearl Harbour and adjacent waters inside a line that begins at 54º30.670'N 130º27.702W (Flat Top Islands) then to 54º30.828'N 130º27.255"W (Green Mound) then to 54º30.738'N 130º26.924'W (Tsimpsean Peninsula), then southerly following the shoreline to 54º29.981'N 130º26.805'W (Pearl Point), then to 54º29.876'N 130º27.909'W (Cultivation Point), then westerly following the shoreline to 54º29.958'N 130º27.909'W (Burnt Cliff Island), then to 54º30.293'N 130º28.176'W (Mist Island) then following the easterly shoreline of Mist Island 54º30.381'N 130º28.096'W and then back to the initial coordinates.

These measures are intended to ensure that commercial fisheries are staged on major bodies of fish, and opportunities for Indigenous FSC fisheries can be provided on a priority basis. Fishing areas, and any areas closed to the commercial fishery will be described in fishery notices and in on-ground announcements prior to the commencement of the fishery.

5.5.4 Decision Rules for Opening Seine Fisheries

Pending decisions on fisheries and catch levels to be made in the approval of the final IFMP, the following rules will be used as required.

Strait of Georgia: The opening time and location for seines will be decided by the DFO fishery managers in consultation with pool captains. If necessary, an opening will be determined by polling each pool captain. In this situation, each pool carries the weight of the number of licences in the pool.

Decision Rules for Opening Gill Net Fisheries

Strait of Georgia: The designated representative of HIAB will contact the gill net advisors identified by the roe herring sector. The opening of the fishery will be based on the advice received from the advisors through the designated representative of HIAB to the gill net fishery manager.

Prince Rupert District: The gill net fishery manager will attempt to contact the gill net advisors identified by HIAB, and will open the area based on the advice received from the advisors that were contacted. If a gill net fishing opportunity presents itself at a time when the majority of the fleet is not in the area, the Department will, if practical, seek the advice of as many of the gill net

representatives they are able to contact before deciding whether to open the area. Notice of closures will be announced promptly, as required for conservation purposes. Notice will be sufficient to provide a reasonable opportunity for fish harvesters to remove their fishing gear from the water.

5.6 Closed Areas

5.6.1 Haida Gwaii – Area Closed

5.6.2 Prince Rupert – To Be Determined

Prince Rupert 2023/2024 Closed Areas

Area 4:

For the 2022/23 season, the following closure is being may be implemented to provide for increased access for FSC harvest in the Prince Rupert Area:

Subarea 4-6: Those waters of Pearl Harbour and adjacent waters inside a line that begins at 54º30.670'N 130º27.702W (Flat Top Islands) then to 54º30.828'N 130º27.255"W (Green Mound) then to 54º30.738'N 130º26.924'W (Tsimpsean Peninsula), then southerly following the shoreline to 54º29.981'N 130º26.805'W (Pearl Point), then to 54º29.876'N 130º27.909'W (Cultivation Point), then westerly following the shoreline to 54º29.958'N 130º27.909'W (Burnt Cliff Island), then to 54º30.293'N 130º28.176'W (Mist Island) then following the easterly shoreline of Mist Island 54º30.381'N 130º28.096'W and then back to the initial coordinates.

5.6.3 Central Coast – To Be Determined

5.6.4 Strait of Georgia – To Be Determined

Strait of Georgia 2023/2024 Closed Areas
Area closures are detailed below. There may be additional closures in season by Variation Order and fishery notice depending on the circumstances. Other area closures may be identified to address specific management concerns such as providing access to First Nations to harvest fish or spawn for food, social, and ceremonial purposes (FSC) or vessel navigation.

Area 15:
All Subareas

Area 17:

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South of Dodd Narrows (17S): Subareas 17-1 to 17 -10 and portions of 17-16, that portion south of a line at Dodd Narrows, drawn from Joan Point at 49°08.150'N 123°49.145'W on Vancouver Island northeasterly to a point on Gabriola Island at 49°08.538'N 123°48.312'W.

Area 18:
All subareas

Strait of Georgia Permanently Closed Areas
Area closures are detailed below. These areas are closed due to navigation concerns, sensitive fish habitat, or concerns regarding bycatch of other species.

Area 14:
Comox Harbour: Subarea 14-14

Area 17:
Porlier Pass: A portion of Subarea 17-3 north-easterly of a line from Cayetano Point at 49°00.767'N 123°36.014'W on Valdes Island to Alcala Point at 49°00.099'N 123°35.3730'W on Galiano Island.

Ladysmith Harbour: Subarea 17-7.
Nanaimo Harbour: Subarea 17-14.
Nanoose Harbour: Subarea 17-20.

Kulleet Bay: A portion of Subarea 17-5 westerly of a line from Coffin Point at 48°59.250'N 123°45.474 W on Vancouver Island to Yellow Point at 49°02.395'N 123°44.810'W on Vancouver Island.

Gabriola Pass: The waters of Gabriola Pass described as portions of Subareas 17-10 and 17-17 bounded by a line from Dibuxante Point at 49°07.625'N 123°42.913'W on Valdesz Island, thence following the northerly shore of Valdesz Island to Cordero Point at 49°07.700'N 123°42.126'W on Valdesz Island, thence to the most southerly tip of Breakwater Island at 49°07.546'N 123°40.897'W, thence following the westerly shore of Breakwater Island to the most northerly point on Breakwater Island at 49°08.360'N 123°40.872'W, thence due west to Gabriola Island at 49°08.355'N 123°41.4770'W, thence following the southerly shore of Gabriola Island to the point of land located at 49° 07.777' N 123° 43.045' W, thence in a straight line southerly to the point of commencement at Dibuxante Point.

Area 18:
Maple Bay: Subarea 18-7.
Cowichan Bay: Subarea 18-8.
Fulford Harbour: Subarea 18-10.

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Active Pass: That portion of Subarea 18-2 north-easterly of a line from Collinson Point at 48°51.583'N 123°21.172'W on Galiano Island to Enterprise Reef Buoy at 48°50.694'N 123°20.882'W to Crane Point at 48°50.497'N 123°20.040'W on Mayne Island.

5.6.5 West Coast Vancouver Island – To Be Determined

5.7 Gear

This section is a general description of gear used in fishing for roe herring. Please refer to the licence conditions for specifics on eligible gear for each licence. In the case of a discrepancy between this document and the licence condition, the licence conditions prevail.

The licence condition restricting the number of gillnets that may be used under authority of a gillnet licence to one (1) net was removed in 2015. This change allowed for fishing vessel efficiencies. All fishing gear must be marked in accordance with the Licence Conditions.

The restriction of a maximum of two seine (category HS or FHS) licences which may be placed on a single seine vessel was removed in 2013, and there is no maximum number of licences that may be placed on a vessel.

5.7.1 Seine

A herring purse seine shall not be greater than 411.48 metres (225 fathoms) in length, and a minimum mesh size of 25 millimetres (one inch) extension measure.

Designated vessels should have a full sized herring seine, along with all the associated gear (i.e. pumps, winches, power skiffs), to fish and haul the gear, as well as adequate electronic equipment for locating and estimating herring schools.

A properly functioning chilled seawater (C.S.W.), or refrigerated seawater (R.S.W.), system is required for all vessels participating in the fishery.

5.7.2 Gillnet

The effort restriction of fishing a single gillnet per licence was removed in the 2015 season. The gear that is permitted to be used (as per the Licence Conditions) is:
(1) Herring gill nets with:
(a) a maximum length of 135 m;
(b) a maximum depth of 100 meshes; and
(c) a maximum mesh size of 64 mm.

The maximum mesh size of 64 mm does not apply in respect of a gill net that contains a single portion of netting that is not more than 2 m in depth and that has a mesh size of at least 150 mm.

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Each herring gillnet shall be marked with the unique gillnet licence number and licence year on a small marker float that is affixed to one end of the gill net, adjacent to one of the large marker buoys. A 2005 study of the use of "Sharpie" brand markers on fishing floats indicates that this can provide a low cost and minimal failure rate net marking methodology. Nets tagged with buoys marked in this manner were tested over a 23 day period and showed no degradation in the marking readability. These floats can be replaced at low cost each year to accommodate annual gillnet licence number changes. The following is detailed in the licence conditions:

1. A buoy floating on the surface of the water shall be attached to each end of every gill net that is not attached to the vessel.
2. The buoys shall be at least 125 cm in circumference.
3. All buoys attached to the gill net shall be of the same colour.
4. A net float marked with the licence year and gillnet licence number shall be attached to a buoy that is attached to one end of the gill net.
5. The net float referred to in 4 shall be marked in solid block Arabic numerals and letters
(a) without ornamentation;
(b) not less than 25 mm in height; and 7mm in width
(c) in a colour that contrasts with their background.

In addition, no person shall use or carry on board a gill net that is more than 100 meshes in depth in a hung position or is of a greater length than 135 metres. The gill net mesh size shall not be greater than 64 mm (2.5 inches). Shaker panels shall not exceed a depth of 2 m with a mesh size no less than 150 mm (6 inches). Gill nets must be marked on both ends with buoys of similar colour, no less than 125 cm in circumference. No person shall leave any anchors, buoys or lines in the water during any closed time.

5.7.3 Vessel Master Responsibility

The maximum quantity of Roe herring authorized to be taken under a Roe herring licence by the licence holder shall not exceed the landed weight set out under "Quota" in the licence. The landed weight shall be determined at the port of landing.

The Pool captain has been identified as the person who may communicate with the fishery manager for the licenced pool and is responsible for documenting fishing locations, the number

of nets fishing, estimated catch, and the list of packing vessels for the pool; however the vessel master who is conducting the fishing activity is responsible for not exceeding the weight of fish set out in the quota for the licence.

5.8 Herring Licence Pools

DFO supports the licence pooling structure established in 1998, to ensure the proper management and control of the roe herring fishery. To this end, DFO will support the integrity of the pooling system while managing to the overall fishery quota of an area. Catch in excess of pool quotas are not permitted and therefore the DFO's on-grounds precautionary strategy is to estimate catch during the fishery opening based on hails and validated landings, and to close the fishery based on estimates of when the allocation for a gear type will be achieved. All Roe Herring licence eligibility holders are advised that they must ensure catch does not exceed the amount they are licenced to harvest.

5.8.1 Guidelines for Herring Licence Pools

1. When more than one stock assessment area is open, licence selection for the fishing areas will be on an open basis. This means that the average for each pool would depend on the total number of licences choosing the area. The quota for each pool equates to the licence share for the area chosen multiplied by the number of licences in a pool.

2. Seine Roe licences which select and land catch into the Strait of Georgia Food and Bait fishery will not be part of the Roe herring licence pool process for that year; the licence will be placed in an inactive pool for the season.

3. All Roe herring licences, except those fished in the Food and Bait fishery, must be associated with a pool. Licences not associated with a pool will be identified as inactive for the season.

4. In areas that there is an identified Roe fishing opportunity, individual seine and gillnet licence quotas are determined by the number of licences that select an area. The quota for each pool is determined by the number of licences in that pool. The individual licence quotas are added together, to calculate the pool quota.

5. Each pool designates a pool captain to act a liaison between the pool and the Department.

6. Within each area, each gear type will be managed to an overall quota. Each pool may fish until they have reached their quota, the overall fishery quota is achieved, or until the fishery is closed.

7. There will be no quota carry over from one year to the next.

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8. If there are fish from seine and gillnet gear placed on the same packing vessel, fish from each gear type must be kept in separate holds.

5.8.2 Seine Licence Pool Fishery Guidelines

1. The minimum number of seine licences required to form a pool in the Strait of Georgia seine fishery is eight. There is no maximum number per pool.

2. When open, seine fisheries in Prince Rupert and Central Coast will be managed as a single pool in each area.

3. Each pool will designate one representative (pool captain) to work with the on-grounds fishery manager.

4. Once DFO, in conjunction with the pool representatives, has agreed that the fish in an area are harvestable, final details of the fishing plan will be discussed with industry participants. This will include fishing boundaries, setting order, hail-in procedures, etc. Ideally target size of sets should be 200 tons maximum to facilitate capture and reduce the possibility of exceeding target catch.

5. Vessels designated with a roe herring seine licence must have set approval from an on grounds fishery manager prior to setting, unless the At Sea Observer (ASO) program is in place and the vessel has an at sea observer on board the vessel.

6. Fish captured by seine net may be released if the roe maturity of the set is not representative of the fish in the area. Once the fish have been dried up all fish must be pumped, and fish may not be released once pumping of the set has commenced. The sorting of fish captured in the seine is not allowed. Approval from a DFO representative must be received before any fish are released.

7. The fishery manager will evaluate the catch on an ongoing basis so that new sets can be approved in order to complete the fishery.

8. If a pool exceeds their quota, arrangements should be made to have another pool take the excess on the grounds.

9. All transporting and fishing vessels leaving the grounds must hail prior to leaving the fishing grounds, regardless of whether they have fish on board or not.

10. Daylight openings are preferred but if required the decision to fish at night will be made on grounds.

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5.8.3 Gill Net Licence Pool Fishery Guidelines

1. For all gill net area selections, a minimum pool of four gill net licences must be submitted to a PFLU. There is no maximum number per pool.

2. Only a licenced punt may be used for all catching, carrying and offloading of catch on the fishing grounds.

3. Each fishing pool must designate one person to act as a representative for that pool to co-ordinate with DFO prior to and during the season. The pool coordinator will be the liaison between the pool and the fishery manager. They will be responsible for keeping a running tally of the catch, documenting fishing locations, number of nets fishing, and a list of packing vessels for the pool.

4. Timing of gill net openings will be determined by a process for each fishing area.

5. A successful fishery requires that harvesters are present in the area with the appropriate gear, crews, vessel support, and packing capacity when the opening occurs.

6. The Department, in consultation with the pool representatives, will agree to the fishing areas.

7. Each pool will be required to weigh their catch on the grounds, using current government inspected scales. Validated weights at point of landing will be used to calculate the final weight against the individual pool quota.

8. All fish caught must be retained and validated.

9. In the Strait of Georgia, there will be a maximum number of 20 reporting relationships (gillnet pool fishery contacts), as managers will not be in a position to receive information from each of the pool coordinators.

10. Where specified vessels leaving the fishing grounds, regardless of whether they have fish on board or not, must hail into the manager prior to leaving the fishing grounds.

6 FISHERY MONITORING PROGRAM

6.1 Fishery Monitoring

An industry funded Fishery Monitoring Program will be used to ensure accurate and timely catch reporting.

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1. To ensure full accounting of catch, a Dockside Monitoring Program funded by the licence holders will be required to validate the weight of all catch from the fishery. The monitoring program will record all landings and provide a final report documenting all catch. All costs incurred for plant validation of the catch is the responsibility of the licence holder.

2. Confirmation of the service provider shall be provided to the Department each year.

3. The vessel master is required to make oral reports (hails) regarding weight of catch prior to leaving the fishing grounds, as specified in the Conditions of the roe herring seine or roe herring gillnet licence.

4. To ensure the timely deployment of a port monitor to the landing stations, each vessel leaving the grounds with fish onboard must notify the designated service provider prior to leaving the fishing grounds in order to receive a validation number. There will be a unique number assigned for each hail in. This number must be written on the plant validation slip and provided upon request to a fishery officer or designate.

5. Weights validated at the point of landing will be used to calculate the final validated weight against the individual pool quota. There will be no allowances made for ice and/or water in the tote at time of weighing. It is the responsibility of the licence holder to ensure that fish are being weighed accurately.

6. Approved landing stations for Roe herring dockside validation will be provided by fishery notice prior to the season.

6.2 At Sea Observer Coverage Option

The use of at-sea observers (ASO's) to supplement the on grounds management may be utilized this season. The purpose of the program to is to provide fishing opportunities at times when on grounds management staff and oversight are not available, and to test the utility for ASOs in the Roe herring fishery. The parameters of the program are as follows:

- Specific areas will be opened, and only for vessels with an ASO on board.
- The program is bounded by the availability of ASO staff (2-3 at a time).
- There must be sufficient packing capacity to ensure all catch is retained, and vessels should fish in a minimum of pairs.
- ASO must be on board the vessel until all fishing activity ceased (all pumping completed and gear is out of the water).
- Set releases will be photographed by ASO, and approval from fishery manager provided prior to release.

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- ASO will collect data in the form of an At Sea Observer record.
- Hail requirements and all other requirements of Licence Conditions must be adhered to.

7 LICENSING

7.1 Fisher Identification Number

A Fisher Identification Number (FIN) allows for identification of fish harvesters for data collection, fisheries management and enforcement purposes. Once a FIN is assigned to a fish harvester, that individual will reference the FIN when identifying him or herself in subsequent business dealings with both the department and service contractors; for example filling in the FIN field on logbooks, noting the FIN when hailing, landing catch, etc. More information on FIN may be obtained from your DFO fisheries manager, or the Pacific Fishery Licensing Unit (PFLU).

7.2 Licence Categories

A Roe herring seine (category HS or FHS) or gill net (category HG or FH) licence is required to commercially fish for roe herring. Roe herring licence eligibilities are limited entry and party based.

7.3 Licence Renewal Fees

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

The roe herring licence renewal fees may be found under the header, **Licence renewal fees** on the following link: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html#commercial

There is no annual licence renewal fee for communal commercial category FHS and FH licences.

All payments must be made through the National Online Licensing System (NOLS).

7.4 Licence Issuance

A commercial Roe herring gill net or seine licence must be renewed, and the licence renewal fees paid, annually to retain the privilege to be issued the licence in the future. This means that the roe herring licence eligibility holders must renew the licence whether they intend to fish or

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not. If the licence is not renewed annually, the licence eligibility will cease and DFO will not be able to consider a request to issue that licence in the future.

The licence process and deadlines outlined below may be adjusted as required to accommodate fishery planning deadlines. If adjustments are made, the revised process will be provided by way of fishery notice.

The steps to the issuance of the commercial licence and quotas are detailed below.

a) Log into the National Online Licensing System (NOLS) and pay the 2024 roe herring licence renewal fee prior to the fees payment deadline.
b) A renewal application will be uploaded to each roe herring licence eligibility holders NOLS account.
   The licence documents will not become available until such time that all licenses have been pooled and the licence renewal fees paid; which is anticipated to be provided in late February.
c) Once a copy of the application form has been obtained, where applicable, the Area Selection or vessel details should be indicated. The completed copy should then be submitted to DFO or provided to the identified Pool Captain for submission with the rest of the pool.

All deadlines are for 4 pm on the deadline date. The key dates will be provided in the approved final IFMP.

7.4.1 Area Selection/Re-Selection

Area Selection deadline - Return of Renewal Application forms (When more than one area opened)
Area selection for the 2023/24 season may occur for gillnet licences. Details will be provided in early January via a fishery notice if more than one area opened.

Area Re-selection Option (When more than one Major Stock Area opened)
Area re-selection will occur, if required, for gillnet licences. Details will be provided in early January via a fishery notice if more than one area opened.

7.4.2 Pool Designation Lists

a) Gill net: Submission deadline – TBD. Submission deadlines will be announced though the Fishery Notice System.
   (i) A pool list shall be submitted for each pool.
   (ii) There is a minimum of four (4) gillnet licences per pool.
b) Seine: Submission deadline – TBD. Submission deadlines will be announced through the Fishery Notice System.

(i) A pool list shall be submitted for each seine pool.
(ii) There is a minimum of eight (8) seine licences per pool and no more than ten pools permitted for the Strait of Georgia area.

c) All licences - Submit Pool Designation Lists and Roe Herring Licence Renewal Application forms by the submission deadlines via email: DFO.LicensingPelagics-Permispelagiques.MPO@dfo-mpo.gc.ca.

To ensure proper management and control of the fishery, any Roe herring licences that have selected an area, but who have not been identified on a pool list as required, will not be eligible to participate in the fishery (see section 5.8 of this Appendix) and will be marked as inactive. The individual gear and area share quota that would have been allocated to licences that have paid the annual licence renewal fee and selected an area but that have not identified on a pool list as Ko"pooled" by the dead line date will remain out of the overall total allowable catch for that gear type and area.

7.4.3 Licence, Conditions of Licence, and Quota Addendum in NOLS

Licence conditions and quotas are expected to be available for printing in NOLS in late-February with further information provide through the DFO Fishery Notice System.

a) Once pools are finalised, a fishery notice will be released when the documents are available for printing.
b) Roe herring licence eligibility holders or their representatives will then be able to print the conditions of licence from their NOLS account under the 'Print Documents' tab.
c) The licence does not authorize fishing for roe herring until the conditions of licence are printed and attached to the licence.

Vessel masters are reminded that under the *Canada Shipping Act*, all vessels fishing herring or capelin are required to have a valid stability certificate/booklet on board the vessel. Skiffs used in the Gill Net Fishery: Skiffs must be registered/licenced by D.O.T and display a D.O.T. number and meet all fish hold inspection standards.

7.5 Licence Documents

7.5.1 Valid Period

Roe herring licence documents are valid from the date of issue to December 31, 2024.

7.5.2 Replacements

Replacement for lost or destroyed licence documents may be obtained by re-printing from your National Online Licensing System (NOLS) account.

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7.5.3 Seine Vessel Redesignation

Roe herring seine licences may be redesignated to another vessel upon receipt of a written request prior to issuance of licences for that pool has commenced. The application and pool sheet must be amended.

On grounds redesignation requests will not be considered where a designated vessel is licenced in another area and unable to arrive in time for a fishery in a second area.

After licence issuance, vessel redesignation may occur on grounds on the approval of a fishery officer. On grounds requests are considered only if the vessel is disabled (lost, damaged or mechanical breakdown), within the same pool or prior to the fishery openings in the area (Changes in area are not permitted).

7.6 Transporting herring

Transporting vessels are used in the herring fishery to transport herring harvested during commercial fishing to landing locations. Transporting fish is not permitted unless the vessel is registered and licenced to be used in commercial fishing or a transporting (category D) licence has been issued in respect of the vessel. A Roe herring seine licence, any limited entry vessel based licence or communal commercial licence for the following species (i.e. salmon, schedule II species, geoduck, sablefish, halibut, crab, shrimp trawl, groundfish trawl or prawn and shrimp by trap), a valid Salmon category NAG licence allows the transport of Roe herring caught by other vessels.

7.7 Licence Eligibility Nomination

Roe herring licence eligibilities for categories HG or HS, may be nominated from one party to another. Communal commercial roe herring licences may not be nominated.

A Nomination for Roe Herring Licence Eligibility form can be obtained from the Pacific Fishery Licence Unit (PFLU) or from the PFLU webpage at: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/forms/nom-roeherr-harrogue-eng.pdf

Nomination applications are accepted annually from April 1st to October 31st. Forms must be received by the PFLU by close of business on October 31st. Postmarks will not be accepted.

Nomination forms can be submitted to the PFLU via Email (fishing-peche@dfo-mpo.gc.ca) or by submitting a request through the National Online Licensing System (NOLS).

There are no restrictions as to who can be nominated for a full fee Roe herring licence eligibility, however only an Indigenous individual, who has status under the *Indian Act* may be nominated for a reduced fee roe herring licence eligibility.

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The nomination form must be signed by the roe herring licence eligibility holder on record; if the licence eligibility holder on record is a company or Indigenous group, the PFLU must have on record a current (i.e. within 30 days) BC Company Summary or a Confirmation of Band Signing Authorities form, advising who the signing authorities are.

Only one nominee (i.e. an individual, Indigenous group or company) may be nominated. Multiple nominees will not be accepted.

8 PUBLIC HEALTH

Human Waste Containment Regulations

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

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

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

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9 COMPLIANCE WITH OTHER FEDERAL AND PROVINCIAL LEGISLATION

Fish harvesters are responsible for compliance with all federal and provincial laws and regulations pertaining to fishing operations.

10 HISTORIC FISHERY DATES AND CATCH TARGETS

Table 7.2. Roe Herring Expected Use (Short tons) by Area, 2009 to 2023

	HG	PRD	CC	SOG	WCVI	Coast Wide
2009	closed	2,000	closed	9,750	closed	11,750
2010	closed	1,537	closed	8,500	closed	10,037
2011	closed	2,346	closed	13,500	closed	15,846
2012	closed	1,500	closed	11,500	closed	13,000
2013	closed	2,100	closed	13,805	closed	15,905
2014	1,200	2,000	750	13,633	2,117	19,700
2015	800	2,000	1,400	29,415	3,000	37,200
2016	closed	2,500	215	19,945	closed	22,660
2017	closed	2,500	215	28,185	closed	30,900
2018	closed	2,258	closed	20,990	closed	23,248
2019	closed	closed	closed	21,493	closed	28,430
2020	closed	closed	closed	10,423	closed	10,423
2021	closed	closed	closed	12,963	closed	12,963
2022	closed	closed	closed	8,117	closed	8,117
2023	closed	186	closed	5,802	closed	5,988

Table 7.3. Roe Catches (Short tons) by Gear and Roe Herring Area - 2023

Roe Herring Area	Seine	Number of Licences	Gill Net	Number of Licences	Total Catch
HG	0	0	0	0	0
PRD	0	0	186	4	**185**
CC	0	0	0	0	**0**
SOG	2,321	182	2,704	1,193	**5,025**
WCVI	0	0	0	0	0
Inactive		0		70	
Food and Bait SOG		70			
*SN/GN Flexibility Trial		0		0	
Total	2,321	252	2,890	1,267	5,211

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***In 2019/20 a trial was been conducted giving licence holders flexibility to select between the 2 gear types. In the 2020/21 trial, selection from seine to gillnet included a penalty of 25% of SN quota. In 2021/22, no penalty was applied. Gear selection was not offered for the 2022/23 season.**

Table 7.4. Dates, Locations and Catch of Roe Herring Fisheries - 1980 to 2023

Haida Gwaii (Queen Charlotte Islands) (Areas 1, 2E and 2W)

Year	Seine	Location	Total Seine Catch	Gill Net	Location	Total Gill Net Catch
1980	Mar 23	Skincuttle Inlet	2,321	Feb. 12-14, 17-20	Naden Harbour	1,334
	Mar 19-21	Louscoone Inlet		Mar 19-21	Louscoone Inlet	
1981	Mar 17	Skincuttle Inlet	4,281	Mar 18-20	Skincuttle Inlet	1,879
	Mar 21	Inskip Inlet		Mar 24-30	Atli Inlet	
	Mar 24	Atli Inlet				
	Mar 25	Rennell Sound				
1982	Mar 14	Lower Juan Perez	2,594	Mar 20-22	Inner Skincuttle Inlet	1,551
	Mar 20	Inskip Channel				
	Mar 22	Atli Inlet				
1983	Mar 09	Lower Juan Perez	5,071	Mar 15	Outside Poole Inlet	1,024
	Mar 21	Inskip Channel				
1984	Mar 2	Lower Juan Perez	4,427	Mar 14	Poole Inlet	589
1985	Mar 11	Skincuttle Inlet	4,832	Mar 25-26	Inner Skincuttle Inlet	1,644
1986	Mar 23	Skincuttle Inlet	2,720	Apr 7	Juan Perez Sd.	981
1987	Mar 20	Juan Perez Sound	1,896	No fishery		
1988	No fishery			No fishery		
1989	Mar 28	Louscoone Inlet	1,211	No fishery		
1990	Mar 18	Port Louis	5,787	Apr 8	Burnaby Strait	1,290
	Mar 26	Louscoone Inlet				

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Year	Seine	Location	Total Seine Catch	Gill Net	Location	Total Gill Net Catch
1991	Mar 23	Rennell Sound	6,367	Apr 8	Section Cove	598
	Mar 31	Burnaby Strait				
1992	Mar 16	Louscoone Inlet	3,650	No fishery		
	Mar 18	Rennell Sound		No fishery		
1993	Mar 25	Skincuttle Inlet	3,470	No fishery		
	Mar 28	Port Louis				
	Mar 29-30	Rennell Sound				
	Mar31-Apr 1	Inskip Inlet				
1994	No fishery			No fishery		
1995	No fishery			No fishery		
1996	No fishery			No fishery		
1997	No fishery			No fishery		
1998	Mar 14 -	Huston Inlet	1,512	No fishery		
	Mar 15-16	Huston Inlet				
	Mar 15-17	Lower Juan Perez				
	Mar 25	Skincuttle Inlet				
1999	Mar 10	Skaat Harbour	2,484	Mar 25-27	Lower Juan Perez / Skincuttle Inlet	521
2000	Mar 15	Island Bay / Skaat Harbour	1,640	No fishery		
	Mar 16	Skaat Harbour / Skincuttle Inlet				
2001	No Fishery			No Fishery		
2002	Mar 22	Juan Perez	502	No Fishery		
2003 to 2023	No Fishery			No Fishery		

Prince Rupert District (Areas 3, 4 and 5)

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1980	Mar 29-31	Kitkatla Inlet	1,809	Mar 29-31	Kitkatla Inlet	1,153
1981	Mar 27	Kitkatla Inlet	1,159	Apr 3	Kitkatla Inlet	392
1982	No fishery			No fishery		
1983	No fishery			No fishery		
1984	Mar 21	Kitkatla Inlet	1,822	Mar 26	Big Bay	2,072
1985	Mar 28	Kitkatla Inlet	3,086	Mar 26-28	Big Bay	3,831
1986	Apr 2	Kitkatla Inlet	3,796	Apr 12-13	Big Bay	5,039
1987	Mar 31 Apr 1	Kitkatla Inlet	1,918	Mar 24,25,29 Apr 2	Big Bay	4,485
1988	Apr 4	Kitkatla Inlet	3,585	Apr 2,3,4,6	Big Bay	4,781
1989	Apr 2, 3	Kitkatla Inlet	3,805	Apr 2, 3, 4	Big Bay	5,231
1990	Apr 3, 4	Kitkatla Inlet	2,224	Mar 28	Big Bay	2,603
1991	Apr 6	Kitkatla Inlet		Mar 25, 27	Big Bay	
1992	Mar 30	Kitkatla Inlet	1,230	Mar 26	Big Bay	3,912
1993	Apr 1	Kitkatla Inlet	2,000	Mar 31	Big Bay	4,155
1994	Apr 2, 3	Kitkatla Inlet	2,017	Apr 2, 3	Big Bay	2,530
1995	Apr 4, 5	Kitkatla Inlet	797	Mar 27	Big Bay	1,522
1996	No fishery			Mar 27	Big Bay	3,075
1997	No fishery			Apr 5	Big Bay	6,007
1998	No fishery			Mar 21-23	Big Bay	3,501
1999	No Fishery			Mar 20-25	Big Bay	2,028
2000	Mar 27-28	Kitkatla Inlet	1,366	Mar 29-Apr 1	Big Bay	3,308
2001	Mar 23	Kitkatla Inlet	839	Apr 1 – 4	Big Bay, Venn	2,100
2002	Apr 3-6	Kitkatla Inlet	2,059	Mar 25-29	Big Bay	2,681
2003	Mar 23	Kitkatla Inlet	1,383	Mar 28-30	Big Bay	2,706
2004	Mar 27; 29	Kitkatla Inlet	1,646 *	Mar 19 – 25	Big Bay	2,330
2005	Mar 18 – 20	Kitkatla Inlet	1,567 *	Mar 19 – 21	Big Bay	2,142 *
2006	Mar 23, 24	Kitkatla Inlet	820*	Mar 26-29	Big Bay	1,697*
2007		No Fishery		Apr 3 to 4	Big Bay	1,067
2008	Mar 15-18	Kitkatla Inlet	566	Apr 2 to 4	Slippery Rock Big Bay	1,266
2009	Apr 7,8	Kitkatla Inlet	786	Apr 7,8	Big Bay	1,418
2010	Mar 25-26	Kitkatla Inlet	523	Mar 29- Mar 31	Big Bay	1,113
2011	Mar 25-27	Kitkatla Inlet	973	Mar 26-29	Big Bay	1,346
2012	Mar 30	Kitkatla Inlet	514	Mar 24-27	Big Bay	1,010
2013	Mar 19 and 22	Kitkatla Inlet	818	Mar 20-22	Big Bay	1,415
2014	Mar 22-24	Kitkatla Inlet	791	Mar 30-Apr 1	Big Bay	1,223
2015	Mar 21-23	Kitkatla Inlet	812	Mar 22-27	Big Bay	1,092

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
2016	Mar 20-24, Apr1	Kitkatla Inlet	803	Mar 18-22	Big Bay	1,521
2017	Mar 23	Kitkatla	1,124	Mar 17 to 21	Big Bay	1,541
2018	No Opening			Mar 25 to 27	Big Bay	459
2019 to 2022	No Opening					
2023	No Opening			Mar 28 to 30	Big Bay	186

Central Coast (Areas 6, 7, 8)

Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1982	Mar 15	Stryker Bay	2,489	Mar 18-19	Cape Mark-Thompson Bay	4,488
				Mar 21-22	Kitasu Bay-Higgins Pass	
1983	Mar 15	East Houghton Islands	2,272	Mar 21	West Coast Price Island	3,945
				Mar 23	Houghton Islands, Thompson Stryker, Cecilia Island	
1984	Mar 16-17	East Higgins Pass	3,955	Mar 27-29	Kitasu Bay, Powell Anchorage S.E. Princess Alice Island	3,949
1985	Mar 11	Spiller Channel	2,993	Mar 31-Apr 1	Weeteeam Bay, Kitasu Bay, Powell Anchorage, Spiller Dundivan, Thompson Waskesiu Houghton Islands, Kwakshua Channel	2,529

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1986	Mar 29	E. Higgins Pass	2,224	Apr 5	Kitasu Bay, Powell Anchorage, Spiller Channel, Thompson	1,296
1987	Mar 29	Seaforth Channel Spiller Channel	2,583	Mar 30	Powell Anchorage, Stryker Kitasu Bay	1,014
1988	Mar 19	Stryker Bay Thompson Bay	3,490	Mar 28-30	Kitasu Bay, Thompson Bay Raymond Pass	1,069
1989	Mar 24	Kitasu Bay	6,796	Mar 30, 31	E. Higgins Pass	3,209
	Mar 25	E. Higgins		Apr 1, 3, 4	Kitasu, Thompson & Stryker Boddy/Joassa Channel Norman Morrison Bay	
1990	Mar 19	Spiller Channel	5,336	Mar 28	Kitasu Bay & Stryker Bay	3,357
	Mar 24	Spiller Channel		Mar 29	Kitasu Bay, Stryker Bay, Thompson Bay	
1991	Mar 23	Spiller Channel	7,300	Mar 31	Thompson Bay, Powell Anchorage	1,915
1992	Mar 19	Seaforth / Spiller	6,913	Mar 24	Seaforth/ Powell Anchorage/ Thompson Bay	1,085
1993	Mar 24	Seaforth / Spiller	8,655	Mar 28-29	Seaforth, Thompson Bay, Boddy Pass	2,007

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1994	Mar 26, 27	Seaforth / Spiller	10,036	Mar 28	Kitasu, Thompson Bay, Powell Anchorage	2,406
1995	Mar 18	Kitasu Bay	8,406	Mar 22	Kitasu Bay Moss Pass	1,581
	Mar 22, 23	Spiller Channel		Mar 29	Cecilia Island, Spiller Ch, Thompson Seaforth Channel	
1996	Mar 20	Seaforth / Spiller	3,900	Mar 23	Powell Anchorage, Berry Inlet, Seaforth Channel	369
1997	Mar 25	Spiller Channel	2,805	Mar 29	Powell Anchorage	33
1998	Mar 16-18	Spiller Channel	7,919	Mar 20-23	Seaforth Ch, Mathieson Ch Powell Anch, E Higgins Pass	498
1999	Mar 16-17	Spiller Channel	5,967	Mar 19-24	West Price Is.	1,558
2000	Mar 17-19	Spiller Channel	6,513	Mar 28-30	East Higgins Pass	1,021
2001	Mar 18-21	Spiller Channel	5,665	Mar 26	East Higgins Pass	509
2002	Mar 27-29	Spiller Channel East Higgins Pass	2,636	Apr 2-5	Laredo Snd, E Higgins Pass Matheson Ch	440
2003	Mar 23-24	East Higgins Pass	2,054	Apr 2-3	Laredo Snd, E Higgins Pass	319
2004	Mar 24-25	Seaforth / Spiller	2,559 *	No Fishery		
2005	Mar 22- 24	Seaforth / Spiller	3,618 *	No Fishery		
2006	Mar 21 -25	Lambard Inlet, Neekas Inlet	2,710*	No Fishery		
	Mar 26-28	E. Higgins Pass				
	Mar 27-28	Seaforth/Spiller				
2007	Mar 15 –Apr 3	Clifford Bay, Waskesui	439	No Fishery		

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
		Pass/East Higgins Pass/Kitasu Bay				
2008-2013	No Fishery			No Fishery		
2014	No Fishery			Apr 1-4	Clifford Bay and Weeteeam Bay	757
2015	Mar 22,23	Spiller Channel	690	No catch		
2016	Mar 26	E. Higgins	234	No fishery		
2017 to 2023	No Fishery			No Fishery		

Strait of Georgia (SOG) (Areas 12 to 18)

Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1980	Mar 6	Lambert Channel		Mar 5-6	Hornby - Denman	3,502
	Mar 6			Mar 9-12	Northwest Bay	
1981	Mar 7-8	Hornby - Denman	2,294	Mar 5-7	Hornby - Denman	5,584
1982	Mar 7-8	Pylades Channel	3,651	Mar 5-7	Hornby - Denman	6,154
1983	February 27	Cape Lazo	8,576	Feb. 27-Mar 1	Hornby - Denman	9,495
	Mar 4-5	Powell River				
	Mar 2	Nanoose Bay				
1984	Mar 2, 4	Powell River	4,548	Mar 9-11	Cape Lazo, Nanoose Bay	6,657
1985	Mar 6	Hornby - Denman.	2,915	Mar 8-9	Hornby - Denman	3,852
1986	No Fishery			No Fishery		
1987	Mar 6, 7	Powell River	3,429	Mar 7, 8	Lambert Channel	6,612
				Mar 17, 18	Yellow Point	

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1988	Mar 3	Baynes Sound	1,621	Mar 12	Hornby - Denman	6,601
1989	Mar 11, 12	Pylades & Stuart Channel	1,562	Mar 15	Cape Lazo - French Creek	6,525
1990	No Fishery			Mar 14	Cape Lazo Hornby - Denman	8,693
				Mar 22-24	Hornby - Denman French Creek Stuart Channel	
1991	Mar 2	Baynes Sound	1,020	Mar 17	Hornby - Denman	9,844
				Mar 18-19	Hornby - Denman	
1992	Mar 4	Baynes Sound	3,430	Mar 14-15	Cape Lazo - Lambert Channel	9,393
1993	Mar 2	Baynes Sound	4,383	Mar 6	Upper Denman - Hornby Baynes Sound - Lambert Channel	9,948
1994	Mar 10	Baynes Sound	4,902	Mar 14, 15	Shelter Point to Dorcus Point	12,249
1995	Mar 4, 5	Baynes Sound	4,209	Mar 12	Upper Baynes Sd-Hornby Is. Lambert Channel	9,112
1996	Mar 7, 8	Baynes Sound	6,995	Mar 15	Baynes Sd-Hornby Is. Lambert Channel Qualicum	6,528
1997	Mar 4	Baynes Sound	9,410	Mar 19	Baynes Sd-Hornby Is. Lambert Channel	6,294
1998	Mar 8,9	Baynes Sound	6,259	Mar 12, 13	Baynes Sound - French Creek	7,343
				Mar 18	Nanaimo	
1999	Mar 5	Baynes Sound	5,104	Mar 4-7	Baynes Sound-	7,296

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
2000	Mar 2-4	Lower Baynes Sound	6,689	Mar 4-7	Lambert Channel French Creek Lower Baynes, East Coast Denman Island, Qualicum	8,155
2001	Mar 4	Baynes Sound	7,358	Mar 6-9	Cape Lazo to Thames Creek	8,281
2002	Mar 7-8	Baynes Sound	9,685	Mar 17-20	Cape Lazo to Nanaimo	8,640
2003	Mar 14	Baynes Sound	10,897	Mar 16-23	Cape Lazo to Nanaimo	8,707
2004	Mar 10-13	Nanoose Bay & Northumberland	7,737	Mar 10-15 Mar 20-29	Cape Lazo - Valdes Island	5,637
2005	Feb 28 – Mar 2	Baynes Sound	7,710 *	Feb 28 – Mar 4	Cape Lazo to Nanaimo	9,657 *
2006	Mar 6-10	Baynes Sound	9,060*	Mar 4 Mar 13-15	Cape Lazo to Nanaimo Stuart Channel, Valdes Island	7,698*
2007	Mar 12-14	French Creek/Chrome Island/Baynes Sound	4,260	Mar 4-14	Hornby Island/Denman Island to Parksville	5,826
2008	Mar 1,2, 4, 5	French Creek/Qualicum Beach	6,664	February 26 – Mar 24	Cape Lazo – Nanaimo, Dodd Narrows	3,033
2009	Mar 4	Baynes Sound	6,265	Mar 6-8	Cape Lazo to Nanaimo	4,340
2010	Feb 28	Neck Point/Blunden	5,004	Feb 26-Mar 3	Cape Lazo to Nanaimo	3,576
2011	No fishery			Mar 13 – 22	Cape Lazo to Nanaimo	4,686
2012	Mar 4,6,7,17	Henry Bay, Comox Bar, Yellow Pt	3,494	Mar 4 to Apr 2	Cape Lazo to Nanaimo	4,496
2013	Mar 3 to 10	Baynes, Qualicum,	6,723	Mar 2-6	Cape Lazo to Nanaimo	6,509

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
2014	March 3 to 8, Mar 10	Baynes	7,583	Mar 5-11	Cape Lazo to Nanaimo	6,167
2015	Feb 24 and 28; Mar 1, 2, 3, 4, 12, 13, 18, 26, 30; April 2 and 6	Baynes, FCreek, NW Bay, Nanaimo	9,278	Feb 28 – Apr 8	Cape Lazo to Nanaimo	4,107
2016	Mar 3-6	Baynes	8,407	Mar 6-Apr 6 Mar 27-29	Lazo-Nanaimo Yellow Pt area	6,761
2017	Mar 6, 8 to12	Horseshoe, Baynes Sound	9,695	Mar 4 to Apr 4	Lazo-Nanaimo	10,166
2018	Mar 5 to 13	Lower Baynes Sound and Lambert Channel	3,429	Mar 2 to 7 Mar 29 to 29	Parksville to Bowser Nanaimo area	11,077
2019	Mar 9, 10, 13	Northwest Bay/Brant Pt. and French Creek/Qualicum Beach	7,178	Mar 15 to 21, April 1	Denman Island, Mapleguard Pt. to Qualicum	8,374
2020	Mar 6-7	Upper Baynes Sound	2,019	Mar 6 to Mar 17	EC Denman Island, Parksville Bay, French Creek, Qualicum	7,071
2021	Mar 9 to 11	French Creek, Northwest Bay/Brant Pt., and Blunden to Icarus.	2,995	Mar 10 to Mar 17	N. of Cape Lazo, to Flora Island, then south to Qualicum and Icarus.	8,296
2022	Mar 3-4	Lambert Channel, Chrome Island and Scallop Farm	820	Mar 5 to Mar 8	Kitty Coleman, Cape Lazo, Bowser to Qualicum, East Denman Island and Gartley Point	3,407
2023	Mar 8-13	Lambert Channel, Komas Bluff	2,321	Mar 14-16	Bowser to French Creek	2,704

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)

WCVI (Areas 23 to 27)

Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1980	March 7-8	Clayoquot Sound	1,854	March 8	Clayoquot Sound	2,536
				March 2-5	Esperanza Nuchatlitz Pt. Langford	
				March 3-9	Winter Harbour	
1981	March 11	Barkley Sound	5,521	March 15-16	Barkley Sound	3,395
				March 2-5	Esperanza / Nuchatlitz, P. Langford	
				March 6-13	Winter Harbour	
1982	March 17, 18	Barkley Sound	2,613	March 8-9	Clayquot Sound	3,433
	March 8	Clayoquot Sound		March 7-12	Esperanza / Nuchatlitz, Pt. Langford	
	March 7, 8	Winter Harbour		March 8-14	Winter Harbour	
1983	March 1	Barkley Sound	6,769	March 3	Esperanza, Nuchatlitz	2,684
				Feb. 28-March 4	Winter Harbour	
1984	March 8	Barkley Sound	6,303	March 5	Esperanza / Nuchatlitz	946
				March 3-6	Winter Harbour	
1985	No Fishery			No Fishery		
1986	No Fishery			No Fishery		

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
1987	Area 23 March 12	Barkley Sound	14,438	Area 25 March 12	Esperanza / Port Langford Nuchatlitz	2,724
1988	Area 23 March 11 Area 24 March 11	Barkley Sound Clayoquot Sound Cypress Bay	8,375	Area 24 March 23	Clayoquot Sound	1,596
1989	March 13, 17	Barkley Sound	9,825	March 23	Hand / Pinkerton / Turtle Island	3,874
1990	March 11, 12	Barkley Sound	7,819	March 21	Yellow / Elbow Banks	2,160
1991	March 10 March 12	Cook Channel Barkley Sound	6,145	March 21	Macoah / Toquart	2,062
1992	March 6-8	Stopper Island / Toquart Bay	3,123	March 8	Maggie River/ Macoah Pass	618
1993	March 11	Barkley Sound	5,775	March 10	Winter Harbour	369
1994	March 7	Barkley Sound	6,022	March 9	Winter Harbour Esperanza Inlet	1,020
1995	March 3	Barkley Sound	1,629	No Fishery		
1996	March 14-16 March 16	Barkley Sound Tofino	793	No Fishery		
1997	March 4	Barkley Sound	6,893	No Fishery		
1998	March 9	Barkley Sound	5,377	March 17	Barkley Sound	1,640

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Year	Seine	Location	Total Seine Catch (tons)	Gill Net	Location	Total Gill Net Catch (tons)
				March 7,8 March 18	Esperanza Inlet Sydney Inlet	
1999	March 10	Barkley Sound	3,210	March 4-7 April 1	Esperanza Inlet Sydney Inlet	1,062
2000	March 8-9	Barkley Sound	547	March 21-24	Esperanza Inlet	772
2001	No Fishery			No Fishery		
2002	No Fishery			March 26-28	Esperanza Inlet	428
2003	March 10-14	Barkley Sound	2,285	March 24-27	Esperanza Inlet	1,042
2004	March 14-15	Rosa Harbour	3,689 *	March 14-19	Inner and Outer Nuchatlitz; Rosa Harbour	654
2005	March 7 – 8	Esperanza Inlet	3,257 *	March 7 – 12	Esperanza Inlet	988
2006-2013	No fishery			No fishery		
2014	Remained closed – due to interlocutory injunction			Remained closed – due to interlocutory injunction		
2015		No catch			No catch	
2016 to 2023	No fishery			No fishery		

*Includes portion of HCRS allocation.

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APPENDIX 8. COMMERCIAL FISHING PLAN FOR SPAWN ON KELP

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1 PURPOSE

This document is a Commercial Fishing Plan for Spawn-on-Kelp in British Columbia, for the period from February 1, 2024 to June 30, 2024.

2 COMMERCIAL FISHERY OVERVIEW

The Spawn-on-Kelp (SOK) fishery traditionally occurs in four of the five Pacific Herring major stock assessment areas: Haida Gwaii (HG), Prince Rupert District (PRD), Central Coast (CC), and the west coast of Vancouver Island (WCVI). It does not occur in the Strait of Georgia (SOG) because of the lack of suitable kelp. The fishery also has activity in the minor stock assessment areas Area 2W and 27, and in Areas 10 and 12 which are outside the stock assessment areas.

Spawn-on-kelp is a traditional food of Indigenous people in British Columbia. Indigenous communities harvest herring spawn-on-kelp for food, social and ceremonial purposes (FSC) under the authority of communal licences. Indigenous coastal communities traditionally harvest herring spawn naturally on several different types of kelp, eel grass and tree branches.

The SOK fishery provides the opportunity to harvest herring eggs which have adhered to blades of kelp after herring have spawned. Commercial production of spawn on kelp was initiated in 1975 with the issuance of permits to 13 individuals, and developed in a gradual fashion. Selection of permit holders was based on remoteness of operation site and experience in catching, holding and handling live herring. Permits were issued only if adequate supplies of herring and kelp were available in the area being considered.

Between 1975 and 1983, additional permits were granted, increasing the number of permit holders to 29. In 1983, the permits formally became limited entry category J licences. In 1989, ten new licences were granted to Indigenous individuals or nations subject to retirement or rendering temporarily inactive a set number of Roe herring seine or gillnet licences from the herring Roe fishery**.** In 1996, the Supreme Court of Canada found in the *Gladstone* decision that the Heiltsuk First Nation had an Aboriginal right to commercially fish herring spawn-on-kelp (SOK). As a result, seven new communal commercial licence eligibilities were negotiated with the Heiltsuk First Nation and the Heiltsuk held nine SOK licences in Central Coast area, with an annual quota of 240,000 lbs. until 2017. In 2018, this was permanently increased by four SOK

equivalent licences or 64,000 lbs. to an overall quota of 304,000 lbs. This SOK is harvested using the preferred means of the Heiltsuk, which is open ponding.

In total, there are 46 Spawn-on-Kelp licence eligibilities. Twelve of these are communal commercial, category FJ licence eligibilities held by First Nations (three as a result of relinquishment through the Allocation Transfer Program (ATP) and re-issuance as communal commercial, and nine are unique Heiltsuk communal commercial licences), while the remainder are category J commercial licence eligibilities issued to individual parties, which include First Nations individuals and bands.

3 MANAGEMENT MEASURES FOR THE DURATION OF THIS PLAN

3.1 Changes from Previous Seasons

3.1.1 Proposed Closures for 2023/2024

For the duration of this plan, Haida Gwaii (Area 2E) will be closed for the commercial harvest of Spawn on Kelp. Additional closures are to be determined.

The following closure may be implemented to provide for increased access for FSC harvest in the Prince Rupert Area:

Subarea 4-6: Those waters of Pearl Harbour and adjacent waters inside a line that begins at 54º30.670'N 130º27.702W (Flat Top Islands) then to 54º30.828'N 130º27.255"W (Green Mound) then to 54º30.738'N 130º26.924'W (Tsimpsean Peninsula), then southerly following the shoreline to 54º29.981'N 130º26.805'W (Pearl Point), then to 54º29.876'N 130º27.909'W (Cultivation Point), then westerly following the shoreline to 54º29.958'N 130º27.909'W (Burnt Cliff Island), then to 54º30.293'N 130º28.176'W (Mist Island) then following the easterly shoreline of Mist Island 54º30.381'N 130º28.096'W and then back to the initial coordinates.

3.1.2 Implementation of Management Strategy Evaluation (MSE) approach in Stock Assessment Advice

The commercial fishery management approach for the 2024 roe herring season includes a Management Strategy Evaluation (MSE) approach to inform quota levels for all major stock areas. In 2022, there was an update to the operating model conditioning for the SOG, WCVI, PRD, and CC.

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3.1.3 Updates to Licence Conditions

There are no changes to conditions of licence for commercial SOK operators for 2024.

3.2 Events Calendar

Table 8.1. SOK Events Calendar.

MONTH	DAY	EVENT
		2023
October	1	Provincial Marine Plant Harvest Permit Application Deadline
		2024
January	31	If required - Deadline to designate 2024 roe herring licences as inactive for 2024.
	31	If required - Deadline for SOK licenses to express interest in harvesting in areas where full allocations are not avalable in 2024.
	31	If Required – lottery process to select licenses for any area where more liceses wish to harvest than there is quota available.
February	1	Deadline to enroll with spawn on kelp monitoring program
March	1	Spawn on kelp fishing season anticipated to open
April	15	Closure of Island Point to seining operations for spawn on kelp purposes (if open)
May	31	Spawn on kelp fishing closes
June	30	All spawn on kelp fishing gear removed from water
August	1	SOK licence eligibility holders that opted out of the 2024 fishery may renew their licence for zero fee
December	31	Licence Eligibility must be completed with Licensing

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3.3 Open Times

The Spawn-on-Kelp commercial fishing plan is in effect from 00:01h February 1, 2024 to 23:59h June 30, 2024. The actual opening of the fishery will be through a Variation Order and fishery notice. Application to extend the open time for late season harvest must be made to the Regional SOK Coordinator before May 24, 2024 in order to allow for consultation and discussions with all participants. Extensions to the season are not automatically approved; a precautionary plan may be required for herring conservation.

3.4 Open Areas

The following areas are identified as fishing areas, subject to in-season decisions and consultations:.

Table 8.2 Areas with Available Commercial TAC for the 2024 season.

Major Stock Areas:	TBD

When commercial harvest opportunities are available, commercial fleets are requested to avoid locations where local Indigenous people are gathering fish, or fishing for herring spawn on boughs or spawn on kelp. Additionally, the Department works collaboratively with Indigenous people on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. As the fishery season progresses, in some cases, specific requirements to remain out of particular locations to support FSC harvest will be implemented as required.

3.5 Closures

No commercial harvest will be permitted in the following areas shown in Table 8.3.

Table 8.3. SOK Closures for the 2024 season.

Major Stock Areas:	Haida Gwaii (HG) - Area 2E TBD
Minor Stock Areas:	TBD TBD
Other Areas:	

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Note that any in season changes will be completed by Variation Order and Fishery Notice. Refer to Fishery Notices before fishing in an area.

3.6 Allocation and Harvest Levels

A guideline for determining Spawn-on-Kelp harvest allocations has been implemented by the Department to avoid the issuance of partial quotas based on recent science advice and Management Strategy Evaluation (MSE) simulations. Where the provided harvest option is not evenly divisible by 100 short tons for a closed pond operation or 35 tons for an open pond operation, the harvest option will be rounded up or down to the nearest evenly divisible yield.

The Department is seeking feedback through this draft plan to determine harvest opportunities for SOK in the following areas which will be identified in the final version of the IFMP:

3.6.1 Haida Gwaii (Area 2E)

Haida Gwaii major stock assessment area will be closed for commercial SOK fishing in 2024. Natural mortality has been determined to be a dominant factor in Pacific Herring stock dynamics, and HG has not shown evidence of recovery, even in the absence of fishing. Future decisions about harvest opportunities in Haida Gwaii will be guided by the Haida Gwaii herring rebuilding plan once implemented.

3.6.2 Area 2W

To be determined. As per the recommended Haida Gwaii Rebuilding Plan management actions, SOK harvest only, up to a maximum of a 10% harvest rate may be considered for this area.

3.6.3 Prince Rupert (PRD)

To be determined. There are ten SOK licences in the Prince Rupert District. In order to provide access for the full FSC allocation, area closures may be identified to address fisheries conflicts. As well, First Nations and the commercial operators will be encouraged to work with DFO to achieve a precautionary management plan in the event of commercial harvest occurring.

3.6.4 Central Coast (CC)

To be determined. There are fifteen Central Coast SOK licences total which includes the Heiltsuk commercial fishery.

3.6.5 Area 10

To be determined. This area is outside both major and minor stock assessment areas, and a formal DFO stock assessment is not conducted. There are three SOK licences assigned to the area in total.

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3.6.6 Area 12

To be determined. This area is outside both major and minor stock assessment areas and a DFO stock assessment program is not conducted. There is one SOK licence assigned to the area in total.

3.6.7 West Coast Vancouver Island (WCVI)

To be determined. There are four WCVI SOK commercial licences.

3.6.8 Area 27

To be determined. There are three SOK licences assigned to the area in total.

3.7 Quota Allocations

The majority of category J and FJ licences have an individual quota of 16,000 lbs of drained product, adjusted annually based on the previous year for overages and underages. The Heiltsuk First Nation holds nine SOK licence eligibilities with varying quota amounts, totaling 19 equivalent SOK licence eligibilities with a total quota of 304,000 lbs.

3.8 Catch in Excess of Quota (Overage)

Operators must operate in a manner that ensures that over-harvest does not occur. Any licence holder landing spawn on kelp product in excess of the licenced amount may be subject to prosecution and seizure of the overage as a violation of their conditions of licence.

No person who is fishing under the authority of a licence issued for the purpose of commercial fishing shall dump from a vessel any fish that has been caught in accordance with the *Fisheries Act* and the *Regulations* made thereunder.

3.8.1 Carry Over of Quota Overage and Underage

First introduced in 1996, this program allows the spawn on kelp licence eligibility holder to carry over quota overages or quota underages from one year to the next based on the following rules:

The Rules for Carry-Over of Individual Quota Underages
Licence eligibility holders whose product weight is under their quota by 2,000 pounds or less, at the end of the season, will have the equivalent weight of the underage added to their individual quota in the next year the licence is active.

Licence eligibility holders whose product weight is under the quota by more than 2,000 pounds, at the end of the season, will have only 2,000 pounds added to their individual quota in the following season and will forego the remainder. For the Heiltsuk licenses, the maximum underage carry-over is 38,000 pounds.

The Rules for Carry-Over of Individual Quota Overages
Licence eligibility holders, whose product weight is over their quota by as much as 1,000 pounds at the end of the season, may retain the overage. Any product landed in excess of 1,000 lbs. will be seized and charges may result. The equivalent weight of any overage will be subtracted from the quota for that licence in the next year it is active. For the Heiltsuk licenses, the maximum overage carry-over is 19,000 pounds.

3.9 Compliance with Federal and Provincial Legislation and Regulations

3.9.1 Gwaii Haanas National Marine Conservation Area and Haida Heritage Site

The Gwaii Haanas Agreement (1993) specifies "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). Log harvesting for SOK pond frames is not permitted within the boundaries of the Gwaii Haanas National Park Reserve.

3.9.2 Province of BC Kelp Harvest Requirements

The BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development licence and enforce the harvesting of Marine Plants. The harvest of *Macrocystis integrifolia* kelp used in spawn on kelp operations is carried out under the authority of a Wild Aquatic Plant Harvester Licenceissued by the BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development. Conditions of licence include area of harvest, quantity of kelp that may be harvested, harvesting equipment, harvesting techniques, and harvest log and royalty submission.

The Province of BC is obliged to consult with First Nations prior to the issuance of the Wild Aquatic Plant Harvester Licence. Licences can assist the Ministry in this process in a number of ways, including:

- participating directly with the First Nations in the consultation process;
- providing direct support to the First Nations in the consultation process; and
- building new or maintaining any existing relationships with First Nations;
- providing the BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development with any further information that you think could assist in our consultation process.

The following application requirements apply:

- Application deadline is October 1 for harvest proposed for the following year;
- Each application must include the relevant category J licence eligibility holder information;
- The applicable licence fee payable to the provincial Minister of Finance is $110;
- As per the Fish and Seafood Licensing Regulation, the person harvesting the kelp must have a valid licence. It is the responsibility of the category J licence eligibility holder to ensure the product received was legally harvested.

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For information regarding kelp harvesting, licensing and First Nation consultation contact:

Ministry of Forests, Lands, Natural Resource Operations & Rural Development:
AquaticPlants.Courtenay@gov.bc.ca
Front Counter BC: : http://www.frontcounterbc.gov.bc.ca/contact/index.html
Office Locator: https://portal.nrs.gov.bc.ca/web/client/locations

Website: http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/fisheries-and-aquaculture/commercial-fisheries/aquatic-plant-harvesting

Fish Inspectors may conduct checks for proof of a valid Wild Aquatic Plant Harvester Licenceand may conduct audits at processing facilities to ensure compliance with the Fish and Seafood Licensing Regulation

To apply for a Wild Aquatic Plant Harvester Licence, visit:
https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/fisheries-and-aquaculture/aquatic-plants/wild_aquatic_plant_harvester_licence_application.pdf

3.9.3 Canadian Food Inspection Agency Requirements

Spawn on Kelp Sanitary Guidelines
Potential contamination of fish products may occur if adequate controls over sanitation and hygiene are not followed during the fishing and handling, both on board the vessel, and during holding and transporting to the processing plant.

For information on the sanitary requirements and preventive controls that apply to fishers, please see the CFIA website at https://inspection.gc.ca/food/requirements-and-guidance/preventive-controls/fish/information-on-the-requirements-that-apply-to-fish/eng/1564699982413/1564699982647

and https://inspection.gc.ca/food/requirements-and-guidance/preventive-controls/fish/maintenance-and-operation-of-a-vessel/eng/1564717053871/1564717054137

Licensing Requirements for Food

1) Licensing

Under the *Safe Food for Canadians Act* (SFCA) and *Safe Food for Canadians Regulations* (SFCR), many food businesses require a licence to carry out activities with respect to food.

Fishers **need** a licence to:

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- manufacture, process, treat, preserve or grade fish
- package and label fish unless the fish is **not** consumer prepackaged, **and** will be subsequently manufactured, processed, treated, preserved, graded, packaged or labelled by a licence holder in another province.

Fishers **do not need** a licence to conduct activities that are necessary to protect the fish you catch or harvest from contamination, damage and spoilage. These are handling practices associated with catching, harvesting, unloading, holding and moving fish. The steps taken by the fishing vessel at the time of harvest serves to prevent further deterioration of the spawn-on-kelp prior to delivery to a licence holder.

For more information, please see section 5.11 of "*Food business activities that require a licence under the Safe Food for Canadians Regulations"*

For a list of licence holders, please see the Safe Food for Canadians Licence Registry.

2) Export Requirements for Food

Food exports, including their preparation and packaging, are subject to Canadian acts and regulations. Exporters must meet basic requirements to be eligible to export food products from Canada.

To be eligible for export, the spawn on kelp must meet Canadian requirements, and must be produced by a person who holds a licence under the Safe Food for Canadians Act and Regulations.

Besides meeting Canadian standards, most food, food commodities and food-related products exported from Canada must comply with additional requirements set by destination countries or markets. The particular requirements you need to comply with differ depending on the product you export and the destination country. The known requirements for various countries are located in the Export requirements library. Depending on the country to which the spawn on kelp is exported, a Health Certificate from the CFIA may be required.

More information on exporting can be found on the CFIA website at https://inspection.gc.ca/food/exporting-food/eng/1323723342834/1323723662195

If you have any questions, please contact the Canadian Food Inspection Agency at:

CFIA - Burnaby	CFIA - Victoria	CFIA - Parksville
150-3001 Wayburne Dr.	103 – 4475 Viewmont Ave.	457 E. Stanford Ave.
Burnaby, B.C.	Victoria, B.C	Parksville, B.C.

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V5G 4W3	V8Z 6L8	V6P 1V7
(604) 666 9904	(250) 363 3618	(250) 248-4772

3.10 Best Practices

Operators are encouraged to conserve and minimize herring handling and usage during the fishery. DFO would like to improve estimates of herring mortality associated with spawn on kelp ponding operations. Please note that the Conditions of License also stipulate many conservation, herring handling and usage requirements. But in order to minimize impact, a number of additional measures are recommended:

3.10.1 Herring Capture

During the seining of herring for closed pond operations there are a number of measures that may be taken to minimize impacts:

a. Sets should be as close to the intended ponding amount as possible
b. Jigging herring prior to making a set may provide an indication of maturity.
c. Drying up of sets to the point of causing fish to boil may result in undue stress and mortality.
d. Nets should be drummed slowly to reduce fish stress.

3.10.2 Towing

Slow towing speeds are better for fish health. The maximum towing speed recommended is 0.3knots. This rate maintains the shape of the net, and reduces the occurrence of folding or "bagging" of the net, which tends to trap fish against the web causing increased scale loss, bruising and other injuries. The maximum towing distance is recommended to be 3nm.

3.10.3 Density

Density is an important aspect to herring mortality. Gillis et al. (1982) found that herring should not be impounded at loading densities exceeding 1.0 lb./ft^3 for 4 or 5 days. So for a 50x50x50 ft. pond, the maximum loading density is 60 tons. Retaining herring to the maximum of 7 days means operators should reduce the herring in the pond proportionally. The behavior of the fish in the higher density ponds includes undefined schooling and continual boiling over the entire surface and in the pond web. In addition, stress of impoundment and overloading in SOK fisheries is sufficient to precipitate an outbreak of disease resulting in subsequent mortality.

3.10.4 Predator Deterrence

Herring enclosures should deploy a predator deterrence system that meets one or more of the following conditions:

- Attended continually by the operator.
- A 1m or higher fence attached vertically to the frame to deter seals and sea lions.

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- Contiguous webbing pulled tight across the impoundment above the surface of the water to deter bird predation.
- A predator net consisting of contiguous netting with a maximum mesh size of 35 mm (1 5/16 inches). The predator net must surround the webbing of the impoundment completely, maintain a space of at least 30 cm (12 inches) between the predator net and the webbing, and not exceed the requirements set out in section 4.2.1

4 GEAR

This section is a general description of gear used in both closed and open pond operations. Please refer to the licence conditions for specifics on eligible gear for each licence.

4.1 Seine

- A herring purse seine shall not be greater than 410 m (225 fathoms) in length, and mesh size not less than 25 mm (1 inch) extension measure.
- The bunt of the seine net must be knotless web and a minimum of 40 metres (20 fathoms) in length.

4.2 Closed Ponds (Herring Enclosures)

- Note that a valid category J or FJ licence is required before putting any webbing in the water for use as a herring enclosure. All captured or impounded herring must be released following harvest of the spawn on kelp product, except where specific arrangements have been made with the Department.
- A maximum of two (2) enclosures may contain herring at one time for the production of spawn-on-kelp unless each enclosure is attended continually. If attended continually, a maximum of three (3) ponds with herring can be maintained.
- Herring are to be released following the harvest of the spawn-on-kelp or after a maximum of 7 impoundment days beginning when the first herring is added to the enclosure.

4.2.1 Enclosure Construction

- Enclosures must be constructed so that the floating frame can support the weight of an impoundment net and enclosed herring without collapsing.
- The maximum area of a closed pond enclosure frame is 3600 ft^2 (334 m^2) or approximately 60ft x 60ft (18.3m).

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- The bottom of the herring enclosure net must be maintained so that the bottom of the net is a minimum of 3 m (9 feet) above the substrate under the enclosure at all times.

4.2.2 Enclosure Marking

- Every individual herring enclosure (i.e. floating frame with impoundment net) must be marked with the Category J licence number under the authority of which it is operated, in accordance with the licence conditions. Enclosures must also be numbered in a sequential fashion (i.e. Pond 1, Pond 2, etc.) This numbering requirement also applies to single enclosures (i.e. Pond 1).

4.2.3 Webbing

- Any net used in a herring enclosure must be made of knotless web with a mesh size not greater than 25 mm (1 inch).
- Any net used to impound herring for spawn on kelp production must remain suspended and stationary (not towed or moved) in the water column for a minimum of 21 days following the release of the impounded herring. The 21 days may need to be extended until all of the eggs have hatched.

4.3 Open Ponds (No Herring Enclosures or Seine Nets)

- Note that a valid category J or FJ licence is required before putting any webbing or other device in the water for use to direct herring towards suspended kelp. Herring may not be enclosed or otherwise impounded in any manner.
- Nets may be suspended in the water to direct herring towards the suspended kelp, but may not impound or trap herring. Suspended nets must meet the following specifications:
- Any net used must be of a knotless web with a mesh size not greater than 25 mm (1 inch).
- Floating frames, used to suspend the nets, must be capable of supporting the weight of the net without collapsing.
- The bottom of any nets must be a minimum of 3 m (9 feet) above the substrate at all times.
- The net must remain in the water a minimum of 21 days following the most recent herring spawn deposition
- Each net must be marked with the Category J licence number under the authority of which it is operated, in accordance with the licence conditions.

5 MONITORING PROGRAM

Timely and accurate information on harvest and harvesting practices is essential to assess the status of fish stocks and to ensure the conservation and the long term sustainability of fish resources. Effective monitoring and accurate catch reporting in the spawn on kelp herring fishery is integral to the effective management of the fishery and herring resource.

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The spawn on kelp Fishery Monitoring Program is industry funded and has been in place since 1996. This program receives hails from on-grounds operators and provides dockside validation of landed and processed spawn on kelp by port monitors. In season, all monitoring activities are directed by an independent program coordinator or by a DFO representative.

The Heiltsuk First Nation has a monitoring program that provides dockside validation of landed and processed spawn on kelp by port monitors.

Additional information on the monitoring program will be provided at the time of licence issuance. Please note that compliance with the monitoring program is a condition of licence. Proof of monitoring via a letter from the service provider will be required prior to licence issuance.

5.1 Service Provider

J.O. Thomas and Associates Ltd. is the selected service provider for the Monitoring Program and port monitors. Contact information may be found in the Contacts section.

5.2 Letter of Agreement

Prior to licence issuance, proof of monitoring will be required via a letter of agreement from the service provider verifying their agreement with the delivery of a fishery monitoring program. Upon receipt of payment for services, the service provider will provide the PFLU with the required letter of agreement.

The intention to participate in the spawn on kelp fishery must be made to the service provider before February 1, 2024, in order for monitoring fees to be calculated. Failure to meet this deadline may result in increased monitoring fees or an inability for the service provider to arrange an approved monitoring program.

5.3 Hail Reports

In 2006, a program of hailing information from the grounds was initiated. This program involves regular and frequent communications with the service provider at each stage of the spawn on kelp operations.

All operators will require a method of reliable communication to ensure their hail requirements are met. Operators may use whatever communication device that they have available (e.g. landline, cell-phone, sat. phone or email). Though it is acceptable for operators in the same area to use a common communication device (such as a sat phone or email etc.) or a 3rd party that relays hails to the service provider, each operator ultimately is required to ensure their hails are current and meet their licence conditions.

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Each stage of the spawn on kelp operation will need to be hailed to the service provider during weekday office hours (08:00 to 16:00). Confirmation numbers will be provided with each hail (coded for activity type), as proof of hail and for review at point of landing. If an operator is open ponding some of the hail-in points may not apply. Operators are requested to refer to their Conditions of Licence for their specific hailing requirements.

An enhanced protocol for identifying and reporting occurrences of non-compliance with licence conditions was implemented in 2015 and will continue. Failure to meet conditions of licence may result in enforcement action.

5.4 Reporting and Notification Requirements

5.4.1 General

When harvesting under a category J or FJ licence, the vessel master shall report all required information to the designated service provider as detailed in the spawn on kelp operator's logbook and conditions of licence.

5.4.2 Importing Product from Alaska

In the past, spawn-on-kelp product from outside Canada, mainly Alaska, was imported without notification or validation requirements for transport vessels. As of 2006, the conditions for importing spawn on kelp include notification to the spawn on kelp Coordinator in the North Coast office, and validation of the offload weight by a qualified third party service provider. An information package has been developed for importers and can be obtained from the Spawn on Kelp Coordinator (see Contacts).

5.4.3 Marine Mammal and Seabird Incidence Reports

Fishers shall take precautions to avoid fishing among seabirds. Fishers are requested to retain all dead birds which are entangled and to release live and unharmed birds by placing them in the water. Please contact Laurie Wilson with the capture date and location at 1-866-431-2473 (BIRD) or by the email below. Handle birds with gloves, double bag dead birds and label each bird with date, time, and location and store them on ice. Please call your local charter patrol to organize pick-up or drop them off at a local DFO office. Alternatively, please send photographs of birds with a reference object such as a coin, and the date, time and location to laurie.wilson@canada.ca. Your names and vessel names do not need to be identified or included.

All fishing operations are required to complete an incident report for each interaction with a marine mammal. Interactions refer to cases of incidental mortality and serious injury to marine mammals. This includes accidental drowning, bycatch, entanglements, collisions, and fatalities. The vessel master shall complete the DFO reporting form "MARINE MAMMAL

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INTERACTION FORM." The Marine Mammal Interaction Form shall be submitted as per the instructions provided on the form. Once completed, this form must be submitted to DFO as per the conditions of licence.

The Marine Mammal Interaction Form is available from: https://dfo-mpo.gc.ca/species-especes/documents/mammals-mammiferes/report-rapport/Fish-Harvester-Form-Eng.pdf

5.4.4 Ghost Gear Program

One of the biggest threats to oceans internationally is marine litter, and in particular, ghost fishing gear. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost or otherwise discarded and is some of the most harmful and deadly debris found in oceans. It is estimated that between 5% - 30% of harvestable fish stocks are impacted by ghost gear across the world, posing a major threat to human health and livelihoods as well as to global food security. Additionally, ghost gear can cause large-scale damage to marine ecosystems through habitat disturbance and causes direct harm to the welfare and conservation of marine animals via entanglement and/or ingestion.

In support of international efforts to reduce marine litter, Canada signed the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities. In addition to this commitment, Canada committed to the implementation of the Oceans Plastics Charter; and strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.

These commitments were further strengthened in the Canadian Council of Ministers of the Environment's Canada-Wide Action Plan on Zero Plastic Waste Phase 2 and DFO's recent Minister's Mandate Letters (2021 and 2022), emphasizing the importance of this work to Canadians.

For more information on the Ghost Gear program, visit: https://www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/index-eng.html

5.4.5 Conditions of Licence to Report Lost and Retrieved Gear

All commercial harvesters must report their lost and subsequently retrieved fishing gear. While the Department is taking a stewardship approach to ghost gear, and working with harvesters to reduce the effects of ghost fishing, the inclusion of the reporting requirement in conditions of licence does mean that not reporting lost and/or retrieved gear is now a chargeable offence. Lost gear can be reported through the online Fishing Gear Reporting System, available at: https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html

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

5.4.6 Logbooks

Logbooks are available from the service provider. The vessel master is responsible for the provision and maintenance of an accurate record of daily harvest operations. Catch information must be recorded in the harvest log by midnight of the day in which the activity occurred. The logbook must be kept aboard the licenced vessel, and must be produced for examination on demand of a fishery officer, fishery guardian, or port monitor.

These books must be submitted to the service provider within one week of final validation for the season. The logbooks will have double copies, so that a copy of the pages can be distributed to the licence holder, the service provider and the Department.

5.5 Catch Validation and Fishery Validation Form

To ensure the continuity of catch information from the time of spawn on kelp harvest to delivery and processing, a Herring Spawn on Kelp Fishery Validation Form must be completed for each harvest operation. The operator will be responsible for documenting spawn on kelp harvest on the Validation Form and in the Logbook.

The original copy of the Herring Spawn on Kelp Fishery Validation Form must accompany the spawn on kelp product to the landing port and to the processing plant, where the port monitor will record the landed weight and processed weight on the Validation form.

A port monitor will monitor all spawn on kelp harvested and landed. The total drained weight of spawn on kelp product validated at the landing port will be applied against an individual quota. A salt allowance, equal to five percent of the total drained weight, shall be subtracted to compensate for salt and entrained water (i.e. the total validated weight will equal the drained weight minus five percent of the drained weight).

5.6 Transfer of Product

On-grounds and in-plant transfers of product may occur between operating spawn on kelp licence holders licenced for the same management and stock assessment area. Operators licenced for the same fishery management area may consolidate fishing operations; however, they must identify their pooling relationship to the service provider prior to initiating fishing activities.

In-plant transfers of product between licence holders from different management areas, but the same stock assessment area are subject to the prior approval of a Fisheries and Oceans Canada representative. In such cases, a completed Herring Spawn on Kelp Product Transfer Document will be required.

In-plant transfers will only be allowed to a licence that has made a significant fishing effort to achieve their quota but has been unsuccessful. Priority of spawn on kelp product transfers will be to the operators licenced within the same Fishery Management Area(s) and secondly to other operators located within the same stock assessment area.

Transfer of product between licence holders is permitted to allow the flexibility of licence holders to harvest their quota and to facilitate other licences to achieve their licenced quota with minimal herring usage. This allowance does not authorize a licence holder to exceed their licenced quota.

5.7 Containers Used for Export of Product

To facilitate control of spawn on kelp product processed for transport to the Japanese market, a plastic container has been developed for use in the industry. The dimensions of the container are approximately 50cm x 35cm x 20cm, and product capacity is approximately 14 kg (30 pounds). A limited number of containers (600) are available for issuance to each licence holder. The service provider will maintain an inventory of containers from year to year and control the release and recovery of buckets.

In season, the port monitors will monitor containers used in processing plants and ensure their appropriate disposition utilizing the Herring Spawn on Kelp Pail Transfer Document. Fisheries and Oceans Canada will audit the quantities utilized by each licence holder.

5.8 Sales Report

It is the responsibility of the licence holder to complete an accurate sales report after the spawn on kelp product has been sold. Licence holders are required to submit the form to Fisheries and Oceans Canada Regional Data Unit no later than September 15, 2024 at the following address:

Fisheries and Oceans Canada
Regional Data Unit
#200 - 401 Burrard St
Vancouver, B.C. V6C 3S4
Fax: (604) 666-9008

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6 LICENSING

6.1 Fisher Identification Number

A Fisher Identification Number (FIN) allows for fast, easy, and reliable on-grounds identification of fish harvesters for data collection, fisheries management and enforcement purposes. Once a FIN is assigned to a fish harvester, that individual will reference the FIN when identifying him or herself in subsequent business dealings with both the department and service contractors; for example filling in the FIN field on logbooks, noting the FIN when hailing, landing catch, etc. As the FIN is now used during normal business interactions with DFO and contractors, fish harvesters will no longer need to provide detailed personal information identifying such items as gender or date of birth. Once the FIN is issued to a fisher, it will not change from year to year. More information on FIN may be obtained from the Pacific Fishery Licensing Unit (PFLU).

6.2 Licence Categories

A spawn on kelp category J or a communal commercial category FJ licence is required to participate in this fishery. Spawn on kelp category J or FJ licence eligibilities are limited entry and party-based.

6.2.1 Number of Licences by Area

Table 8.3. Number of Licences Assigned by Area

Stock Assessment Area	Area	Number of Licences	
		All Licences	Licences in Open Areas
HG	Area 2 East - closed	10	0
PRD	Area 3/4	7	TBD
	Area 5	3	TBD
CC	Area 6	3	TBD
	Area 7	9	TBD
	Area 8	3	TBD
WCVI	Area 23/24/25	4	TBD
Minor Areas	Area 27	3	TBD
	Area 2 West	0	TBD
Other	Area 12	1	TBD

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Stock Assessment Area	Area	Number of Licences	
		All Licences	Licences in Open Areas
	Area 10	3	TBD
Total		TBD	TBD

6.3 Licence Renewal Fee

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

The commercial spawn-on-kelp herring license (Category J) renewal fee may be found on the following link: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/fees-frais-23-24-eng.html

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

The annual spawn on kelp licence fee for a category J licence is not affected by overages and underages from the previous year.

All payments must be made through the National Online Licensing System (NOLS).

6.3.1 Zero Quota – Zero Fee Option

Spawn on kelp licence eligibility holders have the option of electing a zero quota option for the 2024 season. The licence renewal fee associated with this option is zero.

Spawn on kelp licence eligibility holders electing a zero quota are still required to pay the zero dollar licence renewal fee and issue the licence in order to maintain the licence eligibility. Licence eligibility holders selecting this option are requested to renew their licence after August 1, but before December 31, 2024.

Selecting the zero quota – zero fee option may be obtained by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/licence-permis-eng.html.

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6.4 Licence Issuance

Renewal of a Category J licence and payment of the licence renewal fee must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those category J licences not renewed by December 31st will cease and licence issuance requests will be unable to be considered in future.

Issuance of a Spawn on Kelp (category J or FJ) licence requires the licence eligibility holder to annually designate the operating vessel(s) to be issued the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions are available at: https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/licence-permis-eng.html;

a. Where appropriate, select the account that holds the licence you are wishing to 'Submit a Request' for, and mouse click on 'Select';
b. Choose the 'Request Type' 'Commercial Designations or Commercial Communal Designations (vessels and operators)' and mouse click on 'Select';
c. Select the licence to be designated to the vessel(s) by mouse clicking the check box (above or to the left of the licence description) and mouse click on 'Select';
d. In the 'Comment' box please enter the following information, for each of the operating vessel being identified:
    i. Vessel Registration Number (VRN)
    ii. Vessel Name(s)
    iii. Vessel Master name;
    iv. Other information as required for the fishery;
e. Clients are advised to please check the 'Request Status' during the next 2 working days as this is how they will be advised of any problems or additional requirements.

For Spawn-on-Kelp licences introduced for Indigenous groups in 1991 and 1992, where all Roe herring gill net retirement obligations have not yet been met, the annual requirement to designate roe herring licences as inactive must be met by January 20, 2024. This deadline must be adhered to for both inactive and/or any roe herring gill net retirements as they may have an impact on quota allocations for the remainder of the Roe herring gill net fleet.

6.5 Licence Requirements

Prior to licence issue, the SOK licence eligibility holder must ensure that:

- A registered commercial fishing vessel is designated as the operating vessel (a maximum of three operating vessels may be designated). Designated vessels must be registered as a commercial vessel with the PFLU although the designated vessels do not have to hold a vessel based licence eligibility.
- Proof of participation in a DFO approved spawn on kelp port monitoring program.

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- If an operating vessel is not currently a registered Canadian commercial fishing vessel, details on registration can be obtained by contacting the PFLU or online at: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/forms/comm-vess-bat-en-reg-eng.pdf

Note that pond set up or harvesting is not permitted prior to licence issue.

6.6 Sales Reports

It is the responsibility of the Spawn on Kelp licence eligibility holder to complete an accurate sales report after the spawn on kelp product has been sold. Licence holders are required to submit the form to Fisheries and Oceans Canada Regional Data Unit no later than September 15, 2024 at the following address:

Fisheries and Oceans Canada
Regional Data Unit
#200 - 401 Burrard St
Vancouver, B.C. V6C 3S4
Fax: 604-666-9008

6.7 Licence Documents

6.7.1 Valid Period

Spawn on kelp licence documents are valid from the date of issue to December 31st, 2024.

6.7.2 Replacements

Replacement for lost or destroyed licence documents may be obtained by re-printing from your National Online Licensing System (NOLS) account.

6.7.3 Vessel Redesignation

Vessel redesignation after licence issuance is permitted, when required, by submitting a request through the National Online Licensing System. Instructions are available at www.dfo-mpo.gc.ca/fm-gp/sdc-cps/products-produits/request-demande-eng.htm.

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APPENDIX 9. COMMERCIAL FISHING PLAN FOR FOOD & BAIT HERRING

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1 PURPOSE

This document is a Commercial Fishing Plan for Food and Bait herring in British Columbia, for the period from November 24, 2023 to February 12, 2024. The Commercial Food & Bait fishery currently occurs in two stock areas; the Strait of Georgia and in Prince Rupert District (when open).

This plan recognizes priority access of Indigenous harvest of herring for Food, Social, and Ceremonial (FSC) purposes. There are also fishing opportunities described in Treaty Agreements for a number of First Nations in British Columbia. Additionally 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 an Aboriginal right to fish for any species, with the exception of Geoduck, within their fishing territories and to sell that fish.

2 COMMERCIAL FISHERY OVERVIEW

The Pacific commercial herring fishery began in 1877 with the first commercial harvest taken by beach seine. Between 1877 and 1906, annual harvest increased to 500 tons, with the majority of fishing occurring near Vancouver and on the east coast of Vancouver Island. In 1906 the dry salt market developed in China and demand for herring increased dramatically. By 1909 the annual harvest rose to 30,000 tons and between 1909 and 1919 ranged from 15,000 to 35,000 tons. During World War I the dry salt market decreased but the demand for canned herring increased, and between 1919 and 1927, approximately 85,000 tons were harvested annually. The dry salt market continued declining through the mid-1930s while the reduction fishery developed. Between 1968 and 1971 the reduction fishery was shut down due to a collapse of the BC herring stocks. During this period the Food and Bait fishery continued with harvests in the range of 5,000 tons, primarily for use as halibut bait.

In the mid-1970s, the European herring stocks collapsed and a European market for British Columbia herring developed. As a result, harvest increased to a peak of 20,000 tons in 1977. In 1988, a 50 ton individual vessel quota system was implemented with a coast-wide quota limited to 1,500 tons due to concerns that large catches in this fishery were impacting development of the higher value roe fishery. Since that time, quotas for Food and Bait herring have fluctuated from 500 to 9,585 tons annually.

A Food and Bait herring (Category ZM) licence is required to participate in this fishery. Prior to 2014 there was a lottery process to establish which applicants would be eligible for category ZM licences; where the applicants had to be the owner of a vessel that was designated for a Roe Herring seine (category HS or FHS) licence or identified as a licensed catcher vessel for a Spawn on Kelp (category J or FJ) licence, within the past five years. In 2014/2015 the Food and Bait Herring fishery moved to an equal share criteria, where category ZM licenses were available for application by each of the parties who hold a Roe Herring seine licence eligibility. The total quota for the fishery is allocated on an equal share basis to each valid Roe Herring seine licence holder.

3 FOOD AND BAIT HERRING FISHERY REPRESENTATION

The Integrated Herring Harvest Planning Committee (IHHPC) is the primary multi-stakeholder body providing input and advice to DFO's decision making processes for Pacific Herring fisheries. The IHHPC was established by DFO to promote a more streamlined, representative, cross-sectoral advisory process related to herring harvest planning, management, and post-season review. The Herring Industry Advisory Board (HIAB) provides advice to the

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Department on issues affecting commercial Roe Herring and Food and Bait fisheries; this includes providing recommendations for Food and Bait Herring and Roe Herring harvesting plans for all areas with available commercial quota.

4 MANAGEMENT MEASURES FOR THE DURATION OF THIS PLAN

The quota associated with each category ZM licence will be an equal share of the available quota for the area divided by the number of Roe Herring seine licence eligibilities for the area. The initial proposed quota for the Food and Bait fishery is 2,100 tons in the Strait of Georgia (SOG), which includes a designated ZM licence for the "Fishermen Helping Kids with Cancer" and "Autism Community Training" charities at the request of licence holders. The overall initial allocation may be adjusted in-season based on request from the Herring Industry.

Roe Herring seine licence eligibility holders may have the opportunity to fish their Roe herring quota in the SOG Food and Bait fishery or have the quota share remain in the Roe Seine fishery. The SOG Roe fishery allocations would be reduced by the same amount that the Food and Bait fisheries are increased. Quota caught in the Food and Bait fishery option would not be eligible to participate in the Roe herring fishery for that season. The Herring Industry has also requested the ability to transfer unfished quota from the Food and Bait fishery to the Roe seine fishery. Such requests will be considered by the Department prior to the final approved version of this plan and all allocations would be accounted for within the final TAC established for the Strait of Georgia.

Details of a selection process will be provided through the DFO Fishery Notice System if available.

4.1 Management Considerations for 2023/2024

4.1.1 Prince Rupert District

The Food and Bait fishery has not been opened since the 2016/2017 season and will not be for the 2023/2024 season.

4.1.2 Strait of Georgia

Estimated median spawning biomass in 2023 in the Strait of Georgia was 80,228 tons, up from the projected pre-fishery biomass. The forecasted median spawning biomass in 2024 is 80,882 tons (range: 44,040-146,621 tons).
The Food and Bait fishery is planned to open on November 24, 2023 (delayed from the normal opening date of November 7). Science advice in the Science Response *Stock Status Update with Application of Management Procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status*

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in 2023 and Forecast for 2024 (September 2023) is used to inform management approaches such as harvest levels, therefore the opening date has been adjusted to permit consultation on these results.

Concerns and observations have been noted regarding recent levels of herring spawn and potential impacts on First Nations food, social, and ceremonial opportunities in the areas south of Dodd Narrows (PFMA Subareas 17-1 to 17-9, portions of 17-16, 17-17, PFMA 18) and the adjacent PFMA Subarea 29-5. Since the 2016/2017 season, a number of closures and catch limits have been implemented to address concerns in these areas:

- 2016/2017: 2,000 short ton catch cap in Areas 17S and 18
- 2017/2018: a 1,000 short ton catch cap in Areas 17S and 18 and a catch cap of 4,000 short ton for Subarea 29-5
- 2018/2019: a closure in Area 17S and 18 and a 4,000 short ton catch cap in Subarea 29-5
- 2019/2020 to 2022/2023: a closure in Area 17S, 18 and Subarea 29-5.

For the 2023/2024 season, Area 17S, 18 and Subarea 29-5 will remain closed.

4.2 Highlights and changes from the previous season

Area selection will not be required for the 2023/2024 season as the fishery is planned to occur only in the Strait of Georgia area.

As detailed in the previous section, Subareas 17-1 to 17-9, portions of 17-16, 17-17, PFMA 18 (all subareas), and Subarea 29-5 will not be opened for the 2023/2024 season.

Due to the COVID-19 pandemic, in 2020/2021, an electronic monitoring program was implemented as an alternative to at sea observers in response to the COVID-19 pandemic. The electronic monitoring program will continue to be offered during the 2023/2024 fishing season, and will include the use of video and electronic monitoring systems on board vessels.

4.1.3 Updates to Licence Conditions

Electronic monitoring procedures were added to the licence conditions in 2020/2021, and will be included for the 2023/2024 season. Additionally, DFO is in the process of reviewing licence conditions related to catch monitoring and reporting and reconciling overages in landed catch.

4.3 Current Management Issues

Catch monitoring and safe fishing practices continue to be important to all fisheries in the Pacific Region. In order to monitor and address potential issues in the Food and Bait fishery, there is 100% at sea observer coverage or 100% electronic monitoring. In addition, fishing hails, vessel logbooks, and 100% dockside catch validation are required. The Food and Bait fishery is conducted with seine gear only. To reduce the impacts of fish loss from compression in the net

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during the pumping process, there is a licence condition in place that requires all herring from a set to be retained, unless the set has to be released due to vessel safety concerns. The monitoring program is provided by an independent, third party service provider. The management controls and measures for this fishery will be assessed, and future management adjustments may be made to address emerging fishery developments.

In order to address identified issues regarding the difficulty of achieving the precise catch amounts with seine gear, a process to allow reallocation of unfished quota assigned to another category ZM licensed designated vessel will be continued. Multiple licences may be designated to a single vessel, including category ZY3 and ZY4 Special Use Herring licences, and there are no restrictions on the number of category ZM licences that may be designated to a vessel.

Fish harvesters are requested to operate cooperatively in this fishery both to increase safety for all vessels, and work within licence quotas while minimizing impact on the herring resource. The HIAB in conjunction with Fish Safe BC, the Department, and the industry selected service provider have developed a Food and Bait Best Practices booklet to highlight fishing practices to address safety considerations for this fishery. Pre and in season meetings will be conducted as required to address management and safety issues.

4.4 Financial Responsibilities

All eligible parties are responsible for ensuring they are compliant with all DFO monitoring requirements for this fishery, including all associated monitoring costs.

4.5 Allocation and Harvest Levels

Preliminary quota allocation to the Food and Bait fishery are set at the opening of the fishery, based on advice from the Herring Industry Advisory Board (HIAB). Quota adjustments may occur with all catch accounted for as part of the overall Strait of Georgia herring TAC. Each eligible seine applicant will have an equal share of the quota. In season quota adjustments will be provided by way of Fishery Notice and will be in effect at the times, areas, and levels specific in the fishery notice.

The initial proposed quota for the Food and Bait fishery is 2,100 tons in the Strait of Georgia (SOG), which includes a designated ZM licence for the “Fishermen Helping Kids with Cancer” and “Autism Community Training” charities at the request of licence holders. The overall initial allocation may be adjusted in-season based on request from the Herring Industry.

Roe Herring seine licence eligibility holders may have the option to select to fish their Roe herring quota in the SOG Food and Bait fishery or have the quota share remain in the Roe Seine fishery. The SOG Roe fishery allocations would be reduced by the same amount that the Food and Bait fisheries are increased. Quota caught in the Food and Bait fishery option would not be eligible to participate in the Roe herring fishery for that season. The Herring Industry has also

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requested the ability to transfer unused quota from the Food and Bait fishery to the Roe seine fishery. Such requests will considered by the Department prior to the final approved version of this plan and all allocations would accounted for within the final TAC established for the Strait of Georgia.

Details of a selection process will be provided through the DFO Fishery Notice System if available.

4.6 Open Times

The fishery is planned to be open upon request from November 24, 2023 and February 12, 2024. The fishing season was extended starting in 2012/2013 from February 9 to February 12 in the Strait of Georgia, to accommodate fishing late in the season. When open, Prince Rupert District fishing season is November 7 to February 25 to accommodate fish distribution and timing in that area.

Fishing will be permitted to eligible vessels designated with a category ZM licence from: November 24, 2023 to February 12, 2024 in the Strait of Georgia area only.

4.7 Fishing Areas

The following areas are identified as fishing areas within which the fishery may occur. The area open to the fishery will be subject to in season decisions and will be opened by Variation Order and Fishery Notice. Permanent area closures are detailed in the following section.

Areas or sub areas may be closed on short notice in season in the event that;

- small or unsuitable fish are being released,
- substantial incidental bycatch occurs
- stock concerns are identified.

Vessel masters are advised to check the DFO fishery notice internet site, prior to commencing fishing, at: http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?pg=search_options&lang=en&id=commercial

Fishing may be permitted by eligible vessels in the following Areas and Subareas, with the exception of the closures noted in the Permanent Area Closures, and subject to Conditions of Licence, and fishery notices.

Commercial fleets are requested to avoid locations where local First Nations are gathering fish, or fishing for herring spawn on boughs or spawn on kelp. Additionally, the Department works collaboratively with First Nations on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. As the fishery season

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progresses, in some cases, specific requirements to remain out of particular locations to support FSC harvest will be broadcast for adherence by fish harvesters.

4.7.1 Prince Rupert District – When Open

Area 3: Subareas 3-1 to 3-3, and portions of Subarea 3-4 inside a line commencing at Sarah Point northward to a red can buoy located at Inskip Passage, thence easterly to the northernmost point of the estuary of Neaxtoalk Lake, thence northward along shore to the markers in Dudevoir Pass, thence along the shore of Maskelyne Island to a marker approximately one half mile southerly of Maskelyne Point, thence to Pointer Rocks light thence southward to Gordon Point on Finlayson Island, thence southward along the shore to Sarah Point. Subarea 3-4 will also be open south of a line from Sarah Point to Hook Point, Subarea 3-7.

Area 4: All Subareas will be open. The Harbour Authority of Prince Rupert and Port Edward must be notified prior to any fishing activity within harbour limits as shown on chart No. 3957 published by the Canadian Hydrographic Service.

Area 5: Subareas 5-1, 5-2, 5-3 and 5-10.

4.7.2 Strait of Georgia

Area 13:
Subareas 13-8 to 13-10; and

Subarea 13-7 ***excluding:***
Deepwater Bay, east of a line drawn from a boundary sign at 50°11.434'N 125°20.268'W on Quadra Island to a boundary sign at 50°10.861'N 125°20.885'W near Separation Head on Quadra Island.

Area 14:
Subareas 14-1 to 14-13, and 14-15.

Area 17:
Subareas 17-11 to 17-13, 17-15, 17-18, 17-19 and 17-21; and

Subareas 17-10 ***excluding:***
the waters of Gabriola Pass bounded by a line from Dibuxante Point at 49°07.625'N and 123°42.913'W on Valdes Island, thence following the northerly shore of Valdes Island to Cordero Point at 49°07.700'N and 123°42.126'W on Valdes Island, thence to the most southerly tip of Breakwater Island at 49°07.546'N and 123°40.897'W, thence following the westerly shore of Breakwater Island to the most northerly point on Breakwater Island at 49°08.360'N and 123°40.872'W, thence due west to Gabriola Island at 49°08.355'N and 123°41.4770'W, thence following the southerly shore of Gabriola Island to the point of land located at 49°07.777'N and

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123°43.045'W, thence in a straight line southerly to the point of commencement at Dibuxante Point; and

Subarea 17-16 ***excluding:***
that portion southeast of a line at Mudge Island drawn from Joan Point at 49°08.150'N 123°49.145'W on Vancouver Island northeasterly to a point on Gabriola Island at 49°08.538'N 123°48.312'W.

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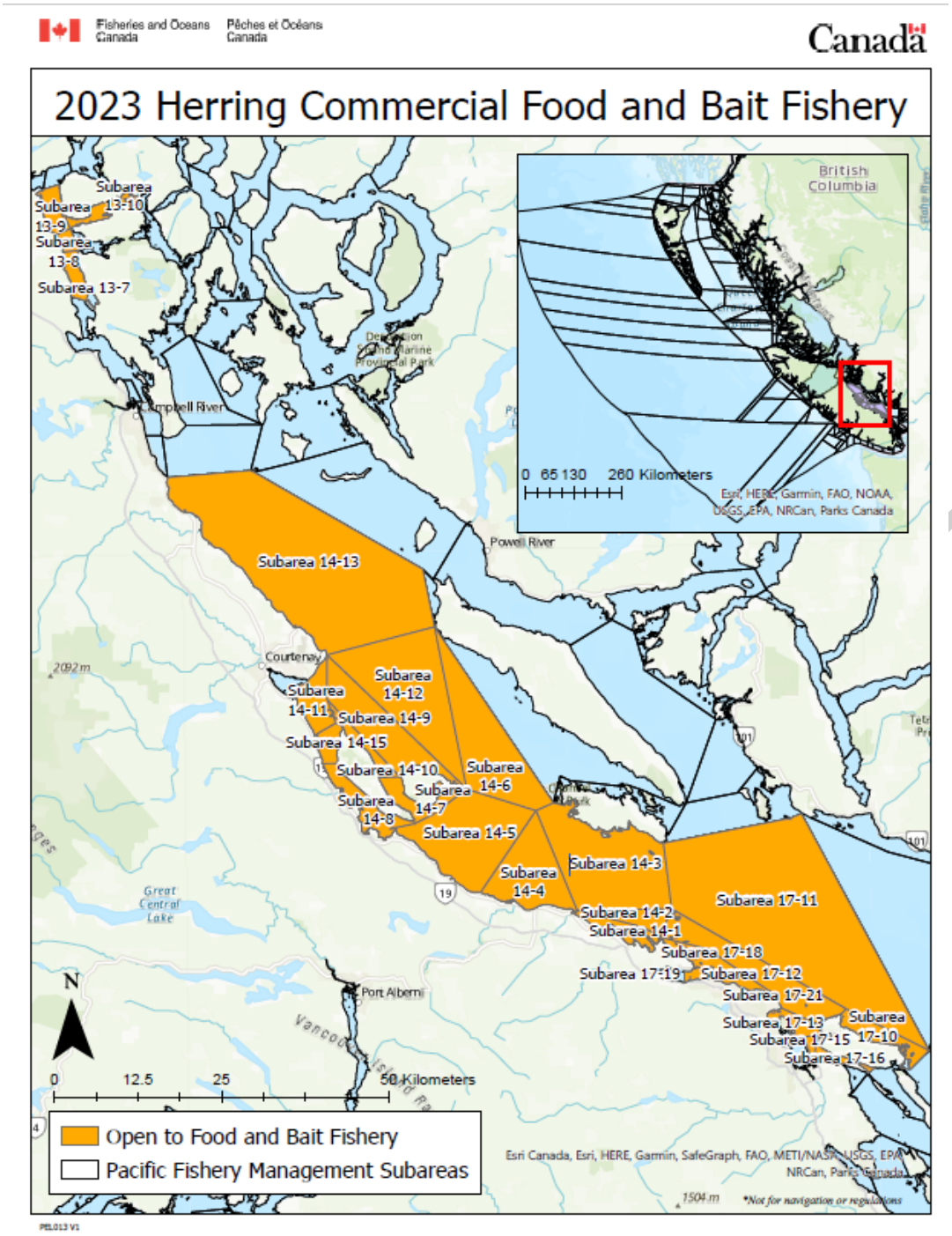

Figure 1. Map of DFO management areas open to the Food and Bait fishery in the Strait of Georgia.

4.8 Permanent Area Closures

4.8.1 Strait of Georgia

Area closures are detailed below. These areas are closed due to navigation concerns, sensitive fish habitat, or concerns regarding bycatch of other species or other management considerations. There may be additional closures in season by Variation Order and fishery notice.

Area 13:
Deepwater Bay: That portion of Subarea 13-7, east of a line drawn from a boundary sign at 50°11.434'N 125°20.268'W to a boundary sign at 50°10.861' N 125°20.885' W near Separation Head on Quadra Island.

Area 14:
14-14 (Comox Harbour)

Area 17:
Porlier Pass: A portion of Subarea 17-3 north-easterly of a line from Cayetano Point at 49°00.767'N 123°36.014'W on Valdes Island to Alcala Point at 49°00.099'N 123°35.3730'W on Galiano Island.

Ladysmith Harbour: Subarea 17-7.

Nanaimo Harbour: Subarea 17-14.

Nanoose Harbour: Subarea 17-20.

Kulleet Bay: A portion of Subarea 17-5 westerly of a line from Coffin Point at 48°59.250'N 123°45.474 W on Vancouver Island to Yellow Point at 49°02.395'N 123°44.810'W on Vancouver Island.

Gabriola Pass: The waters of Gabriola Pass described as portions of Subareas 17-10 and 17-17 bounded by a line from Dibuxante Point at 49°07.625'N 123°42.913'W on Valdes Island, thence following the northerly shore of Valdes Island to Cordero Point at 49°07.700'N 123°42.126'W on Valdes Island, thence to the most southerly tip of Breakwater Island at 49°07.546'N 123°40.897'W, thence following the westerly shore of Breakwater Island to the most northerly point on Breakwater Island at 49°08.360'N 123°40.872'W, thence due west to Gabriola Island at 49°08.355'N 123°41.4770'W, thence following the southerly shore of Gabriola Island to the point of land located at 49°07.777'N 123°43.045'W, thence in a straight line southerly to the point of commencement at Dibuxante Point.

Area 29 (when open):

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Fraser River: All Subareas with the exception of 29-5 are closed permanently.

4.8.2 Prince Rupert

No closed areas identified.

4.9 Participation Requirements - Gear

A herring purse seine must not exceed 410m (225 fathoms) in length, and the mesh size shall not be less than 25mm (1 inch) extension measure.

Designated vessels should have a full sized herring seine, along with all the associated gear (i.e. pumps, winches, power skiffs), to fish and haul the gear, as well as adequate electronic equipment for locating and estimating herring schools.

A properly functioning chilled seawater (C.S.W.), or refrigerated seawater (R.S.W.), system is required for all vessels participating in the fishery.

To maintain manageability and safety in this fishery, designated vessels will be requested to operate in a minimum of pairs during fishing operations.

Under the Canada Shipping Act, all vessels fishing or packing herring or capelin are required to have a valid stability certificate/booklet on board the vessel.

4.10 Harvest Practices

Once the pumping of herring from the seine net has commenced, all herring from that set shall be retained, unless the set must be released due to vessel safety concerns.

4.11 Catch in Excess of Quota

Vessel masters must operate in a manner that ensures that over harvest does not occur. The licensed vessel is permitted to catch and retain a maximum tonnage of herring per license based on the share. The program to allow for reallocation of unfished quota assigned to another vessel will be continued. Additionally, DFO is in the process of reviewing licence conditions related to catch monitoring and reporting and reconciling overages in landed catch.

4.12 National Online Licensing System (NOLS) Client Support:

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

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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).

4.13 Fisher Identification Number (FIN)

The FIN allows for fast, easy, and reliable on-grounds identification of fish harvesters for data collection, fisheries management and enforcement purposes. A unique Fisher Identification Number (FIN) has been assigned to all Pacific commercial fish harvesters. Once a FIN has been assigned to a fish harvester, that individual will reference the FIN when identifying him or herself in subsequent business dealings with both the department and service contractors; for example filling in the FIN field on logbooks, noting the FIN when hailing, landing catch, etc. Fish harvesters will no longer need to provide detailed personal information identifying such items as gender or date of birth.

Once the FIN is issued to a fish harvester, it will not change from year to year. More information on FIN may be obtained from the Pacific Fishery Licensing Unit (PFLU).

4.14 Licence Category

A Food and Bait herring, category ZM licence is required to participate in this fishery. Food and Bait herring licences are party based.

The total number of category ZM licence is continues to be set at 252, established on a one-to-one basis for each Roe Herring Seine (category HS or FHS) licence eligibility. However, the number of category ZM licenses issued within a given year, will be based on the number of Roe Herring seine licenses having selected the Food and Bait Herring option.

Although a limited number of Food and Bait Herring licenses are issued each year, this is not a limited entry fishery.

4.15 Licence Renewal Fee

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

The Food and Bait Herring (categories ZM) licence fee may be found under the header, Licence renewal fees on the following link: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html#commercial

All payments must be made through the National Online Licensing System (NOLS).

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4.16 Licence Issuance

There is no limit on the number of category ZM licenses that may be designated to a vessel. It is the responsibility of the vessel owner/master to consider the carrying capacity of the vessel, when designating multiple licences to a vessel.
Prior to licence issuance, the licence holder must ensure that the designated vessel:

- is a registered Canadian commercial fishing vessel with functioning refrigerated seawater (RSW) or chilled seawater (CSW) capability.

Issuance of a Food and Bait Herring (category ZM) licence requires the licence holder to designate the fishing vessel to be issued the licence. This must be done by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS). Full instructions on how to submit a request are available at: https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/licence-permis-eng.html;

a) Where appropriate, select the account that holds the licence you are wishing to 'Submit a Request' for, and mouse click on 'Select';
b) Choose the 'Request Type' 'Commercial Designations' and mouse click on 'Select';
c) Select the licence(s) to be designated to the vessel by mouse clicking the check box (above or to the left of the licence description) and mouse click on 'Select';
d) In the 'Comment' box please enter the following information:
e) Vessel Registration Number (VRN);
f) Vessel Name
g) Vessel Master name;
h) Other information as required for the fishery;
i) The designated vessel identified must be a registered commercial fishing vessel that has been designated with a Roe Herring seine (category HS or FHS) licence eligibility for the given fishing season.
j) Clients are advised to please check the 'Request Status' during the next 2 working days as this is how they will be advised of any problems or additional requirements.

Payment of the category ZM licence fee and the submission of the accompanying designation request must be received prior to licence issuance.

The available quota for the Strait of Georgia (SOG) will be shared on a percentage basis by the 252 Roe Herring seine licence eligibility holders.

Roe Herring seine licence eligibility holders may have the option to select to fish their Roe herring quota in the SOG Food and Bait fishery or have the quota share remain in the Roe Seine fishery. The SOG Roe fishery allocations would be reduced by the same amount that the Food and Bait fisheries are increased. Quota caught in the Food and Bait fishery option would not be eligible to participate in the Roe herring fishery for that season. The Herring Industry has also requested the ability to transfer unused quota from the Food and Bait fishery to the Roe seine

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fishery. Such requests will considered by the Department prior to the final approved version of this plan and all allocations would accounted for within the final TAC established for the Strait of Georgia.

Details of a selection process will be provided through the DFO Fishery Notice System if available.

Under the Canada Shipping Act, all vessels fishing Herring or Capelin are required to have a valid stability certificate/booklet on board the vessel.

4.17 Licence Documents

Food and Bait herring licences are valid from the date of issuance to February 12th, 2024.

Replacements for lost or destroyed licence documents may be obtained by logging into the National Online Licensing System and reprinting the licence documents.

Those Roe Herring seine licence eligibility holders who select the Food and Bait option will be issued amended Food and Bait licence conditions with an additional fixed quota amount dependent on Roe Herring seine allocations. The timelines and process are provided in Section 7 of the Roe Herring Commercial Plan (Appendix 7) and will be announced by way of Fishery Notice.

4.18 Vessel Redesignation

Redesignation of Food and Bait Herring licences are permitted at any time during the fishing season if the Conditions of Licence has been met, such as the completion, submission and acceptance of logbooks.

Licence holders may redesignate the category ZM licence to another fishing vessel by submitting a request through their NOLS account by navigating to the 'Submit a Request' menu selection within the National Online Licensing System (NOLS).

Prior to redesignation, licence holders must:
- Confirm that the conditions of licence have been met (i.e. logbook clearance); and
- Designate a registered Canadian commercial vessel; ensuring that the designated vessel has been designated with a Roe Herring seine (category HS or FHS) licence.

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5 FISHERY MONITORING REQUIREMENTS

The fishery monitoring requirements for this fishery include fishing hails, at sea observers or functioning electronic monitoring equipment, harvest logs and dockside validation of landed weight. These components are an integral part of the sustainable management of this fishery, and ensure alignment with the DFO monitoring policy.

5.1 Harvest log

Harvest set logs are available from the service provider. The vessel master is responsible for the provision and maintenance of an accurate record of daily harvest operations. Catch information must be recorded in the harvest log by midnight of the day in which the activity occurred, or prior to the at sea observer disembarking the vessel, whichever occurs first. The log must be kept aboard the licensed vessel, and must be produced for examination on demand of a fishery officer or fishery guardian.

The original white page copy of the log must be received by the designated service provider no later than 14 days following the last active fishing day by the licensed vessel for the season.

5.2 Hails

Telephone hails to the Service Provider must be made between the hours of 0800 to 1600 hours, Monday to Friday, but not on statutory holidays. Upon failure to arrive at the fishing location within 48 hours of the hail out time, the vessel master shall hail the vessel name, Vessel Registration Number (VRN), and details of the change in fishing plans.

The vessel master shall be responsible for making an oral report (hail) to the service provider to report events and information required by the licence conditions.

Each hail will be documented with a unique Hail Confirmation Number in the appropriate location in the Harvest Log as detailed in the licence conditions and information sheets provided with the logbooks from the service provider.

5.2.1 Notification of Fishing (Hail Out)

The master of a vessel participating in the Food and Bait fishery will be required to notify the monitoring program service provider, a minimum of 24 hours prior to the intended fishing date. The information that shall be provided is detailed in the Licence Conditions issued with the ZM licence, and includes:

- Vessel Master name
- Vessel Master FIN
- Vessel name
- Vessel registration number (VRN)

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- Onboard Observer name, or confirmation of functioning electronic monitoring system
- The subarea (s) to be fished
- The anticipated date and time fishing will begin

5.2.2 Notification of Fishing (Hail In)

The master of a vessel participating in the Food and Bait fishery will be required to notify the monitoring program service provider, a minimum of 12 hours prior to the intended landing time. The information that shall be provided is detailed in the Licence Conditions issued with the ZM licence, and includes:

- Vessel master name
- Vessel Master FIN
- Vessel name
- Vessel registration number (VRN)
- Onboard Observer name (if applicable)
- Catch Location
- Catch estimate
- Anticipated landing time
- Landing Location

5.3 At Sea Observers

Fishing vessels will be required to have at-sea observer coverage by a DFO designated observer while carrying out fishing operations or an approved alternative. An observer, or an approved alternative monitoring system must be on board prior to the vessel making a seine set. An observer may transfer to another vessel at sea, once the observer duties for the first vessel have been completed, and at the discretion of the observer.

In 2020/2021, an electronic monitoring program was implemented as an alternative to at-sea observers in response to the COVID-19 pandemic. The electronic monitoring program will continue to be offered during the 2023/2024 fishing season, and will include the use of video and electronic monitoring systems on board vessels.

5.4 Landing

All herring shall be delivered to a British Columbia port and must be offloaded within 18 hours of capture. A certified observer must validate the weight of all herring offloaded. Vessel masters are required to make offloading arrangements with the designated service provider. The following landing locations may be used:

- Metro Vancouver
- Prince Rupert
- Quadra Island

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To land at another location other than those listed above, contact the Service Provider. It is possible that a surcharge will be charged and additional costs for port monitoring. **Please contact the service provider well ahead of fishing if there is an intention to land at another port.**

Schedule B (Part I Section 11.1) of the B.C. Fish Inspection Regulations states: "Where fresh herring is for human consumption, its processing, except icing or chilling, must commence within 24 hours of delivery at the processing establishment and must not be discontinued until the herring is preserved to a degree that assures maximum quality of the product."

5.5 Dockside Validation

All landed fish must be verified by a dockside observer provided by the service provider. All herring harvested under the authority of this licence must be validated at the point and time of landing. The landing of any fish is not permitted unless an observer is present to authorize the commencement of weight verification. All weights must be determined using a scale approved by Industry Canada.

The observer may inspect fish holds, freezers and other areas where fish may be stored. It is the responsibility of the vessel owner or master to provide safe access to the vessel holds for inspection and to ensure that the vessel does not leave the offloading site prior to completion of the fish hold inspection by the observer.

5.6 Fish Slip Requirements

It is a Condition of Licence that an accurate written report shall be furnished on a fish slip of all herring caught and retained under the authority of this licence. The report shall be mailed within seven days of off-loading to:
Fisheries and Oceans Canada
Regional Data Unit
200 - 401 Burrard Street
Vancouver, B.C. V6C 3S4

Fish slips can be downloaded from the Fisheries and Oceans Canada website at: https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/fishslips-carnets/index-eng.html. For more information on fish slips, please contact the Data Unit at 604-666-2716.

5.7 Marine Mammal and Seabird Reporting

Fishers shall take precautions to avoid fishing among seabirds. Fishers are requested to retain all dead birds which are entangled and to release live and unharmed birds by placing them in the water. Please contact Laurie Wilson, Environment Climate Change Canada, at 1-866-431-2473 or laurie.wilson@ec.gc.ca. Handle birds with gloves, place birds in plastic bags, label bird

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with date, time, and location, and keep cold or frozen. Please contact Laurie Wilson to organize pick-up or drop them off at a local DFO office. Alternatively, please email Laurie photographs of birds with a reference object such as a coin, and the date, time and location.

All fishing operations are required to complete an incident report for each interaction with a marine mammal. Interactions refer to cases of incidental mortality and serious injury to marine mammals. This includes accidental drowning, bycatch, entanglements, collisions, and mortalities. The vessel master shall complete the DFO reporting form "MARINE MAMMAL INTERACTION FORM." The Marine Mammal Interaction Form shall be submitted as per the instructions provided on the form. Once completed, this form must be submitted to DFO as per the conditions of licence.

The Marine Mammal Interaction Form is available from: https://dfo-mpo.gc.ca/species-especes/documents/mammals-mammiferes/report-rapport/Fish-Harvester-Form-Eng.pdf

5.8 Lost Gear Reporting

Ghost Gear Program

One of the biggest threats to oceans internationally is marine litter, and in particular, ghost fishing gear. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost or otherwise discarded and is some of the most harmful and deadly debris found in oceans. It is estimated that between 5% - 30% of harvestable fish stocks are impacted by ghost gear across the world, posing a major threat to human health and livelihoods as well as to global food security. Additionally, ghost gear can cause large-scale damage to marine ecosystems through habitat disturbance and causes direct harm to the welfare and conservation of marine animals via entanglement and/or ingestion.

In support of international efforts to reduce marine litter, Canada signed the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities. In addition to this commitment, Canada committed to the implementation of the Oceans Plastics Charter; and strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.

These commitments were further strengthened in the Canadian Council of Ministers of the Environment's Canada-Wide Action Plan on Zero Plastic Waste Phase 2 and DFO's recent Minister's Mandate Letters (2021 and 2022), emphasizing the importance of this work to Canadians.

For more information on the Ghost Gear program, visit: https://www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/index-eng.html

Conditions of Licence to Report Lost and Retrieved Gear

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All commercial harvesters must report their lost and subsequently retrieved fishing gear. While the Department is taking a stewardship approach to ghost gear, and working with harvesters to reduce the effects of ghost fishing, the inclusion of the reporting requirement in conditions of licence does mean that not reporting lost and/or retrieved gear is now a chargeable offence. Lost gear can be reported through the online Fishing Gear Reporting System, available at: https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html

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

5.9 Compliance with other Federal and Provincial Legislation and Regulations

Fish harvesters are responsible for compliance with all federal and provincial laws and regulations pertaining to fishing operations.

6 HISTORIC FISHERY CATCH

Table 9.1. Food and Bait (ZM catch (short tons), 2011/2012 to 2022/2023.

Year	Strait of Georgia	Prince Rupert District
2011/2012	3,950	no fishing
2012/2013	4,401	no fishing
2013/2014	8,000	N/A*
2014/2015	7,932	N/A*
2015/2016	7,639	N/A*
2016/2017	7,383	N/A*
2017/2018	6,004	closed
2018/2019	7,503	closed
2019/2020	1,789	closed
2020/2021	4,082	closed
2021/2022	541	closed
2022/2023	933	closed

* N/A indicates catch data that cannot be released due to 3 party rule and privacy concerns.

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APPENDIX 10. COMMERCIAL FISHING PLAN FOR SPECIAL USE HERRING

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1 PURPOSE

This document is a Commercial Fishing Plan for Special Use herring in British Columbia. The Special Use fishery provides opportunities to harvest Pacific Herring for a variety of different uses, such as bait, food, and feed for aquarium animals.

This plan recognizes priority access of Indigenous harvest of herring for Food, Social, and Ceremonial (FSC) purposes as determined by the 1990 Sparrow decision. In addition there are fishing opportunities under Treaty rights for a number of First Nations in British Columbia.

2 COMMERCIAL FISHERY OVERVIEW

While small, the Special Use herring fishery has a complicated and varied history, due to the evolution of its complex licensing structure, which was originally developed to track the end use of herring.

In 1995, DFO replaced the use of locally issued permits with centrally issued licences. The specific end uses of the permits were retained as licence purposes, which directed how the harvested fish was to be used. While there have been as many as seven licence categories in this fishery, there are currently five categories remaining; the Sport Bait (ZY1), Commercial Bait (ZY2), Human Food and Bait (ZY3), Zoo and Aquarium (ZY4), and Personal Bait (ZX) categories. These fisheries take place only in the Strait of Georgia management area currently. There was originally some quota allocated to the Prince Rupert District; however, that quota was removed in 2017/2018 as it had not been accessed in over ten years, and therefore no quota is allocated. The specific histories of the active category ZY licence categories follow.

2.1 Sport Bait Herring (ZY1)

In the late 1970s and through the 1980s there were strong recreational fisheries. To supply bait to these fisheries, 3 ton impoundment permits were issued to the small live bait operations that had become prolific throughout the Strait of Georgia, with scattered operations into the North Coast area. These permits were to be used in conjunction with fishing permits which permitted harvest of herring for personal use or for the delivery of herring to a processor or operator possessing a valid impoundment permit.

As the recreational fisheries declined, the number of live bait operators also declined. While some interest remained in small live bait operations, other parties became interested in increasing the scale of their operations and producing fresh and frozen bait. In the majority of cases, this increase was, and is, accomplished by using the ability to stack multiple licences on

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one vessel to harvest herring for one individual or company's operations, as opposed to the original intent of harvesting for multiple operations worked by multiple licence holders. In 2007, the number of licences that could be designated to a vessel was increased from one to five at one time (licence stacking). There are also unique quotas in this category (See Section. 6.3.1).

2.2 Commercial Bait Herring (ZY2)

The category ZY2 licence was developed in 1995 as a means of providing quota for the purpose of producing bait to be used in commercial fisheries such as halibut. Prior to this date, fishing activity for commercial bait had been underway for many years, especially in the Prince Rupert District, and was managed through the issuance of permits. The category ZY2 licence is operationally the same as the category ZY1 licence, permitting the ponding of herring using 3 ton licences. Since 2017/2018 there has been no allocation for category ZY2 licenses, since the removal of the quota allocated in Prince Rupert District.

2.3 Human Food and Bait (ZY3)

In the early 1980s, opportunity to harvest herring for human food was provided through the issuance of 3 ton permits for fresh, local sales only, although four 50 ton permits were made available to Fjord Pacific Marine Industries Ltd. (Fjord) for more industrialized food processing as a unique quota.

When the category ZY3 licence was introduced in 1995, the 3 ton and four 50 ton quotas continued to be issued through licences. The 3 ton licences were made available until 2006/2007; although they were not accounted for in the category ZY3 expected use allocation. In 2007/2008, these 3 ton licences were discontinued, and in 2009 the allocation for category ZY3 was reduced to 150 tons, distributed across three 50 ton licences as a unique quota to one applicant.

2.4 Zoo and Aquarium (ZY4)

Historically the quota in this licence category was available to any zoo or aquarium operating in Canada or the United States, upon request to DFO Fisheries Management. Successive management decisions were made that first restricted the eligibility to Canadian operations only, and then to BC operations only. Currently the category ZY4 quota is available only to the Vancouver Aquarium, as a unique quota. Should a future request be made by a zoo or aquarium other than the current participant it would not be granted, as there is no additional allocation for the category ZY4 licence.

2.5 Personal Bait (ZX)

This licence category provides commercial fishers with the opportunity to harvest up to 1 ton of herring for personal (non-sale) use.

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3 MANAGEMENT MEASURES FOR THE DURATION OF THIS PLAN

3.1 Management Considerations For 2023/2024

Estimated median spawning biomass in 2023 in the Strait of Georgia was 80,228 tons, up from the projected pre-fishery biomass last year. The forecasted median spawning biomass in 2024 is 80,882 tons (range: 44,040-146,621 tons).

The Special Use fishery is anticipated to open on November 24, 2023 (delayed from the normal opening date of November 7). Science advice provided in the *Stock status update with application of management procedures for Pacific Herring (Clupea pallasii) in British Columbia: Status in 2023 and forecast for 2024. (*September 2023*)* is used to inform management approaches such as harvest levels, therefore the opening date has been adjusted to consult on these results.

Since 2016/17, concerns and observations have been noted regarding recent levels of herring spawn and potential impacts on First Nations food, social, and ceremonial opportunities in the areas south of Dodd Narrows (PFMAs 17-1 to 17-9, portions of 17-16, 17-17, PFMA 18) and the adjacent PFMA, Subarea 29-5. These areas have been closed to Special Use fishing since 2019/2020, and they will remain closed for the 2023/2024 season. In 2020/2021, there was a request from First Nations to officially close all of Area 19 given recent levels of herring spawn. There has not been any Special Use fishing in Area 19 since 2001 and this year it will remain closed.

Additionally, there have been ongoing concerns and observations regarding levels of herring spawn and potential impacts to First Nations food, social and ceremonial opportunities in Area 15, and this area will remain closed to Special Use fishing for the 2023/2024 season.

Due to the COVID-19 pandemic, in 2020/2021, an electronic monitoring program was implemented as an alternative to at sea observers in response to the COVID-19 pandemic. The electronic monitoring program will continue to be offered during the 2023/2024 fishing season, and will include the use of video and electronic monitoring systems on board vessels.

3.2 Allocation and Harvest Levels

The proposed quota for the Special Use fishery is a portion of the overall TAC for the Strait of Georgia. The total TAC in the Special Use fishery has been up to 902 tons in recent years which is distributed within the license types listed in the table below.

Table 10.1. Special Use allocation by licence category.

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Licence Type	Area	Available Licences	Quota Available (short tons)
ZX – Personal Use	SOG	25	25
	PRD	0	0
ZY1 – Sport Bait	SOG	67 *	617
	PRD	0	0
ZY2 – Commercial Bait	PRD	0	0
ZY3 – Human Food and Bait	SOG	3 *	150
ZY4 – Zoo and Aquarium	SOG	1 *	110
Grand Total		96	902

*Includes unique quotas. See section 6.3.1

Vessel masters must operate in a manner that ensures that over harvest does not occur. The harvest of fish in excess of the licensed amount is unlawful.

Small amounts of catch in excess of licensed quota amounts for categories ZY3 and ZY4 licenses against categories ZY3, ZY4 and ZM licenses may be designated to other vessels. This will be assessed post-season for continuation or modification in subsequent years.

No person who is fishing under the authority of a licence issued for the purpose of commercial fishing shall dump from a vessel any fish that has been caught in accordance with the Fisheries Act and the Regulations made thereunder.

3.3 License Condition Changes

Conditions of licence for Special Use license holders will remain the same as last year, which will include the electronic monitoring procedures added in 2020/2021 due to the Covid-19 pandemic.

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3.4 Participation Requirements

The Special Use herring fishery is an unlimited entry fishery in that the total number of licences within the fishery may not be restricted. Licenses issued under these categories do not imply or confer a right or privilege to be issued a similar licence in future seasons. Licences for participation in the Special Use herring fishery are open to any interested party provided that the specific licence requirements and eligibility criteria described in Section 7.2 have been met. Unique quotas for specific parties for specific purposes are described in Section 7.3.

A valid Special Use herring licence is required prior to any special use fishing activity, including the set-up of any herring enclosure (i.e. floating frame with web).

3.5 Open Times

Fishing for Special Use herring is permitted from 18:00 hours November 24, 2023 (anticipated opening) until 23:59 hours February 15, 2024, and 00:01 hours May 1, 2024 to 23:59 hours November 6, 2024.

3.6 Open and Closed Areas for 2023/2024

The following areas are identified as fishing areas, subject to in season decisions on specific areas that will be opened by Variation Order following the process as described by gear type and area, and subject to the permanent area closures detailed in Section 3.7.

As noted above, it is anticipated that PFMAs 15, 17-1 to 17-9, portions of 17-16, 17-17, 18, 19, and PFMA 29 will not be opened in the 2023/2024 season.

Table 10.2: Open areas in the Strait of Georgia for 2023/2024.

Area	Exceptions
Area 13	Area 13 is open except that portion of Subarea 13-7, east of a line drawn from a boundary sign at 50°11.434'N 125°20.268'W to a boundary sign at 50°10.861' N 125°20.885' W near Separation Head on Quadra Island [Deepwater Bay]
Area 14	Area 14 is open except Subarea 14-14 [Comox Harbour]
Area 16	Area 16 is open except: Subarea 16-3 [Bargain Bay] Subarea 16-4 [Pender Harbour] Subarea 16-5 [portion of Sechelt Inlet]

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	That portion of Subarea 16-10 within a radius of 0.3 nautical miles from the mouth of Sakinaw River
Area 17	Area 17 is open except: Subarea 17-1 to 17-9 The waters of Gabriola Pass described as portions of Subareas 17-10 and 17-17 bounded by a line from Dibuxante Point at 49°07.625'N 123°42.913'W on Valdes Island, thence following the northerly shore of Valdes Island to Cordero Point at 49°07.700'N and 123°42.126'W on Valdes Island, thence to the most southerly tip of Breakwater Island at 49°07.546'N 123°40.897'W, thence following the westerly shore of Breakwater Island to the most northerly point on Breakwater Island at 49°08.360'N 123°40.872'W, thence due west to Gabriola Island at 49°08.355'N 123°41.4770'W, thence following the southerly shore of Gabriola Island to the point of land located at 49°07.777'N 123°43.045'W , thence in a straight line southerly to the point of commencement at Dibuxante Point [Gabriola Pass] Subarea 17-14 [Nanaimo Harbour] That portion of Subarea 17-16 south of a line at Dodd Narrows, drawn from Joan Point at 49°08.150'N 123°49.145'W on Vancouver Island northeasterly to a point on Gabriola Island at 49°08.538'N 123°48.312'W. Subarea 17-17 Subarea 17-20 [Nanoose Harbour]

Note that these areas may be closed in season in the event that small or unsuitable fish are being released, or if substantial incidental bycatch occurs. If stock concerns are identified, some Areas or Subareas may close on short notice.

Note that requests to harvest in regions outside the major stock assessment areas or areas with limited assessment information will require additional consideration and may not be approved.

Vessel masters are advised to check the DFO fishery notice internet site, prior to commencing fishing, at: http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm

Commercial fleets are requested to avoid locations where local First Nations are gathering fish, or fishing for herring spawn on boughs or spawn on kelp. Additionally, the Department works collaboratively with First Nations on communication regarding herring stocks and spawning locations for FSC fishery planning and information on FSC activities. As the fishery season progresses, in some cases, specific requirements to remain out of particular locations to support FSC harvest will be broadcast for adherence by fish harvesters.

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3.7 Permanent Area Closures

The following areas are permanently closed to the Special Use fishery. Note that there may be additional closures in-season by Variation Order and Fishery Notice. Consult with the local fisheries office before fishing in an area.

Where a major stock assessment area is closed for conservation concerns, the permanent closures of specific Subareas are not listed. To obtain a detailed list of all permanent Subarea closures, contact your local Area Resource Manager (see Contacts).

3.7.1 Strait of Georgia

Table 10.3: Permanent subarea closures in the Strait of Georgia.

Area 13	That portion of Subarea 13-7, east of a line drawn from a boundary sign at 50°11.434'N 125°20.268'W to a boundary sign at 50°10.861' N 125°20.885' W near Separation Head on Quadra Island [Deepwater Bay]
Area 14	Subarea 14-14 [Comox Harbour]
Area 16	Subarea 16-3 [Bargain Bay] Subarea 16-4 [Pender Harbour] Subarea 16-5 [portion of Sechelt Inlet] That portion of Subarea 16-10 within a radius of 0.3 nautical miles from the mouth of Sakinaw River
Area 17	A portion of Subarea 17-3 northeasterly of a line from Cayetano Point at 49°00.767'N 123°36.014'W on Valdes Island to Alcala Point at 49°00.099'N 123°35.3730'W on Galiano Island [Porlier Pass]. A portion of Subarea 17-5 westerly of a line from Coffin Point at 48°59.250'N and 123°45.474'W on Vancouver Island to Yellow Point at 49°02.395'N and 123°44.810'W on Vancouver Island [Kulleet Bay]. The waters of Gabriola Pass described as portions of Subareas 17-10 and 17-17 bounded by a line from Dibuxante Point at 49°07.625'N 123°42.913'W on Valdes Island, thence following the northerly shore of Valdes Island to Cordero Point at 49°07.700'N and 123°42.126'W on Valdes Island, thence to the most southerly tip of Breakwater Island at 49°07.546'N 123°40.897'W, thence following the westerly shore of Breakwater Island to the most northerly point on Breakwater Island at 49°08.360'N 123°40.872'W, thence due west to Gabriola Island at 49°08.355'N 123°41.4770'W, thence following the southerly shore of Gabriola Island to the

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	point of land located at 49°07.777'N 123°43.045'W , thence in a straight line southerly to the point of commencement at Dibuxante Point [Gabriola Pass]. Subarea 17-7 [Ladysmith Harbour] Subarea 17-14 [Nanaimo Harbour] Subarea 17-20 [Nanoose Harbour]
Area 18	That portion of Subarea 18-2 northeasterly of a line from Collinson Point at 48°51.583'N 123°21.172'W on Galiano Island to Enterprise Reef Buoy at 48°50.694'N 123°20.882'W to Crane Point at 48°50.497'N 123°20.040'W on Mayne Island [Active Pass] Subarea 18-7 [Maple Bay] Subarea 18-8 [Cowichan Bay] Subarea 18-10 [Fulford Harbour]
Area 19	Subarea 19-1 [Victoria Harbour] Subarea 19-2 [Esquimalt Harbour] Subarea 19-6 [Sidney Spit Marine Park] Subareas 19-7 to 19-12 [Saanich Inlet]
Area 28	All Subareas
Area 29	29-7 to 29-17 [Fraser River]

3.7.2 Prince Rupert District

No Subarea closures identified.

3.7.3 Other Areas

Table 10.4: Other subarea closures.

Area 12	That portion of Subarea 12-4 inside a line running from Lewis Point to Ella Point [Beaver Cove] Subarea 12-20 [Parsons Bay]

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Subarea 12-3 (portion). From a point on shore due north to a point at 50°30.33′ N 126°37.47′ W then east to a point at 50°29.65′ N 126°30.23′ W then due south to the shoreline [Robson Bight - Michael Bigg Ecological Reserve]

3.8 Compliance with other Federal and Provincial Legislation and Regulations

Fish harvesters are responsible for compliance with all federal and provincial laws and regulations pertaining to fishing operations. This includes compliance with the Navigable Waters Protection Act for any structures related to fishing operations.

4 GEAR

This section is a general description of gear used in fishing for Special Use herring. Please refer to the license conditions for specifics on eligible gear for each license.

4.1 Gill Net

- Gill nets are permitted for use by category ZX licence holders only.
- No person shall use more than one section of herring gill net. No person shall use a herring gill net that exceeds 135 m in length.
- No person shall have a gill net that is more than 100 meshes in depth. The gill net mesh size shall not be greater than 64 mm (2.5 inches).
- Shaker panels shall not exceed a depth of 2 m with a mesh size no less than 150 mm (6 inches).
- Gill nets must be marked on both ends with buoys of similar colour, no less than 125 cm in circumference.

4.2 Seine

- Seine nets are permitted for use by category ZY licence holders only.
- A herring purse seine shall not be greater than 410 m (225 fathoms) in length, and mesh size not less than 25 mm (1 inch) extension measure.
- When herring are caught for holding in a herring enclosure, the bunt of the seine net must be knotless web. Web used in the construction of impoundments must also be knotless.

4.3 Hoop Nets and Dip Nets

- A bag-shaped net that is hung on a frame to which a line (hoop net) or a handle (dip net) is attached.

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4.4 Herring Enclosures (ponds)

Note that a valid category ZY1 or ZY2 licence is required before putting any webbing in the water for use as a herring enclosure.

4.4.1 Enclosure Construction

- Enclosures must be constructed so that the floating frame can support the weight of an impoundment net and enclosed herring without collapsing.
- The bottom of the herring enclosure net must be maintained so that the bottom of the net is a minimum of 3 m (10 feet) above the substrate under the enclosure at all times.

4.4.2 Enclosure Marking

- Every individual herring enclosure (i.e. floating frame with web) must be marked with the vessel registration number (VRN) and vessel name in accordance with the licence conditions. Enclosures must also be numbered in a sequential fashion (i.e. Pond 1, Pond 2, etc.) This numbering requirement also applies to single enclosures (i.e. Pond 1).

4.4.3 Webbing

- Any net used in a herring enclosure must be made of knotless web.
- When impounding herring the mesh size of the enclosure shall not be greater than 25 mm.
- Herring impoundments which will not be used within 14 days of cessation of fishing activities (indicated by date of hail) must have all web pulled up or removed.

4.4.4 Predator Deterrence

- Impoundments that employ a predator deterrence system must meet the following conditions:
- A bird net consisting of contiguous netting with a maximum mesh size of 50 mm by 50 mm (2 inch by 2 inch). The bird net must be pulled tight across the frame of the impoundment.
- A predator net consisting of contiguous netting with a maximum mesh size of 25 mm. The predator net must surround the webbing of the impoundment completely, maintain a space of at least 30 cm (12 inches) between the predator net and the webbing, and maintain a minimum distance of 3 m (9 feet) above the substrate under the enclosure at all times.

5 MONITORING PROGRAM

Timely and accurate information on harvest and harvesting practices is essential to assess the status of fish stocks and to ensure the conservation and the long-term sustainability of fish

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resources. Effective monitoring and accurate catch reporting in the Special Use herring fishery is integral to the effective management of the fishery and herring resource.

The category ZY Special Use Herring Fishery Monitoring Program is industry-funded and has been in place since 2007. The program is comprised of a telephone hail-in system, vessel harvest logbooks, and dockside weight validation. Category ZX licences do not participate in the commercial fishery monitoring program, but do submit a landing report at the end of the season.
Additional information on the monitoring program will be provided at the time of licence issuance. Please note that compliance with the monitoring program is a condition of licence. Proof of monitoring via a letter from the service provider will be required prior to licence issuance.

5.1 Service Provider

J.O. Thomas and Associates Ltd. is the industry selected service provider for the Special Use fishery. Contact information may be found in the Contacts section or at:

http://www.jothomas.com/contacts.htm

J.O. Thomas and Associates
1370 Kootenay Street
Vancouver BC
V5K 4R1

Tel: (604) 291-6340
Fax: (604) 291-6496

The vessel master shall report all required information to the designated service provider as detailed in the logbooks and conditions of licence. No notification is required for fishing under a category ZX licence.

5.2 Letter of Agreement

Prior to category ZY licence issuance, proof of monitoring is required via a Letter of Agreement from the service provider verifying their agreement with the delivery of a fishery monitoring program.

5.3 Hail Reports

Each vessel master shall be responsible for making an oral report (hail) to the service provider to report events and information required by the licence conditions. The vessel master may designate a person to make hails on his/her behalf, but retains accountability for hails to be performed.

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Each hail will be documented with a unique Hail Confirmation Number in the appropriate location in the Special Use Herring Fishery Log Book as detailed in the licence conditions and information sheets provided with the logbooks from the service provider.

Hail Reports provide DFO Resource Management with key information required for timely in-season management and are therefore a priority requirement of the Special Use Fishery Monitoring Program.

5.4 Logbooks

Logbooks are available from the service provider. The vessel master is responsible for the provision and maintenance of an accurate record of daily harvest operations. Catch information must be recorded in the harvest log by midnight of the day in which the activity occurred. The logbook must be kept aboard the licensed vessel, and must be produced for examination on demand of a fishery officer or fishery guardian.

The original white page copy of the log must be received by the designated service provider by December 15th each year for the previous season.

5.5 Dockside Monitoring

All landed fish must be verified by a dockside observer and coordinated through the service provider.

Live herring in a quantity less than 500 pieces that are not landed but are removed from the enclosure and sold directly to the public do not require weight verification. However, on the last day of each month, DFO requires the provision of a report via email or fax to the service provider that provides the quantity of individual herring removed from the enclosure. In addition, the number of pieces removed must be recorded in the vessel logbook.

5.6 At-Sea Observers

For category ZY3 and ZY4 licenses, and for category ZY1 licences with deliveries of non-ponded herring, designated fishing vessels will be required to have at sea observer coverage by a DFO designated observer while carrying out fishing operations. An observer must be on board prior to the vessel making a seine set. An observer may transfer to another vessel at sea, once the observer duties for the first vessel have been completed, and at the discretion of the observer.

In 2020/2021, an electronic monitoring program was implemented as an alternative to at sea observers in response to the COVID-19 pandemic. The electronic monitoring program will continue to be offered during the 2023/2024 fishing season, and will include the use of video and electronic monitoring systems on board vessels

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5.7 Marine Mammal and Seabird Reporting

Fishers shall take precautions to avoid fishing among seabirds. Fishers are requested to retain all dead birds which are entangled and to release live and unharmed birds by placing them in the water. Please contact Laurie Wilson, Environment Climate Change Canada, at 1-866-431-2473 or laurie.wilson@ec.gc.ca. Handle birds with gloves, place birds in plastic bags, label bird with date, time, and location, and keep cold or frozen. Please contact Laurie Wilson to organize pick-up or drop them off at a local DFO office. Alternatively, please email Laurie photographs of birds with a reference object such as a coin, and the date, time and location.

All fishing operations are required to complete an incident report for each interaction with a marine mammal. Interactions refer to cases of incidental mortality and serious injury to marine mammals. This includes accidental drowning, bycatch, entanglements, collisions, and mortalities. The vessel master shall complete the DFO reporting form "MARINE MAMMAL INTERACTION FORM." The Marine Mammal Interaction Form shall be submitted as per the instructions provided on the form. Once completed, this form must be submitted to DFO as per the conditions of licence.

The Marine Mammal Interaction Form is available from:
https://dfo-mpo.gc.ca/species-especes/documents/mammals-mammiferes/report-rapport/Fish-Harvester-Form-Eng.pdf

5.8 Lost Gear Reporting

Ghost Gear Program

One of the biggest threats to oceans internationally is marine litter, and in particular, ghost fishing gear. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost or otherwise discarded and is some of the most harmful and deadly debris found in oceans. It is estimated that between 5% - 30% of harvestable fish stocks are impacted by ghost gear across the world, posing a major threat to human health and livelihoods as well as to global food security. Additionally, ghost gear can cause large-scale damage to marine ecosystems through habitat disturbance and causes direct harm to the welfare and conservation of marine animals via entanglement and/or ingestion.

In support of international efforts to reduce marine litter, Canada signed the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities. In addition to this commitment, Canada committed to the implementation of the Oceans Plastics Charter; and strengthened our domestic and international commitment to addressing marine litter by signing onto the Global Ghost Gear Initiative.

These commitments were further strengthened in the Canadian Council of Ministers of the Environment's Canada-Wide Action Plan on Zero Plastic Waste Phase 2 and DFO's recent

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Minister's Mandate Letters (2021 and 2022), emphasizing the importance of this work to Canadians.

For more information on the Ghost Gear program, visit: https://www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/index-eng.html

Conditions of Licence to Report Lost and Retrieved Gear
All commercial harvesters must report their lost and subsequently retrieved fishing gear. While the Department is taking a stewardship approach to ghost gear, and working with harvesters to reduce the effects of ghost fishing, the inclusion of the reporting requirement in conditions of licence does mean that not reporting lost and/or retrieved gear is now a chargeable offence. Lost gear can be reported through the online Fishing Gear Reporting System, available at: https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html

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

6 LANDING

6.1 Landing and Herring Release Times

All herring caught and retained under the authority of these licenses from November 24, 2023 (anticipated) to February 15, 2024, shall be ponded no later than 23:59 hours February 15, 2024. Release or validation of all ponded herring must be completed by 23:59 hours March 1, 2024, except for herring that are ponded in Areas 14 or 17 where release or validation of all ponded herring must be completed by 23:59 hours February 15, 2024 to minimize coincident timing with the Roe season in these areas.

All herring caught and retained under the authority of these licenses from May 1, 2024 to November 6, 2024, shall be ponded no later than 23:59 hours November 6, 2024. Release or validation of all ponded herring must be completed by 23:59 hours December 1, 2024.

Ponding activity is permitted for this short period as defined above after the February 15 or the November 6 end date of the Special Use herring fishery harvesting periods. An end of season ponding completion date is required to ensure catch validation occurs within a reasonable time frame after the close of the fishery.

Operations with a maximum annual quota of 3 tons do not need to release herring on the above dates, provided the conditions of licence are met.

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Regulations for the transport and processing of fish, including food safety and sanitation requirements, can be found in the *BC Fish and Seafood Licensing Regulations*: (https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/261_2016#section11).

6.2 Designated Landing Ports

Special Use herring may be landed at ports that meet the following requirements:

- Is a Designated Landing Station as per Section 17 of the *Pacific Fisheries Regulations*;
- Has an Industry Canada Approved weigh scale (valid for duration of fishing season); and,
- Is provincially licensed with a Fish Receiver Licence and Seafood Processor Licence for Roe Herring or for Finfish other than Salmon (valid for duration of fishing season)

OR

Is a Federal Government dock registered with the Harbour Authority Association of BC.

The following landing ports may be used:

- Metro Vancouver
- Prince Rupert
- Quadra Island
- Campbell River

To land at another port other than those listed above, contact the Service Provider. It is possible that a surcharge will be charged to the operator for travel costs of the port monitor. Alternative landing ports must meet the criteria for a designated landing port.

7 LICENCING

National Online Licensing System (NOLS) Client Support:
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).

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7.1 Fisher Identification Number (FIN)

The FIN allows for fast, easy, and reliable on-grounds identification of fish harvesters for data collection, fisheries management and enforcement purposes. A unique Fisher Identification Number (FIN) has been assigned to all Pacific commercial fish harvesters. Once a FIN is assigned to a fish harvester, that individual will reference the FIN when identifying him or herself in subsequent business dealings with both the department and service contractors. As the FIN is now used during normal business interactions with DFO and contractors; for example filling in the FIN field on logbooks, noting the FIN when hailing, landing catch, etc. Fish harvesters will no longer need to provide detailed personal information identifying such items as gender or date of birth.

Once the FIN is issued to a fish harvester, it will not change from year to year. More information on the FIN may be obtained from the Pacific Fishery Licensing Unit (PFLU).

7.2 Licence Categories

A Special Use Herring (category ZX or ZY) licence is required to commercially harvest special use herring. Special Use Herring licenses are unlimited entry party-based licenses that are issued in the name of a individual or company; where each licence issued must be designated to a registered Canadian commercial fishing vessel that is eligible for a limited entry vessel-based commercial licence, a valid corresponding communal commercial licence or a valid Salmon category NAG licence.

When licences were introduced to the Special Use fishery in 1995, they were developed with specific licence purposes that dictated the end use of the fish for that licence. The Special Use fishery is organized into five licence types, to accommodate for specific needs of the products of this fishery. These licence purposes/types are described for each licence category below.

7.2.1 ZX – Personal Use Herring

- Licence purpose: Fish caught under the authority of this licence cannot be sold and are for the sole use of the licence holder.
- 1 ton licences issued to anyone that owns or operates a licensed commercial vessel.
- Licences issued on a first come, first served basis, until the allocation for category ZX licences has been reached.

7.2.2 ZY1 – Sport Bait

- Licence purpose: Fish caught under the authority of this licence may only be sold as live bait to sport fishers or frozen for domestic or export sport bait.
- 3 ton licences issued to anyone that owns or operates a licensed commercial vessel.

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- Three unique quotas exist for this licence type. These licences are for larger tonnages and as such are restricted to fishing between the dates of November 24, 2023 (18:00h) to February 15, 2024 (23:59h); and October 1, 2024 (00:01h) to November 6, 2024 (23:59h).
- Multiple 3 ton category ZY1 licences (up to five per vessel) will only be issued between November 24, 2023 to February 15, 2024, and October 1, 2024 to November 6, 2024. Vessels designated with category ZY1 licences may not also be designated with other herring category licenses, at the same time. Licences will be issued on a first come, first serve basis, until the allocation for category ZY1 licenses has been reached.

7.2.3 ZY2 – Commercial Bait

- Licence purpose: Fish caught under authority of this licence may be sold only as fresh or frozen bait for commercial use to commercial fishers.
- There is currently no quota assigned to this licence category.
- If quota were to be assigned, licenses would be in the form of 3 ton licences issued to anyone that owns or operates a licensed commercial vessel.
- Licences would be issued on a first come, first served basis, until the allocation for category ZY2 licenses had been reached.
- Vessels designated with a category ZY2 licence may not also be designated with other herring category licenses, at the same time.

7.2.4 ZY3 – Domestic Food and Bait Herring

- Licence purpose: Fish caught under authority of this licence may only be sold fresh for non-commercial or non-sport use.
- In full quota years, three 50 ton licences are available as a 150 ton unique quota. These licences are for larger tonnages and as such are restricted to fishing between the dates of November 24, 2023 (18:00h) to February 15, 2024 (23:59h); and October 1, 2024 (00:01h) and November 6, 2024 (23:59h).
- Up to three category ZY3 licences may be designated to a vessel, at one time. Vessels may also be designated with category ZY4 and ZM (Food & Bait) licence at the same time. The designated vessel must be a licensed commercial fishing vessel that meets the criteria for licence issuance.

7.2.5 ZY4 – Zoo and Aquarium Animal Food

- Fish caught under authority of this licence may only be used to feed animals resident at the zoo or aquarium of the named licence holder.
- In full quota years, one 110 ton licence is issued as a unique quota to the Vancouver Aquarium to a licensed commercial fishing vessel that meets the criteria for licence issuance. The vessel may also designated with category ZY3 and ZM licence, at the same time.
- This unique quota is for a larger tonnage and as such is restricted to fishing between the dates of November 24, 2023 (18:00h) to February 15, 2024 (23:59h) and October 1, 2024 (00:01h) to November 6, 2024 (23:59h).

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Licences issued under these categories do not imply or confer a future right or privilege to be issued a similar licence in future seasons or beyond.

7.3 Unique Quotas

As the Special Use fishery was developed, there arose a practice of providing unique quotas (previously referred to as "grandfathered licences") to specific parties for specific purposes within different licence categories. While DFO will no longer provide for the development of new unique quotas, based on historical participation, the existing unique quotas will continue to be made available to the past participants subject to the conditions described in this section. There are currently five unique quotas within the Special Use fishery.

Minister's Discretion under the *Fisheries Act*

Previously called "grandfathered" or "historical" licences, these allocations are more accurately called "unique quotas". In the context of the development of the Special Use fishery, the technical definition of "grandfathering"[1] does not apply as it implies that there is an eligibility for access to these allocations and implies there is a statutory or regulatory clause that describes how allocations must be made (or that "grandfathers" certain licence holders). On the contrary, the Minister has absolute discretion regarding the issuance of fishing licences as per the *Fisheries Act* S7.

7.3.1 Expected Use of Fish

The initial overall quota for the Special Use fishery will be a portion of the overall TAC for the Strait of Georgia (SOG), and the quota decision will be implemented once the coastwide management approach has been determined. The total TAC in the Special Use fishery has been up to 902 tons in recent years. The unique quotas are issued to specific parties for specific purposes, as described below:

- ZY1 Sport Bait:
  - Walcan Seafood Ltd (300 tons, SOG)
  - Charlie's Live Bait (15 tons, SOG)
  - Martin Lowe (9 tons, SOG)
  - A-Tlegay Fisheries Society (100 tons, SOG)

- ZY3 Human Food and Bait
  - Seven Seas Fish Co. Ltd. (150 tons, SOG)

- ZY4 Zoo and Aquarium Food

[1] To be "grandfathered" means that one benefits from a grandfather clause, which is a statutory or regulatory clause that exempts a class of persons or transactions because of circumstances existing before the new rule or regulation takes effect.

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- Vancouver Aquarium (110 tons, SOG)

7.4 Licence Renewal Fee

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

The commercial Special Use Herring Species (Categories ZX & ZY) licence fee may be found under the header, Licence renewal fees on the following link: https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html#commercial

Once the Application for Special Use Bait Herring Licence Category ZX & ZY form has been reviewed and approved by the Herring Resource Manager, the 2023/2024 licence renewal fee will be made available in the applicants National Online Licensing System (NOLS) account.

All payments must be made through the NOLS.

7.5 Licence Application and Issuance Information

Special Use herring licence application form are available on the licensing webpage under https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-permis-eng.html or may be obtained from the Pacific Fishery Licence Unit via email at fishing-peche@dfo-mpo.gc.ca.

Eligible applicants must submit a completed Application for Special Use Bait Herring Licence Category ZX & ZY form through the National Online Licensing System (NOLS). A separate application must be submitted for each special use herring licence being issued.

The applicant must sign the application form. Where the applicant is a company, the Pacific Fishery Licence Unit must have on record a copy of a current B.C. Company Summary, indicating the officers associated with the company.

The applicant must designate a registered Canadian commercial fishing vessel, that is eligible for a limited entry vessel-based licence (i.e. Salmon, Schedule II Species, Geoduck, Sablefish, Halibut, Crab, Shrimp by trawl, Groundfish trawl and Prawn and Shrimp by trap), a valid corresponding communal commercial licence or a valid salmon category NAG licence.

The application must list the name of the vessel master; however, the applicant is not required to be the owner of the designated vessel. Licences may be issued to the applicant who is intending to use or receive the herring. If the herring is to be impounded, then the applicant can be the impoundment operator.

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No party may hold more than one Special Use Herring licence at a time (with the exception of category ZY3 licenses). Where a Special Use Herring licence has been landed and validated and all conditions have been met, the licence holder may apply for another special use herring licence.

No fishing may commence until the licence documents have been received and are on board the designated vessel.

7.6 Licence Documents

Special Use herring (category ZX or ZY) licences are valid from the date of issue to November 6th of the next calendar year, unless otherwise specified on the licence conditions.

The Special Use fishery is closed from 00:01 hours February 16, 2024 to 23:59 hours April 30, 2024 for the Roe herring season.

Licences that have been obtained prior to the February 15 closure but have remaining quota may be used after the fishery re-opens May 1.

Replacements for lost or destroyed licence documents may be obtained by contacting the Pacific Fishery Licence Unit by email at fishing-peche@dfo-mpo.gc.ca.

7.7 Vessel Redesignation

Vessel re-designation requests may be submitted via the licence holder's National Online Licensing System (NOLS) account by logging onto the NOLS and navigating to 'Submit a Request' Type: Vessel Transaction, Sub-Type: Attach/detach Vessel to/from Vessel. Full instructions on how to submit a request are available at:

https://www.dfo-mpo.gc.ca/fisheries-peches/sdc-cps/products-produits/request-demande-eng.html

Vessel re-designation after licence issuance is permitted for category ZY3 and ZY4 licenses only, or at the discretion of the lead resource manager.

All vessel designation requirements must be met by the replacing designated vessel.

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8 SPECIAL USE CALENDAR

Month	Date	Event
		2023
October	1	Special Use fishery re-opens at 00:01h to quota ≥ 3 tons
	3, 4, 5	IHHPC, HIAB, Tier 2 Pre-Season Planning meetings
November	6	Special Use 2022/2023 fishery closes at 23:59h (extension available for those harvesters that operate year round)
	7	2023/2024 Special Use applications available online (on the Pacific Fishery Licence Unit webpage)
	15	Category ZX Landing Report for 2022/2023 deadline to be submitted to DFO
	24	Special Use 2023/2024 anticipated fishery opening at 18:00h
December	1	Release or validation of ponded herring from 2022/2023 by 23:59 hours as required by conditions of licence
	15	Original white page copy of logbook from 2022/2023 to service provider (category ZY only)
		2024
February	15	Special Use 2023/2024 fishery closes at 23:59h. All herring must be ponded or landed by this time.
March	1	Release or validation of ponded herring by 23:59 hours as required by conditions of licence
May	1	Special Use fishery re-opens at 00:01h to quota ≤ 3 tons
	TBD	IHHPC, HIAB, Tier 2 Post-Season Review meeting

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APPENDIX 11. COMMERCIAL HERRING FISHERIES COMPLIANCE PLAN

Conservation and Protection Program Description
Fisheries and Oceans Canada (DFO's) Conservation and Protection (C&P) program is responsible for enforcing the *Fisheries Act* and pursuant regulations and related legislation. Enforcement activities are carried out by Fishery Officers across Canada who conduct patrols on land, at sea and in the air.

The Department promotes compliance with the law through a range of activities from education and awareness activities that encourage Canadians to protect fishery resources and habitats, patrol activities to detect violations, and major case management. These activities are further outlined in the C&P National Compliance Framework.

There are approximately 173 fishery officers stationed in the Pacific Region, which encompasses British Columbia and Yukon. They are designated as "Fishery Officers" under Section 5 of the *Fisheries Act*. The *Fisheries Act* and the *Criminal Code of Canad*a are the primary pieces of legislation outlining the powers and responsibilities of Fishery Officers. Officers are designated under other Acts as well, such as the *Coastal Fisheries Protection Act* and *Species at Risk Act*.

Users can report fisheries or habitat related violations using the toll free observe, record and report hotline. This toll free number is available 24 hours a day.

OBSERVE, RECORD AND REPORT 1-800-465-4DFO (1-800-465-4336)

Regional Compliance Program Delivery
Fishery Officers conduct a range of activities to promote compliance during herring fisheries. These activities include attending industry and herring working group meetings, defining key enforcement concerns with Fisheries Management prior to the commercial fishery, conducting patrols, at sea boardings and plant inspections during the fishery and detailed post season reporting.

C&P staff will monitor and enforce issues and problems related to the herring fishery in conjunction with the monitoring and enforcement activities dedicated to the identified priority fisheries in the Pacific Region.

Fishery Officer's authority to inspect and the duty of owners or persons in charge to assist with the inspections come from *Section 49 of the Fisheries Act (R.S.C., 1985, c. F-14)* which states:

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- **49 (1)** Subject to subsection (2), for the purpose of ensuring compliance with this Act and the regulations, a fishery officer or fishery guardian may enter and inspect any place, including any premises, vessel or vehicle, in which the officer or guardian believes on reasonable grounds there is any work or undertaking or any fish or other thing in respect of which this Act or the regulations apply and may

  (a) open any container that the officer or guardian believes on reasonable grounds contains any fish or other thing in respect of which this Act or the regulations apply;

  (b) examine any fish or other thing that the officer or guardian finds and take samples of it;

  (c) conduct any tests or analyses and take any measurements; and

  (d) require any person to produce for examination or copying any records, books of account or other documents that the officer or guardian believes on reasonable grounds contain information that is relevant to the administration of this Act or the regulations.

(1.1) In carrying out an inspection of a place under subsection (1), a fishery officer or fishery guardian may,

(a) use or cause to be used any data processing system at the place to examine any data contained in or available to the data processing system;

(b) reproduce any record or cause it to be reproduced from the data in the form of a print-out or other intelligible output and remove the print-out or other output for examination or copying; and

(c) use or cause to be used any copying equipment at the place to make copies of any record, book of account or other document.

Duty to assist

(1.2) The owner or person in charge of a place that is inspected by a fishery officer or fishery guardian under subsection (1) and every person found in the place shall

(a) give the officer or guardian all reasonable assistance to enable the officer or guardian to carry out the inspection and exercise any power conferred by this section; and

(b) provide the officer or guardian with any information relevant to the administration of this Act or the regulations that the officer or guardian may reasonably require.

Dockside validation is a key component of the management of the herring fishery. C&P supports dockside validation by checking in with validators, attending offloads and monitoring offloading practices.

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Air surveillance resources may be utilized to patrol boundaries and conduct gear and vessel counts. Charter aircraft as well as DFO aircraft may be utilized for these activities.

Consultation
C&P strives to meet with First Nations groups to build relationships. C&P seeks to conduct joint patrols with First Nations fisheries representatives and strives to complete enforcement protocols to better define our working relationship.

C&P attends industry meetings with Fisheries Management. These meetings occur in several geographic areas and are important to exchange information and share concerns.

Compliance Performance

Roe Herring
Officers attend openings and conduct regulatory monitoring activities throughout the fishery. Compliance monitoring activities will be conducted during offloads and after the fishery is closed. Fishery Officers work closely with Resource Managers and partners where possible.

Fishery Officers conducted patrols of the fishery, inspected plants and monitored validations.

Spawn on Kelp
There is continued concern with non-compliance of fishery monitoring components, including hail requirements, as hails do not always reflect up to date activities on the grounds.

Food and Bait and Special Use
Response and investigations regarding occurrence reports was provided as required.

Current Compliance Issues
Key priorities are to ensure fisheries are promulgated in an orderly manner and in compliance with legislation and licence conditions.

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APPENDIX 12. FISHING VESSEL SAFETY

1 OVERVIEW – FISHING VESSEL SAFETY

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, prevent vessel damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), WorkSafeBC, and other applicable agencies. Vessels subject to inspection should ensure that the certificate of inspection is valid for the area of intended operation.

In the federal government, responsibility for shipping, navigation, and vessel safety regulations and inspections lies with TC; emergency response with the Canadian Coast Guard (CCG) and DFO has responsibility for management of the fisheries resources. The Transportation Safety Board is an independent agency that advances transportation safety by investigating selected occurrences in the air, marine, pipeline and rail modes of transportation including fishing vessel occurrences. In BC, WorkSafeBC exercises jurisdiction over workplace health and safety and conducts inspections on commercial fishing vessels in order to ascertain compliance with the Workers Compensation Act (WCA) and the Occupational Health and Safety Regulation (OHSR).

Before departing on a voyage the authorized representative (normally the owner), must ensure that the fishing vessel is capable of and safe for the intended voyage and fishing operations. Critical factors for a safe voyage include the seaworthiness of the vessel, having the required personal protective and life-saving equipment in good working order, adequate number of properly trained crew, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel's authorized representative, crew, and other workers must be aware of the latest legislation, policies and guidelines prior to each trip. There are many useful tools available for ensuring a safe voyage. These include:

- Education and training programs
- Marine emergency duties training
- Fish Safe – Stability Education Program & 1 Day Stability Workshop
- Fish Safe – SVOP (Subsidized rate for BC commercial fishers provided)
- Fish Safe – *Safest Catch* program – **FREE** for BC commercial fishers
- Fish Safe *Safe At Sea* DVD Series – Fish Safe
- Fish Safe Stability Handbook – *Safe at Sea* and *Safest Catch* – DVD Series
- Fish Safe *Safest Catch* Log Book
- Fish Safe *Safety Quiz*
- First Aid training

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- Radio Operators Course (Subsidized rate for BC commercial fishers provided)
- Fishing Masters Certificate training
- Small Vessel Operators Certificate training

Publications:

- *Gearing Up for Safety* - WorkSafeBC
- https://tc.canada.ca/en/marine-transportation/marine-safety/tp-15393e-adequate-stability-safety-guidelines-fishing-vessels TP 15393E - Adequate stability and safety guidelines for fishing vessels
- TP 15392E - Guidelines for fishing vessel major modification or a change in activity. https://tc.canada.ca/en/marine-transportation/marine-safety/tp-15392e-guidelines-fishing-vessel-major-modification-change-activity
- Transport Canada Publication TP 10038 Small Fishing Vessel Safety Manual (can be obtained at Transport Canada Offices from their website at: http://www.tc.gc.ca/eng/marinesafety/tp-tp10038-menu-548.htm
- Amendments to the Small Fishing Vessel Inspection Regulations (can be obtained from: http://www.gazette.gc.ca/rp-pr/p2/2016/2016-07-13/html/sor-dors163-eng.php)
- Safety Issues Investigation into Fishing Safety in Canada report can be accessed: https://www.tsb.gc.ca/eng/rapports-reports/marine/etudes-studies/M09Z0001/M09Z0001.html

For further information see: https://tc.canada.ca/en/marine-transportation
www.fishsafebc.com
www.worksafebc.com
www.tsb.gc.ca/eng/rapports-reports/marine/index.html

2 IMPORTANT PRIORITIES FOR VESSEL SAFETY

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

2.1 Fishing Vessel Stability

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

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

In 2017, Transport Canada Marine Safety (TC) issued Ship Safety Bulletin (SSB) No. 03/2017 announcing the coming into force of the New Fishing Vessel Safety Regulations. The initial regulations were published in the Canada Gazette Part II on July 13, 2016 and came into force on July 13, 2017. The bulletin includes important information on changes to requirements for Written Safety Procedures, Safety Equipment and Vessel Stability.

As of July 13, 2017, new regulations pertaining to stability assessments to be performed by a competent person came into effect, as follows:

- A new fishing vessel that has a hull length of more than 9 m where the vessel construction was started or that a contract was signed for the construction after July 13, 2018;
- A fishing vessel more than 9 m and that has undergone a major modification or a change in activity that is likely to adversely affect its stability;
- A fishing vessel that is fitted with an anti-roll tank at any time;
- A fishing vessel more than 15 gross tonnage and used for catching herring or capelin during the period beginning on July 6, 1977 and ending on July 13, 2017
- For an existing fishing vessel that is not required to undergo a stability assessment, the owner shall be capable of demonstrating that their vessel has adequate stability to safely carry out the vessel's intended operations. Guidelines have been developed and are available online to help small fishing vessel owners and operators meet their regulatory requirements
- Two good resources can be found here: TP 15393 - Adequate stability and safety guidelines for fishing vessels (2018) and TP 15392 – Guidelines for fishing vessel major modification or a change in activity (2018)

Further, the new Regulation requires a "Stability Notice" to be developed after a stability assessment. This notice includes a simple diagrammatic of the vessel, its tanks and fish holds, or deck storage as the case may be. It is intended to assist fishing vessel crews in quickly determining the safe carriage limits of the vessel without having to reference a complicated Trim and Stability Book.

Additionally, Transport Canada published a Stability Questionnaire (SSB No. 04/2006) and Fishing Vessel Modifications Form (SSB No. 01/2008) which enable operators to identify the criteria which will trigger a stability assessment. Please contact the nearest Transport Canada office if you need to determine whether your vessel requires a stability assessment, or to receive guidance on obtaining competent assessor.

In 2019, TC provided an updated SSB 03/2019, which sets out a voluntary record of modifications for the benefit of owners/masters of any fishing vessels. For vessels of more than 15 gross tons, the record of modifications was to be reviewed by TC inspectors during regular inspections and entered on the vessel's inspection record. However, information gathered

during the Transportation Safety Board's (TSB) Safety Issues Investigation into the fishing industry showed minimal recording of vessel modifications prior to this date.

The TSB has investigated several fishing vessel accidents since 2008 and found a variety of factors that effected the vessel's stability were identified as contributing factors in vessels capsizing, such as with: M08W0189 - *Love and Anarchy*, M09L0074 – *Le Marsouin I*, M10M0014 - *Craig and Justin*, M12W0054 – *Jessie G*, M12W0062 - *Pacific Siren*, M14P0121 – *Five Star*, M15P0286 – *Caledonian*, M16A0140 – *C19496NB*, M17C0061 – *Emma Joan*, M17P0052 – *Miss Cory*, M18P0073 – *Western Commander*,M18A0425 – *Charlene A*, M18A0454 – *Atlantic Sapphire*, M20P0229 – *Arctic Fox II*, M20A0434 – *Chief William Saulis and* M20A0160 – *Sarah Anne.*

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

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

Fish Safe has developed a code of best practices for the food and bait/roe herring fisheries, dive fisheries and the prawn fishery: These Best Practices are available on Fish Safe's website for convenient download here: https://www.fishsafebc.com/best-practices Please contact John Krgovich at Fish Safe for a copy of the program materials they developed to address safety and vessel stability in these fisheries. John Krgovich – office: (604) 261-9700 - Email: john@fishsafebc.com.

2.2 Emergency Drill Requirements

The *Canada Shipping Act, 2001* requires that the Authorized Representative of a Canadian Vessel shall develop procedures for the safe operation of the vessel and for dealing with emergencies. The Act also requires that crew and passengers receive safety training. The Marine Personnel Regulations require that all personnel on board required to meet the minimum safe manning levels have received MED (Marine Emergency Duties) training to an A1 or A3 level, depending on the vessel's voyage limits, within 6 months of serving aboard. MED A3 training is 8 hours in duration and is applicable to seafarers on fishing vessels less than 150 GRT that are within 25 miles from shore (NC2). MED A1 training is 19.5 hours duration and is applicable to all other fishing vessels.

To assist fishers in meeting their crew training requirements, Fish Safe has created a downloadable '*New Crew Orientation Form and How To Guide'* available on Fish Safe's website here: https://www.fishsafebc.com/downloadable-tools

MED provides a basic understanding of the hazards associated with the marine environment; the prevention of shipboard incidents; raising and reacting to alarms; fire and abandonment situations; and the skills necessary for survival and rescue.

WorkSafeBC's Occupational Health and Safety Regulation (OHSR) requires written rescue and evacuation procedures for work on or over water. Additionally, fishing vessel masters must establish procedures and assign responsibilities to each crew member to cover all emergencies, including the following: crew member overboard, fire on board, flooding of the vessel, abandoning ship, and calling for help. Fishing vessel masters are also required to conduct emergency drills at the start of each fishing season, when there is a change of crew, and at periodic intervals to ensure that crewmembers are familiar with emergency procedures.

Between 2015 and 2021, 15 fishing vessel accidents were reported to the TSB which resulted in 34 fatalities. In all 15 occurrences, distress alerting devices (EPIRBs, PLBs) were not used. The report's findings highlighted the lack of safety drills and safety procedures and practices. The *Safest Catch* program, delivered by Fish Safe and free to BC commercial fishers, includes comprehensive practice of drills such as abandon ship, man overboard and firefighting drills.

2.3 Cold Water Immersion

Drowning is the number one cause of death in BC's fishing industry. Cold water is defined as water below 25 degrees Celsius, but the greatest effects occur below 15 degrees C. BC waters are usually below 15 degrees C. Normal body temperature is around 37 degrees Celsius; cold water rapidly draws heat away from the body. The effects of cold water on the body occur in four stages: cold shock, swimming failure, hypothermia and post-rescue collapse. Know what to do to prevent you or your crew from falling into the water and what to do if that occurs. More information is available in the WorkSafeBC Bulletin Cold Water Immersion (available from the WorkSafeBC website at www.worksafebc.com).

Under the recently amended (June 2019) OHS Regulation, section 24.96.1, a crewmember must wear a PFD or lifejacket when on board a fishing vessel that has no deck or deck structure or when on the deck of a fishing vessel that has a deck or deck structure. The use of a PFD will prepare a crewmember to remain afloat, to survive the effects of cold shock, reduce the need to swim and give rescuers time to respond.

Section 8.26, which requires workers to wear a PFD or lifejacket when working "under conditions which involve a risk of drowning", would continue to apply to fishing crewmembers and other workers (e.g. when they are working on shore, docks and other vessels). The specific requirements can be found on WorkSafeBC's PFD Primer provided on Fish Safe's website here: https://www.fishsafebc.com/cold-water-survival.

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

Resulting from the TSB investigations into the *Diane Louise* - M14P0110, *Caledonian* – M15P0286 and the *C19496NB* - M16A0140 fishing vessel accidents the Board recommended that both TC, WorkSafeBC and WorkSafeNB 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. Between 2015 and 2021, 15 occurrences were reported to the TSB, resulting in the loss of life of 34 fish harvesters. In 11 of the 15 occurrences, personal flotation devices (PFDs) were not used.

2.4 Other Issues

2.4.1 Weather

Vessel owners and masters are reminded of the importance of paying close attention to current weather trends and forecasts during the voyage. Marine weather information and forecasts can be obtained on VHF channels 21B, Wx1, Wx2, Wx3, or Wx4. Weather information is also available from Environment Canada website at:
http://www.weatheroffice.gc.ca/marine/index_e.html

2.4.2 Emergency Radio Procedures, EPIRB's, PLBs and AIS

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system early rather than later by contacting the Canadian Coast Guard (CCG). All fishing vessels greater than 20m in length must carry a Class A AIS, as well as a float free 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons must be registered with the Canadian Beacon Registry. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources. The TSB notes in the *Island Lady* – M21A0315 that there have been 15 similar occurrences reported to the TSB, resulting in the loss of life of 34 fish harvesters. In all 15 occurrences, distress alerting devices (e.g., emergency position-indicating radio beacons [EPIRBs] and personal locator beacons [PLBs] were not used. (M15A0189, M16A0140, M16A0327, M18A0076, M18A0303, M18A0078, M18P0184, M18P0394, M19A0082, M19A0090, M19P0242, M20A0258, M20A0160, M21A0412,

and M21A0161). The carriage of both AIS, PLB and EPIRB is strongly encouraged for all fishing vessels who do not fall under the mandatory threshold.

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

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

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on DSC can be found here: TC DSC Safety Bulletin. Questions regarding Coast Guard DSC capabilities can be obtained by contacting your local MCTS centre (Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333).

2.4.3 Collision Regulations

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

a) every ship twenty metres or more in length,
b) every ship engaged in towing or pushing any vessel or object, other than fishing gear,

c) where the combined length of the ship and any vessel or object towed or pushed by the ship is forty five metres or more in length; or
d) where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

Exceptions include:

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

More detailed information on VTS can be obtained by calling either Prince Rupert MCTS (250)627-3070 or Victoria MCTS (250)363-6333 or from the Coast Guard website: https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/part3-eng.html

2.4.4 Buddy System

Fish harvesters are encouraged to use the buddy system when transiting and fishing as this allows for the ability to provide mutual aid. An important trip consideration is the use of a sail/voyage plan which includes the particulars of the vessel, crew and voyage. The sail plan should be left with a responsible person on shore or filed with the local MCTS. After leaving port the fish harvester should contact the holder of the sail plan daily or as per another schedule. The sail plan should ensure notification to JRCC when communication is not maintained which might indicate your vessel is in distress. Be sure to cancel the sail plan upon completion of the voyage.

3 WorkSafeBC

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

Other sections of the OHSR also apply to commercial fishing operations. For example, Part 3 addresses training of young and new workers, first aid, and employer incident/accident investigations. Part 4 addresses general conditions such as maintenance of equipment, workplace conduct and impairment. Part 8 addresses issues related to

safety headgear, safety footwear, eye and face protection, limb and body protection and personal flotation devices (PFDs) when working on the dock. Part 12 addresses issues related to tools, machinery and equipment, including safeguarding. Part 15 addresses issues related to rigging.

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

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

NOTE: Regarding the OHSR requirement to wear PFD's, 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	Field Services	Vancouver/ Richmond/Delta	(604) 244-6477
Cody King	Field Services	Courtenay	(250) 334-8733
Paul Matthews	Field Services	Courtenay	(250) 334-8741
Wayne Tracey	Field Services	Central	(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, OHS Consultation and Education Services, at (604) 233-4062 or by email: tom.pawlowski@worksafebc.com or Helen Chandler, OHS Consultant at (604) 276-3174 or by email: helen.chandler@worksafebc.com.

4 Fish Safe BC

Fish Safe encourages Vessel masters and crew to take ownership of fishing vessel safety. Through this industry driven and funded program Fish Safe provides fishing relevant tools and programs to assist fishers in this goal. The Fish Safe Stability Education Program and 1 Day Stability Workshop are available to all fishers who want to improve their understanding of stability and find practical application to their vessel's operation. The SVOP (Small Vessel Operator Proficiency) Course is designed to equip crew with the skills they need to safely navigate during their wheel watch. The Safest Catch Program, along with fisher-trained Safety Advisors, is designed to give fishers the tools they need to create a vessel specific safety management system.

As referenced throughout the above documentation, Fish Safe provides a broad range of courses, programs and services that are either free for BC commercial fishers or highly subsidized.

Fish Safe is managed by John Krgovich, 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:

John Krgovich	
Program Coordinator	Cell: (604) 729-8407
Fish Safe	Office: (604) 261-9700
#100, 12051 Horseshoe Way	Email: john@fishsafebc.com
Richmond, BC V7A 4V4	www.fishsafebc.com

5 Transportation Safety Board

The Transportation Safety Board (TSB) is not a regulatory board. The TSB is an independent agency that investigates marine, pipeline, railway and aviation transportation occurrences to determine the underlying risks and contributing factors. Its sole aim is the advancement of transportation safety by reporting publicly through Accident Investigation Reports or Marine Safety Information Letters or Advisors. It is not the function of the Board to assign fault or determine civil or criminal liability. Under the TSB Act, all information collected during an investigation is completely confidential.

In 2014 the TSB pacific region released three investigation reports:

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

In 2016 the TSB pacific region released one investigation report:

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

In 2018 the TSB pacific region released two investigation reports:

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

In 2022 the TSB pacific region released one investigation report:

- the sinking of the *Arctic Fox II* and subsequent fatalities.

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

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

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

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

has no deck or deck structure, or when on the deck of a fishing vessel that has a deck or deck structure. Crewmembers are not required to wear lifejackets or PFDs below deck or when inside a deck structure where there is risk of entrapment. This amendment removes the need for a risk of drowning to be present before a PFD must be worn.

For more information about the TSB, visit the website at www.tsb.gc.ca
For information about the TSB's investigation into fishing safety, or to view a brief video, visit: http://www.tsb.gc.ca/eng/medias-media/videos/marine/m09z0001/index.asp

To view information on the TSB's recent safety Watchlist, visit:
http://www.tsb.gc.ca/eng/surveillance-watchlist/marine/2020/marine-01.html

Reporting an Occurrence: www.tsb.gc.ca/eng/incidents-occurrence/marine/
After a reportable occurrence happens; you can fill out the TSB 1808 form or call the TSB at the contact information below.

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

Glenn Budden, –Senior Investigator/Safety Analyst / Marine - Investigations, Standards and Quality Assurance

Transportation Safety Board of Canada
4 - 3071 No. 5 Road
Richmond, BC, V6X 2T4
Telephone: (604) 619-6090
Email: glenn.budden@tsb-bst.gc.ca

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APPENDIX 13. FISHERY MONITORING RISK ASSESSMENTS

A risk assessment tool has been used to assess monitoring levels required for the Food and Bait, Roe (seine and gillnet) and Spawn-on-Kelp commercial fisheries. The risk assessments were drafted by the Department and reviewed with commercial harvesters in 2018, followed by a public comment period for the draft risk assessments as part of the draft IFMP consultation period, from December 7, 2018 to January 9, 2019. A summary of the completed risk assessments for these fisheries are highlighted here. The full risk assessments are available on request from Marisa Keefe (Marisa.Keefe@dfo-mpo.gc.ca).

Risk assessments for Indigenous FSC herring fisheries will be undertaken in the future.

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.

FOOD AND BAIT HERRING (SEINE)

Fishery Overview

The commercial Food and Bait fishery is fished by seine gear only and has the potential to occur coastwide; however, has only occurred in two of the five major stock assessment areas in recent years. The Food and Bait fishery takes place from early November to mid-February and operates on party-based, equal share criteria where licences are available for application by each of the parties who hold a valid roe herring seine licence. The 2015/16 and 2016/17 fisheries had a total allowable catch of approximately 8000 short tons, and 6000 short tons for the 2017/18 season. The Food and Bait fishery represents approximately 15-20% of the total allowable catch for Pacific Herring.

Ecosystem Risks

Due to variability in stock status across and within stock assessment areas, the stock status of Pacific Herring is considered to be of moderate concern with a moderate likelihood herring fisheries are driving the status of the stocks. However, the Food and Bait fishery is considered to have a low impact on the life history and behavior of the species. In terms of bycatch, the Food and Bait fishery is targets Pacific Herring only, and observed bycatch of other species is so minimal that it is generally not observed by the dockside monitors (100% dockside monitoring);

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therefore, this fishery has a low risk to retained bycatch. Interception of marine mammals does occur in the Food and Bait fishery, especially sea lions including SARA-listed Stellar Sea lions, however mortalities occur. There is a very low likelihood of impacting that species of special concern, and therefore a low risk to "released" by-catch. Finally, the fishery has a low impact on herring as a key prey species. Even though herring are a forage fish species for many marine mammals, sea birds and other fish, the fishery is managed using a conservative approach and therefore was identified as having a low impact on ecosystem processes. There are very few direct or indirect habitat impacts in this fishery.

From this assessment, the preliminary fishery risk (comprised of risk to main species, bycatch, and community and habitat) was identified as moderate. Further analysis of additional resource management issues not incorporated into the preliminary risk calculations indicate there is a moderate to high potential to over-harvest in this fishery, which may pose a risk to the stocks. To account for this additional issue, the overall risk that the fishery poses to the stocks was changed to high.

Monitoring Level

An overall risk score of high requires an "enhanced" monitoring level. The Risk Assessment for the Food and Bait fishery also identifies that the fishery currently has enhanced monitoring, which includes a 100% dockside monitoring program, weight validation of fish landings and provision of validated data to DFO Science, requirements to hail-in, hail at-sea, and hail-out of the fishery, maintenance of paper logbooks, and submission of fish slips. The Food and Bait fishery also has 100% at-sea observer coverage, where the primary objective is to monitor compliance (e.g. with release after pumping restrictions), estimate the quantity of releases, review logbook entries, and notify DFO of any occurrences.

Next Steps

As the fishery currently meets the enhanced target monitoring level prescribed by the risk assessment, no changes to the monitoring program are expected in this risk assessment cycle (approximately five years, provided there are no significant changes to the fishery before the regular reassessment). Information gaps that may be used for future assessment of the risks of this fishery include the uncertain impact of the fishery on smaller spatial stock areas, and an unknown amount of herring mortality from releases— especially those after pumping has commenced—that are not included in catch estimates (however on-grounds estimates are low). There has also been recent discussion about herring stock structure; the current body of work that includes tagging, DNA assessments, and spawn surveys, support the current stock structure employed in the management of Pacific Herring.

ROE HERRING (SEINE)

Fishery Overview

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The commercial Roe seine fishery may occur in any of the five major stock assessment areas: Haida Gwaii, Prince Rupert District, Central Coast, West Coast Vancouver Island, and Strait of Georgia. The Roe seine fishery takes place between late February to early April and licences are party-based and limited to 252 licences. The 2018 fishery had a quota of 10,543 tons and a total catch of 3429 tons; the 2017 fishery had a quota of 14,228 tons and a total catch of 10,819 tons. The Roe seine quota is approximately 30% of the total allowable catch for Pacific Herring.

Ecosystem Risks

Due to variability in stock status across and within stock assessment areas, the stock status of Pacific herring is considered to be of moderate concern, with a moderate likelihood herring fisheries are driving the status of the stocks. However, the Roe seine fishery is considered to have a low impact on the life history and behavior of the species. In terms of bycatch, the Roe seine fishery is highly targeted and observed bycatch of other species is so minimal that it is generally not observed by the dockside monitors (100% dockside monitoring); therefore, this fishery has a low risk to retained bycatch. Interception of marine mammals does occur in the Food and Bait fishery, especially sea lions including SARA-listed Stellar Sea lions, however mortalities occur. There is a very low likelihood of impacting that species of special concern, and therefore a low risk to "released" by-catch. Finally, the fishery has a low impact on herring as a key prey species. Even though herring are a forage fish species for many marine mammals, sea birds and other fish, the fishery is managed using a conservative approach and therefore was identified as having a low impact on ecosystem processes. There are very few direct or indirect habitat impacts in this fishery.

From this assessment, the preliminary fishery risk (comprised of risk to main species, bycatch, and community and habitat) was identified as moderate. Further analysis of additional resource management issues not incorporated into the preliminary risk calculations indicate there is a moderate to high potential to over-harvest in this fishery, which may pose a risk to the stocks. It should be noted, however, that all herring fisheries quotas are allocated from a single TAC and the risk to overharvesting that total TAC is low. Additionally, because the Roe herring seine fishery operates under a pool structure, compliance is difficult to enforce effectively, and there are negative public perceptions of this fishery. To account for these potential additional issues, the overall risk that the fishery could pose to the stocks was changed to high.

Monitoring Level

An overall risk score of high requires an "enhanced" monitoring level. The Risk Assessment for the Roe seine fishery also identifies that the fishery currently has enhanced monitoring, which includes: a 100% dockside monitoring program, validation of quota landings and provision of validated data to DFO Science, hail requirements, and intensive on-grounds management and oversight by DFO staff. Further, in the 2018 Roe seine fishing season, a mobile at-sea observer program was piloted to assist with on-grounds management.

Next Steps

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As the fishery currently meets the enhanced target monitoring level prescribed by the risk assessment, no changes to the monitoring program are expected in this risk assessment cycle (approximately five years, provided there are no significant changes to the fishery before the regular reassessment). Information gaps and potential issues that may be used for future assessment of the risks of this fishery include the lack of inclusion of herring release mortality during the fishery in catch estimates (although on-grounds estimates are low), the extensive financial and staffing burden of on-grounds management and lack of an adequate management platform in some areas, and a lack of logbooks. There has also been recent discussions about herring stock structure; the current body of work that includes tagging, DNA assessments, and spawn surveys, support the current stock structure employed in the management of Pacific Herring.

ROE HERRING (GILLNET)

Fishery Overview

The commercial Roe gillnet fishery may occur in any of the five major stock assessment areas: Haida Gwaii, Prince Rupert District, Central Coast, West Coast Vancouver Island, and Strait of Georgia. The Roe gillnet fishery takes place between late February to early April and licences are party-based and limited to 1267 licences. The 2018 fishery had a quota of 12,705 tons and a total catch of 11,536 tons; the 2017 fishery had a quota of 16,672 tons and a total catch of 11,707 tons. The Roe gillnet quota is approximately 35% of the total allowable catch for Pacific Herring.

Ecosystem Risks

Due to variability in stock status across and within stock assessment areas, the stock status of Pacific herring is considered to be of moderate concern, with a moderate likelihood that the set of herring fisheries are driving the status of the stocks. However, the Roe gillnet fishery is considered to have a low impact on the life history and behavior of the species. In terms of bycatch, the Roe gillnet fishery is highly targeted and observed bycatch of other species is so minimal that it is generally not observed by the dockside monitors (100% dockside monitoring); therefore, this fishery has a low risk to retained bycatch. Interception of marine mammals does occur in the Roe gillnet fishery, especially with sea lions, which can include SARA-listed Stellar Sea lions, but is rare. There is a very low likelihood of impacting that species of special concern, and therefore a low risk to "released" by-catch. Finally, the fishery has a low impact on herring as a key prey species. Even though herring are a forage fish species for many marine mammals, sea birds and other fish, the fishery is managed using a conservative approach and therefore was identified as having a low impact on ecosystem processes. There are very few direct or indirect habitat impacts in this fishery.

From this assessment, the preliminary fishery risk (comprised of risk to main species, bycatch, and community and habitat) was identified as moderate. Further analysis of additional resource management issues not incorporated into the preliminary risk calculations indicate there is a moderate to high potential to over-harvest in this fishery, which may pose a risk to the stocks. It

should be noted, however, that all herring fisheries quotas are allocated from a single TAC and the risk to overharvesting that total TAC is low. Additionally, because the Roe herring gillnet fishery operates under a pool structure, compliance is difficult to enforce effectively, and there are negative public perceptions of this fishery. To account for these potential additional issues, the overall risk that the fishery could pose to the stocks was changed to high.

Monitoring Level
An overall risk score of high requires an "enhanced" monitoring level. The Risk Assessment for the Roe gillnet fishery also identifies that the fishery currently has enhanced monitoring, which includes: a 100% dockside monitoring program, validation of quota landings and provision of validated data to DFO Science, and hail requirements. Additionally, DFO on-grounds management is used as necessary on the active fishing grounds.

Next Steps
As the fishery currently meets the enhanced target monitoring level prescribed by the risk assessment, no changes to the monitoring program are expected in this risk assessment cycle (approximately five years, provided there are no significant changes to the fishery before the regular reassessment). Information gaps that may be used for future assessment of the risks of this fishery include the uncertain impact of the fishery on smaller spatial areas, and an unknown amount of herring mortality from fish dropping out of the gillnet. There has also been recent discussion about herring stock structure; the current body of work that includes tagging, DNA assessments, and spawn surveys, support the current stock structure employed in the management of Pacific Herring.

SPAWN-ON-KELP (OPEN AND CLOSED POND)

Fishery Overview
The SOK fishery provides the opportunity to harvest herring eggs which have adhered to blades of kelp after herring have spawned. The open pond fishery allows fish to spawn and swim freely, whereas the closed pond fishery uses seine gear to catch herring and retain them in enclosures (or "ponds") for a specific amount of time to allow them to spawn on the hanging kelp, and are then released. The commercial Spawn-on-Kelp (SOK) fishery traditionally occurs in four of the five major stock assessment areas: Haida Gwaii, Prince Rupert District, Central Coast, and the West Coast of Vancouver Island. It does not occur in the Strait of Georgia because of the lack of suitable kelp. The fishery also has activity in the minor stock assessment areas: Area 2W, 27 and outside areas 10, and 12. The SOK fishery takes place from early February to late June.

There are 46 current SOK licence eligibilities, and 12 of these are communal commercial, held by Indigenous groups. Licences are currently non-transferable. The average catch in the total SOK fishery from 2014-2017 was 401,134 lbs., with an average of 21 operating licences per year. The SOK fishery accounts for approximately 6% of the total allowable catch for Pacific Herring.

Ecosystem Risks

Due to variability in stock status across and within stock assessment areas, the stock status of Pacific Herring is considered to be of moderate concern, with a moderate likelihood that the set of herring fisheries are driving the status of the stocks. However, the SOK fishery is considered to have a low impact on the life history and behavior of the species. In terms of bycatch, the SOK fishery is highly targeted and observed bycatch of other species is negligible. There have been recorded instances of humpback whales, sea lions (which can include SARA-listed Stellar Sea lions), and seabirds becoming entangled in enclosure (pond) webbing, in the closed pond fishery. There is, however, a very low likelihood of the fishery driving the status of these animals due to the limited frequency of encounters. Open ponding does not demonstrate these impacts. Finally, the open pond fishery has very few direct or indirect habitat impacts. The closed pond fishery has a moderate impact to benthic habitat in the event of gear contact and/or biofouling of substrate from mortalities and fish waste, as well as a moderate impact to surrounding habitat due to the potential for disease transmission from ponded to non-ponded fish.

From this assessment, the fishery risk (comprised of risk to main species, bycatch, and community and habitat) for open pond SOK fisheries was identified as low, and for closed pond SOK fisheries was identified as moderate.

Monitoring Level

An overall risk score of low requires a low level of monitoring level, whereas a moderate risk score requires a "generic" monitoring level. The Risk Assessment for the open and closed pond SOK fisheries identifies that these fisheries currently meet (and exceed, for open pond) their target monitoring level, which is considered generic. Monitoring of these fisheries includes a 100% dockside monitoring program, requirements to hail-in, hail at-sea, and hail-out of the fishery, maintenance of paper logbooks, and submission of fish slips.

Next Steps

As the fishery currently meets or exceeds the target monitoring level prescribed by the risk assessment, no changes to the monitoring program are expected in this risk assessment cycle (approximately five years, provided there are no significant changes to the fishery before the regular reassessment). Information gaps that may be used for future assessment of the risks of these fisheries include the unknown mortality from the ponding technique (e.g. the effect of towing herring to enclosure), the potential for disease spread to non-ponded herring and other species, and the unknown impact of kelp harvest. There has also been ongoing concerns regarding herring stock structure; the current body of work that includes tagging, DNA assessments, and spawn surveys, support the current stock structure employed in the management of Pacific Herring.

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