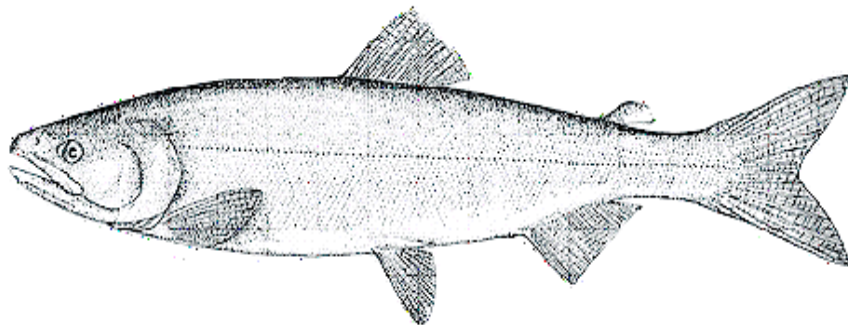


PACIFIC REGION
FINAL

INTEGRATED FISHERIES MANAGEMENT PLAN

JUNE 1, 2017 - MAY 31, 2018

SALMON
NORTHERN BC



Genus *Oncorhynchus*



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canada

This Integrated Fisheries Management Plan is intended for general purposes only. Where there is a discrepancy between the Plan and the Fisheries Act and Regulations, the Act and Regulations are the final authority. A description of Areas and Subareas referenced in this Plan can be found in the Pacific Fishery Management Area Regulations, 2007.

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DEPARTMENT CONTACTS

A more comprehensive list of contacts can be found online at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/toppages/contacts_e.htm

24 Hour Recorded Information (Commercial)

Vancouver (604) 666-2828

Toll Free 1-888-431-3474

Pacific Salmon Commission (PSC) Office..... (604) 684-8081

PSC Test Fisheries (Recorded, In-Season Information) (604) 666-8200

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

Commercial Fishing: <http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/index-eng.htm>

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INDEX OF WEB-BASED INFORMATION

FISHERIES AND OCEANS CANADA GENERAL INFORMATION

MAIN PAGE

<http://www.dfo-mpo.gc.ca>

Our Vision, Latest News, Current Topics

Twitter:

DFO Pacific: [@DFO Pacific](#)

En Français: [@MPO Pacifique](#)

ACTS, ORDERS, AND REGULATIONS

<http://www.dfo-mpo.gc.ca/acts-loi-eng.htm>

Canada Shipping Act, Coastal Fisheries Protection Act, Department of Fisheries and Oceans Act, Financial Administration Act, Fish Inspection Act, Fisheries Act, Fisheries Development Act, Fishing and Recreational Harbours Act, Freshwater Fish Marketing Act, Navigation Protection Act, Oceans Act

REPORTS AND PUBLICATIONS

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

Administration and Enforcement of the Fish Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, Audit and Evaluation Reports - Audit and Evaluation Directorate Canadian Code of Conduct for Responsible Fishing Operations, Departmental Performance Reports, Fisheries Research Documents, Standing Committee's Reports and Government responses, Sustainable Development Strategy.

WAVES

<http://waves-vagues.dfo-mpo.gc.ca/waves-vagues/>

Fisheries and Oceans Canada online library catalogue

INDEX OF WEB-BASED INFORMATION

PACIFIC SALMON TREATY

<http://www.psc.org>

Background information; full text of the treaty

PACIFIC REGION GENERAL

MAIN PAGE

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

General information, Area information, Latest news, Current topics

POLICIES, REPORTS AND PROGRAMS

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html>

Reports and Discussion Papers, New Directions Policy Series, Agreements

OCEANS PROGRAM

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

Integrated Coastal Management; Marine Protected Areas; Marine Environmental Quality; Oceans Outreach; Oceans Act

PACIFIC REGION FISHERIES MANAGEMENT

MAIN PAGE

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

Commercial Fisheries, New and Emerging Fisheries, Recreational Fisheries, Maps, Notices and Plans

INDEX OF WEB-BASED INFORMATION

ABORIGINAL FISHERIES STRATEGY

<http://www.pac.dfo-mpo.gc.ca/abor-autoc/index-eng.html>

or <http://www.dfo-mpo.gc.ca/fm-gp/aboriginal-autochtones/index-eng.htm>

Aboriginal Fisheries Strategy (AFS) principles and objectives; AFS agreements; Programs; Treaty Negotiations

AQUACULTURE MANAGEMENT

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

The new federal regulatory program for aquaculture in British Columbia; Program overview and administration, public reporting, and aquaculture science

RECREATIONAL FISHERIES

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

Fishery Regulations and Notices, Fishing Information, Recreational Fishery, Policy and Management, Contacts, Current BC Tidal Waters Sport Fishing Guide and Freshwater Supplement; Rockfish Conservation Areas, Shellfish Contamination Closures; On-line Licensing

COMMERCIAL FISHERIES

<http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/comm/index-eng.htm>

Links to Groundfish, Herring, Salmon, Shellfish and New and Emerging Fisheries homepages; Selective Fishing, Test Fishing Information, Fishing Areas, Canadian Tide Tables, Fishery Management Plans, Commercial Fishery Notices (openings and closures)

INITIATIVE TO UPDATE THE COMMERCIAL SALMON ALLOCATION FRAMEWORK

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html>

Links to the Departments' consultation website which provides an overview of the process to update the Commercial Salmon Allocation Framework (CSAF), including links to summary reports and submissions with recommendations.

INDEX OF WEB-BASED INFORMATION

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.

INTEGRATED FISHERY MANAGEMENT PLANS

<http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/index-eng.htm>

Current Management Plans for Groundfish, Pelagics, Shellfish (Invertebrates), Minor Finfish, Salmon; sample Licence Conditions; Archived Management Plans

SALMON TEST FISHERY - PACIFIC REGION

<http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/salmon/testfish/default.htm>

Definition, description, location and target stocks

LICENCING

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

Contact information; Recreational Licencing Information, Commercial Licence Types, Commercial Licence Areas, Licence Listings, Vessel Information, Vessel Directory, Licence Statistics and Application Forms

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

INDEX OF WEB-BASED INFORMATION

SALMON

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/index-eng.html>

Salmon Facts; Salmon Fisheries; Enhancement and Conservation; Research and Assessment; Consultations; Policies, Reports and Agreements; Glossary of Salmon Terms

FRASER RIVER/BC INTERIOR AREA RESOURCE MANAGEMENT AND STOCK ASSESSMENT

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

Contact information; Test fishing and survey results (Albion, creel surveys, First Nations); Fraser River sockeye and pink escapement updates; Important notices; Recreational fishing information

NORTH COAST RESOURCE MANAGEMENT

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

First Nations fisheries, Recreational fisheries; Commercial salmon and herring fisheries; Skeena Tye test fishery; Counting facilities; Post-season Review; Contacts

YUKON/TRANSBOUNDARY RIVERS AREA MAIN PAGE

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

Fisheries Management; Recreational fisheries; Habitat; Licencing; Contacts

PACIFIC REGION

SALMONID ENHANCEMENT PROGRAM

MAIN PAGE

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/index-eng.html>

Publications (legislation, policy, guidelines, educational resources, brochures, newsletters and bulletins, papers and abstracts, reports); GIS maps and Data (habitat inventories, spatial data holdings, land use planning maps); Community involvement (advisors and coordinators, educational materials, habitat conservation and Stewardship Program, projects, Stream Talk).

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PACIFIC REGION POLICY AND COMMUNICATIONS

MAIN PAGE

<http://www.dfo-mpo.gc.ca/media/index-eng.htm>

Media Releases; Salmon Updates, Backgrounders, Ministers Statements, Publications; Contacts

CONSULTATION SECRETARIAT

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

Consultation Calendar; Policies; National; Partnerships; Fisheries Management, Oceans, Science and Habitat and Enhancement Consultations; Current and Concluded Consultations

PUBLICATIONS CATALOGUE

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

Information booklets and fact sheets available through Communications branch

SPECIES AT RISK ACT (SARA)

<http://www.dfo-mpo.gc.ca/species-especes/index-eng.htm>

SARA species; SARA permits; public registry; enforcement; Stewardship projects; Consultation; Past Consultation; First Nations; Related Sites; For Kids; News Releases

PACIFIC REGION SCIENCE

MAIN PAGE

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

Science divisions; Research facilities; PSARC; International Research Initiatives

GLOSSARY AND LIST OF ACRONYMS

A comprehensive glossary is available online at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/gloss-eng.html>

LIST OF ACRONYMS USED IN THIS PLAN:

ACRONYM	PHRASE
AABM	Aggregate Abundance-Based Management
AAROM	Aboriginal Aquatic Resource and Oceans Management
AHC	Area Harvest Committee
AFS	Aboriginal Fisheries Strategy
ATP	Allocation Transfer Program
CCTAC	Canadian Commercial Total Allowable Catch
CEDP	Community Economic Development Program
COHO ABM	Coho Abundance-Based Management
COSEWIC	Committee for the Status of Endangered Wildlife in Canada
CPUE	Catch Per Unit Effort
CSAP	The Centre for Scientific Advice Pacific
CSAS	The Canadian Science Advisory Secretariat
CSAF	Commercial Salmon Allocation Framework
CSAB	Commercial Salmon Advisory Board
CWT	Coded Wire Tag
DIDSON	Dual Frequency Identification Sonar
ER	Exploitation Rate
ESSR	Excess Salmon to Spawning Requirements

GLOSSARY AND LIST OF ACRONYMS

FNFC	First Nations Fishery Council
FRP	Fraser River Panel
FSC	Food, Social and Ceremonial
HG	Haida Gwaii
ITQ	Individual Transfer Quota
IHPC	Integrated Harvest Planning Committee
ISBM	Individual Stock-Based Management
LAER	Low Abundance Exploitation Rates
LRP	Lower Reference Points
MCC	Marine Conservation Caucus
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
MVI	Mid Vancouver Island
NOLS	National On-line Licensing System
PICFI	Pacific Integrated Commercial Fisheries Initiative
PFMA	Pacific Fisheries Management Areas
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
RCA	Rockfish Conservation Area
SARA	Species at Risk Act
SEG	Sustainable Escapement Goal
SEP	Salmonid Enhancement Program
SFAB	Sport Fishing Advisory Board
SHMF	Selective Hatchery Mark Fishery

GLOSSARY AND LIST OF ACRONYMS

TAC	Total Allowable Catch
TAM	Total Allowable Mortality
WCVI	West Coast Vancouver Island
WSP	Wild Salmon Policy (Canada's Policy for Conservation of Wild Pacific Salmon)

FOREWORD

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the main objectives and requirements for the Northern B.C. Pacific salmon fishery, 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, First Nations, harvesters, and other interested parties. 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 that 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.

NEW FOR 2017/2018

KEY CHANGES FOR THE 2017/18 NORTHERN BC SALMON IFMP

STATE OF THE PACIFIC OCEAN AND FRESHWATER ENVIRONMENTAL CONDITIONS

Returns of most Pacific salmon stocks have been increasingly variable due to a combination of factors such as: numbers of parental spawners and the changing freshwater and marine environment affecting subsequent production from these spawners at various life history stages. The 2017 outlook for salmon returns shows this variation but also suggests a period of continued reduced productivity. Reasons include the extremely warm water temperatures in the central NE Pacific ocean (the “warm blob”) starting in late 2013, the 2016 El Nino conditions, and the resulting changes in the marine food web – zooplankton composition, density, and distribution. For Pacific salmon, the full implications of these conditions are uncertain; however, these conditions have been linked to reduced survival and / or growth for salmon in the past. These conditions could also affect returning adults in 2017 through changes in age-at-return, fish condition, migration routes, and run timing.

DFO utilizes a range of information to manage fisheries in-season and decision making often incorporates science advice on the impact of environmental factors on in-season indicators of salmon returns, migration and fish condition. For 2017, environmental conditions and associated uncertainties may require additional adjustments to the fisheries management approaches outlined in this IFMP. For example, these adjustments could include changes to planned openings, harvest levels and timing of fisheries; management adjustments to account for adverse environmental conditions; time or area closures in specific locations to protect spawners that may be aggregating due to poor migratory conditions; additional selective fishing requirements; or other measures necessary to achieve sufficient spawner requirements. Further information on specific management actions will be communicated in-season by Fisheries Notice.

KWINAGEESE CLOSURE

New closure dates; please see Northern Sockeye Salmon Fishing Plan in Section [13](#) for more information.

SKEENA SOCKEYE DECISION GUIDELINES AND MANAGEMENT ACTIONS

For the 2017 season, the Department accepted the recommendations from the Skeena First Nations Technical Committee to increase the trigger level for initiating First Nations Section

35(1) fisheries from a 400,000 to 600,000 sockeye total return to Canada and plans to start the season with a closure for sockeye directed fisheries. See Section [13.5.4.3](#) for more information.

SKEENA RECREATIONAL CHINOOK FISHING CLOSURES

New closures are planned for recreational fisheries in the Skeena watershed; please see [13.1.3.5.2](#) for more information.

SOUTHERN BRITISH COLUMBIA CHINOOK - IN-SEASON MANAGEMENT CHANGES

This IFMP identifies conservation objectives for southern BC chinook salmon and outlines planned management measures for First Nations, recreational and commercial fisheries for the period from June 1, 2017 to May 31, 2018. The Department may make in-season changes to the management measures outlined in this IFMP to address implementation of An Action Plan for Northern and Southern Resident Killer Whales in Canada, as well as, new information and analysis. Work is also planned to conduct a technical review of the Fraser River chinook management approach and in-season changes may be considered as a result of this work. The Department will make all reasonable effort to include First Nations and stakeholders in discussions on proposed changes and to consult First Nations and stakeholders of any in-season changes in advance of changes being announced.

FISHERY MONITORING AND CATCH MONITORING

The Department finalized the “Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries” (the Framework) in the spring of 2012. The Framework directs that an ecological risk assessment be undertaken for all fisheries to determine the level of monitoring required to provide information necessary to manage for the ecosystem risks posed by a fishery, while allowing for final monitoring and reporting programs to reflect the fishery's unique characteristics.

Risk assessments are performed using an excel-based tool that provides for a consistent approach to a structured conversation regarding ecological risk and other resource management considerations. For salmon, the draft risk assessments are planned to be initially completed by DFO, then presented to harvesters for review, comment, and revision through existing advisory processes established for fisheries management purposes.

Should the risk assessment indicate a gap between the current level and target level of monitoring identified through the risk assessment, options to address the monitoring gap are to be identified through discussion between DFO and harvesters. The feasibility of these options

(e.g. cost, technical considerations etc.) is also to be considered through these discussions. The Strategic Framework directs that monitoring and reporting programs must be both cost-effective and tailor-made for a fishery; as such, a collaborative approach is required.

More info is available at:

http://www.pac.dfo-mpo.gc.ca/fm-gp/docs/framework_monitoring-cadre_surveillance/page-1-eng.html

USE OF FISH FOR FINANCING SALMON SCIENCE ACTIVITIES

The list of regional salmon projects planned for 2017 is similar to those projects in 2016. These include: Pacific Salmon Commission Secretariat-administered projects (11 Fraser Panel projects for Fraser River sockeye and pink); Albion chinook/chum gillnet; Skeena gillnet all species, Johnstone Strait chum seine; Barkley Sound sockeye seine; and Cowichan/Saanich chum seine.

COMMERCIAL SALMON ALLOCATION FRAMEWORK

In the 2015/16 Salmon IFMP's, the Department outlined changes to the CSAF based on recommendations received from the First Nations Fisheries Council's Salmon Coordinating Committee (SCC) and the Commercial Salmon Advisory Board (CSAB). The background on this work and the details of the approved updates are outlined in Appendix 6. Included for 2017/2018 are additional guidelines and principles for review which were suggested by the SCC and CSAB to provide further clarity on sharing arrangements approved in the 2015/2016 IFMP as well as suggested changes and outstanding topics for discussion related to the Transfer Guidelines.

As part of implementing changes to the CSAF, the Department indicated that it would adopt an incremental approach to providing increased flexibility to harvest salmon shares starting in 2016. CSAF proposals are assessed through a common Evaluation Framework which outline Department objectives and were developed with support from the SCC and CSAB. CSAF proposals received and included within the final 2016/2017 IFMP and new proposals received for consideration in 2017/2018 are included in [Appendix 6](#) to allow for further feedback while evaluations and discussion with proponents are completed.

Fishery proposals reviewed through the Evaluation Framework which do not result in substantial concerns based on an initial assessment will be included in the final IFMP. Those proposals which are included in the final IFMP may proceed in the coming year, subject to addressing any outstanding operational considerations.

***Please see [Appendix 6](#) for details of CSAF demonstration fisheries proposed for 2017 as well as the revised transfer guidelines.**

NEW FOR 2017/2018

Additional information on the work completed since 2013 can be found at the following link:
<http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html>

I OVERVIEW

I.1 INTRODUCTION

This 2017/2018 Northern B.C. Salmon Integrated Fisheries Management Plan (IFMP) covers the period June 1, 2017 to May 31, 2018.

This IFMP provides a broad context to the management of the Pacific salmon fishery and the interrelationships of all fishing sectors involved in this fishery. Section [2](#) considers stock assessment, while Sections [3](#) and [4](#) consider the shared stewardship arrangements and the social, cultural, and economic performance of the fishery. Section [5](#) describes the broader management issues, and the objectives to address these issues are identified in Section [6](#).

Sections [7](#) and [8](#) describe allocation, general decision guidelines and compliance plans. Post season review information for previous year's fishery is outlined in Section [9](#). Sections [10](#), [11](#), and [12](#) are sections that describe the different fisheries and Section [13](#) of the IFMP covers off the fishing plans for each salmon species.

The Appendices provided in the IFMP provide information such as the fishing vessel safety, advisory board members, maps of commercial licence areas and rebuilding plans.

I.2 HISTORY

For thousands of years, the history, economy and culture of Canada's west coast have been inextricably linked to Pacific salmon. These magnificent fish have been an important part of the diet, culture and economy of First Nations people. Since the late 1800s, salmon have supported a vibrant commercial fishing industry, vital to the establishment and well-being of many coastal communities. Salmon, particularly chinook and coho, also play a key role in the west coast recreational fishery.

I.3 TYPES OF FISHERY AND PARTICIPANTS

This plan describes the management of First Nations, recreational and commercial fisheries for Pacific salmon in northern B.C. and the factors that influence decision-making.

Salmon fisheries are coordinated regionally with many management decisions occurring in area and field offices. Key to salmon management is the development and implementation of integrated fisheries management plans that meet specified objectives focusing on conservation, allocation and obligations to First Nations and international treaties.

I.4 LOCATION OF FISHERY

This IFMP is designed to describe the approach to fisheries in tidal and non-tidal waters from Cape Caution north to the B.C./Alaska border, including the Skeena River watershed ([Figure 1.4-1: Management Areas for Northern B.C.](#)).

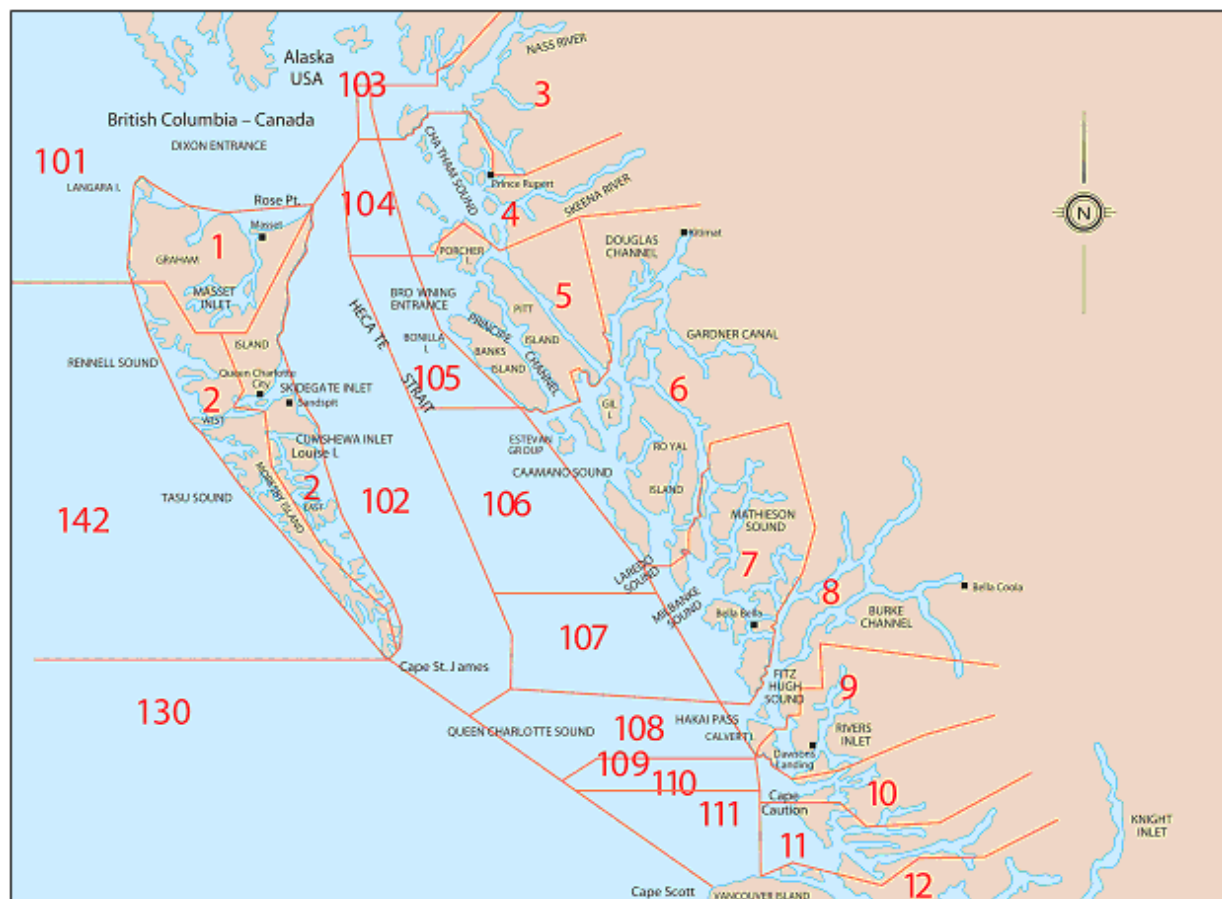


Figure 1.4-1: Management Areas for Northern B.C.

I.5 FISHERY CHARACTERISTICS

Pacific salmon species covered in the plan include sockeye, coho, pink, chum and chinook. Fisheries include those undertaken by First Nations as well as recreational and commercial fisheries.

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 purposes, it takes priority, after conservation, over other uses of the resource.

Pre-season, DFO engages in a variety of consultation and collaborative harvest planning processes with First Nations at the community level, or at broader tribal or watershed levels. Fisheries are then authorized via a Communal Licence issued by the Department under the *Aboriginal Communal Fishing Licences Regulations*. These licences are typically issued to individual bands or tribal groupings, and describe the details of authorized fisheries including dates, times, methods, and locations of fishing. Licences and Aboriginal Fisheries Strategy (AFS) agreements (where applicable) include provisions that allow First Nations' designation of individuals to fish for the group and in some cases, vessels that will participate in fisheries.

Fishing techniques used in FSC fisheries are quite varied, ranging from traditional methods such as dip nets to modern commercial methods such as seine nets fished from specialized vessels.

Separate from FSC fisheries, some First Nations have communal access to commercial opportunities as follows:

- Treaty arrangements
- Commercial fisheries access through communal commercial licences acquired through DFO relinquishment programs (e.g. Pacific Integrated Commercial Fisheries Initiative – PICFI or Allocation Transfer Program-ATP). These licences are fished in a manner that is comparable to the general commercial fishery.
- Inland demonstration fisheries (Nass River and Skeena River) to date are supported through licences relinquished from the commercial salmon fleet from the ATP and PICFI programs and private business arrangements from industry.
- Excess Salmon to Spawning Requirements (ESSR) fisheries may also be provided that permit the sale of fish in some highly terminal areas where spawner abundance is in excess of excess of spawning requirements.

Fisheries and Oceans Canada regulates recreational fishing for Pacific salmon in both tidal and non-tidal waters. All recreational fishers must possess a valid recreational fishing licence. Tidal licences are issued by DFO. Non-tidal licences are issued by the Province. Anglers wishing to retain salmon taken from either tidal or non-tidal waters must have a valid salmon conservation stamp affixed to their licence. The proceeds from the sale of stamps are used to fund salmon restoration projects supported by the non-profit Pacific Salmon Foundation.

Fishing techniques used in the recreational fishery include trolling, mooching and casting with bait, lures and artificial flies. Boats are most commonly used, but anglers also fish from piers, shores or beaches. Only barbless hooks may be used when fishing for salmon in British Columbia.

Commercial salmon licences are issued for three gear types: seine, gill net and troll. Trollers employ hooks and lines which are suspended from large poles extending from the fishing vessel. Altering the type and arrangement of lures used on lines allows various species to be targeted. Seine nets are set from fishing boats with the assistance of a small skiff. Nets are set in a circle around schools of fish. The bottom edges of the net are then drawn together into a “purse” to prevent escape of the fish. Salmon gill nets are rectangular nets that hang in the water and are set from either the stern or bow of the vessel. Fish swim headfirst into the net, entangling their gills in the mesh. Altering mesh size and the way in which nets are suspended in the water reduces impacts on non-target species. Gill netters generally fish near coastal rivers and inlets.

Licence conditions and commercial fishing plans lay out allowable gear characteristics such as hook styles, mesh size, net dimensions and the methods by which gear may be used.

1.6 GOVERNANCE

Departmental policy development related to the management of fisheries is guided by a range of considerations that include legislated mandates, judicial guidance and international and domestic commitments that promote biodiversity and a precautionary, ecosystem-based approach to the management of marine resources. Policies were developed with consultation from those with an interest in salmon management. While the policies themselves are not subject to annual changes, implementation details are continually refined where appropriate.

1.6.1 POLICY FRAMEWORK FOR THE MANAGEMENT OF PACIFIC SALMON FISHERIES

Salmon management programs continue to be guided by the following policies: Canada’s Policy for Conservation of Wild Pacific Salmon, An Allocation Policy for Pacific Salmon, Pacific Fisheries Reform, A Policy for Selective Fishing, A Framework for Improved Decision Making in the Pacific Salmon Fishery, and the Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries. These policies are available at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/pol/index-eng.html>

Canada’s Policy for Conservation of Wild Pacific Salmon (the Wild Salmon Policy or WSP) sets out the vision regarding the importance and role of Pacific wild salmon as well as a strategy for

their protection. More information on this can be found in Section [5.1.1](#) of this plan or at: <http://www.pac.dfo-mpo.gc.ca/publications/pdfs/wsp-eng.pdf>

An Allocation Policy for Pacific Salmon, announced in 1999, contains principles to guide the management and allocation of the Pacific salmon resource between First Nations, commercial and recreational harvesters, and forms the basis for general decision guidelines outlined in Section [7](#) of this plan.

Pacific Fisheries Reform, announced by the Department in April of 2005, provides a vision of a sustainable fishery where the full potential of the resource is realized, Aboriginal rights and title are respected, there is certainty and stability for all, and fishery participants share in the responsibility of management. Future treaties with First Nations are contemplated, as is the need to be adaptive and responsive to change. This policy direction provides a framework for improving the economic viability of commercial fisheries, and to addressing First Nations aspirations with respect to FSC and commercial access and involvement in management. The "Vision for Recreational Fisheries in B.C." was approved January 2010 by DFO, the Sport Fishing Advisory Board (SFAB) and the Province of B.C. Guided by this Vision, an action and implementation plan is being developed to build upon the collaborative process established by the Federal and Provincial Governments and the SFAB. The document can be found on the DFO Pacific Region website at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/docs/rec-vision-eng.pdf>

In May 1999, the Department released *A Policy for Selective Fishing in Canada's Pacific Fisheries*. Under the Department's selective fishing initiative, harvester groups have experimented with a variety of methods to reduce the impact of fisheries on non-target species, with a number of measures reaching implementation in fisheries.

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

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

I.6.2 FIRST NATIONS AND CANADA'S FISHERIES

The Government of Canada's legal and policy frameworks identify a special obligation to provide First Nations the opportunity to harvest fish for food, social and ceremonial purposes.

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 1990 Supreme Court of Canada’s Sparrow decision;
- Greater involvement of First Nations in the management of fisheries; and
- Increased participation in commercial fisheries (Allocation Transfer Program (ATP)).

The AFS continues to be the principal mechanism that supports 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.

In addition to fishing opportunities for FSC purposes, DFO acknowledges that in *Ahousaht Indian Band et al. v. Canada and British Columbia*, the courts have found that five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht – have “aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of geoduck”. The Department is actively working with the First Nations to accommodate their rights without jeopardizing Canada’s legislative objectives and societal interests in regulating the fishery.”

As part of the reform of Pacific fisheries, DFO is looking for opportunities to increase First Nations participation in commercial fisheries through an interest-driven business planning process. New planning approaches and fishing techniques will be required to ensure an economically viable fishery. In recent years, some First Nations inland “demonstration fisheries” have occurred in order to explore the potential for inland fisheries targeting terminal runs of salmon. The Department is also working with First Nations and others with an interest in the salmon fishery to improve collaboration in the planning of fisheries and to improve fisheries monitoring, catch reporting and other accountability measures for all fish harvesters.

1.6.3 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, First Nations’ aspirations to be more involved are supported and the overall management of fisheries is improved.

PICFI has supported fisheries reforms by targeting on the following outcomes:

- 1) greater stability of access for commercial harvesters through increasing FN participation in commercial fisheries;
- 2) increased compliance with fishing rules and greater confidence in catch data through strengthened fisheries monitoring, catch reporting and enforcement and improved collection, storage of catch information; and
- 3) collaborative management mechanisms for all harvest sectors, including the growing aboriginal commercial participants.

In its first 5 years, the Government of Canada committed \$175 million to implement the initiative. To continue to build on the progress achieved to date and to continue promoting the integration of commercial fisheries, Economic Action Plan 2014 announced a two year renewal, with resources of \$22.05M per year, of the Pacific Integrated Commercial Fisheries Initiative. The 2016/17 federal budget supported a one year renewal of the PIFCI program at the same funding level (\$22.05M) until March 31, 2017. Budget 2017 proposes to provide \$250 million over five years, and \$62.2 million ongoing, to Fisheries and Oceans Canada to renew and expand the successful Pacific and Atlantic integrated commercial fisheries initiatives and to augment Indigenous collaborative management programming.

I.6.4 FISHERY MONITORING AND CATCH REPORTING

A complete, accurate and verifiable fishery monitoring and catch reporting program is required to successfully balance conservation, ecosystem and socio-economic and other management objectives. Across all fisheries, work is being undertaken to improve catch monitoring programs by clearly identifying information requirements based on ecosystem risk and their supporting rationale for each specific fishery and evaluating the current monitoring programs to identify gaps. Managers and harvesters will annually work together to address those gaps.

The Department finalized the “Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries” (the Framework) in the spring of 2012. The Framework outlines how consistent risk assessment criteria can be applied to each fishery to determine the level of monitoring required, while allowing for final monitoring and reporting programs to reflect the fishery's unique characteristics. More info is available at:

http://www.pac.dfo-mpo.gc.ca/fm-gp/docs/framework_monitoring-cadre_surveillance/page-1-eng.html

I.7 CONSULTATION

This plan incorporates the results of consultations and input from the Integrated Harvest Planning Committee (IHPC). The IHPC was developed to allow for First Nations, recreational

and commercial advisors, and the Marine Conservation Caucus (MCC), which represents a coalition of “conservation” organizations, to come together to discuss issues and concerns related to the management of salmon. Where possible; potential significant changes to provisions in the IFMP will be identified to the IHPC prior to the implementation. However, there may be times when changes will be made without prior notification.

Fisheries and Oceans Canada will continue to consult with First Nations (through regional and bilateral processes), with recreational and commercial harvesters, and with the MCC to also seek IFMP input and to further co-ordinate fishing activities as the season unfolds.

Consultative elements of an Improved Decision Making discussion paper have been implemented through establishment of the Consultation Secretariat, which works to improve the flow of information between stakeholders and the Department. Up-to-date information pertaining to on-going consultations can be found on the Secretariat’s website at:

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

Further information on salmon consultations, including terms of reference, membership, meeting dates and records of consultation can be found on the Salmon Consultation website at:

<http://www.pac.dfo-mpo.gc.ca/consultation/fisheries-peche/smon/ihpc-cpip/index-eng.html>

1.8 APPROVAL PROCESS

This plan is approved by the Minister of Fisheries and Oceans Canada.

2 STOCK ASSESSMENT, SCIENCE, AND TRADITIONAL ECOLOGICAL KNOWLEDGE

2.1 BIOLOGICAL SYNOPSIS

Pacific salmon include five species belonging to the genus *Oncorhynchus* family Salmonidae: pink (*O. gorbuscha*), chum (*O. keta*), sockeye (*O. nerka*), coho (*O. kisutch*) and chinook (*O. tshawytscha*). The native range of Pacific salmon includes the North Pacific Ocean, Bering Strait, south-western Beaufort Sea and surrounding fresh waters. They occur in an estimated 1300 - 1500 rivers and streams in BC and Yukon; notably, the Skeena River and Nass River in the north and the Fraser River in the south that collectively account for about 75% of the total salmon production.

Pacific salmon are anadromous; salmon breed and spend varying portions of their life in fresh water, then travel to the ocean to feed until maturity. Physical characteristics, life histories and spawning habits vary from species to species. Total life spans range from two years (for pink) up to six or seven years (for some sockeye and chinook). Pacific salmon migrate into rivers and streams to spawn from spring to fall; after courtship, eggs are released, fertilized and then buried in gravel. Both adults die after spawning. In mid-winter the eggs hatch into alevins. In spring, the young emerge and stay in freshwater streams and lakes from one week to two years. Most then go to sea for one to five years, undertaking a large ocean-feeding migration, although sockeye have also developed a land-locked form (kokanee). In the ocean, sockeye, pink and chum feed primarily on plankton and crustaceans such as tiny shrimp. Chinook and coho also eat smaller fish, such as herring. At sea, the species attain the following average adult weights: 1 to 3 kg for pink; 5 to 7 kg for chum; 3.5 to 7 kg for coho; 2 to 4 kg for sockeye; and 6 to 18 kg for chinook (the largest recorded chinook was 57.27 kg).

Pacific salmon complete their life cycle by returning to their natal stream to spawn, in many cases to the particular gravel bed where they were hatched. Homing of Pacific salmon to their natal stream is an important biological characteristic of salmon stocks. Each stock is genetically adapted to the environment in which it resides, and exhibits unique characteristics such as life history, migration route, migration timing, and productivity. Sockeye and chinook travel the farthest upstream to spawn, as far as 1,500 kilometers. Chum, coho and pink usually spawn closer to the sea. However, some chum salmon travel more than 3,200 km up the Yukon River.

The numbers of Pacific salmon returning to BC waters varies greatly from year to year and decade to decade, often with pronounced population cycles. For example, pink salmon are usually dominant on either odd-year or even-year cycles, and many sockeye salmon populations are very abundant every fourth year. This is seen most dramatically in the Fraser

River, where the abundance of some populations in abundant years is many times larger than that of other years. Longer term cycles are also apparent but less regular and seem to be associated with changes in ocean conditions that affect survival during the feeding migration.

Chinook are the largest of the species and typically live the longest. Chinook fry may go to sea soon after hatching or, after one to two years in fresh water. Chinook mature at age three to seven years. Jacks, defined as two-year-old sexually mature adult males that return to spawn are common among chinook, coho and sockeye.

Adult coho generally return from late summer and early fall. Most choose streams close to the ocean, although some journey as far as 1,500 kilometres inland. In contrast to other salmon, young coho fry remain in their spawning stream for a full year after emerging from the gravel. Their age at maturity is normally three years.

Sockeye spawn in streams with lakes in their watershed, and there are also populations which do not require nursery lakes as part of their life history. Young sockeye spend between one and three years in a lake before migrating to sea. They move rapidly out of the estuaries and thousands of miles into the Gulf of Alaska and the North Pacific where they feed. They return to their natal spawning stream at ages three to six years. Chum salmon generally spawn in early winter usually in the lower tributaries along the coast, rarely more than 150 kilometers inland. Fry emerge in the spring and go directly to sea. Chum generally mature in their third, fourth, or fifth year.

Pink salmon live only two years almost entirely in ocean feeding areas. Adults leave the ocean in the late summer and early fall and usually spawn in streams not fed by lakes, a short distance from the sea. Fry migrate to the sea as soon as they emerge from the gravel.

All five Pacific salmon species are harvested in First Nations fisheries in coastal and inland areas. Coho and chinook are the preferred species in the BC coastal mixed-stock recreational and commercial hook and line fisheries, and to a lesser extent, are caught by gill and seine nets. Sockeye, pink and chum are harvested primarily by First Nations and commercial net fishermen, but also in recreational fisheries.

SALMON LIFE CYCLE

Salmon deposit and bury their eggs in nests called redds, which are normally constructed in gravel. Generally the size of gravel chosen will depend on the size of the female parent. The embryos incubate and hatch within the redd and usually remain in the gravel until they have depleted their yolk supply and have become "buttoned-up". Embryo development rates and timing of fry emergence from the gravel is determined primarily by the water temperatures during incubation. Fry normally emerge in the spring and, depending on the species and the

stock, can remain in freshwater streams or lakes from just a few hours up to two years prior to migrating to the ocean. Once at sea, the species undertake migrations of varying distance lasting up to several years ([Figure 2.1-1](#)). Within a species, different stocks can display markedly different migration patterns.

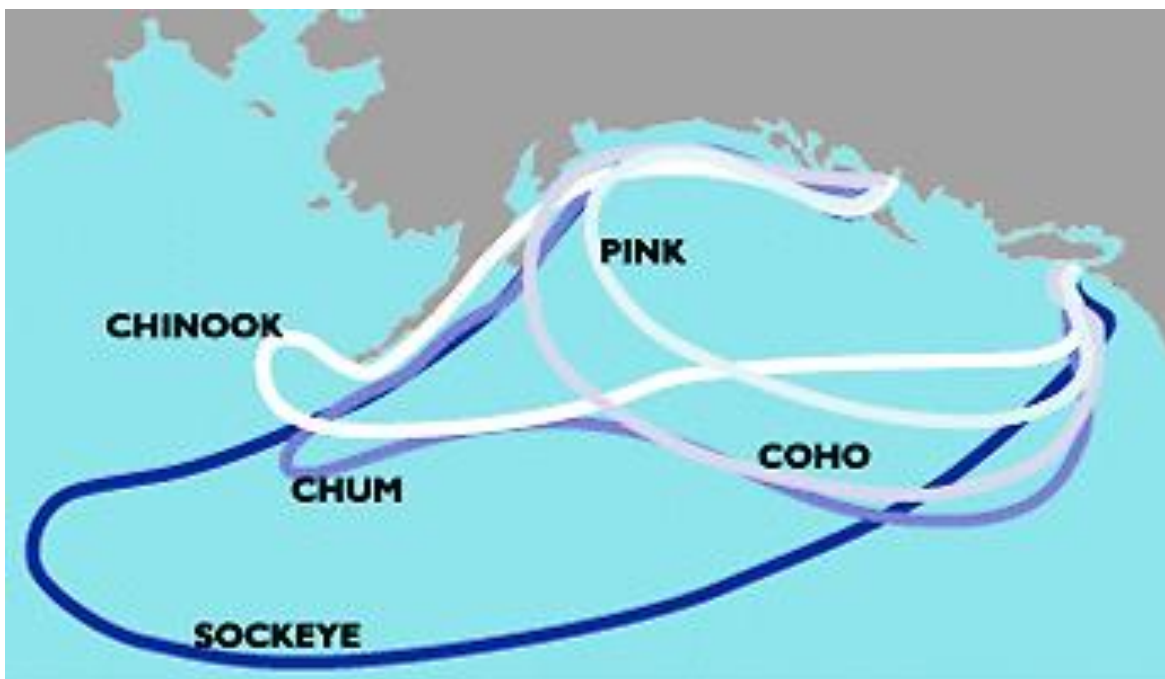


Figure 2.1-1: Typical ocean habitat of BC salmon in the Pacific Ocean

From Agriculture & Agri-Food Canada; see: <http://www.ats.agr.gc.ca/sea-mer/4810-eng.htm>

An example of the contrasts in some life history characteristics of salmon appears in [Table 2.1-1](#) (from Haig-Brown Kingfisher Creek Restoration Project, 1998-99). Once the salmon have reached maturity in the ocean, they migrate back to their natal rivers. Only a fraction of eggs will survive to adulthood to deposit their eggs to continue the cycle.

Table 2.1-1: Summary of life history characteristics for five Pacific salmon

Life History Characteristic	Coho <i>O. kisutch</i>	Sockeye <i>O. nerka</i>	Pink <i>O. gorbuscha</i>	Chum <i>O. keta</i>	Chinook <i>O. tsawytscha</i>
Season when eggs hatch	Spring	Spring	Spring	Spring	Spring
Length of stay in freshwater	1–2 years; 1 year is common.	1 month to 2 years.	Virtually none; often straight to ocean.	Virtually none; often straight to ocean.	1 to 2 years
Primary rearing habitat	Stream	Lake/stream	Estuary	Estuary	Stream
Size at ocean migration	10cm or more	Variable, 6.5 to 12cm	About 3.3cm	2.8 to 5.5cm	5 to 15cm
Ocean voyage	4–18 months	16–52 months	18 months	2 to 5 years	4 mths to 5 years
Age at return to freshwater	During 2nd to 4th year.	During 3rd to 5th years	During 2nd year	During 3rd to 5th years.	During 2nd to 6th years.
Season/month of return	Late summer to January.	Midsummer to late autumn.	July to September	July to October	Spring to fall; some rivers support >one run.
#eggs/female	2,000–3,000	2,000–4,500	1,200–2,000	2,000–3,000	2k-17k (generally 5k-6k)
Preferred spawning area	Small streams	Near and in lake systems.	Close to ocean	Above turbulent areas or upwellings.	Very broad tolerances

2.2 ECOSYSTEM INTERACTIONS

As a consequence of their anadromous life history, salmon are sensitive to changes in both the marine and freshwater ecosystems. Salmon are an ecologically important species supporting complex food webs in oceanic, estuarine, freshwater and terrestrial, ecosystems by providing nutrients every year during their migration to the rivers and lakes to spawn.

DFO is moving away from management on a single species and moving towards an integrated ecosystem approach to science. Strategy 3 of the Wild Salmon Policy (WSP), *Inclusion of Ecosystem Values and Monitoring*, states the Department's intent to progressively incorporate ecosystem values in salmon management. Strategy 3 further identifies the actions required to incorporate ecosystem values as:

- Identify indicators (biological, physical and chemical characteristics) to use in monitoring the status of freshwater ecosystems, and
- Monitor annual variation in climate and ocean conditions, integrate the monitoring with assessments of marine survival of Pacific salmon, and incorporate this knowledge into the annual forecasts of salmon abundance and management processes.

The greatest challenge in implementation of the WSP is balancing the goals of maintaining and restoring healthy and diverse salmon populations and their habitats, with social and economic objectives that reflect people's values and preferences. Standardized monitoring and assessment of wild salmon populations, habitat and eventually ecosystem status will facilitate the development of comprehensive integrated strategic plans (WSP Strategy 4) that will address the goals of the WSP while addressing the needs of people. Outcomes of these plans will include biological objectives for salmon production from Conservation Units and, where appropriate, anticipated timeframes for rebuilding, as well as management plans for fisheries and watersheds, which reflect open, transparent, and inclusive decision processes involving First Nations, communities, environmental organizations, fishers and governments.

For strategic planning and successful management of Pacific salmon, it will be essential to link variation in salmon production with changes in climate and their ecosystems. Salmon productivity in the Pacific is clearly sensitive to climate-related changes in stream, estuary and ocean conditions. Historically, warm periods in the coastal ocean have coincided with relatively low abundances of salmon, while cooler ocean periods have coincided with relatively high salmon numbers. In the past century, most Pacific salmon populations have fared best in periods having high precipitation, deep mountain snowpack, cool air and water temperatures, cool coastal ocean temperatures, and abundant north-to-south upwelling winds in spring and summer.

The Department conducts programs to monitor and study environmental conditions:

<http://www.pac.dfo-mpo.gc.ca/science/oceans-eng.html>. These programs include:

- The Strait of Georgia Ecosystem Research Initiative
- Fraser River Watershed Watch

- Monitoring of physical, biological, and chemical freshwater and marine conditions
- Chlorophyll and phytoplankton timing and abundance

The annual State of the Pacific Ocean Report describes changes and trends in atmospheric and oceanic conditions which have the potential to affect Pacific salmon (and other species) populations and informs science-based decision-making and DFO's management of fisheries and marine resources in the Pacific Region. It is available at:

<http://www.pac.dfo-mpo.gc.ca/science/oceans-eng.html>

2.3 ABORIGINAL TRADITIONAL KNOWLEDGE/TRADITIONAL ECOLOGICAL KNOWLEDGE:

As defined herein, both Aboriginal Traditional Knowledge (ATK) and Traditional Ecological Knowledge (TEK) are cumulative knowledge gathered over generations and encompass regional, local and spiritual connections to ecosystems and all forms of plant and animal life. ATK is knowledge held by Aboriginal peoples and communities, while TEK is local knowledge held by Non-Aboriginal communities, including industry, academia, and public sectors. While qualitatively different both are cumulative knowledge gathered over time and are regionally and locally specific and can often be utilized to improve the management process. The growing awareness of the value of ATK and TEK is reflected in the increasing requirements for both to be included in environmental assessments, co-management arrangements, species at risk recovery plans, and all coastal management decision-making processes. ATK and TEK are needed to inform and fill knowledge gaps related to the health of salmon stocks and to aid decision making related to development and resource use. Government and the scientific community acknowledge the need to access and consider ATK and TEK in meaningful and respectful ways. However, the challenge for resource managers is how to engage knowledge holders and how to ensure that the information can be accessed 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.

The Wild Salmon Policy acknowledges the importance of integrating Aboriginal Traditional Knowledge and Traditional Ecological Knowledge into the strategic planning process. The Department is exploring best practices to develop an approach for incorporating ATK and TEK into WSP integrated planning. The Department may identify potential partnerships with First Nations organizations to develop an approach for integrating ATK into WSP, particularly in planning initiatives.

The Species at Risk Act makes a special reference to the inclusion of Traditional Knowledge in the recovery of species at risk. The Department has developed an operational guidance

document for SARA practitioners (Guidance on Considering Traditional Knowledge in Species at Risk Implementation, 2011). Aboriginal groups have participated in the development and implementation of Interior Fraser River coho and Cultus Lake sockeye salmon species recovery strategies. The Department utilized Aboriginal knowledge about traditional fisheries, and the historical distribution and relative abundance of salmon in local watersheds in the selection of index streams for escapement monitoring of Interior Fraser Coho (Decker and Irvine, 2013), and also for determining historical abundance ranges of Kitwanga and Morice Lake sockeye.

2.4 STOCK ASSESSMENT

Salmon stock assessment is primarily concerned with providing scientific information for conservation and management of salmon resources. Stock assessment describes the past and present status of salmon stocks and may provide forecasts of future status of stocks. Stock assessment programs contribute information to the fisheries management process, from the initial setting of objectives (and policies) to providing expert advice in the implementation of management plans. Stock assessment information also supports First Nations and Treaty obligations, integrated ocean management planning, development of marine protected areas, protection and recovery of species at risk, and international Treaty obligations and negotiations.

Historically, stock assessment has primarily focused on population dynamics of individual exploited stocks, the biological and population processes such as growth, reproduction, recruitment and mortality. As DFO moves to implementation of an ecosystem approach, populations must be considered in a broader context and all activities impacting status, not just fishing, must be considered.

In the Pacific Region, salmon stock assessment advice is provided through the Salmon Assessment Section of the Aquatic Resources Research and Assessment Division. External partners and clients play an increasing role in delivery of the stock assessment activities. Some First Nations, recreational and commercial harvesters contribute directly through data collection and reporting. First Nations and community groups conduct field data collection projects. Universities and non-government organizations (NGOs) are active in the analytical and peer review elements. Stock assessment staff collaborates with other regional, national and international organizations and conduct numerous cooperative and/or joint programs.

The Salmon Stock Assessment Framework is shaped by the WSP Strategy 1 which specifies requirements for standardized monitoring, status & management predicated on benchmarks. Strategy 1 identifies three elements:

- 1) WSP Strategy 1 provides a standardized process for organizing Pacific salmon into Conservation Units (CUs), groups of wild salmon living in an area that are

sufficiently isolated from other wild salmon such that the area is unlikely to be recolonized naturally in an acceptable period of time if they are extirpated. Scientists have grouped the greater than 9,600 Pacific salmon stocks into just over 450 discreet Conservation Units.

- 2) The DFO (Holt et al 2009) has developed criteria to assess CUs and identified a range of metrics for setting upper and lower CU benchmarks of status, dependent on data quality and availability. For each metric, lower and upper benchmarks will delimit three status zones of a CU. Management actions will be determined based on a CUs biological status relative to these benchmarks. Management will be focused on conservation measures for CUs in the red zone (i.e. below the lower benchmark), shift to cautionary management in the amber zone (between the lower and upper benchmark), and emphasizes sustainable use in the green zone (i.e. above the upper benchmark).
- 3) A key requirement of the WSP is ongoing monitoring and assessment of the status of wild salmon CUs. Monitoring wild salmon status in a cost-effective manner poses a challenge. It is not practical or cost effective to monitor all salmon demes. (A deme, as defined in the WSP, is a term for a local population of organisms of one species that actively interbreed with one another and share a distinct gene pool.) When groups of CUs are exposed to common threats, the approach will be to monitor a subset of these units. Annually, the assessment monitoring plans are updated by the Salmon Assessment Coordinating Committee (SACC) based on CU status determination and risks. The CU status will generally determine the frequency and intensity of the assessment effort. For example, when a CU falls within the Red Zone, ongoing annual assessment of its status including fishery and habitat impacts may be required. The SACC is developing a database that describes benchmarks, status, major risk factors, resource management objectives, and assessment requirements. Assessment procedures will build on existing programs and local partnerships.

The vast number of stocks and the complex life cycle of salmon present substantial assessment and management challenges. Stock assessment activities are largely project-based and required on a continual basis because populations are dynamic and subject to shifts in productivity and abundance in response to environmental, biological, and human-induced factors. Responsible management requires continual updating of assessment information and advice. Scientists use a variety of techniques to generate estimates and forecasts of abundance (enumeration of juvenile “recruits”, females or adults on the spawning grounds, tagging and mark recapture studies,

etc.). For most species, several methods may be used to generate the estimates and forecasts of abundance.

2.5 SCIENCE INFORMATION SOURCES

The Canadian Science Advisory Secretariat (CSAS) serves as the primary departmental forum for peer review and evaluation of scientific research and literature, including TEK, on wild Pacific salmon. CSAS fosters national standards of excellence and coordinates the peer review of scientific assessments and advice for the DFO in the Pacific region. This review body allows for participation by outside experts, First Nations, fisheries stakeholders and the public. CSAS also coordinates communication of the results of the scientific review and advisory processes.

Additional information about CSAS, the peer review meeting schedule, reports on the status of salmon, environmental and ecosystem overviews, and research documents are available from CSAS web site:

<http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm>

Existing reports on the status of salmon and the environmental and ecosystem overviews are available from CSAS web site:

<http://www.isdm-gdsi.gc.ca/csas-sccs/applications/Publications/index-eng.asp>

Annually, DFO provides a preliminary qualitative outlook of status for salmon management units, the Salmon Outlook, for planning purposes prior to formal forecasts of abundance. The Outlook is available on the DFO website:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/index-eng.html>.

Formal salmon abundance forecasts are generally completed by April.

DFO is continuing to implement WSP Strategy 1.2, determination of biological benchmarks and assess status. Benchmarks for Fraser Sockeye Conservation Units were developed in 2010 (http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2011/2011_087-eng.html) and status reviewed in 2011 (http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2012/2012_106-eng.html), both through CSAS Regional Peer Review (RPR) processes. DFO completed a CSAS RPR process of WSP benchmarks and status for Southern BC chinook in February 2014 (<http://www.isdm-gdsi.gc.ca/csas-sccs/applications/events-evenements/result-eng.asp?DateMatch=between&StartDate=2014-02-04&ToDate=2014-02-06&mode=0&desc=®ion=6&mode1=0&location=&B1=Search>), and an assessment of WSP benchmarks and status for Interior Fraser Coho in November 2014 (http://www.dfo-mpo.gc.ca/csas-sccs/publications/sar-as/2015/2015_022-eng.html). Results from a habitat based approach to determine benchmarks for Strait of Georgia and Lower Fraser River Coho

Conservation Units are also reported (http://www.dfo-mpo.gc.ca/csas-sccs/publications/saras/2015/2015_045-eng.html).

The number of salmon returning to spawn in a river, called “escapement”, has long been an important stock assessment measure of abundance. Salmon escapement data are now available from the Government of Canada Open Data portal at:

<http://open.canada.ca/data/en/dataset/c48669a3-045b-400d-b730-48aafe8c5ee6>.

2.6 PRECAUTIONARY APPROACH

Generally, science advice to fisheries management considers data quality and incorporates uncertainty (i.e. stock status forecasts presented as a statistical distribution rather than point estimate). WSP benchmarks of biological status will inform the development of a precautionary approach to management of salmon resources. Decisions on recovery and fisheries objectives will be made as part of the Strategic Planning Process described under WSP Strategy 4. To date benchmarks have been reviewed for Southern BC chinook, Interior Fraser River, Georgia Strait Mainland, East Vancouver Island coho, and Fraser sockeye CUs. Until benchmarks are determined for each CU, DFO must rely on indicators of status and existing species and stock-specific constraints established for escapement goals and harvest rates by domestic and international (e.g. Pacific Salmon Treaty) processes.

2.7 RESEARCH

An overview of the science & research in the Pacific region is available on the regional website:

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

Current research projects on salmon and environmental and human induced factors affecting their status include:

- Climate change impacts on Pacific salmon are being investigated by multiple sectors within DFO and in collaboration with external partners: university, other organizations and agencies. In 2011, DFO implemented a science-based climate change program focused on adaptation in decisions and activities to consider the vulnerabilities, risks, impacts, and opportunities associated with a changing climate. <http://www.pac.dfo-mpo.gc.ca/science/oceans-eng.html>
- An example of this work is the Aquatic Climate Change Adaptation Services Program (ACCASP) which has an emphasis on the development of new science knowledge to support the development of adaptation tools and strategies that will enable the integration of climate change considerations into the delivery of the

Department's programs and policies. More information on this program is available at:

<http://www.dfo-mpo.gc.ca/science/oceanography-oceanographie/accasp/index-eng.html>

- Salmon in Regional Ecosystems (SIRE) program investigates the mechanisms controlling recruitment variations and changes in productive capacity of salmon stocks within freshwater and/or marine ecosystems.
- On-going research related to improving forecasting ability for salmon stocks and CUs is being conducted by DFO Stock Assessment and the Fisheries & Oceanography Working Group. The annual State of the Pacific Ocean Reports was published by the Canadian Science Advisory Secretariat (CSAS) until 2013. Recent reports are available at: <http://www.dfo-mpo.gc.ca/oceans/publications/index-eng.html>
- The Fraser River Environmental Watch program provides scientific advice on the impact of different environmental factors on the migration success of Pacific salmon in fresh water.
<http://www.pac.dfo-mpo.gc.ca/science/habitat/frw-rfo/index-eng.html>
- DFO scientists in collaboration with other organizations including the North Pacific Anadromous Fisheries Commission (NPAFC), the Pacific Salmon Commission (PSC), and the Pacific Salmon Foundation (PSF) are studying salmon production, distribution and survival in the North Pacific Ocean including the Salish Sea, and developing leading indicators of salmon returns.
- Annual juvenile salmon surveys monitor the distribution, migration, and survival of salmon in their freshwater and early marine life history.
- On-going collaborative research between DFO and aquaculture industry to investigate the interactions between wild and cultured salmon through the Program for Aquaculture Regulatory Research (PARR) and Aquaculture Collaborative Research and Development Program (ACRDP)
- Research carried out in the freshwater and marine environments is being considered to provide a biological context as Supplementary Information for the forecast of Fraser River sockeye.
http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2016/2016_047-eng.html

3 SHARED STEWARDSHIP ARRANGEMENTS

Stewardship refers to the care, supervision or management of something, especially the careful and responsible management of something entrusted to one's care.¹ In the context of fisheries management, stewardship is often considered in terms of "shared stewardship", whereby First Nations, fishery participants and other interests are effectively involved in fisheries management decision-making processes at appropriate levels, contributing specialized knowledge and experience, and sharing in accountability for outcomes.

Moving toward shared stewardship is a strategic priority for DFO. This is reflected in a number of policies and initiatives, including the Wild Salmon Policy (WSP), the Resource Management Sustainable Fisheries Framework (SFF), Fisheries Reform, Aboriginal Aquatic Resource and Oceans Management (AAROM) Program and the Aboriginal Fisheries Strategy (AFS).

DFO is advancing shared stewardship by promoting collaboration, participatory decision making and shared responsibility and accountability with resource users and others. Essentially, shared stewardship means that those involved in fisheries management work cooperatively—in inclusive, transparent and stable processes—to achieve conservation and management goals.

In Pacific Region, DFO consults with and engages First Nations and other interests through a wide range of processes. For salmon, the focal point for DFO's engagement with First Nations, the harvest sectors and environmental interests is around the development and implementation of the annual IFMP. At a broad, Province-wide level, the Integrated Harvest Planning Committee (IHPC) was developed to bring together First Nations, commercial and recreational harvesters, and environmental interests to review and provide input on the draft IFMP, as well as coordinate fishing plans and (where possible) resolve potential issues between the sectors. The IHPC also meets post-season to review information regarding stocks and fisheries, and implementation of the IFMP. The current IHPC advisory membership list is located in [Appendix 5](#).

DFO consults with Aboriginal groups when fisheries management decisions may potentially affect them in accordance with S. 35 of the *Constitution Act, 1982*, relevant case law, and consistent with Departmental policies and considerations. In addition to supporting good governance, sound policy and effective decision-making, Canada has statutory, contractual and common law obligations to consult with Aboriginal groups. For example, The Crown has a

¹ As defined in the Atlantic Fisheries Policy Review (AFPR): http://www.dfo-mpo.gc.ca/afpr-rppa/home_e.htm

legal duty to consult and, if appropriate, accommodate, when the Crown contemplates conduct that might adversely impact section 35 rights (established or potential) (Source: Aboriginal Consultation and Accommodation: Interim Guidelines for Federal Officials to Fulfill the Legal Duty to Consult, February 2008).

Consultation and engagement with First Nations takes place at a number of levels and through a variety of processes. For example, a significant amount of consultation and dialogue takes place through direct, bilateral meetings between DFO and First Nations at a local level. This can include specific engagement on the draft IFMP or other issues during the pre-season, in-season or post-season. In addition to consultations at the local level, DFO works with First Nations at the aggregate or watershed level. For example, the Aboriginal Aquatic Resource and Oceans Management (AAROM) program supports Aboriginal groups in coming together to participate effectively in advisory and decision-making processes used for aquatic resource and oceans management.

Other processes, such as the First Nations Salmon Coordinating Committee (SCC) and the Forum on Conservation and Harvest Planning, are being developed in order to facilitate dialogue between First Nations and DFO. In the case of the First Nations SCC, First Nations representatives from 13 geographical areas within B.C. meet with DFO resource management staff to discuss priority issues among B.C. First Nations as they relate to salmon. SCC priorities include advancing First Nations concerns related to salmon, access to salmon for FSC needs across the province and working to improve First Nations commercial opportunities in salmon fisheries.

Engagement between DFO and First Nations also takes place through a number of bilateral and “integrated” (multi-interest) advisory processes, management boards, technical groups and roundtable forums.

In addition to integrated dialogue through the IHPC, the Department also works directly with the commercial and recreational sectors, largely through the Commercial Salmon Advisory Board (CSAB) and Sport Fishing Advisory Board (SFAB), respectively. The Department also consults with the Pacific Marine Conservation Caucus, an umbrella group representing nine core environment groups (<http://www.mccpacific.org/>).

4 ECONOMIC, SOCIAL AND CULTURAL IMPORTANCE

The intent of this section is to provide a socio-economic overview of the salmon fisheries in British Columbia using available information. In future years, information on the social and cultural context of the various fisheries can be added, where available. This summary addresses salmon in the context of the Aboriginal food, social, and ceremonial fishery, the recreational fishery, and commercial fishery (harvest, processing and export activity including that generated by the Aboriginal communal commercial fishery). This section does not provide measures of economic value (i.e. consumer and producer surplus), rather it focuses on activity. DFO recognizes the unique values of each of the fisheries described here. The overview provided in this profile is intended to help build a common understanding of the socio-economic dimensions of each fishery rather than compare the fisheries. Where possible this summary highlights information specific to the South Coast.

4.1 ABORIGINAL FISHERIES

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. This decision found that the Musqueam First Nation has an Aboriginal right to fish for 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 also indicated the importance of consulting with Aboriginal groups when their fishing rights might be affected.

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

- To provide a framework for the management of fishing by Aboriginal groups for food, social and ceremonial purposes.
- To provide Aboriginal groups with an opportunity to participate in the management of fisheries, thereby improving conservation, management and enhancement of the resource.
- To contribute to the economic self-sufficiency of Aboriginal communities.
- To provide a foundation for the development of self-government agreements and treaties.

- To improve the fisheries management skills and capacity of Aboriginal groups.

AFS fisheries agreements may identify the amounts of species including salmon that may be fished for FSC purposes, terms and conditions that will be included in the communal fishing licence and fisheries management arrangements. Additional information on AFS implementation for FSC, including harvest target amounts for North Coast are provided in Section [10.2](#). In the region in 2016-2017, there were 82 AFS agreements, representing 159 First Nations conducting FSC harvests that contain provisions relating to salmon management including, but not limited to, FSC fishery arrangements. Among the areas, BC Interior had 17 agreements, Lower Fraser had 11, North Coast had 18, South Coast had 32, and the Yukon had 4. An additional 17 First Nations are provided communal licences for FSC fishing, but do not have AFS agreements.

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

Four modern treaties (Nisga'a Final Agreement, Tsawwassen First Nation Final Agreement (TFA), Maa-nulth First Nations Final Agreement (MNA), and Tla'amin Nation Final Agreement) have been ratified in British Columbia.² For information on Nisga'a fisheries please see Section [10.4](#).

4.2 RECREATIONAL SECTOR

Recreational fishing for salmon may occur to provide food for personal use, as a leisure activity, or as a combination of the two. These activities provide non-quantified benefits to the individual participants as well as contribute directly and indirectly to the economy through fishery related expenditures. This section focuses on economic activity rather than the economic benefits to individual anglers or businesses. Catch levels in the recreational fishery are managed using area specific openings and retention levels.

Based on the most recent Survey of Recreational Fishing in Canada (2010), tidal water recreational fishing led to over \$689 million dollars in expenditures and major purchases in British Columbia. Respondents reported that salmon accounted for roughly 63% of the fish

² Details of concluded final agreements can be found at:
<https://www.aadnc-aandc.gc.ca/eng/1402584983606/1402585060047>

caught and 65% of the fish kept. Recreational fishing effort in the South Coast that was directed toward salmon accounted for an estimated 42% of all angler expenditures, or \$289 million.³

In order to fish for salmon an angler needs either a tidal or a freshwater licence; in addition, in order to keep salmon the licence must have a Pacific Salmon Conservation (PSF) Stamp. The number of licences and stamps that can be sold is not restricted. Licence data show that the total number of licences and salmon stamps sold was relatively stable from 2001 to 2008 (Figure 4.2-1, below). Starting in 2008 there were several large year over year drops in sales of licences to non-residents (i.e. anglers that did not reside in BC). Some of the drop was made up by increased sales to residents and the number of licences sold was relatively steady at the lower level until 2014. As a result of sharp increases in the sale of licences to both residents and non-residents in 2014 and 2015 mean total sales are at the highest level in the data series. In 2015/16, sales included over 340,000 licences and over 260,000 salmon stamps.

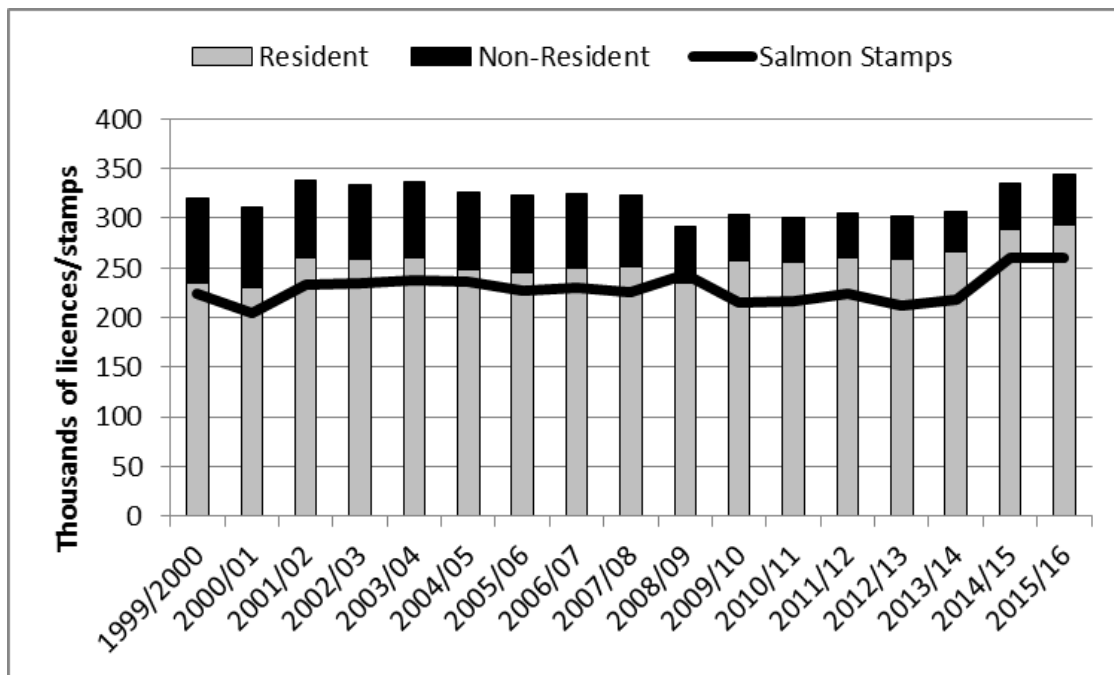


Figure 4.2-1: Tidal Water Recreational Fishing Licences and Pacific Salmon Conservation Stamps Sold, 2006/07 to 2015/16

Source: DFO. <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/index-eng.htm>

³ DFO Internal Analysis; Note that values paid for final goods (such as angler expenditures on fishing trips) should not be considered measures of economic impact of a sector.

The Survey of Recreational Fishing in Canada provides an estimate of individual expenditures and investment for recreational fishing. This information is used when estimating the direct and indirect contribution of recreational fishing to the economy (e.g. GDP, employment).

Historically, the combined tidal and freshwater fisheries of BC were the second largest recreational fisheries in Canada in terms of direct and package expenditures, and third largest in terms of investments (DFO 2012). While resident anglers have the largest expenditures, recreational fishing by non-residents adds money to the provincial economy. In 2010, non-resident direct expenditures (including fishing packages) and investments totaled \$139,772,544 (2010 dollars). This number understates the contribution of non-resident tidal water anglers to the overall economy, however, as it only includes expenditures directly attributable to their fishing experience.⁴ Fishing opportunities in BC's tidal waters draw Canadian and international tourists to the province: of 47,269 non-resident anglers surveyed in 2010, 40% reported that they would not have come to British Columbia at all if there had been no opportunities for tidal water angling.⁵ A further 19% would have shortened their stay in the province.

⁴ The British Columbia's Fisheries and Aquaculture Sector (BC Stats 2013) report, which calculates direct and indirect economic activity, indicates that non-resident participants in recreational tidal water fishing also spend money on, for example, shopping, cultural events and attractions (such as museums and the theatre), and sightseeing at locations other than where they go fishing.

⁵ This can be further broken down into Canadian non-residents and international non-residents. Opportunities for tidal water recreational fishing are more important to international visitors: 47% of them reported they would not have come to BC had there not been tidal water fishing opportunities, while 32% of Canadian visitors would not have come.

	2000			
	Direct Expenses*	Packages	Investments	Total
Resident	\$ 132,541,159.85	\$ 21,316,825	\$ 238,863,192	\$ 392,721,177
Canadian nonresident	\$ 28,954,992	\$ 24,803,927	\$ 29,504,129	\$ 83,263,048
Other nonresident	\$ 62,584,071	\$ 51,397,057	\$ 14,775,795	\$ 128,756,923
Total	\$ 224,080,223	\$ 97,517,809	\$ 283,143,116	\$ 604,741,147
	2005			
	Direct Expenses	Packages	Investments	Total
Resident	\$ 157,375,516.04	\$ 44,316,442	\$ 274,110,155	\$ 475,802,113
Canadian nonresident	\$ 35,432,857	\$ 41,459,989	\$ 13,025,827	\$ 89,918,674
Other nonresident	\$ 50,783,457	\$ 68,195,312	\$ 8,509,694	\$ 127,488,463
Total	\$ 243,591,830	\$ 153,971,744	\$ 295,645,676	\$ 693,209,250
	2010			
	Direct Expenses	Packages	Investments	Total
Resident	\$ 197,927,777	\$ 50,135,233	\$ 314,717,439	\$ 562,780,448
Canadian nonresident	\$ 32,843,079	\$ 24,942,920	\$ 18,536,662	\$ 76,322,661
Other nonresident	\$ 33,003,549	\$ 28,721,219	\$ 4,992,473	\$ 66,717,241
Total	\$ 263,774,405	\$ 103,799,372	\$ 338,246,574	\$ 705,820,350

Figure 4.2-2: Recreational Fishing Direct and Package Expenditures and Investments, in constant (2010) dollars

Source: Survey of Recreational Fishing in Canada (DFO, multiple years)

Figure 4.2-2 (above) shows the expenditures by resident and non-resident anglers from 2000 to 2010, adjusted to reflect constant 2010 dollars. Though recreational fishing continues to be important to the BC economy, the rate of growth is slowing: total expenditures and investments grew by nearly 15% from 2000 to 2005, but by only 2% from 2005 to 2010. This slowdown is due mainly to a drop in visits (and therefore expenditures) to BC by non-resident anglers, particularly other (i.e. international) non-resident anglers whose total expenditures in BC dropped by 47% between 2005 and 2010. Expenditure on fishing packages by resident anglers has increased considerably over the past decade; in real terms, it increased by over 135% between 2000 and 2010 and BC residents are now the primary consumers of fishing trip packages in the province. North Coast salmon are a significant draw for fishing lodges and other businesses offering fishing packages; about 42% of package expenditures were in the North Coast.

Additional information on the history and vision for recreational fisheries can be found in the document "Vision for Recreational Fisheries in BC":

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/sfab-ccps/docs/rec-vision-eng.pdf>

4.3 COMMERCIAL SECTOR

4.3.1 HARVEST SECTOR

In BC, the salmon fishery is a limited access fishery, mostly managed as a competitive fishery⁶; however, several parts of the fishery are operated under individual quotas. Since 2005, five areas using seine, troll or gill net gear have participated in demonstration fisheries with alternative implementations of individual quotas or pooling arrangements. In addition, there have been several commercial First Nations economic opportunity and demonstration fisheries. Commercially-harvested salmon supports BC's seafood processing sector, much of which is ultimately exported, bringing new money into the province.

Between 2006 and 2015, salmon contributed an average of 15% of the landed value and 13% of the volume of BC wild caught seafood (BCMOE, Various years). In 2015 dollars, the value ranged from a high of \$117 million in 2014 to a low of \$24.4 million in 2008 ([Figure 4.3-1](#), below). On average, sockeye was the most important species in terms of landed value, followed by chinook and chum. But every other year, pink is also quite valuable and in fact in 2013 it was the most valuable salmon species bringing in an estimated \$13.9 million.

⁶ Other names for this style of fishery include derby and Olympic style fishery.

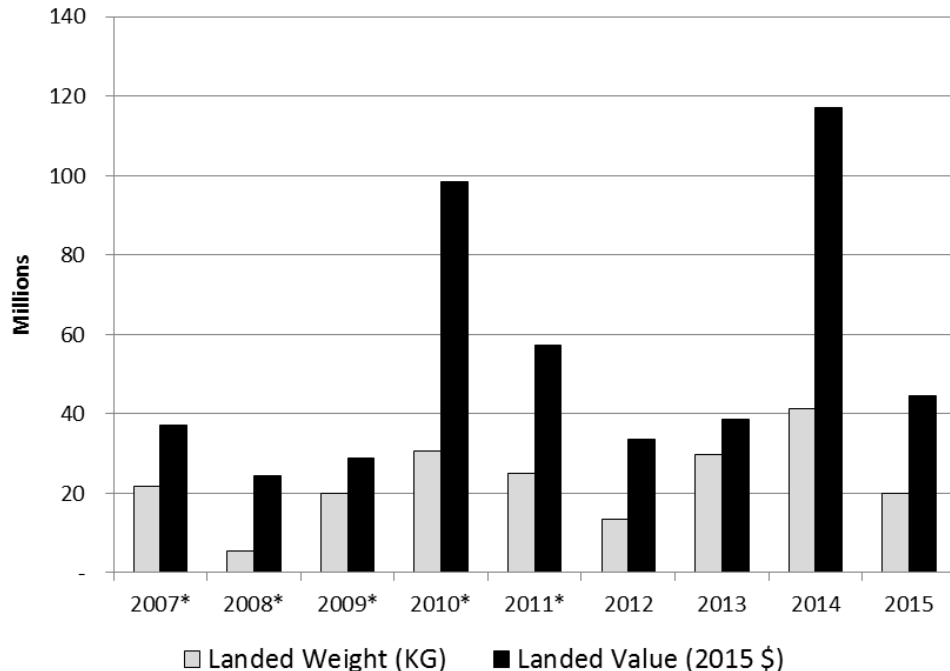


Figure 4.3-1: Pacific Region salmon harvest and landed value (2015 dollars)

Source: DFO logbooks matched to the best available price from sales slips. *From 2012 to 2014 the data also includes treaty, test, demo and inland fisheries.

NOTE: Salmon landed value estimates may differ slightly from other sources due to varying price estimates. Prices used here are “best available” based on matching criteria using date, gear and area. This may result in a difference landed value compared to the use of a simple province-wide average price. “Salmon” here refers to salmon harvested by commercial fisheries and does not include aquaculture production.

In the decade preceding 2010, the North Coast fishery was responsible for an average of 65% of the volume of salmon landings and 60% of the landed value. Over the period 2011-2015, the north coast fishery accounted for 43% of salmon landings, and 39% of landed value. The landed value of the North Coast salmon harvest shows an overall decline prior to 2010 ([Figure 4.3-2](#) below), which closely mirrors the decline in landings. Since then, the landed value has a general upward trend although it is highly variable. Most recently, 2013 experienced good revenues from chum, pink and coho while 2014 was noted for good sockeye and chinook revenues. While North Coast revenues have increased recently, they have not increased as much as South Coast revenues; the result is that the North Coast fishery supports a declining share of total catch and revenue. In average years the North Coast catches more salmon than the South Coast, but the South Coast has secured most of the benefits of large salmon runs.

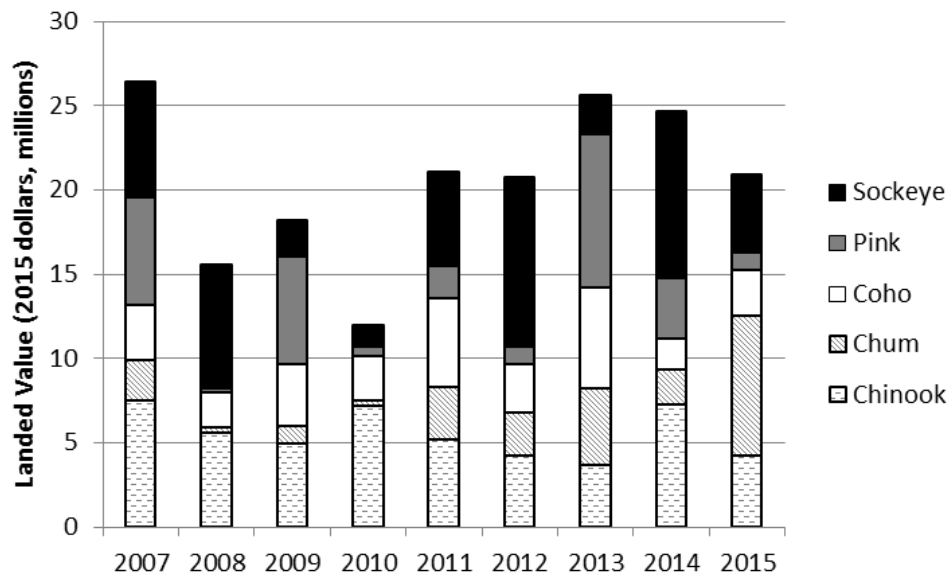


Figure 4.3-2: North Coast salmon value by species, 2007-15 (2015 dollars)

Source: DFO logbooks matched to best available price from sales slips

Salmon licence values declined steadily from 2005 to 2010, reflecting poor returns to the fleets (Nelson, various years). Seine licences have recovered somewhat since then, while gillnet and troll licences have been steady with troll showing improvements in 2014 and 2015. A 2007 snapshot of the financial performance of the fleet indicated negative overall returns for gill net and seine fleets in the absence of diversification into other fisheries (Nelson, 2009); this was reiterated in the 2009 financial snapshot (Nelson, 2011). The results also suggested a positive financial performance for the troll fleet, which was enhanced further by participation in other fisheries. It should be noted that these analyses of the Pacific's commercial fisheries occurred in years of particularly low harvest of high-value species for the salmon fisheries and are not representative of the salmon fleet's performance over the past decade. The salmon fleet's financial performance is best reviewed over several years, given the fisheries significant annual swing in harvest. Detailed tables for each fleet (gill net, seine and troll) are available within both documents (Nelson, 2009 & 2011), and are available by licence area (Gislason, 2011).

The Department's general approach is that Aboriginal commercial harvest opportunities are managed using the same harvest decision guidelines as the commercial fishery. Aboriginal commercial harvest opportunities may be implemented with different times, areas, gears and regulations consistent with the overall management approach for the commercial fishery. The landings and value attributable to Aboriginal commercial harvest are included in the values

reported for the commercial sector above and this includes inland fisheries. Participation in the commercial salmon fishery provides socio-economic benefits to Aboriginal communities and individuals from fishery revenues and employment-generated income.

Aboriginal participation within the commercial salmon fishery occurs under four licence categories (A, A-I, N, and F). An Aboriginal vessel owner may elect to pay a reduced fee for a category A licence; thereafter only an Aboriginal may own the vessel. Since 2005, an average of 14% of commercial licences in the North Coast were reduced fee licences, while the coast-wide average is 11%. Licence categories N and F provide similar fishing privileges as A licence eligibilities, but are non-transferable and are intended to be held permanently for the benefit of the recipient First Nations communities. Both licence categories allow Aboriginal communities to designate vessels and individual fish harvesters to carry out the fishing. The Northern Native Fishing Corporation holds 254 gillnet licences (Category N), of which 193 are in the North Coast.

Since 1994, DFO has acquired a total of 482 commercial salmon fishing licence eligibilities through a voluntary relinquishment process. Once acquired by DFO, licence eligibilities are converted to communal commercial (category F) licence eligibilities and used to support various Aboriginal programs and initiatives including the Aboriginal Fisheries Strategy (AFS, see Section [10.3](#)), the Allocation Transfer Program (ATP), the Pacific Integrated Commercial Fisheries Initiative (PICFI), First Nations Inland Demonstration Fisheries projects, Economic Opportunity Fishery arrangements and treaties. As of January 2017, 159 communal commercial salmon licence eligibilities were issued to First Nations under the AFS and ATP, 46 were issued under PICFI, 255 were used to offset First Nations demonstration fisheries projects and Economic Opportunity fishery arrangements with First Nations in the lower Fraser, Somass, Skeena and Nass Rivers, and 22 were used for treaties or other contingencies.

The Nisga'a are provided commercial fisheries covered by a Harvest Agreement outside of the Nisga'a Final Agreement. The Harvest Agreement came into effect in May 2000. Additional information is provided in Section [10.3](#).

4.3.2 PROCESSING SECTOR

Since 2000, wild salmon accounted for an average of 26% of the total wholesale value from the processing of wild caught seafood in BC (BCMOE, Various years). The latest BC Fish Processing Employment Survey estimates that processing wild caught salmon provided about 1,473 positions or a little over 30% of the BC total fish processing employment (BCMOA, 2011). A 2008 report estimates that approximately 80% of employment is to process domestic landings, although the actual percentage of employment supported by domestic landings varies greatly year-to-year (Fraser and Associates, 2008). The study indicated salmon processing occurred

primarily in the Greater Vancouver (47%) and the Skeena-Queen Charlotte (38%) regional districts. Most salmon harvested in the North Coast areas went to processing facilities in the Skeena-Queen Charlotte Regional District, ranging from 76% of pink landings to 56% of chinook landings; however, there appeared to be an increasing trend toward processing northern salmon in southern districts. In 2015, the Canadian Fishing Company's Oceanside plant in Prince Rupert closed its salmon canning operations, citing declining demand, competition from Alaska and lower access inputs. The plant will remain open and focus on the fresh and frozen markets but a significant amount of local season employment has been lost.

4.4 EXPORT MARKET

British Columbia benefits from a strong seafood exports sector, valued at \$1.1 billion in 2015, which is supplied by the domestic wild harvest, aquaculture and raw imports (BCMOA, 2015). Chum and sockeye salmon were among the most widely exported seafood products in 2016, being shipped to 31 and 21 countries, respectively. Over the five-year period from 2012 to 2016, BC exported wild salmon to 59 countries. On average over this period, the United States accounted for 38% of the export value (\$40.5 Million in 2015 dollars), followed by Japan (15% and \$15.7M) and the United Kingdom (9% and \$9.6M).

Japanese imports of BC salmon closely follow trends in sockeye production; Japan absorbed much of the windfall arising from the large harvest of Fraser sockeye in 2010 and 2014 (\$69.7M and \$32.0M, respectively). China's market role increased in the years to 2013 when export value reached \$14.1M, but returned to its role as a minor market as its export value fell to \$4.7M in 2015 before rebounding to \$9.8M in 2016.

The value of wild caught salmon exports averaged \$108M (2015 dollars) from 2012 to 2016. On average, sockeye accounted for 36% of this value; pink and chum for 19% each and 10% originated from the sale of salmon roe, which is often produced from pink salmon.

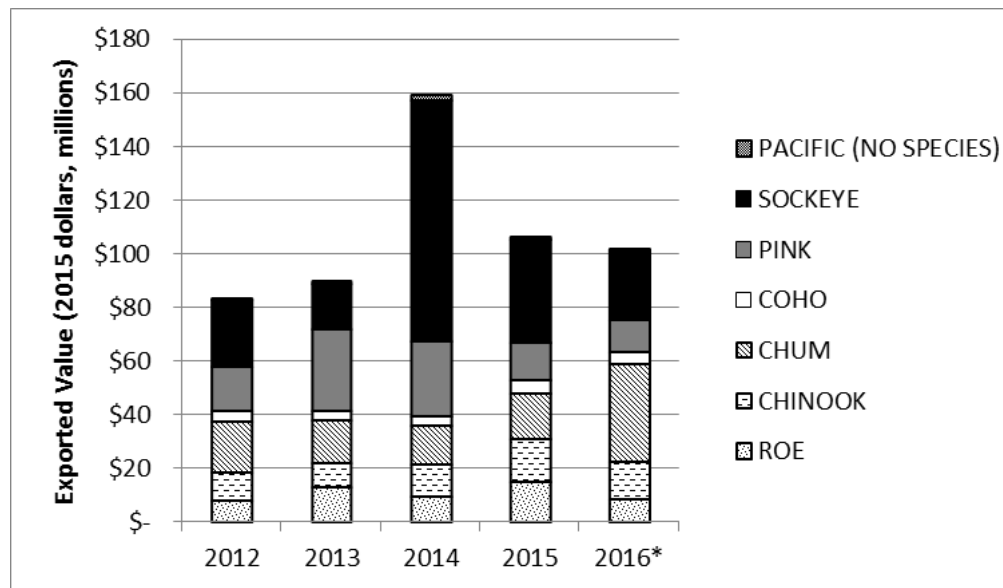


Figure 4.4-1: Salmon Export Value by Species, 2012-16 (2015 dollars)

Source: Statistics Canada. 2016* is preliminary as of January 2017.

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5 MANAGEMENT ISSUES

5.1 CONSERVATION

Given the importance of Pacific salmon to the culture and socio-economic fabric of Canada, conservation of these stocks is of utmost importance. In order to achieve this, specific actions are taken to not only ensure protection of fish stocks, but also freshwater and marine habitats. Protecting a broad range of stocks is the most prudent way of maintaining biodiversity and genetic integrity.

Management of a natural resource like salmon has a number of inherent risks. Uncertain forecasting, environmental and biological variability as well as changes in harvester behavior all add risks that can threaten conservation. Accordingly, management actions will be precautionary and risks will be specifically evaluated where possible.

5.1.1 WILD SALMON POLICY

The goal of *Canada's Policy for Conservation of Wild Pacific Salmon (WSP)*, which was released in 2005, is to restore and maintain healthy and diverse salmon populations and their habitats for the benefit and enjoyment of the people of Canada in perpetuity. Consistent with the Policy, the Department has taken an incremental approach to WSP implementation, with the focus in the first years principally on the development of technical methods and tools to support the assessment of salmon conservation units, supplemented by some work to assess habitat and ecosystems as part of integrated strategic planning pilots in key areas.

Since 2005, there have been changes to legislation, policies, and programs relevant to conservation and protection of wild Pacific salmon. Furthermore, the Department has received recommendations on WSP implementation through an independent review of the policy in 2011 by Gardner Pinfold and the 2012 final report of the *Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River*. Over the last decade, there has also been an increase in knowledge about wild Pacific salmon, their habitats and ecosystems. Consequently, a detailed WSP implementation plan is being developed with clear activities, deliverables, timelines, and accountabilities, and a commitment to public reporting on progress.

Between fall 2016 and March 2017, DFO met broadly with First Nations, partners, and stakeholders across BC and Yukon and in fall 2017, DFO staff will be consulting broadly with First Nations, stakeholders and other interested parties across BC and Yukon on the draft implementation plan. At the same time, staff will continue to collect more information about additional WSP-related work being undertaken by First Nations, partners, and stakeholders across BC and Yukon to include in the plan.

A final first draft of the implementation plan will be prepared for approvals in early 2018 and, once approved, circulated broadly.

Additional details regarding the WSP can be found at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/wsp-pss/index-eng.html>

5.2 INTERNATIONAL COMMITMENTS

5.2.1 PACIFIC SALMON TREATY

In March 1985, the United States and Canada agreed to co-operate in the management, research and enhancement of Pacific salmon stocks of mutual concern by ratifying the Pacific Salmon Treaty (PST). Various chapters in Annex IV of the Treaty have been renegotiated and ratified since 1985. The Pacific Salmon Commission (PSC), established under the Pacific Salmon Treaty, provides regulatory and policy advice as well as recommendations to Canada and the United States (U.S.) with respect to interception salmon fisheries. Under the terms of the Treaty, the responsibility for in-season management of all species rests with the Parties to the agreement. One exception is the in-season management of Fraser River sockeye and pink salmon which is specifically delegated to the Fraser River Panel with support from the Pacific Salmon Commission Secretariat staff.

Coded-wire tag (CWT) data are essential to the management of chinook and coho salmon stocks under the Pacific Salmon Treaty. On August 13, 1985, the United States and Canada entered into a Memorandum of Understanding in which “the Parties agree to maintain a coded-wire tagging and recapture program designed to provide statistically reliable data for stock assessments and fishery evaluations”. Both countries recognize the importance of the coded-wire tag program to provide the data required to evaluate the effectiveness of bilateral conservation and fishing agreements. In addition, alternatives to CWT data have been explored by the PSC, including through the feasibility of parentage-based genetic tagging. Results of this work may be found at:

<http://www.psc.org/pubs/pbt/pbtreport.pdf>

The chapters in Annex IV outline the joint conservation and harvest sharing arrangements between Canada and the U.S. for key stocks and fisheries subject to the Treaty. On December 23, 2008, Canada and the US ratified new provisions for five chapters under Annex IV of the Pacific Salmon Treaty. The new provisions in these chapters came into effect on January 1, 2009 and are in effect through December 31, 2018. Chapter 4, which covers Fraser River sockeye and pink salmon, was renegotiated in 2013, with formal ratification by both Parties occurring on May 16, 2014. The provisions contained within Chapter 4 are in effect through December 31, 2019.

The Parties are currently renegotiating five fishing chapters in Annex IV that expire on December 31, 2018. The chapters currently under renegotiation are:

- Chapter 1: Transboundary Rivers
- Chapter 2: Northern British Columbia and South Eastern Alaska
- Chapter 3: Chinook Salmon
- Chapter 5: Coho Salmon
- Chapter 6: Southern British Columbia and Washington State Chum Salmon

Canadian Consultations regarding the renewal of these chapters has, and continues to occur through the Pacific Salmon Commission structure and includes the Commissioners, the Panel members and technical committees for each relevant chapter, as well as meetings outside the Commission with First Nations and stakeholders.

Fisheries and Oceans Canada and U.S. agencies continue to implement the management regimes under Annex IV for the 2017 season. Key details from the chapters under Annex IV relevant to the North Coast are identified, below:

Chapter 2 (Northern Boundary): This chapter outlines the conservation and harvest sharing arrangements for Northern British Columbia and Southeast Alaska chum, sockeye and pink. This chapter along with Chapter 3: Chinook and 5: Coho, govern fisheries covered in the North Coast Salmon Integrated Fisheries Management Plan.

Chapter 3 (Chinook Salmon): Building on improvements made in 1999, the current chapter maintains an abundance-based management regime for chinook, including the existing aggregate abundance based management fisheries and individual stock based management fisheries.

To address conservation concerns in both countries, harvest reductions of 15% below the 1999 catch ceiling in the Southeast Alaskan aggregate abundance based management (AABM) fishery and 30% below the 1999 catch ceiling in the Canadian West Coast Vancouver Island AABM fishery were agreed to by the parties and are detailed in Table 1 of the chinook chapter. The chapter also includes provisions to protect weak stocks, including the potential for further harvest reductions in the Southeast Alaska and Northern British Columbia AABM fisheries, as well as the individual stock-based management (ISBM) fisheries in both countries, should certain stocks fail to meet escapement objectives outlined in the agreement.

The agreement also included provisions for a bilateral funding framework to support implementation of the chinook chapter but have now expired. They included (i) \$15M (\$7.5M

from each country) over five years to support the coast-wide coded-wire tag program; (ii) \$10M from the Northern and Southern Endowment Funds for a "Sentinel Stocks Program"; and (iii) \$1M from the U.S. to improve the analytical models to implement the chinook agreement. Canada continues to implement a \$30M program to help mitigate the impacts of commercial harvest reductions in Canada.

5.3 OCEANS AND HABITAT CONSIDERATIONS

5.3.1 OCEANS ACT

In 1997, the Government of Canada enacted the *Oceans Act*. This legislation provides a foundation for an integrated and balanced national oceans policy framework supported by regional management and implementation strategies. In 2002, Canada's Oceans Strategy was released to provide the policy framework and strategic approach for modern oceans management in estuarine, coastal, and marine ecosystems. As set out in the *Oceans Act*, the strategy is based on the three principles of sustainable development, integrated management, and the precautionary approach.

The *Oceans Act*, the *Canada Wildlife Act*, and the *National Marine Conservation Areas Act* have given rise to several initiatives on the BC coast, which are listed below. As goals, objectives, and management plans are finalized for these initiatives, the Department's management of fisheries will be adapted as appropriate, in consultation with interested parties through Integrated Fisheries Management processes.

For more information on the *Oceans Act*, please visit:

<http://www.dfo-mpo.gc.ca/oceans/oceans-eng.htm>

CANADA'S MARINE AND COASTAL AREAS CONSERVATION MANDATE

On June 8, 2016, the Minister of Fisheries, Oceans and the Canadian Coast Guard, unveiled Canada's strategy for reaching its domestic and international marine conservation targets of protecting 5% of Canada's marine and coastal areas by 2017 and 10% by 2020 (commonly referred to as Aichi Target 11).

Canada's approach to achieving these marine conservation targets is guided by three foundational principles: science-based decision making; transparency; and, advancing reconciliation with Indigenous groups.

On the Pacific Coast, between now and 2020, Canada will be:

- Advancing the work already underway in areas progressing towards establishment including the proposed Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Oceans Act Marine Protected Area (MPA) and the Scott Islands marine National Wildlife Area;
- Exploring opportunities for establishing new, large Oceans Act MPAs in pristine offshore areas;
- Exploring opportunities to establish additional Oceans Act MPAs in areas under pressure from human activities through advancing MPA network development in the Northern Shelf Bioregion;
- Identifying existing and establishing new “other effective area-based conservation measures” based on advice provided by the Canadian Science Advisory Secretariat (such as fisheries closures), particularly to protect sensitive sponge and coral concentrations; and,
- Examining how to facilitate the designation process for Oceans Act MPAs, without sacrificing science or the public’s opportunity to provide input.

More information about Canada’s Plan to reach Marine Conservation Targets is available on the internet at:

www.dfo-mpo.gc.ca/oceans/conservation/index-eng.html

The Cold-water Coral and Sponge Conservation Strategy is available on the internet at:

www.pac.dfo-mpo.gc.ca/oceans/protection/oth-aut-eng.html

Pacific Canada’s State of the Ocean Annual Reports are available on the internet at:

<http://dfo-mpo.gc.ca/oceans/publications/index-eng.html#state-ocean>

5.3.2 PACIFIC NORTH COAST INTEGRATED MANAGEMENT AREA

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

stakeholders, move together towards a more holistic and integrated approach to ocean use in the planning area.

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

An electronic copy of the plan is available online at:

<http://www.pncima.org>

5.3.3 MARINE PROTECTED AREA NETWORK PLANNING

The Oceans Act mandates DFO with leading and coordinating the development and implementation of a national system or network of marine protected areas. The National Framework for Canada's Network of Marine Protected Areas provides strategic direction for national network design that will be composed of a number of bioregional networks. Consistent with this direction, a Canada-British Columbia Marine Protected Area Network Strategy has been developed jointly by federal and provincial agencies. This Strategy reflects the need for governments to work together to achieve common marine protection and conservation goals. The Strategy can be found at:

<http://www.dfo-mpo.gc.ca/oceans/publications/bc-mpa/index-eng.html>

The Province of British Columbia, the Government of Canada and 17 First Nations are working together, to implement the Strategy in the Northern Shelf Bioregion (NSB), which extends from the top of Vancouver Island (Quadra Island/ Bute Inlet) and reaches north to the Canada - Alaska border. This bioregion has the same footprint as PNCIMA.

Bioregional marine protected area network planning may identify new areas of interest for protection by DFO, Parks Canada Agency, Environment Canada, the Province of BC, and any other agencies with a mandate for protecting marine spaces. Sites identified for marine conservation through the network planning process will contribute to Government of Canada's commitment of protecting 10% of marine and coastal areas by 2020. Future MPAs in this network may overlap or include red sea urchin fishing areas depending on the type and nature of the MPA. General information on MPA Network Planning can be found at:

<http://www.pac.dfo-mpo.gc.ca/oceans/protection/mpa-zpm-dev-eng.html> and information on MPA Network planning in the NSB, please visit: <http://mpanetwork.ca/bcnorthernshelf>

5.3.4 MARINE PROTECTED AREAS

DFO is also responsible for designating Marine Protected Areas (MPAs) under Canada's *Oceans Act*. Under this authority, DFO has designated two MPAs in the Pacific Region. The Endeavour Hydrothermal Vents, designated in 2003, lie in waters 2,250m deep 250 km southeast of Vancouver Island. The SGaan Kinghlas-Bowie Seamount Marine Protected Area (SK-B MPA), designated in 2008, is 180 km west of Haida Gwaii (formerly known as the Queen Charlotte Islands). MPA regulations and management plans articulate any restrictions on activities taking place within the MPA, where applicable. At this time, all fisheries are restricted within the Endeavour and SK-B MPAs, except for a limited Sablefish trap fishery within the SK-B MPA.

The SK-B MPA has been established to conserve and protect the unique biodiversity and biological productivity of the area's marine ecosystem. The Government of Canada and the Council of the Haida Nation signed a MOU in April 2007 which established the SK-B Management Board to facilitate the cooperative management and planning of the proposed MPA. As a result, DFO and the Council of the Haida Nation are collaboratively developing a management plan for the SK-B MPA which will consider advice from an advisory committee, stakeholders through existing processes, and the public. This management plan will elaborate on the regulations to implement the conservation and management objectives for the MPA and will address matters such as monitoring, enforcement and compliance.

Commercial fishing activities within the SK-B MPA are managed through the Integrated Fisheries Management process. Three zones are identified, some of which are fisheries closures which are used to manage the sablefish fishery (see Groundfish IFMP for details). All other commercial fisheries are not permitted to occur in any zones of the MPA.

Work is ongoing to consider MPA designation for the Race Rocks area off Rocky Point south of Victoria (currently designated as a Provincial Ecological Reserve).

As part of the Government of Canada's commitment to create a national network of Marine Protected Areas (MPA) under the *Oceans Act*, Fisheries and Oceans Canada announced the designation of the Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs as a MPA on February 16, 2017. The designation of this new MPA marks an important step in Canada's commitment to reach its domestic and international marine conservation target of protecting 5% of Canada's marine and coastal areas by 2017 and 10% by 2020.

Located in the Pacific North Coast, between Haida Gwaii and the mainland of British Columbia, the MPA is 2,410 km² and supports a globally unique and vibrant feature once thought to be extinct worldwide. The reefs are made up of large colonies of glass sponges estimated to be 9,000 years old and provide refuge, habitat and nursery grounds for many aquatic species,

including rockfish, finfish, and shellfish. The area is nationally and internationally recognized as an important marine habitat that is biologically diverse.

The MPA was selected as an area of interest in 2010 following a lengthy public consultation period. The designation process was further informed by the participation of Indigenous peoples, federal and provincial government agencies, industry, and conservation organizations. Upon designation, Fisheries and Oceans Canada will be implementing fisheries management measures to effectively conserve and protect the ecological features of the reef, while allowing limited human activity consistent with conservation objectives to occur. New management measures under the Fisheries Act in the MPA were introduced on February 21, 2017.

The Core Protection Zone will be closed to all fishing activity. The Adaptive Management Zone will be closed to all bottom contact gear and midwater trawl. The Vertical Adaptive Management Zone allows for specified gear types only (midwater hook and line, seine and gillnet).

Any further details will be communicated to fishers through Fisheries Notices. The designation of the Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs as a new Marine Protected Area in British Columbia is a positive step towards the Government of Canada's marine conservation priority and provides protection to this globally unique ecosystem.

For more information, please contact Alice Cheung, Regional Manager, Oceans Program by email: alice.cheung@dfo-mpo.gc.ca or phone: (604) 666 0209.

The protection of coral and sponge reefs is a key component to a number of international commitments made by Canada through the United Nations Convention on Biological Diversity and the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries.

More information on integrated management planning, Pacific Region MPAs and Pacific MPA planning under Canada's *Oceans Act* can be found at the following link:

<http://ww.pac.dfo-mpo.gc.ca/oceans/index-eng.htm>

5.3.5 NATIONAL MARINE CONSERVATION AREAS

GWAII HAANAS

Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site is a 5000 km² land-and-sea protected area in the southern portion of Haida Gwaii (formerly the Queen Charlotte Islands), approximately 100 kilometres off the north coast of BC. The Haida Nation declared the area a Haida Heritage Site in 1985. The terrestrial part of Gwaii Haanas was designated a National Park Reserve by the Government of Canada soon after, and

the two parties have been managing the area cooperatively since 1993. In 2010, following an extensive public consultation process, the marine area of Gwaii Haanas was given the designation of National Marine Conservation Area Reserve.

Gwaii Haanas is managed by the Archipelago Management Board, a cooperative body made up of equal representation from the Government of Canada (represented by DFO and Parks Canada) and the Council of the Haida Nation. The Gwaii Haanas marine area is currently managed under the Interim Management Plan and Zoning Plan, which includes “balancing protection and ecologically sustainable use” in its guiding principles. The Zoning Plan identifies six areas that are closed to commercial and recreational fishing.

Users of the Gwaii Haanas marine area should be aware that adjacent land is managed under the authority of the Canada National Parks Act and its regulations and, as specified in the Gwaii Haanas Agreement (1993), there is “no extraction or harvesting by anyone of the resources of the lands and non-tidal waters of the Archipelago for or in support of commercial enterprise” (s3.3). There are specific requirements for visiting the terrestrial portion of Gwaii Haanas, and advanced planning is necessary. Please contact the Gwaii Haanas administration office at 1-877-559-8818 for further information.

Development of a Land-Sea-People Management Plan for the Gwaii Haanas National Marine Conservation Area is underway. The Management Plan and zoning process be developed in consultation with key stakeholders. Annual fishing plans will be developed in consultation through DFO’s established integrated fisheries planning and advisory processes.

SOUTHERN STRAIT OF GEORGIA

Parks Canada, in partnership with the Government of British Columbia, launched a feasibility assessment for an NMCA reserve in the southern Strait of Georgia in 2004. Since then, consultations with First Nations, key stakeholders, communities and the public have occurred. Informed by those discussions, a proposed boundary for consultation was announced by the provincial and federal Ministers of Environment in 2011.

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

environmental organizations and other stakeholders will also have opportunities to provide input to the development of the interim management plan.

More information on the proposed National Marine Conservation Area Reserve in the Southern Strait of Georgia is available on the internet at:

www.pc.gc.ca/eng/progs/amnc-nmca/dgs-ssg/index.aspx

DFO is also working with other federal and provincial agencies to coordinate efforts towards establishing a national system of Marine Protected Areas to fulfil Canada's commitments to the UN Convention on Biological Diversity.

More information on integrated management planning and Pacific MPAs under Canada's *Oceans Act* can be found at:

<http://www.pac.dfo-mpo.gc.ca/oceans/index-eng.htm>

5.3.6 MARINE NATIONAL WILDLIFE AREAS

Under the *Canada Wildlife Act*, Environment Canada may establish marine National Wildlife Areas (NWAs). The Scott Islands marine National Wildlife Area, located off the northern tip of Vancouver Island, has been proposed for designation through amendment to the *Wildlife Area Regulations*. Fisheries and Oceans Canada would continue to regulate and administer fisheries within the proposed area. Environment Canada and Fisheries and Oceans will develop a collaborative approach and agreement regarding management of fisheries in the area.

More information on NWAs can be found at:

<http://www.ec.gc.ca/ap-pa/default.asp?lang=En&n=2BD71B33-1>

5.3.7 COMMITTEE ON THE STATUS OF ENDANGERED WILDLIFE SPECIES ASSESSMENTS

The Committee on the Status of Endangered Wildlife in Canada (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 assess wildlife species.

With the implementation of SARA, COSEWIC has been established as an independent body of experts responsible for identifying and assessing wildlife species considered being at risk. 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 the Environment'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.

For a full list of species identified and assessed by COSEWIC, please visit:

http://www.cosewic.gc.ca/eng/sct1/searchform_e.cfm

5.3.8 SPECIES AT RISK ACT

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

<http://www.sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1>.

In addition to the existing prohibitions under the *Fisheries Act*, under SARA it is illegal to kill, harm, harass, capture, take, possess, collect, buy, sell or trade any listed endangered or threatened animal or any part or derivative of an individual. SARA prohibitions also provide protection for a species residence as well as its critical habitat, once identified. 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.

Marine species in the Pacific region that are currently listed under SARA as endangered, threatened, and special concern can be found at:

<http://www.dfo-mpo.gc.ca/species-especes/listing-eng.htm>.

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

BIRDS

- 1) [Ancient Murrelet](#) – Special Concern
- 2) [Marbled Murrelet](#) – Threatened
- 3) Black-footed Albatross – Special Concern
- 4) Short-tailed Albatross – Threatened
- 5) Pink-footed Shearwater – Threatened

FISH

- 1) [Basking Shark](#) – Endangered
- 2) [Bluntnose Sixgill Shark](#) – Special Concern

- 3) [Green Sturgeon](#) – Special Concern
- 4) [Longspine Thornyhead Rockfish](#) – Special Concern
- 5) [Rougheye Rockfish Types I & II](#) – Special Concern
- 6) [Tope \(Soupfin\) Shark](#) – Special Concern
- 7) [White Sturgeon](#) – Upper Fraser Designatable Unit – Endangered
- 8) [White Sturgeon](#) – Upper Columbia Designatable Unit – Endangered
- 9) [White Sturgeon](#) – Nechako Designatable Unit – Endangered
- 10) [White Sturgeon](#) – Kootenay River Designatable Unit – Endangered
- 11) Yelloweye Rockfish [Inside](#) and [Outside](#) populations – Special Concern

MAMMALS

- 1) [Blue Whale](#) – Endangered
- 2) [Fin Whale](#) – Threatened
- 3) [Grey Whale](#) – Special Concern
- 4) [Harbour Porpoise](#) – Special Concern
- 5) [Humpback Whale](#) – Threatened
- 6) Killer Whale – [Northern Resident Population](#) – Threatened
- 7) Killer Whale – [Southern Resident Population](#) – Endangered
- 8) Killer Whale – [Offshore Population](#) – Threatened
- 9) Killer Whale – [Transient Population](#) – Threatened
- 10) [North Pacific Right Whale](#) – Endangered
- 11) [Sea Otter](#) – Special Concern
- 12) [Sei Whale](#) – Endangered
- 13) [Steller Sea Lion](#) – Special Concern

REPTILES

- 1) [Leatherback Sea Turtle](#) – Endangered

SHELLFISH

- 1) [Northern Abalone](#) – Endangered
- 2) [Olympia Oyster](#) – Special Concern

Marine or anadromous species assessed by COSEWIC that are currently under consideration for listing under SARA include:

FISH

- 1) Bocaccio Rockfish – assessed as Threatened
- 2) Canary Rockfish – assessed as Threatened
- 3) Darkblotched Rockfish – assessed as Special Concern
- 4) Eulachon – Fraser River Designatable Unit – assessed as Endangered
- 5) Eulachon – Central Pacific Coast Designatable Unit – assessed as Endangered
- 6) Eulachon – Nass/Skeena Rivers Designatable Unit – assessed as Special Concern
- 7) North Pacific Spiny Dogfish – assessed as Special Concern
- 8) Salmon, Chinook (Okanagan population) – assessed as Threatened
- 9) Salmon, Coho (Interior Fraser population) – assessed as Threatened
- 10) Salmon, Sockeye (Sakinaw population) – assessed as Endangered
- 11) Salmon, Sockeye (Cultus population) – assessed as Endangered
- 12) Quillback Rockfish – assessed as Threatened
- 13) Yellowmouth Rockfish – assessed as Threatened

MAMMALS

- 1) Northern Fur Seal – assessed as Threatened

SALMON AND SARA

Four populations of salmon have been assessed by COSEWIC including: Cultus Lake sockeye (assessed as Endangered in 2003), Sakinaw Lake sockeye (assessed as Endangered in 2003, 2016), Interior Fraser River coho (assessed as Endangered in 2002; re-assessed as Threatened in 2016), and Okanagan chinook (assessed as Threatened in 2006).

Following extensive public and stakeholder consultation processes, the Government of Canada did *not* list these populations on Schedule I of SARA (Cultus Lake sockeye (decision in 2005), Sakinaw Lake sockeye (2005), Interior Fraser River coho (2006) and Okanagan chinook (2010)). However, recovery efforts are continuing for each population. In 2016, COSEWIC reassessed the Interior Fraser coho as *Threatened* and the Sakinaw sockeye as *Endangered*. As a result, the Government of Canada will follow a process for considering listing these populations under SARA.

DFO, in cooperation with the Interior Fraser Coho Recovery Team, have developed the *Conservation Strategy for Coho Salmon, Interior Fraser River Populations*. This strategy is an integral tool in effecting recovery of these unique coho populations. It is a science-based document that describes the species' biology, habitats and threats. The strategy also identifies a recovery goal, with accompanying principles and objectives designed to guide activities to achieve recovery. To view the conservation strategy, please visit:

<http://www.dfo-mpo.gc.ca/Library/329140.pdf>

Conservation Strategies for Cultus and Sakinaw Lake sockeye have also been finalized, and can be viewed at:

<http://www.dfo-mpo.gc.ca/Library/337479.pdf>

http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/conservation/docs/Sakinaw_conservation_jan08-eng.pdf

Specific conservation objectives for these and other stocks are found in Section 6, Fishery Management Objectives for Stocks of Concern.

It should also be noted that the following salmon populations are slated for assessment or re-assessment by COSEWIC in the coming few years: Fraser River sockeye and Okanagan chinook. Assessment dates for these populations will be included on COSEWIC's schedule of species assessments, found here:

http://www.cosewic.gc.ca/eng/sct2/sct2_4_e.cfm

SHARK CODES OF CONDUCT

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

Basking Sharks that specify mitigation measures in accordance with SARA permit requirements. Additionally, two 'Code of Conduct for Shark Encounters' documents have been developed to reduce the mortality of Basking Shark, as well as other Canadian Pacific shark species such as Bluntnose Sixgill and Tope Shark resulting from entanglement and by-catch in commercial, aquaculture and recreational fisheries. These guidelines include boat handling procedures during visual encounters with Basking Sharks as well as best practices for handling Canadian Pacific shark species during entanglement encounters.

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

Code of conduct for sharks:

http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/shark-requin/conduct_shark-conduite_requin-eng.html

Code of conduct for Basking Sharks:

http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/shark-requin/conduct_basking-conduite_pelerin-eng.html

5.3.9 WHALE, TURTLE AND BASKING SHARK SIGHTINGS

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

To report a whale sighting, contact the B.C. Cetacean Sighting Network:

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

Fax: (604) 659-3599

Email: sightings@vanaqua.org

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

To report a turtle sighting, contact the Sea turtle Sighting Network:

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

Fax: (604) 659-3599

Email: mailto:turtles@vanaqua.org

Website: <http://www.bcreptiles.ca/reportsightings.htm#1>

To report sick, injured, distressed or dead marine mammals and sea turtles contact the Marine Mammal Incident Reporting Hotline:

Toll free: 1-800-465-4336

To report a Basking Shark contact the Basking Shark Sightings Network:

Toll free: 1-877-50-SHARK

Email: BaskingShark@dfo-mpo.gc.ca

Website: <http://www.pac.dfo-mpo.gc.ca/science/species-especies/elasmobranch/baskingshark-lepelerin-eng.html>

5.3.10 NORTHERN AND SOUTHERN RESIDENT KILLER WHALES

Two distinct populations of 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 in Schedule 1 of the Species at Risk Act. An Action Plan for Northern and Southern Resident Killer Whales in Canada has been developed, which identifies measures to reduce anthropogenic threats and address research needs for resident killer whales. It can be viewed at: http://registrelep-sararegistry.gc.ca/document/default_e.cfm?documentID=2944. A Recovery Strategy for Northern and Southern Resident Killer Whales in Canada was finalized in March 2008, and amended in 2011. It can be viewed at:

http://www.sararegistry.gc.ca/document/default_e.cfm?documentID=1341.

Critical habitat and its associated features have been identified for both populations in the recovery strategy, and are protected from destruction under SARA Section 58(4) through the issuance of an Order. The recovery strategy also identifies current threats as environmental contaminants, reduced prey availability, disturbance, noise pollution and mortality in fishing gear.

PREY:

Northern and southern resident killer whales are dietary specialists and feed primarily on chinook salmon. 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. Fisheries that occur within the range of the resident killer whales as well as fisheries outside their range that affect chinook abundance within their range are both potentially implicated.

Because Southern Residents also are listed as endangered pursuant to the United States Endangered Species Act, DFO has joined with the National Oceanic and Atmospheric Administration (NOAA) to collaboratively evaluate the status of the relevant science and analyses. The two agencies conducted three scientific workshops to undertake a transparent, collaborative and scientifically rigorous review of the available information about resident killer whales, their feeding habits, and the potential effects of salmon fisheries on the whales through prey reduction. A panel of independent scientists was selected to oversee and participate in the process and produced a report documenting its findings.

The final report of the Independent Science Panel of the Bilateral Scientific Workshop Process to evaluate the effects of salmon fisheries on Southern Resident Killer Whales is available at: <http://www.nwr.noaa.gov/Marine-Mammals/Whales-Dolphins-Porpoise/Killer-Whales/ESA-Status/upload/KW-Chnk-final-rpt.pdf>

The Action Plan contains measures to implement the recommendations from the Independent Science Panel's final report. In addition to continued research on the threat of reduced prey availability, the Action Plan identifies measures to explore potential management actions to address this threat, including:

- a) Take into account both the seasonal (acute) as well as the cumulative (chronic) effects of poor returns for chinook and other important prey species on Resident Killer Whales when managing fisheries.
- b) Investigate the benefits of strategic salmon fishery planning approaches and management actions to reduce Resident Killer Whale prey competition in specific feeding areas (e.g. modeling, retention limits, fishery area boundary adjustments or closures), and implement where appropriate.
- c) Evaluate the potential impacts of disturbance and prey competition from fisheries on foraging success in key Resident Killer Whale foraging areas.

CONTAMINANTS:

There are numerous chemical and biological pollutants that may directly or indirectly impact resident killer whale, 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. PCBs and certain fire-retardant persistent organic pollutants have been banned in Canada. Canada and U.S. researchers continue to monitor resident killer whale populations.

DISTURBANCE:

All cetaceans, including resident killer whales, are being subjected to increasing amounts of disturbance from vessels, aircraft and anthropogenic noise. Industrial activities such as: dredging, pile driving, construction, seismic testing, military sonar and other vessel use of low and mid-frequency sonars impact the acoustic environment. The means by which physical and/or acoustic disturbance can affect resident killer whales at both the individual and population level is not well understood, but may depend on whether the disturbance is chronic or acute.

The Marine Mammals Regulations under the *Fisheries Act* and prohibitions under *SARA* specifically prohibit the disturbance and harm of killer whales. Guidelines for marine mammal viewing have also been developed. To avoid disturbing killer whales and other marine mammals, 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:

<http://www.dfo-mpo.gc.ca/fm-gp/mammals-mammiferes/viewing-observation-eng.html>.

Non-compliance with the *Be Whale Wise* Guidelines may lead to charges under the *Marine Mammal Regulations* and/or *SARA*.

CRITICAL HABITAT:

Critical habitat was identified in the Recovery Strategy for the Northern and Southern Resident Killer Whales in Canada (2011) and is protected from destruction by a Species at Risk Act Section 58(4) Order. The Recovery Strategy and Action Plan identify specific actions intended to protect killer whale critical habitat and its attributes. These actions include enforcement, protection, management, research, stewardship and public education. These actions are undertaken by multiple DFO sectors and the outcomes will inform further actions. The Department has received science advice regarding other areas of habitat that are important to the survival and recovery of northern and southern resident killer whales. This advice will be considered for the possible identification of additional critical habitat in the Recovery Strategy; consultation on such an addition would occur before a change is made to the Recovery Strategy.

MARINE MAMMAL MANAGEMENT PLANS:

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

Depredation is a learned behaviour that can spread throughout whale social groups and once established is impossible to eliminate. It is critical that B.C. 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.

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. 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. DFO link:

<http://www.pac.dfo-mpo.gc.ca/publications/marinemammals/depredation-4-2010-eng.pdf>

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

MARINE MAMMAL INCIDENT RESPONSE PROGRAM AND MARINE MAMMAL SIGHTINGS NETWORK:

Marine mammals incidents comprise a range of occurrences which may include; live strandings, dead, sick or injured animals, entanglements or potential violations (disturbance, harm or harassment).

To report a marine mammal incident, including violations, call DFO's Observe Record, Report (ORR) line at 1-800-465-4336. All entanglement or by-catch of marine mammals must be reported by current harvest log /reporting requirements.

Observations of orphaned seal pups may be reported to the Vancouver Aquarium Marine Mammal Rescue and Rehabilitation (604) 258-SEAL (7325). In many cases seal pups are not truly orphaned, and staff at these facilities will assess the circumstances.

To report a sightings of a cetacean (whale, dolphin, or porpoise) or sea turtles contact the B.C. Cetacean Sightings Network as soon as possible by phone at 1-866-I SAW ONE (472-9663) or <http://www.vanaqua.org>.

You may also participate in a formalized logbook program by calling or contacting the Network. Contacts for marine mammal inquiries:

Email: MarineMammals@dfo-mpo.gc.ca

Telephone: Paul Cottrell, (604) 666-9965

5.3.11 ENVIRONMENT CANADA ASSESSING THE IMPACT OF SALMON GILL NET FISHING ON LOCAL SEABIRD POPULATIONS

Environment Canada is looking for your help to measure salmon gill net fishing's impact on local seabird populations.

A number of seabird species around the world have declined in recent years; seabird by-catch is a part of the reason.

Seabird by-catch has been reported in all types of fisheries in B.C. and in fisheries in Alaska and Washington State. However, the number of local seabirds getting entangled in gill nets as a result of the B.C. salmon gill net fishery is not well known.

Environment Canada wants to know how, when and where gill net fishing may impact local seabirds and to find ways to reduce impacts. Environment Canada, with Fisheries and Oceans Canada, fishermen, First Nations, non-government organizations, and other coastal communities, has started a program to answer these questions. Without this information, it will be difficult to determine if there is a significant impact. Should impacts be determined this information helps support solutions that benefit both the fishery and healthy bird populations.

To help us, we would like to be informed about any dead birds found or reported in gill nets and/or found floating dead on fishing grounds. Please report all incidents to our 24-hour reporting line: 1-866-431-BIRD (2473).

For additional information, please contact:

Laurie Wilson

Wildlife Toxicologist, Environment Canada

Canadian Wildlife Service, Delta, B.C.

Telephone: (604) 940-4679

Email: laurie.wilson@canada.ca

5.3.12 AQUACULTURE MANAGEMENT

REGULATORY REGIME:

In December 2010 the Pacific Aquaculture Regulations came into effect, giving DFO the authority to govern the management and regulation of aquaculture activities at marine finfish, shellfish, freshwater/land-based and enhancement facilities. The Aquaculture Activities Regulations (AAR), which came into force in 2015, further clarify conditions under which aquaculture operators may treat their fish for disease and parasites, as well as deposit organic matter.

The Province of British Columbia continues to have authority over land tenures and workplace safety related to aquaculture in BC. New applications, amendments and related referrals are coordinated through Front Counter BC. More information is available on the BC government's website:

<http://www.frontcounterbc.gov.bc.ca>

DFO assesses, makes decisions and issues aquaculture licences.

DFO requires comprehensive environmental monitoring to be undertaken by the marine finfish industry, and the department also conducts additional monitoring, audits, and investigations (where warranted) to verify information submitted by licence holders and to obtain samples for analysis. Public reporting on the environmental performance of the aquaculture sector in BC is undertaken to ensure the transparency and accountability of the industry. Associated reporting can be found on the DFO web pages:

<http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/index-eng.html>.

Within the BC Aquaculture Regulatory Program there is a Compliance and Enforcement Unit, dedicated to aquaculture compliance, as well as an Aquaculture Environmental Operations Unit, which monitors the activities of industry on an on-going basis. The Program provides oversight and works to ensure the orderly management of the industry, including planning and licensing, linkages with national and regional policy, as well as consultation and communications. Contact information for staff with responsibilities related to aquaculture management within DFO can be found in the [Department Contacts](#) section of this plan.

INTEGRATED MANAGEMENT OF AQUACULTURE PLANS:

Integrated Management of Aquaculture Plans (IMAPs) provides an overview of each aquaculture sector and associated management and regulation. IMAPs are available on the DFO Consultations web pages:

<http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.html>

IMAPs complement IFMPs and the two are reviewed periodically to ensure consistency of management approaches.

AQUACULTURE MANAGEMENT ADVISORY COMMITTEES:

Aquaculture Management Committee Meetings (AMACs) engage the aquaculture industry, First Nations, and other stakeholders in development of IMAPs and on-going feedback relevant to the management of Aquaculture.

More information on IMAPs and AMACs is available through: IMAPS@dfo-mpo.gc.ca

5.3.13 SALMONID ENHANCEMENT PROGRAM

The Salmonid Enhancement Program (SEP) produces Pacific salmon at enhancement facilities, restores habitat, and undertakes projects that include public participation by local communities and First Nations in fisheries and watershed stewardship activities. Enhanced salmon enable economic, social and cultural harvest opportunities for commercial, recreational and First Nations harvesters, support vulnerable stock rebuilding, and contribute to Canada's stock assessment commitments under the Pacific Salmon Treaty with the United States. Projects with community partners include stewardship activities and the development of integrated local and area watershed plans. SEP also support school education and public awareness projects.

With respect to projects that undertake fish culture, about 150 projects release fish annually from sites throughout British Columbia and the Yukon. Projects range in size from spawning channels releasing nearly 100 million juveniles annually to school classroom incubators releasing fewer than one hundred juveniles. SEP enhances chinook, coho, chum, pink, and sockeye salmon, as well as small numbers of steelhead salmon and cutthroat trout. Project types include hatcheries, fishways, spawning and rearing channels, habitat improvements, flow control works, lake fertilization, and small classroom incubators. Projects are operated by SEP staff or contracted with some SEP support to First Nations and community and volunteer groups.

The program is delivered through three components:

- Major Operations (OPS) SEP facilities that rebuild stocks and provide harvest opportunities through hatcheries and spawning channels;
- The Community Involvement Program (CIP), which includes:
 - The Community Economic Development Program (CEDP) that operates contracted SEP facility operations with local community groups;

- First Nations, and Public Involvement Program projects that are divided into designated (DPI – Designated Public Involvement) and non-designated (PIP – Public Involvement Program) categories. The latter are smaller projects that focus on outreach, stewardship and educational activities, and do not produce large numbers of fish;
- The Resource Restoration Unit, which supports habitat improvements, stock assessment, effectiveness monitoring, watershed planning, and partnerships related to habitat initiatives.
- SEP Planning and Assessment (SPA) that reviews data, analysis returns and incorporates these details into a draft production plan along with major operation facility information.

SEP facilities are subject to the Pacific Aquaculture Regulations (PAR) under the Fisheries Act. PAR licences for all SEP facilities include a production plan, which is developed within a formal integrated planning process. Production planning meetings involve SEP, Science, and Fisheries Management, and external consultation and involvement is achieved through the IFMP process. The production planning cycle establishes maximum numbers of eggs to be collected and juveniles to be released for each enhanced system, using strategies that will produce the number of adults desired to meet specific objectives while considering species interactions, effects on existing stocks, harvest, habitat capacity, project capacity and overall conservation unit (CU) objectives. SEP priorities are established annually based on the national and regional priorities using a consistent approach across the program.

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries. There are two datasets available at the link below:

- 1) Post-Season Production from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release)
- 2) Production Plan, which include proposed targets for the upcoming 2017 brood year. The Production Plan dataset is preliminary, and the final version will be available by June 1.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>

Significant production changes for 2017 are incorporated into the *Enhancement Information* in each Species Overview of the Section [13](#) Fishing Plans.

5.3.14 FISHING VESSEL SAFETY

Commercial fishing is recognized as a very dangerous activity. Concerns over fishing related injuries and deaths have prompted DFO to proactively work with Transport Canada and WorkSafe B.C. to ensure coordinated approaches to improving fishermen’s safety. See [Appendix 2](#) for more information.

6 FISHERY MANAGEMENT OBJECTIVES FOR STOCKS OF CONCERN

6.1 RIVERS AND SMITH INLET SOCKEYE

The objective for Rivers and Smith Inlets sockeye salmon is to continue with rebuilding these stocks to consistently reach escapement goals and achieve a sustainable stock that will support harvest.

For Smith Inlet sockeye, the Docee Fence provides an accurate in-season estimate of returns that can be used to provide in-season abundance estimates. To have a commercial sockeye opening in Smith Inlet, Docee Fence counts will have to indicate that the escapement goal of 100,000 will be achieved and a surplus is available.

For Rivers Inlet sockeye, commercial openings are unlikely until a clear trend towards higher productivity and consistently better escapements is established and documented by the annual surveys of spawning adults.

The upper and lower escapement targets for Rivers Inlet sockeye are under development and a process has been initiated to review the available information, with the goal of establishing interim escapement goals (lower and upper) until a full science review can take place. The run size is predicted using a 5-year model that has performed well in estimating run size. Currently, there is not an established in-season assessment tool to estimate run size in this area.

6.2 SKEENA RIVER SOCKEYE

The objective for Skeena River sockeye is to maintain sustainable stocks consistent with the WSP and support FSC, commercial and recreational harvests.

To achieve the objective, Canadian commercial harvest rates will be based on an abundance-based formula that takes into account the forecasted aggregate Skeena sockeye return to Canada and the status of Skeena sockeye stocks where information is available.

6.3 NASS RIVER SOCKEYE

The objective for Nass sockeye is to maintain sustainable stocks that will meet WSP objectives and support FSC and Treaty harvests, as well as commercial and recreational harvests.

Nass sockeye will be managed to achieve an aggregate spawning escapement target of 200,000.

Returns in excess of the escapement target are harvested in FSC, Nisga'a Treaty, recreational and commercial harvest opportunities. Management measures will be in place to reduce impacts to specific stocks of concern.

6.4 NORTH COAST CHUM

The objective for wild north coast chum is to rebuild weak wild stocks, while providing opportunities to harvest surplus stocks.

North Coast wild chum stocks remain depressed and management actions in Areas 3 to 6 will continue to be taken to maintain low fishery impacts. Specific chum rebuilding plans have been developed for Skeena and Nass stocks. Please see [Appendix 7](#) and [Appendix 8](#) for more details.

6.5 WEST COAST OF VANCOUVER ISLAND (WCVI) CHINOOK

The objective for West Coast of Vancouver Island (WCVI) chinook is to manage Canadian ocean fisheries (specified below) to an exploitation rate of 10%. The objective for North Coast chinook is to manage in accordance with the allocation policy, and to manage the northern troll fishery to a WCVI chinook exploitation rate of 3.2%.

For the past two decades WCVI wild chinook have experienced poor marine survival rates and low spawner levels; as a result, WCVI wild chinook continue to be stocks of concern.

Management actions will continue to be required consistent with the exploitation rate objective. For purposes of calculating the WCVI exploitation rate for North Coast chinook fisheries, all WCVI chinook caught and kept in Canadian fisheries are assumed to be returning in the present year. Fisheries that this limit applies to are the northern troll, Haida Gwaii recreational, WCVI troll and WCVI recreational. The exploitation rate is measured by Coded Wire Tag (CWT) data gathered from these fisheries. The exploitation rate limit includes chinook caught and kept, as well as an estimate of fishing related mortalities.

DFO will manage commercial troll fisheries in the North Coast to a 3.2% exploitation rate ceiling on total WCVI chinook return to Canada. The harvest rate of WCVI chinook in the Area F troll fishery is calculated based on 3.2% of the total WCVI return to Canada and is used as an in-season proxy for exploitation rate. The in-season harvest rate will be estimated using the mean effort-harvest rate relationship developed from historical DNA analysis. The fishery will be further constrained by remaining closed during the first half of June and parts of August as these periods are known to have higher proportions of WCVI chinook in the total catch. DNA analysis and coded-wire tag analysis of catch will be used to assess the 3.2% exploitation rate objective post season.

Chinook will be managed as per Annex IV provisions of the 2008 PST agreement. Total allowable catches include a 15% reduction for the South East Alaska (SEAK), 0% reduction for Northern BC, and a 30% reduction for WCVI AABM fisheries from the allowable catches under the 1999 PST agreement.

6.6 SKEENA STEELHEAD

DFO and the province of B.C. have renewed discussions on a joint approach to the management of steelhead returning to the Skeena watershed consistent with the 1999 fisheries management protocol between the federal and provincial governments. This work is intended to specify clear management objectives, management responses and mechanisms for technical support, management planning, communication and dispute resolution. Work on this approach will include consultations with First Nations and stakeholders.

6.7 INSHORE ROCKFISH

The management objective for inshore rockfish species (which include Yelloweye, Quillback, Copper, China and Tiger) is to continue conservation strategies that will ensure stock rebuilding over time. These inshore rockfish species are currently non-retention in the commercial salmon troll fisheries.

There are currently 164 RCAs in place within BC waters. The RCAs have been implemented within the Strait of Georgia and in all outside waters including Haida Gwaii. Fish harvesters are reminded prior to fishing to check the DFO website to verify RCA and other closures currently in effect. A description of all RCA's can be found at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acis/index-eng.htm>

Consultations with First Nations will continue so that management of their fisheries will be consistent with conservation objectives and Departmental obligations with respect to priority access for food, social and ceremonial purposes.

7 GENERAL DECISION GUIDELINES, ACCESS AND ALLOCATION

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

7.1 ALLOCATION GUIDELINES

Allocation decisions are made in accordance with *An Allocation Policy for Pacific Salmon*:

<http://www.dfo-mpo.gc.ca/Library/240366.pdf>

[Table 7.1-1](#) describes a generalized framework by which fishing opportunities are allocated to different fishing groups at different abundance levels.

Table 7.1-1: Allocation guidelines

	Low Abundance		High Abundance		
First Nations FSC	Non-retention / closed	By-catch Retention	Directed	Directed	Directed
Recreational	Non-retention / closed	Non-retention	By-catch Retention	Directed	Directed
Commercial	Non-retention / closed	Non-retention	By-catch Retention	By-catch Retention	Directed

NOTE: This table describes conceptually how First Nations, recreational and commercial fisheries might be undertaken across a range of returns. It does not imply that specific management actions for all stocks exactly follow these guidelines, but rather is an attempt to depict the broad approach.

The allocation guidelines above refer to target stocks. The application of *An Allocation Policy for Pacific Salmon* on non-target stocks is case specific. The inadvertent harvest of different species is referred to as by-catch. The inadvertent harvest of stocks of concern within the same species (i.e. Cultus Lake sockeye when harvesting Summer Run sockeye) is referred to as *incidental harvest*. Both *by-catch* and *incidental harvest* are factored into the calculation of exploitation rates on various stocks, and therefore, fishing plans are designed to be consistent with existing policies

and to keep exploitation rates on stocks of concern within the limits described in the fishery management objectives.

All harvest groups have recommended that the Department consult on by-catch/incidental harvest allocations. However, the Department does not allocate by-catch or portions of the acceptable exploitation rate on stocks of concern. The Department considers a number of fishing plan options and attempts to address a range of objectives including minimizing by-catch and incidental catch.

7.1.1 FIRST NATIONS – FOOD, SOCIAL AND CEREMONIAL (FSC)

An Allocation Policy for Pacific Salmon provides that after requirements for conservation, the first priority in salmon allocation is to FSC for harvest opportunities under communal FSC licences issued to First Nations, and to treaty rights for harvest opportunities for domestic purposes (consistent with Treaty Final Agreements).

While these opportunities will be provided on a priority basis, it does not necessarily mean that fishery targets for First Nations will be fully achieved before other fisheries can proceed. For example, many First Nations conduct their FSC fisheries in terminal areas while other fisheries are undertaken in marine areas or approach areas. The general guideline is that fishing plans must adequately provide for the First Nations' FSC and/or domestic Treaty harvests that will occur further along the migration route over a reasonable range of potential run sizes.

7.1.2 FIRST NATIONS ECONOMIC OPPORTUNITY AND INLAND DEMONSTRATION FISHERIES

For a more detailed description of Aboriginal commercial fishing opportunities please refer to Section [13](#) – Species Specific Salmon Fishing Plans.

7.1.3 RECREATIONAL FISHERIES

Under *An Allocation Policy for Pacific Salmon*, after FSC fisheries, the recreational sector has priority to directed fisheries for chinook and coho salmon. For sockeye, pink and chum salmon, the policy states that recreational harvesters be provided predictable and stable fishing opportunities. Recreational harvest of sockeye, pink, and chum will be limited to a maximum of 5% of the combined recreational and commercial harvest of each species on a coast-wide averaged over a rolling 5 year period.

If stock abundance information suggests that conservation objectives cannot be attained, closures or non-retention regulations will generally be applied. In some cases, recreational fisheries with a non-retention restriction in place may remain open provided the recreational

fishery is not directed on any stocks of concern, nor is the impact on any stocks of concern significant in accordance with the *Selective Fishing Policy*.

Prior to a directed commercial fishery on specific chinook and coho stocks, the fishing plan will provide for full daily and possession limits for the recreational sector on those stocks. Decision guidelines may also identify considerations for changing the area of the fishery, modifying dates or changing daily limits.

7.1.4 COMMERCIAL FISHERIES

An Allocation Policy for Pacific Salmon provides for a commercial harvest of sockeye, pink, and chum of at least 95% of the combined recreational and commercial harvest of each species on a coast-wide basis over time. Commercial harvest of chinook and coho salmon will occur when abundance permits and First Nations and recreational priorities are considered to have been addressed.

Please see Section [13](#) – Species Specific Salmon Fishing Plans for the commercial allocation plan with shares by species, fleet and fishery production area. The ability to achieve allocations is often limited by conservation constraints and other factors. Low impact fisheries (limited number of vessels) often occur prior to those having a higher impact (full fleet), particularly at low run sizes, at the start of the run when run sizes are uncertain or when stocks of concern have peaked but continue to migrate through an area.

When one commercial gear type is unlikely to achieve its allocation, the usual approach will be that the same gear type, but in a different area, will be provided opportunities to harvest the uncaught balance.

Allocation targets are not catch targets for each sector. While the Department will usually plan and implement fisheries to harvest fish in accordance with allocation targets, opportunities may be provided that are inconsistent with the allocation targets. For example, in the case of Late Run Fraser River sockeye, the Department may choose to close marine fisheries (seine, gill net and troll) and open river fisheries (gill net) to take advantage of a low abundance of Cultus or Late Run sockeye and a significantly larger run size of Summer Run sockeye.

7.1.5 EXCESS SALMON TO SPAWNING REQUIREMENTS FISHERIES

Salmon fisheries are managed with the objective of reaching escapement targets or harvesting a certain proportion of the run. Uncertain forecasts, unanticipated differences in in-season run size estimates and mixed-stock concerns can result in escapement to terminal areas that are in excess of their required habitat or hatchery spawning capacity. In these cases, Excess Salmon to Spawning Requirements (ESSR) fisheries may occur.

The Department will attempt, wherever practical, to eliminate or minimize ESSRs by harvesting in the FSC, recreational, and commercial fisheries. It is not the intention of the Department to establish new ESSR fisheries to displace existing fisheries.

First priority will be to use identified surpluses to meet outstanding FSC requirements which cannot be met through approved FSC fisheries. This may be done under a communal licence. As a second priority, the local band or Tribal Council may be offered the opportunity to harvest all or part of the surplus under an ESSR licence which authorizes the sale of the surplus.

7.2 ACCESS AND ALLOCATION OBJECTIVES

7.2.1 INTERNATIONAL OBJECTIVES

The objective is to manage Canadian treaty fisheries to ensure that obligations within the Pacific Salmon Treaty (PST) are achieved.

Details can be found at the Pacific Salmon Commission (PSC) website at:
<http://www.psc.org/Index.htm>.

Review of the performance of the PST provisions occurs annually at two bilateral meetings of the Southern and Fraser Panels of the PSC and those results are published post-season.

7.2.2 DOMESTIC ALLOCATION OBJECTIVES

The objective is to manage fisheries in a manner that is consistent with the constitutional protection provided to existing aboriginal and treaty rights and *An Allocation Policy for Pacific Salmon*.

An Allocation Policy for Pacific Salmon can be found on-line at:
<http://www.dfo-mpo.gc.ca/Library/240366.pdf>

An Allocation Policy for Pacific Salmon sets out principals for allocation between the recreational and commercial sectors and also identifies sharing arrangements for commercial fisheries. An explanation of some of the features of Allocation planning is set out in Section [7.1](#).

7.2.3 FIRST NATIONS OBJECTIVES

The objective is to manage fisheries to ensure that, after conservation needs are met, First Nations' food, social and ceremonial requirements and treaty obligations to First Nations have first priority in salmon allocation in accordance with the *Allocation Policy for Pacific Salmon*.

In addition to fishing opportunities for FSC purposes, DFO acknowledges that in *Ahousaht Indian Band et al. v. Canada and British Columbia*, the courts found that five Nuu-chah-nulth First Nations located on the West Coast of Vancouver Island - Ahousaht, Ehattesaht, Hesquiaht, Mowachaht/Muchalaht, and Tla-o-qui-aht – have “aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of geoduck”. The Department is actively working with the First Nations to accommodate their rights without jeopardizing Canada’s legislative objectives and societal interests in regulating the fishery.

DFO consults with Aboriginal groups when allocation decisions may potentially affect them in accordance with S. 35 of the *Constitution Act, 1982*, relevant case law, and consistent with Departmental policies and considerations.

Feedback from consultation sessions is relied on to measure the performance of First Nations objectives.

7.2.4 RECREATIONAL AND COMMERCIAL OBJECTIVES

The objective is to manage fisheries for sustainable benefits consistent with established policies.

A primary objective in the recreational fishery is maintaining the opportunity and expectation to catch fish in a predictable manner. In the commercial fishery, the objective is to improve the economic performance of fisheries, to provide certainty to participants, and to optimize harvest opportunities. However, stocks of concern will continue to constrain opportunities in many fisheries resulting in less than optimal opportunities. Both fisheries will be managed to achieve maximum benefits where possible in accordance with conservation and allocation objectives.

7.3 GENERAL DECISION GUIDELINES

The following comprehensive decision guidelines outline management responses that will be invoked under a range of in-season circumstances, and the general rationale to be applied in making management decisions.

Decision guidelines are meant to capture general management approaches with the intention of working towards multi-year management plans.

Specific fishing plans are described in Section [13](#) – Species Specific Salmon Fishing Plans.

7.3.1 PRE-SEASON PLANNING

Development of decision guidelines is part of the pre-season planning process. Development is guided by relevant departmental policies, scientific advice, consultation with First Nations,

commercial and recreational harvesters and other interests, and the experience of fishery managers.

Pre-season decisions include the development of escapement targets, exploitation rate limits, sector allocations and enforcement objectives.

7.3.2 IN-SEASON DECISIONS

In-season decision points vary from fishery to fishery depending on type, availability and quality of in-season information and the established advisory, consultation and decision-making processes. Decisions include opening and closure of fisheries, level of effort deemed acceptable, gear type restrictions, deployment of special projects, etc.

Where possible, in-season decisions will be consistent with guidelines established pre-season; however, the implementation and applicability of decision guidelines and pre-season plans can be influenced in-season by a number of factors. These include unanticipated differences between pre-season forecasts and in-season run size estimates, unexpected differences in the strength and timing of co-migrating stocks, unusual migratory conditions and the availability and timeliness of in-season information.

7.3.3 SELECTIVE FISHERIES

Selective fishing is defined as the ability to avoid non-target fish, invertebrates, seabirds, and marine mammals or, if encountered, to release them alive and unharmed (see *Policy for Selective Fishing in Canada's Pacific Fisheries*). Selective fishing technology and practices will be adopted where appropriate in all fisheries in the Pacific Region, and there will be attempts to continually improve harvesting gear and related practices.

All sectors have responded positively to the growing conservation consciousness. First Nations have embraced the principles of selective fishing by adopting more selective fishing gear, as often these types of gear reflect a traditional way of fishing. The commercial fishing sector has developed its own Canadian Code of Conduct for Responsible Fishing Operations. Over 80% of Canada's fishing organizations have signed on and ratified the Code that is overseen by a Responsible Fishing Board. Similarly, the recreational fishery in the Pacific Region developed a Code of Conduct. In addition, DFO has worked with the Sport Fishing Institute (SFI) on a Tidal Angling Guide certification program. The Sport Fishing Institute of BC (SFI) and go2, the resource for people in tourism, have developed an Industry Training Authority approved Tidal Angling Guide (TAG) certification program. First of its kind in North America, this program encompasses Transport Canada requirements including the Small Vessel Operator Proficiency certification (SVOP). The SVOP and other certificates are federal requirements for non-pleasure, passenger carrying vessels operating on the BC coast.

7.3.4 POST-RELEASE MORTALITY RATES

The salmon conservation and fisheries management measures in this IFMP are based on many considerations, including estimates of the mortality rates of salmon that are released from the various types of fishing gear that are used in commercial, recreational and First Nations fisheries. Post-release mortality rates can vary substantially and depend on many factors, including the location of the fishery, the unique characteristics of each type of fishing gear and method, and the species of salmon that is captured and released. In April 2001 DFO announced revisions to the post-release mortality rates that had been used by DFO in previous years. The mortality rates applied by DFO to each gear type and fishery prior to 2001, and the revised rates announced by DFO in 2001 with some more recent revisions are summarized in [Table 7.3-1](#). The revised rates reflected the results of additional research on post-release mortality rates that were available at that time. DFO has generally continued to use these post-release mortality rates each year in the development of annual fishing plans including this salmon IFMP.

DFO will review the post-release mortality rates currently used for salmon fisheries in Canadian waters and update [Table 7.3-1](#) as new information becomes available. Since 2001 additional research has been conducted on post-release mortality rates of salmon, and additional fishing methods and gear types have been implemented (e.g. beach seining, recreational catch and release study for Fraser sockeye salmon) in some salmon fisheries. The pre 2001 post-release mortality rates are included for historical comparison indicating which fisheries rates have changed. The 2001 post-release mortality rates currently applied by DFO for salmon fisheries, in some cases, are not the same as the rates that are currently applied by the bi-lateral Chinook Technical Committee under the Pacific Salmon Treaty. The results from the DFO review of mortality rates will be used to inform any additional revisions to the post-release mortality rates that are required to address these issues in the development of salmon IFMPs in future years.

For post-season assessments of chinook salmon, DFO uses the exploitation rates developed by the Pacific salmon Commission Chinook Technical Committee which employ the mortality rates reported by the PSC (2007).

Table 7.3-1: Post-Release Mortality Rates

Fishery	Pre 2001 Post-Release Rates (for historical comparison)	Post 2001-Release Rates
First Nations Fisheries	Note: When using the same gear and methods noted below the same mortality rates were applied.	Various – Depending on gear used and fishery Gill net – 60% same as commercial below Beach seine – 5% for sockeye and coho in-river Fraser Modified Shallow Seine- 10% for sockeye and coho in-river Fraser Tooth Tangle net – 3.5” mesh is 10% sockeye and 15% coho Fishwheel - 5% for sockeye and coho in-river Fraser
Recreational troll gear – sockeye, coho, pink and chum	10%	10% except 3% for sockeye in-river Fraser
Recreational Troll gear – chinook	15%	15%
Recreational mooching gear – coho and chinook	10% for coho; 15% for chinook	10% for coho in South Coast areas; 15% for chinook in all areas.
Commercial gill net (South Coast)	60% to 70%	60% with provision for rates as low as 40% where selective techniques warrant.
Commercial seine – South Coast (Areas 11 to 29)	15% to 25%	25% Johnstone Strait; 50%* Area 20 – coho; 25% all areas for sockeye
Commercial troll – All Areas	26%	10% sockeye, 15% coho and chinook.
Commercial tooth tangle net 3.5" mesh	n/a	10% sockeye, 15% coho

*Recent work by researchers from Carleton University and the University of British Columbia and the Area B Harvest Committee has been undertaken in 2012 and 2013 to re-evaluate the release mortality rates for coho caught using purse seine gear in Area 20. Results to date indicate that short-term release mortality rates are less than the current 70% estimate. For the 2017 fishery, the Department will use a 50% release mortality estimate for planning purposes subject to at-sea-observer coverage to assess coho encounter rates and fish condition during any commercial fishery openings.

8 COMPLIANCE PLAN

8.1 COMPLIANCE AND ENFORCEMENT OBJECTIVES

CONSERVATION AND PROTECTION PROGRAM DESCRIPTION

Conservation and Protection (C&P) is mandated to protect fisheries, waterways, aquatic ecosystems and resources from unlawful exploitation and interference. Fishery officers provide compliance promotion and enforcement services in support of legislation, regulations and management measures implemented to achieve the conservation and sustainable use of Canada's aquatic resources, the protection of species at risk, fish habitat and oceans.

In carrying out activities associated with the compliance and enforcement of Pacific salmon fisheries, outlined in this management plan, C&P will utilize intelligence-led and principle-based approaches and practices consistent with the *Three Pillars of the C&P National Compliance Framework* and the *DFO Compliance Model*:

- I. Voluntary **compliance promotion** through education, shared stewardship and user engagement;
- II. Intelligence-led **monitoring, control and surveillance** activities;
- III. Management of **major cases /special investigations** in relation to complex compliance issues.

8.2 REGIONAL COMPLIANCE PROGRAM DELIVERY

C&P utilizes a broad scope of activities to deliver compliance and enforcement services within Pacific Region salmon fisheries. The main activities of C&P include:

- Prioritizing compliance and enforcement measures that support DFO management objectives which aim to sustain the salmon stocks and fisheries;
- Developing and maintaining positive relationships with First Nations communities, recreational groups and commercial interests through dialogue, education and shared stewardship;
- Ensuring the development and supporting of a fishery officer complement that is skilled, well-equipped, well-informed, safe and effective;
- Ensuring that salmon fisheries participants are aware of their obligations to comply with licence conditions;

- Monitoring and supporting at-sea observers and dockside monitors to ensure accurate catch monitoring and reporting;
- Inspecting fish processors, cold storage facilities, restaurants and retail outlets to verify compliant product;
- Conducting high-profile fishery officer presence during patrols by vehicle, vessel and aircraft to detect and deter violations;
- Maintaining a violation reporting 24-hour hotline to facilitate the reporting of violations;
- Supporting traceability initiatives within the salmon fishery for enhanced accountability, e.g., monitoring and verifying salmon catches and offloads to ensure accurate and timely catch reporting and accounting, including coverage of dual-fishing opportunities;
- Collecting and utilizing intelligence to identify and target repeat and more serious offenders for enforcement effort, including laundering and illegal sales of salmon;
- Utilization of enhanced surveillance techniques, technology and covert surveillance techniques as a means to detect violations and gather evidence in salmon fisheries-of-concern;
- Responding to the most serious habitat violations identified by the DFO Fisheries Protection Program;
- Continue to utilize restorative justice forums to reduce harm to fisheries, species-at-risk, and fisheries habitat.

8.3 CONSULTATION

Education, information and shared stewardship activities are the foundation for achieving voluntary compliance. C&P fishery officers regularly participate in consultations with resource users and the general public. C&P participates in all levels of the advisory process and is committed to including local fishery officers to provide users and the community-at-large with specific information related to compliance and enforcement perspectives. C&P will continue to meet with individual First Nations at the local level through the First Nations Liaison Program and with First Nations planning committee meetings where many First Nations gather.

C&P works closely with the Fisheries and Aquaculture Management sector to ensure that fishery management measures are enforceable and implemented in a controlled and fair

manner. Fishery officers participate in local fishery management roundtables, sport fishery recreational advisory committees and participate at Sport Fishery Advisory Board meetings.

On a day-to-day basis, fishery officers are often the most visible faces of the Department. When the fishing community and general public provide comments, they are shared with C&P managers, fisheries managers and fisheries protection staff. Public feedback is critical in identifying issues of concern and providing accurate feedback on emerging issues. C&P encourages the timely reporting of suspicious behaviour and violations to a local office or the Observe, Record, Report hotline.

8.4 COMPLIANCE STRATEGY

Specific objectives for the salmon fishery will focus compliance management efforts on:

- Supporting the development and implementation of the Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries;
- Monitoring in-river and in-marine approach waters utilizing intelligence to target priority fisheries and compliance issues;
- Working with resource users to improve voluntary compliance.

Salmon fishery compliance and enforcement continues to be a significant priority for C&P. Concurrent to the salmon season, compliance and enforcement attention may be required to address violations related to fisheries habitat, shellfish harvest in contaminated areas, and the protection of species at risk. In order to balance multiple program demands, C&P applies a risk-based integrated work planning process at the Regional- and Area levels. This process identifies priorities so that resources are allocated to the areas of greatest need.

9 PERFORMANCE/EVALUATION CRITERIA

This section is intended to outline measurable indicators to determine whether or not those management issues outlined in the IFMP are being addressed. These indicators may include those specifically developed for the IFMP, as well as, from existing evaluation processes.

Potential performance indicators will be required for assessing conservation and fishery sustainability; WSP objectives; domestic and international objectives; First Nations, commercial and recreational objectives; Allocation objectives; Enhancement objectives, as well as, other indicators of interest.

The Department intends to work collaboratively with First Nations and stakeholders to review existing and/or develop new performance indicators that should be included as part of the performance/evaluation criteria.

The results of the previous year's annual review (e.g. 2016 season) follow below:

9.1 2016/2017 POST SEASON REVIEW FOR STOCKS OF CONCERN

NOTE: The objectives shown in **bold** below is the wording from the 2016/17 Integrated Fisheries Management Plan.

9.1.1 RIVERS AND SMITH INLET SOCKEYE

2016/2017: The objective for Rivers and Smith Inlets sockeye salmon is to continue with rebuilding these stocks to reach escapement goals and achieve a sustainable stock that will support harvest.

There have been no commercial or recreational fisheries targeting River Inlet sockeye for many years. Escapements, with the exception of 2011 and 2016, have fallen short of target levels. Commercial and recreational fisheries remain unlikely until a trend towards consistently higher productivity has been established. This trend will be established from the adult spawner survey.

9.1.2 SKEENA RIVER SOCKEYE

2016/2017: The objective for Skeena River sockeye is to maintain sustainable stocks consistent with the WSP and support FSC, commercial and recreational harvests.

The preliminary post-season estimate of the Skeena Sockeye total return for 2016 was 1.48 million (1.25 million total return to Canada). The preliminary post-season estimate of escapement past the Tyee test fishery was 1.09 million and the in-season estimate at Tyee was 1.45 million.

The 2016 Skeena sockeye directed marine commercial fisheries harvested approximately 132,000 Skeena sockeye. Recreational daily limits for sockeye were set at 2 per day and remained as such for the entire season.

Recreational daily limits for sockeye in Babine River and Babine Lake were initially set at 2 per day. Once an ESSR fishery was announced for Babine Lake in August, the recreational daily limit for Babine Lake was increased to 4 per day. First Nations FSC fisheries for Skeena sockeye were open in the marine approaches and the Skeena and Babine Rivers for the duration of the season. The preliminary Skeena sockeye FSC catch estimate for 2016 is 134,783 pieces. In addition, 20,450 sockeye were harvested in Skeena River First Nations Inland Demonstration Fisheries conducted in the marine approaches to the Skeena, the mainstem Skeena and at the Babine River Counting Facility. A further 77,839 sockeye were harvested in the Babine Lake ESSR fishery.

9.1.3 NASS RIVER SOCKEYE

2016/17: The objective for Nass sockeye is to maintain sustainable stocks that will meet WSP objectives and support FSC and Treaty harvests, as well as commercial and recreational harvests.

Nisga'a Fisheries Program activities continued providing DFO and Nisga'a stock assessment managers with valuable information (e.g., run size and Nisga'a catch) required to successfully manage the Nisga'a fishery and assess Nass area stocks.

The preliminary post-season estimate of the Nass Sockeye total return for 2016 was 438,311 and the Total Return to Canada estimate was 355,122.

In-season stock assessment information indicated that the return of Nass sockeye was much poorer than anticipated and, as such, retention of sockeye in Area 3 fisheries closed on July 4. The 2016 Nass sockeye directed marine commercial fisheries harvested approximately 17,352 Nass sockeye. Recreational daily limits for sockeye were set at 2 per day. First Nations FSC fisheries for Nass sockeye were open in the marine approaches and the Nass River for the duration of the season. The preliminary Nass sockeye FSC catch estimate for 2016 is 38,458. Due to concerns over poor Nass sockeye returns in-season, no sockeye were harvested in Nass River First Nation Inland Demonstration Fisheries and only 400 sockeye were harvested in Nisga'a Treaty Sale Fisheries.

9.1.4 COHO SALMON

2016/2017: The objective for north and central coast coho is to maintain rebuilding success and ensure overall exploitation does not exceed sustainable rates.

Coho abundance in 2016 was above recent year averages in the north coast and below average in the central coast. Coho retention was permitted, based on in-season abundance indices, in commercial net fisheries in Areas 3 and 4 in 2016 while coho non-retention was enforced in Area 6. The Area F troll fishery harvested approximately 215,067 coho in portions of Areas 1 to 5 and associated offshore areas. Area 3 was also opened to troll in 2016 with a harvest of 10,820 pieces. A limited effort troll fishery for coho was conducted by the Area F troll fleet in portions of Areas 6, 7 and 8, as a part of the updates to the Commercial Salmon Allocation Framework. Total harvest from this fishery was 4,343 coho.

9.1.5 NORTH COAST CHUM

2016/2017: The objective for wild north coast chum is to rebuild weak wild runs, while providing opportunities to harvest surplus stocks.

Chum stock status remained a concern in 2016. There were no commercial net fisheries that targeted wild chum from Areas 3 to 6 in 2016. In Area 3, a 0.5 nautical mile ribbon boundary around Pearce Island and a 1.0 N.M boundary around Wales Island was in place where higher chum encounter rates have been observed in past years. Retention of chum for gillnet and seines was permitted in a small portion of Area 3 around Wales Island near the U.S.A. border during the first 3 weeks of July when Alaskan hatchery chum are prevalent, closing to retention on July 20. Chum otoliths collected from this portion of the fishery have been analyzed for hatchery thermal marks to confirm the high proportion of hatchery fish. In Area 6, a surplus of Kitimat Hatchery chums allowed for a minor terminal gillnet harvest of 28,110 pieces in 2016.

9.1.6 NORTH COAST CHINOOK

The objective for West Coast of Vancouver Island (WCVI) chinook is to manage Canadian ocean fisheries (specified below) to an exploitation rate of 10%. The objective for North Coast chinook is to manage in accordance with the allocation policy, and to manage the northern troll fishery to a WCVI chinook exploitation rate of 3.2%.

The 2016 forecast of WCVI chinook returning to Canada was 316,000. The total Area F Troll chinook catch in 2016 was 147,381 pieces which contained 3,842 WCVI chinook estimated from DNA analysis of the catch. The post-season reconstructed WCVI return to Canada in 2016 was estimated at 210,553 chinook salmon. The harvest rate on the return to Canada was 1.8%

measured using DNA. The post season exploitation rate on WCVI chinook by the NBC troll fishery was 2.0% measured using CWT's.

The exploitation rates estimated by CWT's on WCVI chinook from the northern AABM recreational fishery, WCVI AABM troll fishery and WCVI AABM sport fishery in 2016 were 3.2%, 0.9%, and 1.0% respectively for a total of 7.1% which is less than the 10% objective.

9.1.7 INSHORE ROCKFISH

2016/2017: The management objective for inshore rockfish species (which include yelloweye, quillback, copper, china and tiger) is to continue conservation strategies that will ensure stock rebuilding over time.

To ensure stock rebuilding over time, Rockfish Conservation Areas have been implemented within the Strait of Georgia and in all outside waters including the Queen Charlotte Islands. The conservation strategy for rockfish along the coast of British Columbia is long term. Rockfish are a long-lived species with a low level of productivity and therefore rebuilding will take several decades.

First Nations are encouraged to employ fishing methods or fish in locations to avoid the harvest of inshore rockfish. First Nations fishing for food, social and ceremonial purposes is permitted in RCAs.

9.2 POST SEASON REVIEW OF ACCESS AND ALLOCATION OBJECTIVES

9.2.1 INTERNATIONAL OBJECTIVES

2016/2017: The objective was to manage Canadian treaty fisheries to ensure that obligations within the Pacific Salmon Treaty (PST) are achieved.

Review and performance of the PST provisions for sockeye, coho, chum and chinook salmon occur annually at bilateral meetings. Results of the meetings are published in the annual post-season reports available from the Pacific Salmon Commission (PSC). More information is available on the PSC website at:

<http://www.psc.org/index.htm>

9.2.2 DOMESTIC ALLOCATION OBJECTIVES

2016/2017: The objective is to manage fisheries in a manner that is consistent with the Allocation Policy for Pacific Salmon and the 2012 Pacific Salmon Commercial Allocation Implementation Plan.

While fisheries were managed to address conservation objectives, they were generally conducted in a manner consistent with the Allocation Policy for Pacific Salmon. Post-season reviews were conducted to provide information on stock status, catches and other fishery information.

9.2.3 FIRST NATIONS OBJECTIVES

2016/2017: : The objective was to manage fisheries to ensure that, after conservation needs are met, First Nations' food, social and ceremonial requirements and treaty obligations to First Nations have first priority in salmon allocations in accordance with the Allocation Policy for Pacific Salmon.

In 2016, salmon demonstration fisheries for sockeye were conducted on the Skeena River by the North Coast Skeena First Nation Stewardship Society (NCSFNSS), the Gitksan Watershed Authority (GWA) and Lake Babine Nation (LBN). Due to the low returns in the Nass, the Nass River demonstration fisheries did not take place.

Full harvest opportunities for First Nations FSC fisheries in the North Coast in 2016 were in effect throughout the season. Issues with sufficient access to FSC harvesting opportunities in the marine portions of Areas 3, 4 and 5 have been identified by some coastal First Nations during years when there are frequent commercial openings targeting Nass and/or Skeena sockeye.

Discussions continue between the Department and coastal First Nations to find a solution to the issue.

9.2.4 RECREATIONAL AND COMMERCIAL OBJECTIVES

2016/2017: The objective was to manage fisheries for sustainable benefits consistent with established policies.

The primary objective in the recreational fishery to maintain the expectation and opportunity to catch fish in a stable manner was achieved. In the commercial fishery, the objective to improve the economic performance of fisheries so that they can reach their full potential, to provide certainty to participants, and to optimize harvest opportunities was achieved due to generally higher than forecast levels on some stocks.

9.2.5 POST SEASON REVIEW OF COMPLIANCE MANAGEMENT OBJECTIVES

Fishery officers carry out inspections on vessels, buying stations, processors, transporters, cold storage facilities, brokers, restaurants and retailers. In-season and future compliance and enforcement activities are adjusted, in consideration of the outcomes of the inspections program. The annual post-season review of the inspection program further informs C&P about the successes of the program and where to align resources to provide the greatest value to Canadians.

10 NORTHERN BC FIRST NATIONS FISHERIES

10.1 FISHERY MONITORING AND CATCH REPORTING INITIATIVES

The *Strategic Framework for Fisheries Monitoring and Catch Reporting in Pacific Fisheries* (see Section 0) is being applied to all fisheries across the region including First Nations FSC fisheries. Work includes assessing the ecological risk of fisheries as they are currently managed and ensuring monitoring and reporting programs provide sufficient information to appropriately manage for those risks. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

10.1.1 ABORIGINAL HARVEST MANAGEMENT SYSTEM

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop electronic recording and reporting systems for First Nations FSC catch data, to improve the efficiency and accuracy of reporting FSC catch and other fishing information used by Aboriginal fishery managers and the Department. The electronic has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licencing system, allowing First Nations to track FSC catch and other fishing information for their members.

The initiative first utilized a Microsoft Access database used by interested First Nations groups within the Pacific Region, including the BC Interior area, South Coast and the Central Coast. In the late 2000's approximately 34 First Nations groups employed this software application with different success rates, with a few sending FSC data to DFO's Regional catch database. In 2010, work started on compiling all aspects of the 34 current MS Access databases into one (1) system called the Aboriginal Harvest Management System (AHMS) that could be customizable for each Nation's needs. Work on this new system is ongoing and the expected completion date of a production release is 2017. Currently several First Nations are using the new AHMS system as a pilot program. FSC data is now being collected by DFO in the FSC Managers Database as an interim measure until the Regional FSC database is completed.

For more information please contact Aleta Rushton at 250-230-1227.

10.1.2 CHINOOK AND COHO CODED WIRE TAG (CWT SAMPLING)

CWT target sample rates are established by the Department to meet bilateral Pacific Salmon Treaty standards. The minimum required sample rates are 20% of the estimated catch of the fishery to recover a minimum quantity of CWTs from indicator stocks. CWT sampling programs in First Nations fisheries are comparable in overall design to CWT sampling in commercial and recreational fisheries but may be different in some aspects to recognize the differences in First Nations economic or demonstration fisheries and FSC fisheries, to recognize regional differences in priorities for CWT sampling, and to integrate sampling into First Nations catch monitoring programs.

In economic and demonstration fisheries, sampling for CWTs is a mandatory catch monitoring requirement in chinook and coho retention fisheries that intercept CWT indicator stocks. Where needed, the Department will:

- 1) Sample and collect all heads that contain CWTs from the entire catch of randomly selected landings or at fish processing plants using designated observers, or
- 2) Work with First Nations catch monitoring programs to establish comparable requirements.

In FSC fisheries, the success in achieving the 20% target sample rate relies on CWT sampling that is integrated into the catch monitoring program or on individual submissions of chinook or coho heads to catch monitors or to First Nations Salmon Head Depots. Sample rates may also be known as submission rates in these fisheries. Essential requirements for the “submission-style” sampling for CWTs are:

- 1) Submission of heads from hatchery-marked (adipose fin-clipped) chinook and coho. With mass marking, not all hatchery-marked chinook and coho contain a CWT, but the missing adipose fin is the only external clue to identify the possibility of an internal CWT.
- 2) Completed head label(s) attached to each head with required catch information including location caught and date caught. For salmon caught together (same date and location), one label may be placed in a sealed bag with multiple heads.
- 3) Provision of catch information (number of hatchery marked kept chinook and coho) to monitoring programs.

First Nations Salmon Head Depots with head labels exist in communities where submission-style programs are established. Servicing and maintenance of First Nations Salmon Head

Depots will be delivered by Department employees. Information about the origin of their fish will be provided to individuals and First Nations when CWT dissection results are available.

For additional information or locations of First Nations Salmon Head Depots:

Salmon Head Recovery Program

Telephone: 1-866-483-9994 (toll-free)

10.2 COMMUNAL LICENCE HARVEST TARGET AMOUNTS

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Fisheries and Oceans Canada seeks to provide for the effective management and regulation of First Nations fisheries through the negotiation of mutually acceptable and time-limited Fisheries Agreements, frequently referred to as AFS agreements. Where agreement is reached, agreed-to fisheries provisions form the basis of the communal licence issued by DFO. Where agreement cannot be reached, Fisheries and Oceans Canada will nonetheless issue an Aboriginal communal fishing licence to the group based on DFO's best understanding of the group's Aboriginal fishery.

Target harvest amounts for communal licences in Northern BC are outlined in [Table 2.1-1](#) below. Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Where requests are put forward by First Nations for changes in FSC access arrangement, these are evaluated against a common set of criteria. FSC access should reflect some balance between the diversity and abundance of resources that are locally available, community needs and preferences, and operational management considerations. The department's operational approach and criteria can be found online at:

<http://www.pac.dfo-mpo.gc.ca/consultation/fn-pn/fnfc-2014/docs/aboriginal-fishing-peches-autochtones-eng.pdf>

Table 10.2-1: Communal Licence Harvest Target Amounts

	Areas 1 & 2	Areas 3 to 6 North	Areas 6 South to 10	Total
Sockeye	20,000	209,250	50,000	279,250
Coho	5,000	8,650	8,470	22,120
Pink	2,500	32,425	13,270	48,195
Chum	2,500	4,975	12,520	19,995
Chinook	3,000	15,860	7,970	26,830
Total Salmon	33,000	271,160	92,230	396,390

10.3 ABORIGINAL COMMERCIAL FISHING OPPORTUNITIES

The AFS was implemented to address several objectives related to First Nations and their access to the resource. One of these objectives was to contribute to the economic self-sufficiency of Aboriginal communities. An integral component of the AFS is the Allocation Transfer Program (ATP). This Program facilitates the voluntary retirement of commercial licences and the issuance of licences to eligible Aboriginal groups in a manner that does not add to the existing fishing effort on the resource, thereby providing Aboriginal groups with much needed employment and income, and increasing participation in commercial fisheries as part of relationship-building with the Department. Since 1994-95, when the ATP was first launched and including PICFI, 479 commercial licences have been relinquished for Aboriginal groups.

Discussions regarding demonstration fisheries that will provide commercial opportunities for First Nations and allow for experimentation and testing of inland fisheries are on-going with First Nations and stakeholders. For 2017, as in previous years, the focus with First Nations will be on experimenting mainly in terminal areas on abundant stocks. These fisheries will be conducted separately from FSC fisheries, using the same harvest decision guidelines as the commercial fishery and fish harvested will be off-set with licences voluntarily relinquished from the commercial fishery. The demonstration fisheries proposed are described in Section [13](#) – Species Specific Salmon Fishing Plans.

10.4 TREATY FISHERIES

NISGA'A FISHERIES

The Nisga'a Treaty came into effect on May 11, 2000. Under the treaty an Annual Fishing Plan (NAFP) is developed by the Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final Agreement and the Nisga'a Harvest Agreement. The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries

More information on this Treaty can be found at:

Nisga'a Final Agreement

<http://www.aadnc-aandc.gc.ca/eng/1100100031292/1100100031293>

More information on the Treaty process can be found at:

<http://www.BCtreaty.net/>

Refer to Section [13](#) – Species Specific Salmon Fishing Plans for the specific domestic and commercial allocations.

II NORTHERN BC RECREATIONAL FISHERIES

Recreational fishing opportunities for salmon are regulated by the *British Columbia Sport Fishing Regulations, 1996* made under the *Fisheries Act*. The regulations are generally summarized in the *British Columbia Sport Fishing Guide*.

In addition, detailed information on tidal and freshwater salmon recreational fishing regulations is found online at www.bcsportfishingguide.ca

To sign up to have recreational fishery notices sent directly to your email, please visit our website, there is a link to subscribe to fishery notices on the right hand side of the page.

A Vision for Recreational Fisheries in British Columbia was developed cooperatively by DFO, the Province of BC and the SFAB. It serves as a framework for developing initiatives and actions to support achievement of a collective vision for the recreational fishery in BC.

The recreational fisheries Vision is available at:

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/sfab-ccps/docs/vision-comment-eng.pdf>

II.1 FISHERY MONITORING AND CATCH REPORTING INITIATIVES

The SFAB has been working with DFO on initiatives to strengthen fishery monitoring and catch reporting in the recreational fishery. To this end, a plan has been developed to meet the objectives of the Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries (see Section 0). Creel surveys for boat based angling in marine waters are the main source of recreational catch and effort information in the highest risk fisheries.

The requirement to report catch is a condition of the Tidal Waters Sport Fishing Licence. Licence holders must report information on their recreational fishing activity and catch or provide biological samples to DFO representatives when requested. This requirement also includes responding to email requests through the iREC survey.

The department collects information to estimate boat based angling harvest of finfish in marine waters and salmon in fresh waters throughout BC using a variety of methods. Recreational harvesters may be requested by a Fishery Officer or designated DFO representative, such as a creel interviewer, to provide catch and effort information or biological samples either on the water or at the dock.

Internet-based surveys are also used to collect catch and effort information. The Department is continuing to conduct the monthly Internet Recreational Effort and Catch (iREC) survey, which

began in July 2012. This survey provides monthly estimates of effort and catch for areas, months, and fishing methods not covered by the marine creel surveys, which cover only boat based angling. The methods covered by the iREC survey include angling, trapping, beach collecting, and diving for all recreational caught species. The iREC survey methodology was peer reviewed and approved by the Canadian Science Advisory Secretariat (CSAS). Efforts are now underway to implement use of iREC results in months and areas not covered by creel surveys, starting with critical species such as halibut and chinook salmon. Information on the iREC survey is available at:

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

A separate online survey conducted annually requests catch records of 20,000 licence holders. In this survey, referred to as the Internet Annual Recreational Catch (iARC) survey, licence holders are asked to provide the catch records as written on their licences for chinook, lingcod, and halibut. Information on this survey is available at:

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

Finally, the Department is continuing to work with recreational fishing guides, associations, and the Sport Fishing Institute of B.C. to implement logbooks in areas of highest risk or areas conducive to reporting through logbooks. The latter includes areas such as the central coast, Kyuquot Sound, Port Hardy, and parts of PFMA 13 where there are concentrations of lodges and guided effort. In addition to paper log 'books', the Department has developed a Recreational Electronic Logbook (Rec E-Log) as a tool to capture catch and other fishing information and to report this information to the Department. Data captured and sent is retained by the client for reference and is sent to DFO for further analysis. Depending on your location and business needs, there are up to three components to the Rec E-Log.

- On Water or Mobile Component – This component can be installed on any smartphone device (Blackberry/Android and iPhone). Catch and other fishing information, is captured by GPS location at sea, by individual fishers. Data can be sent from the device or exported to the Lodge Component.
- Dockside Component – Captures each boats catch and other fishing information at the dock as fishers and guides return from fishing.
- Lodge Component – Data from the On Water and Dockside components are exported to this application. As well summary data can be entered. The application has a mapping component, which allows catches to be displayed for those with a GPS location. Data from this component can be easily sent to the Department.

The development of the on-water or mobile component continues to be refined in partnership with the Sport Fishing Institute. A 'fisher app' is in initial stages of development which will provide mobile access to Fishery Notices, maps, the fishing guide, and more.

The development of an improved catch monitoring regime will continue to be a priority in the management of recreational fisheries. Fisheries and Oceans Canada is working with the Sport Fishing Institute of BC and Sport Fishing Advisory Boards to develop catch monitoring and reporting standards for the recreational fishery.

11.2 CHINOOK AND COHO CODED WIRE TAG (CWT) SAMPLING

Essential requirements for the sampling for CWTs in recreational fisheries are:

- Submission of heads from hatchery-marked (adipose fin-clipped) chinook and coho. With mass marking, not all hatchery-marked chinook and coho contain a CWT, but the missing adipose fin is the only external clue to identify the possibility of an internal CWT.
- Completed DFO-supplied head label(s) attached to each head with required catch information including location caught and date caught. For salmon caught together (same date and location), one label may be placed in a sealed bag with multiple heads.
- Provision of catch information (number of hatchery marked kept chinook and coho) to DFO catch monitoring programs.

CWT target sample rates are established by the Department to meet bilateral Pacific Salmon Treaty standards. The minimum required sample rates in recreational fisheries are 20% of the estimated hatchery-marked catch to recover a minimum quantity of CWTs from indicator stocks. It is not cost effective or possible to acquire this quota through direct sampling of recreational fisheries due to the wide distribution of the fishery throughout the year and throughout the province. Instead, the success in achieving the 20% sample rate relies on submissions by anglers to a network of Salmon Head Depots. Because of the reliance on fisher-provided samples, sample rates are also known as submission rates in recreational fisheries.

Salmon Head Depots exist at more than 250 locations in BC and are situated at marinas, tackle stores, fishing lodges, and hatcheries. Depot operators provide head labels and store the heads in freezers or buckets containing a brine solution. Servicing and maintenance of Salmon Head Depots will be delivered by a federal government contractor or by Department employees.

Information about the origin of their fish will be provided to anglers, guides and depots, when CWT dissection results are available.

While the majority of CWTs are collected from submissions to Salmon Head Depots, recreational harvesters are also required as a condition of the Tidal Waters Sport Fishing Licence to provide biological samples (salmon heads) to Department representatives when requested.

For additional information or locations of Salmon Head Depots:

Telephone: Salmon Head Recovery Program, 1-866-483-9994 (toll-free)

Search: DFO Salmon Head Recovery

11.3 RECREATIONAL ELECTRONIC LOGBOOKS

The development of an improved catch monitoring regime will continue to be a priority in the management of recreational fisheries. Fisheries and Oceans Canada is working with the Sport Fishing Institute of BC and Sport Fishing Advisory Boards to develop catch monitoring and reporting standards for the recreational fishery.

Since 2007 the Department has been working with Sport Fishing Institute of BC, a number of Resorts and a number of Recreational fishers, to develop a Recreational Electronic Logbook (Rec E-Log) as a tool to capture catch and other fishing information and a tool to report this information to the Department. Data captured and sent is retained by the client for reference and is sent to DFO for further analysis. Depending on your location and business needs, there are up to three components to the Rec E-Log.

- On Water or Mobile Component – This component can be installed on any smartphone device (Blackberry/Android and iPhone). Catch and other fishing information, is captured by GPS location at sea, by individual fishers. Data can be sent from the device or exported to the Lodge Component.
- Dockside Component – Captures catch and other fishing information at the dock as fishers and guides return from fishing.
- Lodge Component – Data from the On Water and Dockside components are exported to this application. Uploaded data can be reviewed for correctness and a number of printed reports can be generated. The application has a mapping component, which allows catches to be displayed for those with a GPS location. Data from this component can be easily sent to the Department.

Development of all components is now complete. In 2017/18, the Department will continue to collaborate with the Sport Fishing Institute and the local Sport Fishing Advisory Boards to develop a deployment strategy for the application(s).

12 NORTHERN BC COMMERCIAL FISHERIES

12.1 FISHERY MONITORING AND CATCH REPORTING INITIATIVES

Effective fishery monitoring and catch reporting programs are important to support fishery planning by First Nations, stakeholders, all levels of government and to meet Canada's international and other reporting obligations on fisheries. Further, timely and accurate information on harvest and harvesting practices is essential to properly assess the status of fish stocks and to support resource management for the conservation and the long term sustainability of fish resources.

The Department finalized the "Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries" in 2012. The paper outlines a consistent approach to determining the level of monitoring required for all fisheries. Key components of the framework include the development of standardized criteria to be used to determine the required level of monitoring for all Pacific fisheries. The application of the criteria is based on the level of risk the fishery presents to the resource and management regime.

The proposed criteria will be used in discussions with commercial, aboriginal and recreational fisheries harvesters to determine specific monitoring objectives.

Since 2011, the Department has been working with the Commercial Salmon Advisory Board as part of a Catch Monitoring Working Group to review catch monitoring requirements consistent with the "Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries." A set of minimum requirements has been developed for commercial salmon catch monitoring programs. Minimum catch monitoring requirements identified by DFO and the Commercial Salmon Advisory Board Catch Monitoring Working Group (CSAB CMWG) include:

- Independent verification of fishery specific effort
- Independent verification of landed catch
- Independent verification of at-sea releases
- Fishery specific minimum biological sampling standards
- Independent verification of compliance with fishery rules

In 2013, a number of catch monitoring programs were developed to address deficiencies that have been identified with the minimum requirements. These programs will continue in 2017

with revisions to update approaches and potentially include additional areas and objectives. While all fisheries will be required to meet catch monitoring requirements over time, the key fisheries identified for the programs at this time are listed below.

For 2017, the Department is continuing to work with Area Harvest Committees on catch monitoring programs in the following areas:

Area A Seine (PFMA 3 to 6):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload
- Independent verification of landed catch through a designated service provider
- Deployment of at-sea observers with priority placed on highest profile fisheries occurring concurrently

Area C Gill net (PFMA 3 to 5):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload

Additional details on the catch monitoring programs will be communicated via Fisheries Notices.

12.2 CHINOOK AND COHO CODED WIRE TAG (CWT) SAMPLING

In 2017, Fisheries and Oceans Canada will use designated observers (CWT samplers) who are federally-contracted to the DFO Mark Recovery Program to sample the entire catch from randomly selected vessels at fish landing stations or processors. CWT target sample rates are established by the Department to meet bilateral Pacific Salmon Treaty standards for statistically significant data. The minimum required sample rate is 20% of the estimated catch in all chinook or coho retention fisheries that intercept CWT indicator stocks. CWT target sampling rates may be adjusted in-season for high abundance or to meet additional CWT program requirements to recover a minimum quantity of CWTs from indicator stocks.

Sampling for CWTs is a mandatory catch monitoring requirement for commercial salmon fisheries. Conforming to the *Fishery (General) Regulations*, when requested, the master or owner of fishing vessels and the owner or any person who has the care, charge or control of a fish landing station must permit access to the catch and provide CWT samplers with assistance that is reasonably necessary to enable them to perform their duties according to DFO-approved sampling protocols including:

- i) Making the fish readily accessible to the CWT samplers;
- ii) Providing samplers with a suitable work area; and
- iii) Permitting CWT samplers to remove the head from the fish free of charge

In the past, chinook and coho were checked for a missing adipose fin to indicate that it had a CWT. Due to mass marking, it is necessary to use electronic equipment such as handheld wands or tube detectors to recover CWTs in most fisheries. Because detection rates may be affected by sampling technique, it is important to ensure CWT samplers are given adequate time and opportunity to sample the entire catch of each vessel selected. Incomplete or unrepresentative sampling of CWTs in fisheries is a serious concern because it generates unknown bias in stock identification for fisheries management, stock assessment, hatchery assessment, and implementation of Pacific Salmon Treaty management regimes.

For more information, please contact Kathryn Fraser at 250-756-7371 or Doug Herriott at 250-756-7383

12.2.1 RETENTION OF FREEZER TROLL CHINOOK AND COHO HEADS

These requirements apply to all troll licences, unless the license is listed in a fisheries notice that identifies the troll licenses that are exempted from retaining salmon heads during the fishing season.

Head Retention: Troll vessel masters that are freezing their catch at sea must retain all heads from chinook and coho. Recognizing that vessels may have space limitations for retaining heads, the Department allows the alternative of retaining only the portion of the head likely to contain the CWT, referred to as the 'snout'. At a minimum, the portion of each head retained must include the upper portion of the head extending from the tip of the snout to a cut travelling from the top of the head, passing 1 centimeter behind the eye, and ending at the back corner of the mouth.

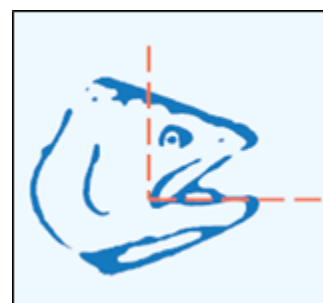


Figure 12.2-1: Fish Head CWT Portion

Head Storage: Heads must be stored in Salmon Head Recovery Program bags with labels. Bags and labels are available free of charge from the Department. Heads must be kept frozen until delivery and each bag must contain only the heads from a single week of fishing (where weeks run from Sunday to Saturday). All bags must be labelled completely and securely closed. Bags and labels can be obtained in three ways:

- i) Pick them up at DFO offices announced via fishery notice,
- ii) Contact DFO toll-free at 1-866-483-9994 to make arrangements for shipping, or
- iii) Obtain them from CWT samplers at fish landing stations.

Head Delivery: The vessel master shall ensure that all bags containing heads are offloaded at the first designated fish landing station at which chinook or coho catch is offloaded.

In accordance with the conditions of the Area F troll license, all vessels are required to bring all chinook and coho heads (or snouts) to the dock for submission, unless the license is listed in a fisheries notice listing the Area F troll licenses that are exempted from retaining salmon heads during the 2017 fishing season. This fisheries notice is expected to be released prior to the opening of the fishery.

Poor compliance and head retention practices in past fishing seasons led to the requirement that 50% of the Area F troll fleet retain salmon heads to ensure that Canada met its obligation to sample a minimum of 20%. In recent years, salmon head recovery compliance by the Area F troll fleet has improved allowing for a reduction in the number of vessels that retain salmon heads.

For 2017, the exemption rate will be between 70% and 75%. As in past seasons, licenses that were insufficiently diligent in carrying out their conditions of license to bring in all chinook and coho heads will not be exempted in 2017.

For complete head retention requirements, vessel masters freezing their catch at sea should refer to their conditions of license.

12.3 IMPLEMENTATION

Due to uncertainty of both timing and size of returning salmon runs, many commercial openings Due to uncertainty of both timing and size of returning salmon runs, many commercial openings are not confirmed until a few days prior to the actual opening. Also, the management plan for any area may change in-season. Fishing Areas, Subareas or portions thereof, provisions for extensions, opening patterns and the duration of the fishing season can

all be adjusted based on factors such as weak stock concerns, target stock abundance, fishing effort, rate of gear selectivity, domestic allocations and other factors.

This fishing plan is designed to minimize the incidental harvest and by-catch of a range of stocks of concern (see Section 6 – Management Objectives for Stocks of Concern). Fisheries that occur on the South Coast may be required to release all non-target species to the water with the least harm, depending on local stock concerns.

Under circumstances where there appears to be an abundance of fish that could support a commercial fishery and that fishery is not specifically addressed in the IFMP, DFO will address requests to fish as identified below:

- 1) Attempt to verify the abundance using available observations and information of the salmon species and to determine whether or not it could provide a fishing opportunity consistent with conservation objectives and Allocation priorities for First Nations food, social and ceremonial and recreational fisheries. DFO will consult with local First Nations regarding any interests or concerns they may have.
- 2) If (1) is addressed and there appears to be adequate numbers of fish to support some level of commercial fishery; then a precautionary approach will be taken and information requirements will be discussed and agreed upon. Initially, a limited number of vessels may be licenced, and independent catch verification will be required, with timely reporting of harvest data.
- 3) Regular dialogue between harvesters, DFO, and others as appropriate, will take place throughout the fishery including whether the scope of the fishery could be increased and other relevant parameters.

DFO continues to encourage the development of demonstration fisheries that promote biologically sustainable and economically viable fisheries. Fishery managers are working with fleet advisors to develop demonstration fisheries that experiment with meeting a range of objectives including matching fleet size to the available harvest, pacing fisheries to maximize value of the harvest and developing more cooperative fishing arrangements between harvesters. Reports on previous demonstration fisheries can be found on-line at: <http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html>. In addition to existing demonstration fisheries reviewed and approved prior to 2016; the collaborative work of the Department, FNFC SCC and CSAB through the initiative to update the CSAF has resulted in a common assessment process to review and develop flexible harvest arrangements (CSAF Demonstration fisheries). Additional detail on CSAF demonstration fisheries proposed for this season and information on other related work is outlined in Appendix 6.

Catch monitoring improvements continue to be a priority in the management of all salmon fisheries. DFO in consultation with harvest sectors and First Nations will focus efforts on improvements to current catch monitoring and reporting requirements and standards.

12.4 COMMERCIAL SALMON ALLOCATION IMPLEMENTATION PLAN

This section describes the commercial salmon allocation implementation plan. An overview of the process to update the CSAF initiated in 2013, principles and guidelines approved in 2015 as well as additional principles suggested for 2017 and items for future discussion are described in more detail in [Appendix 6](#) of this plan.

COMMERCIAL ALLOCATION IMPLEMENTATION PLAN FOR THE 2015 – 2019 PERIOD

Shares will apply for a 5 year period (2015 through 2019 seasons) with provision for a review after year 4 (2018 season) to determine if adjustments should be made to any sharing arrangements in subsequent years. An earlier review could be considered if circumstances warrant by majority agreement of the commercial salmon advisory board.

The sharing arrangements described in this plan are intended to guide fishing arrangements at the local level and are not fixed entitlements. Application of these sharing arrangements is subject to meeting all conservation objectives, First Nations obligations, international commitments, deliverability and manageability constraints and other management considerations.

Although best efforts will be made to achieve these allocation targets/shares, no guarantees are offered that allocations will actually be achieved in any given year. The achievement of these shares will depend upon the ability to fish selectively and the conservation needs of the resource. In the event that allocations are not achieved, no compensatory adjustments will be made to future allocations.

As in previous years, there will be no directed commercial fisheries for Fraser River sockeye or Fraser River pink salmon in the north (i.e. area licence categories A, C and F and First Nations economic fisheries).

The tables below provide a complete list of allocation shares by gear type, species and production area for fisheries starting in 2015 for a period of 5 years with a review planned following the 4th year. Three new productions were approved in 2015 to clarify sharing arrangements associated with the Pacific Salmon Treaty for troll harvests of AABM chinook and AB line pink fisheries.

SOCKEYE

I. Description	Areas	Seine A	Gill Net C	Troll F
Skeena/Nass	1, 3 to 5, 101 to 105	25%	75%	*
Central Coast	6 to 8	80% ^a	20% ^b	*
Rivers/Smiths Inlets	9 to 10	5%	95%	^c

Notes on sockeye allocation (north):

* by-catch provisions

^a share reflects current sockeye by-catch during pink directed fisheries

^b potential for re-negotiation of sharing arrangements in event of a future directed sockeye fishery

^c potential for future re-negotiation

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
South Local	23	60.0%	40.0%	0.0%	0.0% ^c	0.0%
South -Fraser	11 to 20, 29, 121, 123 to 127	48.5%	21.6%	25.1%	0.0% ^d	4.8%

Notes on sockeye allocation (south):

^c potential for future re-negotiation

^d a 1% share to occur in large Fraser River return years only. A 1% reduction will be proportionately applied across other fleets in those years.

PINK

Description	Areas	Seine A	Gill Net C	Troll F
North	1, 2E, 2W (even), 3 to 5, 101 to 105	75.5%	22.5% ^a	2.0%
Central	6 to 10	95.0%	5.0% ^b	*

Notes on pink allocations (north):

* by-catch provision

^a Skeena sharing 75% seine: 25% gill net

^b potential for future re-negotiation

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
Fraser	11 to 20, 29, 121, 123 to 127	82.5%	4.0%*	3.0%*	0.5% ^c	10.0%
Mainland	12 to 13 (mainland inlets only)	73.0%	9.0%	0.0%	0.0%	18.0%

Notes on pink allocations (south):

* pink by-catch provision required for fisheries on more abundant species

^c potential for future re-negotiation. Pink by-catch required for fisheries on more abundant species

<<NEW PRODUCTION AREA STARTING IN 2015>>

Description	Area	Troll F
A-B line pink troll fishery	101	100%

CHUM

Description	Areas	Seine A	Gill Net C	Troll F
North	1, 2E, 2W, 101 to 111, 130, 142	54.0%	43.0%	3.0%
North	3 to 5	55.0% ^b	45.0% ^b	*
Central	6 to 10	45.0% ^c	55.0%	*

Notes on chum allocations (north):

^b recent chum non-retention; fishery allows by-catch of chum only

^c currently chum non-retention

* by-catch provision

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
South Inside	11 to 19, 28 to 29	63.0%	19.2%	12.0%	0.0%	5.8%
Nitinat	21 to 22	65.5%	0.0%	34.5%	*	0.0%
South Outside	23 to 27	0.0% ^d	98.0%	0.0%	2.0%	0.0%

Notes on chum allocations (south):

* by-catch provision

^d potential for future re-negotiation if chum populations re-build

Commercial allocation sharing arrangements in Johnstone Strait are; seine Area B – 77 percent; gill net Area D – 17 percent; and troll Area H – 6 percent.

COHO

Description	Areas	Seine A	Gill Net C	Troll F
North	1 to 10, 101 to 111, 130, 142	12.5%	6.5%	81.0%

Notes on coho allocations (north):

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
South Inside	11 to 20, 29	TBD	TBD	TBD	TBD	TBD
South Outside	21 to 27, 121 to 127	9.5%	9.5%	1.0%	80.0% ^b	0.0%

Notes on coho allocations (south):

^{TBD} currently no directed fisheries in this area. Will be reviewed should future directed opportunity develop.

Principles to be drafted regarding how to distribute impacts.

^b coho taken primarily in offshore fisheries

CHINOOK

Description	Areas	Seine A	Gill Net C	Troll F
Northern BC AABM chinook	1, 2E, 2W, 101-105, 130, 142	*	*	100.0% ^a
Central	6 to 10	*	100.0% ^b	* ^c

<< NEW PRODUCTION AREA STARTING IN 2015 >>

Description	Areas	Seine A	Gill Net C	Troll F
North-Inside	3 to 5	*	100.0% ^d	*

Notes on chinook allocations (north):

* by-catch provisions

^a Northern BC AABM chinook harvest

^b near-terminal fisheries (primarily hatchery origin)

^c review potential re-entry of troll into Production Areas 6 + 7. By-catch provisions

^d by-catch provision and near-terminal directed fisheries (e.g. Skeena)

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
South- Inside	11 to 20, 29	1.0% ^e	3.0%	90.0% ^f	0.0%	6.0%
South - WCVI AABM Chinook	21, 23 to 27, 121 to 127	*	*	0.0%	100.0% ^g	0.0%

<< NEW PRODUCTION AREA STARTING IN 2015>>

Description	Areas	Seine B	Gill Net D	Gill Net E	Troll G	Troll H
South- WCVI Inside	21 to 27	5.0% ^h	75.0% ⁱ	5.0% ⁱ	15.0% ^j	0.0%

Notes on chinook allocations (south):

^e subject review pending completion of southern BC chinook initiative

^f directed Fraser chinook fishery

^g this is WCVI AABM chinook fishery

^h Area 23 sharing arrangement currently 33.3% seine: 66.7% gill net. May need to review

ⁱ Area 25 fishery (potential for future review. 75% fishery to Area D (e.g. Conuma Bay fishery); potential 5% to Area E if future surplus at Nitinat; otherwise default to Area D)

^j winter troll fishery

12.5 TEST FISHING

DFO uses a range of methodologies to determine in-season stock abundance and composition. Test fisheries play an essential role in providing information in support in-season abundance estimation, driving determination of TACs and ensuring that conservation objectives are met in fisheries management. Since the 1980's, the Minister of Fisheries and Oceans regularly assisted industry to finance their part of collaborative science and management activities through use-of-fish arrangements. This ended in June 2006 when the Federal Court of Appeal ruled that the

Minister of Fisheries and Oceans did not have this authority under the existing Fisheries Act. To avoid significant disruption of the most critical collaborative science activities (where allocation of fish had been a key component), \$58 Million of relief funding over 5 years (2007-2012) was provided while a new legislative authority was established. In 2012, an amendment to the Fisheries Act granted the Minister the authority to allocate fish for financing purposes.

DFO adopted a two track approach and will collaborate with First Nations and stakeholders to implement the new regulatory authority.

Track one includes a transition, where feasible for existing projects previously funded by Larocque relief funding to the new use-of-fish authority for a period starting April 1, 2013 pending completion of Track 2.

Track two includes the development of a national policy framework to provide a standardized, rigorous and transparent process for all existing and new project evaluations and approvals.

The only project proposed for the North Coast for 2017 is the Tyee Test Fishery in Area 4 (Skeena River). The North Coast Skeena Stewardship Society will continue to administer the test fishery via a collaborative agreement with the Department.

While an objective of the use-of-fish arrangements is for fish revenues to address program costs, in a number of cases since 2013, low salmon stock abundance has curtailed test fish revenues, and alternative funding arrangements to support programs have been pursued.

DFO will work in close collaboration with resource users to ensure that the fisheries data collections necessary to set TACs and to ensure conservation will continue to be undertaken.

12.6 LICENSING

12.6.1 COMMERCIAL LICENSING

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

<http://www.dfo-mpo.gc.ca/fm-gp/sdc-cps/licence-permis-eng.htm>

To ensure that that you receive email notifications, be sure to include the contact email address for all of the 'organization' profiles (including 'vessel and company organizations') where you are a Contact party. Instructions on updating organization email addresses may be found at:

<http://www.dfo-mpo.gc.ca/fm-gp/sdc-cps/products-produits/management-org-gestion-eng.htm>

Please refer to Section B: Modifying an Organization.

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 email at fishing-peche@dfo-mpo.gc.ca or by calling toll-free at 1-877-535-7307 (7:00AM to 8:00PM Eastern, Monday to Friday).

Information on the National Online system may be found on the DFO internet site at:

<http://www.dfo-mpo.gc.ca/fm-gp/sdc-cps/licence-permis-eng.htm>

Please visit the Pacific Region Licensing website and subscribe to fishery notices for updates on the National Online Licensing System and licensing services:

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

LICENCE RENEWAL

In order to retain the privilege to be issued a commercial licence in the future, it is critical that you renew your licence and pay the applicable licence renewal fees through the online system on an annual basis, whether fishing takes place or not. Should the licence not be renewed by March 31st of the next calendar year, the licence eligibility will cease to exist and DFO will be unable to consider any licence issuance requests in the future.

12.6.2 LICENCE CATEGORY

A salmon licence, category A, N or FA, is required to commercially harvest salmon. Salmon, category A, licence eligibilities are limited entry and vessel-based. Category FA and N licence eligibilities are party based and must be designated to a commercially registered fishing vessel that meets established length restrictions. Category N licence eligibilities are held by the Northern Native Fishing Corporation (NNFC). Category FA is communal commercial licence eligibilities where an aboriginal group is the licence eligibility holder.

Vessels authorized to fish under the authority of a salmon licence are also permitted to fish for schedule II species according to the conditions of each licence, transport fish caught by other vessels and be designated to fish under the authority of a category Z licence.

12.6.3 LICENCE CATEGORY BACKGROUND

Salmon has been a limited entry vessel based fishery since 1969. In 1996 under the Pacific Salmon Revitalization Plan, area and gear selection were introduced in the salmon fishery.

Salmon licensed vessel owners selected a gear and area for each licence eligibility. Gear selections were seine, gill net or troll. Gear selection was permanent. Area selections for seine were area A or B; for gill net, areas C, D or E; and, for troll, areas F, G or H. A vessel may hold only one licence eligibility per area. Area licensing has been a feature of salmon management for the past 10 years with area selections processes in 1996, 2000, 2006 and 2007. Initial area selection was for a four year period.

Licence Stacking was also introduced in 1996 as a method to decrease the number of vessels actively participating in the fishery while allow vessel owners to fish in more than one area or with more than one gear.

12.6.4 LICENCE RENEWAL FEES

Salmon licence renewal fees are available at full fee and reduced rates. Annual licence renewal fees are based on the length of the vessel. Reduced fee eligibilities must be held on vessels owned by aboriginal individuals.

	Vessels under 9.14m	Vessels 9.14m and over	Seine Vessels
Aboriginal Individual	\$ 380.00	\$ 650.00	\$ 2670.00
Non-Aboriginal	\$ 430.00	\$ 710.00	\$ 3880.00

There is no licence renewal fee associated with communal commercial licences.

12.6.5 LICENCE APPLICATION AND ISSUANCE

Renewal of a commercial salmon licence and payment of the fees must be done on an annual basis to retain the privilege to be issued the licence in the future, regardless of whether or not fishing is carried out. Those commercial salmon licenses not renewed by March 31, 2017 will cease and licence issuance requests will be unable to be considered in future.

Prior to licence issuance, vessel owners and/or licence eligibility holders must ensure that:

- 1) Any Ministerial conditions placed on the licence eligibility have been met
- 2) Any conditions of the previous year's licence have been met, such as:
 - Catch reporting requirements (i.e. all trips are closed), and that all harvest logs are submitted. Submit a nil report if no fishing occurred. For further information

contact the Commercial Salmon Catch Monitoring Unit at cscmu-usccs@dfo-mpo.gc.ca; and

- Submission of all fish slips (for further information contact the Regional Data Unit at (604) 666-2716).

Copies of the Nil Reports and Statutory Declarations may be found under 'Additional Licensing Services Forms' on the licensing webpage located at:

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

LICENCE DOCUMENTS

2017/2018 Salmon licence documents are valid from the date of issue to March 31, 2017.

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

For further licencing information see:

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

DESIGNATION OF HARVESTERS TO FISH A COMMUNAL COMMERCIAL LICENCE

Under the *Aboriginal Communal Fishing Licence Regulations*, every person working on a vessel that is fishing under authority of a Communal Commercial Licence must be designated by the First Nation that holds the licence. The designation must be made in writing and include the person's name and reference the Communal Commercial Licence.

First Nations licence holders interested in obtaining an example template to use to designate their fish harvesters may contact a DFO Resource Manager or Pacific Fishery Licensing Unit office

VESSEL REPLACEMENT (CATEGORY A ONLY)

The owner(s) of a commercial Salmon vessel may make an application to replace the commercial fishing vessel. Both the replacement vessel and the vessel being replaced must have a survey on file with the Pacific Fishery Licence Unit (PFLU) or submitted with the vessel replacement application. Vessels must be surveyed according to the Department guidelines.

A salmon licence eligibility may not be split from other vessel based licence eligibilities.

Replacement vessels for salmon licence eligibilities where no stacking is involved remain at exact overall length or smaller of the existing vessel.

Temporary vessel replacement (e.g. total loss of vessel) requests are not eligible for any of the salmon stacking allowances.

STACKING

Processing of salmon licence eligibility stacking applications ends May 31. Stacking applications are not accepted from June 01 to November 30, annually.

A salmon licence may not be split from other licence eligibilities.

Different gear and area licence eligibilities may be combined on one vessel. That is, one vessel may have a salmon gill net licence eligibility and a salmon troll licence eligibility. Multiple licence eligibilities of the same gear may be stacked on one vessel, as each licence eligibility will have a different area. A vessel may not hold more than one licence eligibility for the same area.

An area change request may only be made at the time of submission of an application for licence stacking and the area change may only be made for the licence eligibility that is being stacked. The owner of the receiving vessel must make the request by completion of the applicable section on the form.

Reduced fee category A licence eligibilities may be stacked with either another reduced fee licence eligibility or a full fee licence eligibility, but the receiving vessel must be owned by an aboriginal person.

Category N licence eligibilities may be stacked with any category A licence eligibility, full fee or reduced fee, or another category N licence eligibility, in compliance with all stacking rules except that they will not be tied to the other salmon licence eligibility. Stacking a category N licence eligibility does not result in a change of licence area for the category N licence eligibility.

Category F licence eligibilities may be stacked with any category A or category N licence eligibility or another category F licence eligibility, in compliance with all stacking rules except that they will not be tied to the other salmon licence eligibility. Stacking deadline dates may vary for category F licence eligibilities due to the sign off dates of communal or contribution agreements. Stacking a category F licence eligibility does not result in a change of licence area for the category F licence eligibility.

For the purpose of stacking licenses, a single salmon licence eligibility may be stacked to a vessel that is up to 30% longer in overall length than the overall length of the vessel from which the licence eligibility is being removed.

Salmon licence eligibilities that are married to other licence categories (or another salmon licence) may be stacked, but the additional 30% in overall length is not applicable and the

salmon stacking cannot result in the stacking of other licence categories, except where permitted for that licence category.

Please visit Salmon page for further information if required:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/fisheries-peches/licence-permis-eng.html>

TRANSPORTING

New requirements for commercial vessels transporting salmon have been implemented for the 2017/2018 fishing season. Please see Part III of the commercial conditions of licence for transporting of salmon for additional details and information.

The new transporting conditions for the salmon fisheries include a requirement to submit fish slips for all fish transferred to any commercial vessel transporting salmon; the requirement to maintain a salmon transfer log on board the vessel receiving fish; and a phone-in hail requirement to the DFO Fishery Manager.

The requirement to submit fish slips is currently in place for commercial salmon licence eligibility holders and has previously been a provincial requirement for transport (packer) vessels. It is now a federal requirement for transport (packer) vessels to submit fish slips as a condition of licence.

The phone-in hail is a new requirement for 2017 that will alert DFO fishery managers prior to an opening that the vessel is active for transporting salmon in a fishery and will provide managers a better understanding of the fishing effort during an opening. After each opening, there will also be a requirement to phone the DFO Fishery Manager with information on where the transport (packer) vessel received fish, approximate amount of fish, total number of landings, and the time and location of the final offload. No service provider will be needed to deliver on this requirement in 2017.

The salmon transfer log is a new requirement for 2017; the transport log will identify when, where and from whom fish were received. This transfer log will be required to be on board the vessel and produced for examination when requested by a representative of DFO. The completed transfer log must also be submitted to the Regional Data Unit at the end of the calendar year. No service provider will be needed to deliver on this requirement in 2017. This new condition will complement the existing fish slip program and support improved enforcement of unreported harvests and unauthorized sales in the commercial salmon fishery.

A copy of the salmon transfer log template is available on DFO website at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html>

12.6.6 FISHER IDENTIFICATION NUMBER

Unique Fish Harvester Identification Numbers (FINs) are assigned to all Pacific commercial harvesters. Once the FIN is issued to a fish harvester, it does not change from year to year.

12.7 MANDATORY HARVEST LOG AND IN-SEASON CATCH REPORTING PROGRAM

12.7.1 COMMERCIAL HARVEST LOGS

A mandatory harvest log and in-season reporting program for catch information is required in all commercial fisheries. Harvest logs are a record of fishing activities and are required to be kept under the conditions of licence and can be administered through either a hard copy (paper) logbook version or an electronic (E-Log) version, unless otherwise specified. Commercial salmon harvesters are required to maintain a harvest log of all harvest operations and are responsible for any associated financial costs.

To facilitate reporting of catch information, the Commercial Salmon Advisory Board (CSAB) has identified the following service provider for the paper logbook program for 2017:

Paper logbook Program:

Archipelago Marine Research Ltd. (AMR)
525 Head Street
Victoria, BC
V9A 5S1

Telephone: (250) 383-4535

Fax: (250) 383-0103

Toll Free: 1-877-280-3474

Website: <http://www.archipelago.ca>

Email: SalmonRegistration@archipelago.ca

Harvesters may also meet their reporting licence conditions through the E-log Program. The service provider for the E-log Program in 2017 is:

E-log Program:

M.C. Wright and Associates Ltd.

Telephone: (250) 753-1055

Website: <http://www.mcwrightonline.com>

Email: support@mcwrightonline.com

To make arrangements for their 2017 harvest log requirement, harvesters are required to enlist the services of one of these identified service providers. Sample logbook pages are provided in [Appendix 1](#).

The key change to the logbook templates for all salmon licence areas in 2017 is a line in the daily catch record to provide the vessel master name, F.I.N. and signature in compliance with the licence conditions. The logbook example page will be updated in [Appendix 1](#) with this change in the final IFMP.

Harvesters can continue to use their existing E-logs as long as software changes are not required to meet licence conditions. If software changes are required to meet licence conditions, harvesters can select to use a paper logbook or arrange to pay for any associated costs for software updates with a service provider.

The Department has been working with the Canadian Pacific Sustainable Fisheries Society to address conditions set out in the Marine Stewardship Council action plan for the continued certification of BC pink, chum and sockeye salmon fisheries. Several conditions within the action plan identify the need for improved reporting of catch, particularly in reference to Endangered, Threatened and Protected species. The harvest logs have been updated and include additional materials for identifying groundfish, seabirds, and marine mammals at the species level. Harvesters are encouraged to provide the correct identification of all catch to the species level in the harvest logs and when submitting catch reports to the service provider.

12.8 NON-RETENTION SPECIES

All opening announcements will contain the species that will be allowed to be retained, and those which must be released to the water with the least possible harm. The fishing season will begin with the following non-retention rules in place:

Species	Non-retention fisheries
Steelhead	All commercial fisheries
Chum	Troll, seine and gill net in Areas 4 and 5
Chinook	All seine fisheries

In-season management actions may take place to include other non-retention species or allow retention of some species that show in-season strength.

12.9 RETENTION OF LINGCOD BY SALMON TROLL

To help meet the conservation and sustainability objectives under groundfish integration, an individual transferable quota (ITQ) management system has been established for the lingcod fishery.

Implementation of an integrated commercial groundfish fishery has monitoring and reporting requirements for those wishing to retain Lingcod while salmon trolling. As in previous years, all vessels wishing to retain any amount of lingcod must have their fish validated through the established Dockside Monitoring Program. In addition to this, any vessel wishing to land lingcod must hold or acquire sufficient quota to cover catch.

Requirements include the following (less than 500 lbs. of lingcod per trip):

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

Vessels wishing to retain and land **more than 500 lbs.** per trip of lingcod must, in addition to all of the above, meet the electronic monitoring requirements described in the Groundfish Integrated Fisheries Management Plan.

12.10 SELECTIVE FISHING / CONSERVATION MEASURES

In 2017, the Department will work with Area Harvest Committee representatives to continue to implement selective fishing measures to avoid non-target fish or, if encountered, to release them alive and unharmed. These measures include but are not limited to: the use of troll plugs, Alaska twist gill nets, maximum gill net set time and net length, gill net mesh size, gill net depth, brailing for seine vessels, and revival tanks.

12.10.1 OTHER CONSERVATION MEASURES

In 2017, Fisheries and Oceans Canada will once again be seeking the co-operation of harvesters in minimizing fishing activities in Robson Bight. This is part of a long-term management plan to

afford protection to the killer whale populations that frequent this area during periods from mid-May to early October. Fish harvesters are requested not to moor in the Robson Bight area. See Section [5.3.10](#) – Northern and Southern Resident Killer Whales for more information. Information on this management initiative can also be obtained from Department charter patrol vessels on the grounds and from Fisheries and Oceans Canada offices.

12.10.2 ROCKFISH CONSERVATION MEASURES IN SALMON TROLL

BOCACCIO

Based on updated science information and DFO's policy document "Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework", the Department set out a rebuilding plan in 2013 for stepped reductions of total Bocaccio harvest to a target level of 75 tonnes over 3 years (2013-14 to 2015-16). The rebuilding plan accounts for First Nations' priority access for food, social, and ceremonial purposes. The Department has worked with fishing interests to develop measures that will reduce Bocaccio catch and enable stock rebuilding over the long term.

The bocaccio mortality cap for the salmon troll fishery is 3.6 tonnes and beginning in 2013/2014, the salmon troll fishery has been subject to daily limits specifically for Bocaccio (please refer to Conditions of Licence for details).

More information on the Bocaccio Rebuilding Plan is available in Appendix 9 of the Groundfish IFMP located at:

<http://www.dfo-mpo.gc.ca/Library/361424.pdf>

Subsequent to the introduction of the rebuilding plan, in November 2013, the Committee On the Status Of Endangered Wildlife In Canada (COSEWIC) reassessed Bocaccio as "Endangered".

As such, the federal government is required to consider listing Bocaccio under SARA. This work will include engagement with stakeholders and First Nations.

YELLOWEYE

Based on updated science information, the Department has set out a near term plan for stepped reductions of total Yelloweye outside population harvest from the estimated total catch mortality of 287 MT in 2014 to a mortality cap of 100 MT over 3 years (2016-17 to 2018-19).

Taking into consideration advice provided by fishing interests, the Department has introduced management measures to make steps towards the mortality cap described above and is continuing to have discussions to define more comprehensive plans for achieving the 100 MT

mortality cap. As retention of Yelloweye is already prohibited in the salmon troll fishery the Department is focusing on improved reporting and avoidance of Yelloweye in this fishery.

Additional information is available in Appendix 9 of the Groundfish IFMP located at:
<http://www.dfo-mpo.gc.ca/Library/361424.pdf>

12.11 COMMERCIAL FISHERIES

Details regarding specific commercial fisheries are contained in the Section [13](#) - Species Specific Salmon Fishing Plans.

12.12 COMMERCIAL DEMONSTRATION FISHERIES

The Department has conducted extensive consultations with the commercial salmon industry and First Nations concerning fisheries reform and renewal. Changes in the fishery will be designed to improve biological and economic performance of the fishery.

In an ever-changing environment such as resource conservation, a group may want to explore special harvesting initiatives or new management approaches to develop flexible fisheries with greater harvester control that improve product quality, increase value to the fleet and have better catch monitoring and compliance with catch limits.

The Department is interested in continuing to explore innovative ways to access TAC more efficiently, to increase market value of the product, or to access TAC that may be unavailable due to conservation concerns or that a full fleet fishery is unable to access.

To contribute to the Pacific Fisheries Reform vision, the Department will consider demonstration projects that support alternative management strategies that:

- Maintains or improves management control and conservation performance in the fishery;
- Promotes the use of clearly defined shares to improve manageability and industry viability; and
- Increases the ability of harvesters to work cooperatively to harvest available surpluses and to take on greater responsibility for control and monitoring of their fishery.

Details regarding demonstration fisheries that the department is considering are contained in Section [13](#) - Species Specific Salmon Fishing Plans.

In addition to existing demonstration fisheries within Section 13, additional opportunities to demonstrate flexible harvest arrangements were initiated in 2016 in support of updates to the Commercial Salmon Allocation Framework (CSAF). Guidelines and principles associated with work to update the CSAF as well as CSAF demonstration fishery proposals received for consideration in 2017 are included in Appendix 6.

12.12.1 REVIEW OF TRANSITION OF FIRST NATION INLAND DEMONSTRATION FISHERIES TO REGULAR COMMERCIAL FISHERIES (2017 IFMP)

In 2014, an independent review and evaluation of the Pacific Integrated Commercial Fishing initiative (PICFI) was completed by Malatest and Associates and a number of recommendations were made. A full copy of the report is available at:

<http://www.dfo-mpo.gc.ca/ae-ve/evaluations/15-16/6B172-eng.html>

Recommendation four was related to move from demonstration fisheries to regularized fisheries. In response to the review, the Department will initiate discussions to explore the recommendation of developing a transition strategy for the in-river First Nation demonstration component of PICFI. The Department intends to develop evaluation criteria which may provide for an opportunity to transition Inland First Nations Demonstration fisheries to regular commercial fisheries in the future.

The Rationale for this recommendation was that the “continued testing of transferable salmon shares in marine and freshwater environments” was planned to be conducted on a "demonstration" basis with the intent to incorporate into a regularized commercial fishery upon the sunset of PICFI.

The Department intends to outline next steps to support this work in 2017-2018. This work is intended to improve consistency and transparency in how the Department assesses, implements, and reviews demonstration fisheries while supporting integrated commercial fisheries consistent with the vision and principles of Pacific Fishery Reform. Any recommendations for next steps will be included in the 2018-2019 IFMP to allow for wider feedback and consultation with First Nations and stakeholders.

12.13 TRANSFER GUIDELINES FOR THE TEMPORARY TRANSFER OF COMMERCIAL SALMON SHARES

In consideration of discussion with the First Nations Salmon Coordinating Committee and the Commercial Salmon Advisory Board updates are being proposed to the transfer guidelines. Based on feedback received through the draft IFMP, these guidelines may be updated and

implemented starting in the 2017 season. To ensure the fulsome and accurate information are included in the transfer guidelines; they will be included for review annually within future IFMPs.

These guidelines address the transfer of commercial salmon shares between the following groups:

- a) Area A-H Fishery participants with a defined percentage share of the commercial TAC
- b) Area A-H fleets or portions of fleets or individual licences
- c) Marine Demonstration Fishery participants
- d) In-river Demonstration Fishery participants
- e) First Nations with one or more Area A-H licences
- f) First Nations entities who are signatories to current arrangements or area provided communal licences allowing sale that provides a defined commercial share of salmon for the given year including;
 - Economic Opportunity agreements
 - Harvest Agreements
 - Demonstration Fisheries

Transfers of harvest shares may occur when there is a formal arrangement outlining possibilities as defined by the Guiding Principles and Operational Considerations below, (approved by DFO) between the original share-holders and the recipient. Requests can include transfer from downstream to upstream locations, and vice versa. These arrangements should identify mechanisms pre-season that will be used for transfers to ensure proper management and accounting of shares (Actual transfers may occur in-season; e.g. between ITQ fishery participants using established transfer request processes). For transfers of commercial licences, arrangements will need to be made in advance of the fishery opening for which the transfer is intended to apply to ensure appropriate allocations associated with the licence can be set aside.

In-season proposals to transfer uncaught commercial Total Allowable Catch (TAC) allocations between the above groups will reviewed and DFO will determine whether to allow the transfer of some or all of the uncaught TAC.

Requests for temporary transfers of commercial salmon shares will be reviewed with consideration to the following general principles and the operational considerations identified below.

A) Guiding Principles for Temporary Transfer of Salmon Shares:

- 1) Result in similar or better management control and/or conservation performance in the fishery (both for target and by-catch species/stocks)
- 2) Consistent with conservation measures and allocation approaches (if any) for stocks of concern, including by-catch species/stocks;
- 3) Respect existing aboriginal and treaty rights and the priority of Food, Social and Ceremonial access.
- 4) Consistent with international obligations;
- 5) Consistent with objectives and management measures outlined in Salmon Integrated Fishery Management Plans;
- 6) Respect the Common property nature of the fisheries resource: subject to Principle 3, access to the resource does not imply ownership of the resource or any portion of the resource, and is not conferred irrevocably to individuals.
- 7) Support opportunities to utilize Canadian commercial total allowable catch while respecting conservation requirements.
- 8) First Nations commercial fisheries and Area A-H commercial fisheries conducted in tidal waters will be managed under common and transparent rules for each gear type. For example, First Nations commercial troll fisheries conducted in tidal waters where Area F licences are permitted to operate will be managed in accordance with the same rules as the Area F commercial fishery for those tidal waters.
- 9) First Nations commercial fisheries conducted in non-tidal waters will be managed under transparent rules that are consistent with the rules used to manage marine commercial fisheries that target similar stocks associated with that production area.
- 10) Affordable to implement i.e. would not result in any substantive incremental costs to DFO in areas such as monitoring stock assessment and enforcement.

B) Operational Considerations Regarding Requests for Temporary Transfers:

- 1) Transfers of commercial salmon allocation shares will only occur when there is a Canadian commercial Total Allowable Catch (TAC) (i.e. commercial harvestable surplus) identified for the target stock or species which is available for harvest.

- 2) Transfers of commercial salmon shares between parties will only be considered for commercial fisheries and commercial participants with a clearly defined percentage share of the Canadian commercial total allowable catch.
- 3) In most cases, transfers will be based on a percentage share of the available commercial TAC. Alternate approaches for calculating transfer shares may be considered.
- 4) In-season transfers may occur if pre-season plans outline possibilities. For share transfers between Area A-H commercial fisheries, individual salmon shareholders or groups of salmon shareholders; the mechanism (e.g. tracking, management and accounting of shares) for facilitating transfers needs to be described and agreed upon by all parties to the arrangement and DFO pre-season. Individual commercial licence holders or groups of commercial licence holders will not be permitted to make their own allocation transfer arrangements unless these are part of a pre-season plan approved by the Department.
- 5) DFO will not be responsible for leading or facilitating the negotiation of transfer arrangements between parties.
- 6) For commercial salmon licences held by the Department, individual licence allocations will be based on an equal percentage allocation of the commercial TAC for all licences in that commercial licence area (i.e. Areas A to H).
- 7) If, despite the best efforts of any commercial harvest group, it becomes apparent that it will be unable to harvest its share, and no mechanisms are in place that would permit the transfer of the share to another commercial harvest group, the Department may consider transfers of uncaught commercial harvest shares to any other commercial harvest group already holding a clearly defined percentage share of the Canadian commercial total allowable catch, on a case by case basis, assuming that harvest can occur using fishing methods, times and locations permitted for that commercial harvest group.
- 8) Transfers of commercial salmon allocations must consider shares of all stocks that will be harvested in the recipient area.
 - a) Allocations transferred inland will be reduced proportionately to reflect the reduced stock composition in the more terminal harvest location (e.g. Area F troll licence shares allocated to the Kamloops Lake inland demo fishery will be only for the proportion of Thompson chinook encountered

in the marine commercial troll fishery). Alternative approaches may be considered in specific circumstances (e.g. allocation may not be proportionally reduced if harvest of an allocation in a terminal area reduces impact on stocks of conservation concern). DFO will document the rationale for its decision and make it publicly available.

- b) For co-migrating stocks or management units of concern or where little or no Commercial TAC has been identified, transfers will need to consider and/or mitigate potential impacts. For example: access to a harvest share of Fraser pink salmon might require the fishing group or individuals to have some sockeye remaining in their harvest share of co-migrating Fraser sockeye.
 - c) For co-migrating stocks/species or management units of concern where exploitation rate caps or some other limit on mortalities have been defined (e.g. Interior Fraser River coho), the parties to the transfer arrangements are responsible for demonstrating that the transfer arrangement will be neutral or of benefit to the stock or management unit of concern (i.e. same or lower impact in the new fishing area). Limiting stocks/species will only be transferred to the extent needed to harvest the target stock transfer amount with residual amounts being available for the use by all other commercial harvest groups with a share of the targeted stocks.
 - d) Transfers into areas that require management adjustments need to be accounted for in determining TAC (e.g. a similar accounting process to current Fraser sockeye).
 - e) Priority will be given to those proposals that allow shares to be harvested using fishing techniques that are more selective than the original technique, and / or allow harvesting in fishing areas that avoid stocks or management units of concern.
- 9) Harvest of commercial salmon allocations is not guaranteed and actual harvest opportunities may be limited by constraints to protect species or stocks of concern. Commercial fishery participants that demonstrate an ability to fish selectively may be able to access a greater amount of their harvest share.
- 10) Enhanced fisheries monitoring and catch reporting programs must be in place for participants to ensure that there is reliable accounting for both retained and released fish and that harvests do not exceed defined shares. Incremental

monitoring costs will not be assumed by DFO, and will need to be covered by parties to the transfer arrangement.

- 11) Proposals for transfer arrangement must include contingencies for situations where shares are exceeded. Parties not complying with agreed-to arrangements could face enforcement actions.
- 12) Transfers of commercial salmon shares will not be permitted when this may adversely affect First Nations Food, Social and Ceremonial harvest opportunities in the area.
- 13) Surpluses of salmon in terminal areas (i.e. ESSR fisheries) will continue to be managed using existing ESSR guidelines.

All decisions regarding temporary salmon share transfers are one-time only. Unless otherwise communicated by DFO at the time of the decision, all future transfer requests must undergo new process of application, review and approval from DFO.

There remain aspects of these transfer guidelines which require further discussion. It is the intent of the Department to continue to build areas of agreement and address outstanding concerns through discussions with the First Nations Salmon Coordinating Committee and the Commercial Salmon Advisory Board. Should any additional changes be contemplated, the Department will review proposed changes with the CSAB and SCC and document these in the IFMP. Areas requiring further discussion are outlined below:

- 1) Where fisheries are not operated under individual vessel quota, the CSAB has proposed that the Area Harvest Committee for a specific fleet can determine whether an individual licence holder can make a pre-season transfer of the harvest share associated with their licence to another Area A-H licence or a First Nations commercial fishery.
- 2) Where an individual, portion of a fleet or fleet has attempted to arrange a transfer of their share as outlined in these Transfer Guidelines, the CSAB has proposed that consideration may be given for that individual, portion of fleet or fleet to access their uncaught share in a more terminal location.

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13.1 NORTHERN CHINOOK SALMON FISHING PLAN

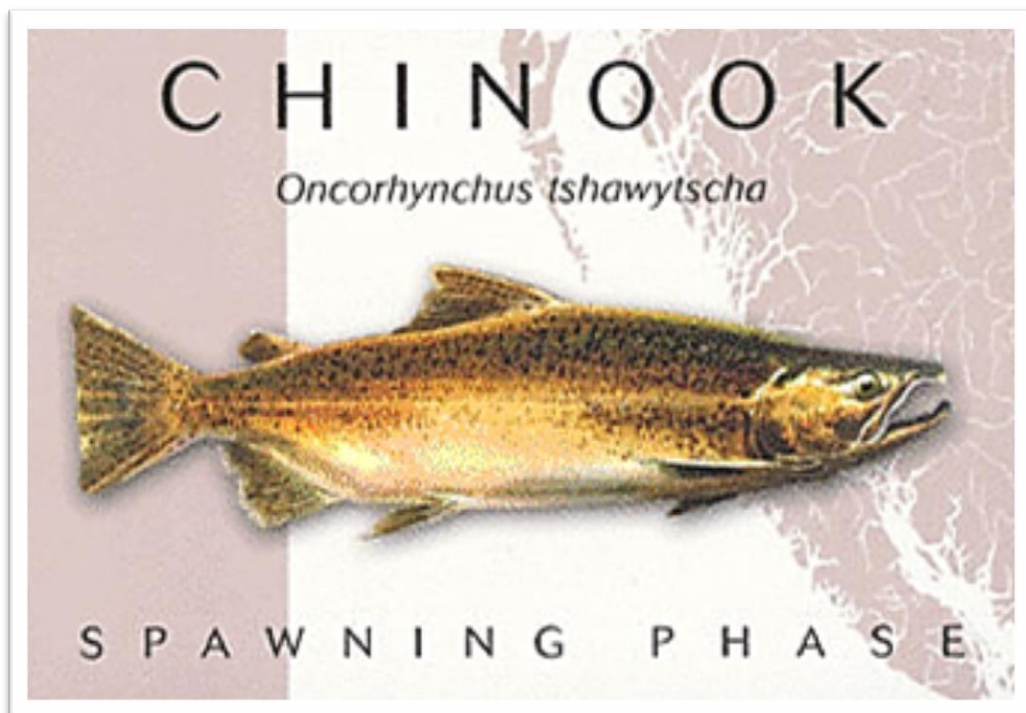
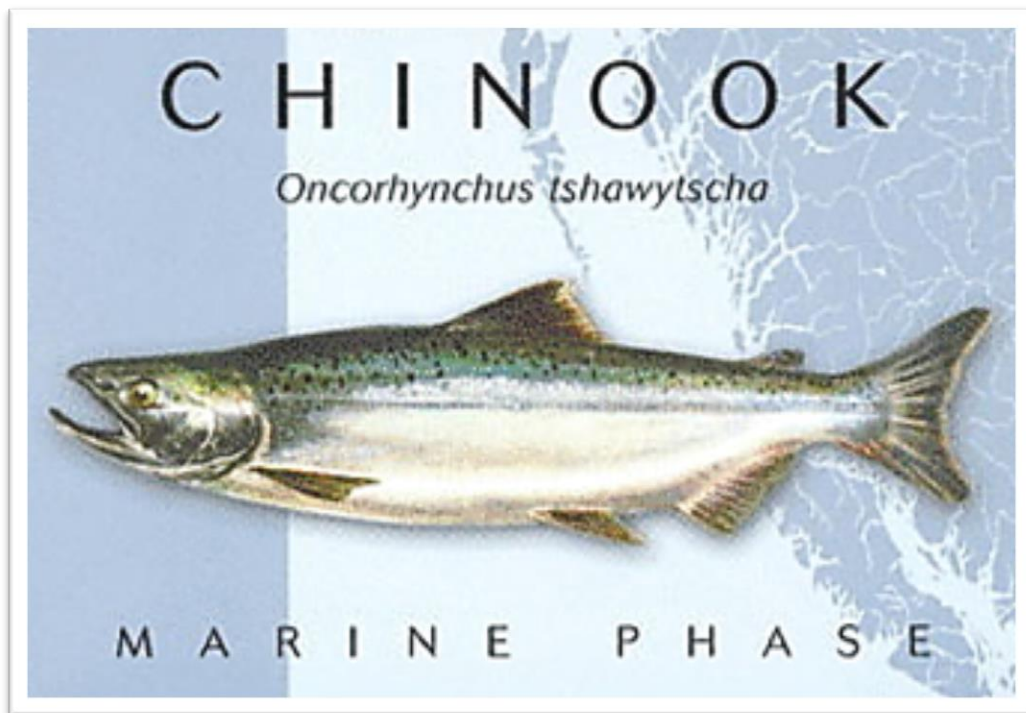


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13.1.1 NORTHERN CHINOOK OVERVIEW

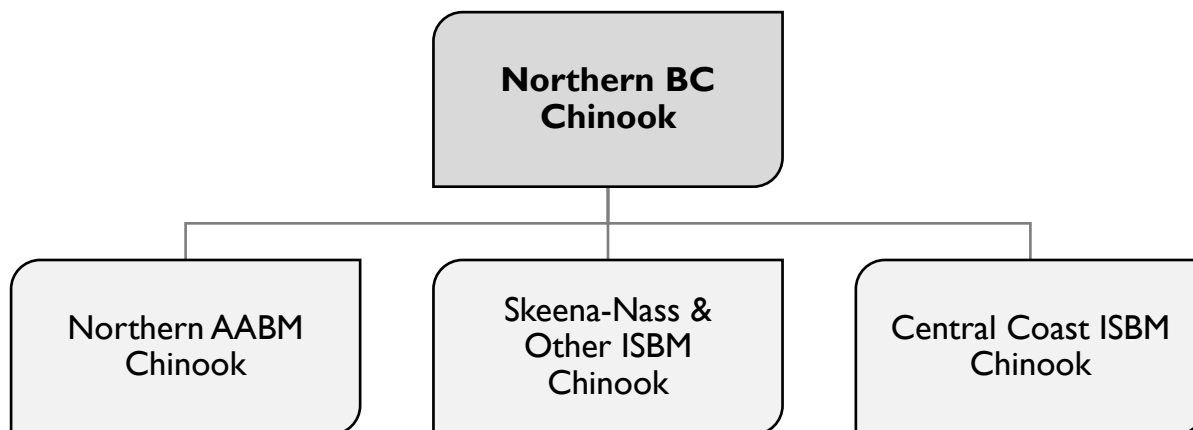


Figure 13.1-1: Overview of Northern Chinook Salmon

Chinook salmon fisheries in British Columbia are managed under the umbrella of the Pacific Salmon Treaty (PST) between Canada and the United States of America. Canada's domestic management considerations include stocks of concern, allocations between sectors, and application of selective fishing practices.

With the exception of the Transboundary Rivers, the basis for managing fisheries impacting chinook salmon from Alaska to Oregon is the chinook abundance-based management system in Chapter 3 of the PST. This management system was adopted in 1999 and defined harvests of chinook through 2008. Chapter 3 of the PST was revised for implementation in 2009 to maintain the abundance-based management framework established under the 1999 Agreement until 2018. This chapter is currently being re-negotiated prior to renewal in 2018.

Further explanation and the text of the chinook salmon agreements can be found on the PSC website at:

<http://www.psc.org/Index.htm>.

Accounting of chinook salmon fisheries for the PST occurs from October 1 in one calendar year, to September 30 in the next calendar year.

Two types of fisheries are identified in the PST, Chapter 3:

- Aggregate Abundance Based Management (AABM) fisheries; and
- Individual Stock Based Management (ISBM) fisheries.

Within the PST chinook management framework, Canadian domestic policy further defines fishing opportunities. The domestic objectives or policies which affect fishing opportunities include: conservation, Canada's constitutional obligations to First Nations, the Wild Salmon Policy (WSP), An Allocation Policy for Pacific Salmon, and the Policy for Selective Fishing in Canada's Pacific Fisheries.

13.1.1.1 OVERVIEW AABM FISHERIES

Chinook salmon fisheries implemented under the PST AABM management regime include three mixed-stock fisheries:

- Southeast Alaska recreational, net and troll (SEAK)
- Northern British Columbia troll and Haida Gwaii (Queen Charlotte Islands) recreational (NBC); and
- West Coast of Vancouver Island troll and outside recreational (WCVI).

These fisheries are managed to an annual total allowable catch (TAC) based on the forecast abundance of the aggregate of stocks that contribute to each fishery. Annual quotas for each AABM fishery are developed by prediction of chinook salmon abundance based upon a cohort analysis model. For NBC fisheries, a single AABM quota is applied to troll fisheries Pacific Fishery Management Areas (PFMA) 1 to 5, 101 to 105 and 142 and to recreational fisheries in PFMA's 1, 2, 101, 102 and 142.

In Canada, conservation is the first priority in fisheries management. Once conservation obligations are met, priority access is given to First Nations for food, social, ceremonial, and treaty requirements. Once those obligations are met, priority access to chinook salmon is provided to the recreational fishery, with commercial fisheries next in priority. Once the AABM quota is defined for the combined troll and recreational fishery, the projected recreational catch is subtracted from the TAC, with the remainder allocated to the troll fishery. Thus, the troll fishery is the first fishery to be impacted if stocks of conservation concern require management actions in NBC fisheries. Management constraints to the fishery include management for stocks of conservation concern, minimizing encounters of undersized chinook salmon and non-target species and minimizing fisheries where legal and sublegal-sized chinook salmon have to be released.

Canadian chinook fisheries in all other areas of the North and Central Coast are managed as ISBM fisheries.

13.1.1.2 OVERVIEW ISBM FISHERIES

Under the PST, an ISBM fishery is an abundance-based regime that constrains to a numerical limit the total catch or the total adult equivalent mortality rate within the fisheries of a jurisdiction for a naturally spawning chinook salmon stock or stock group. For Canadian ISBM fisheries, the agreement identifies a general obligation that limits the total adult equivalent mortality rate across all fisheries for individual stock groups to 63.5% of that which occurred in the 1979 to 1982 base period.

ISBM management regimes apply to all chinook salmon fisheries subject to the PST that are not AABM fisheries and include marine and freshwater salmon fisheries from northern British Columbia to northern Oregon coast. ISBM fisheries for chinook salmon in the North and Central Coast include all First Nations fisheries in both marine and fresh waters, all commercial gillnet and seine fisheries, all freshwater recreational fisheries, marine recreational fisheries in PFMA's 3 to 10, 103 to 110 and 130, and troll fisheries in PFMA's 6 to 10, 106 to 110 and 130.

13.1.1.3 NORTHERN CHINOOK ENHANCEMENT INFORMATION

The major DFO operation enhancement facilities that produce chinook are:

- BC Interior:
 - Shuswap River hatchery
 - Spius Creek hatchery
- BC North Coast:
 - Kitimat River hatchery
 - Snootli Creek hatchery
- BC South Coast:
 - Big Qualicum River hatchery
 - Conuma River hatchery
 - Little Qualicum River hatchery
 - Nitinat River hatchery
 - Puntledge River hatchery ◦ Quinsam River hatchery ◦ Robertson Creek hatchery
- BC Lower Fraser:

- Capilano River hatchery
- Chehalis River hatchery
- Chilliwack River hatchery
- Tenderfoot Creek hatchery

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries.

There are two datasets available: **Post-Season Production** from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release), and the **Production Plan**, which includes proposed targets for the upcoming 2017 brood year.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>.

There are two chinook salmon exploitation rate indicator stocks in the North Coast that rely on hatchery production of coded wire tagged fry. The Atnarko River chinook indicator stock is produced at the Snootli Creek hatchery and the Kitsumkalum River chinook indicator stock is produced at the Deep Creek hatchery. Deep Creek hatchery does not appear in the list above since it is not a production facility and the fish are raised for assessment purposes only.

13.1.2 NORTHERN AABM CHINOOK

13.1.2.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

An AABM fishery is an abundance-based regime that constrains catch or total mortality to a numerical limit computed from a pre-season forecast of abundance, from which a harvest rate index can be calculated, expressed as a proportion of the 1979 to 1982 base period. Although in-season estimates of abundance are permitted under the PST, none have been approved by the Chinook Technical Committee (CTC) for use in AABM fisheries.

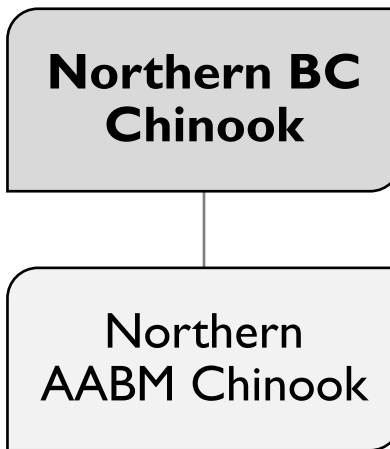


Figure 13.1-2: Overview of Northern AABM Chinook

The Northern AABM fishery includes commercial troll caught chinook salmon in Pacific Fishery Management Areas 1 to 5, 101-105 and 142 and AABM recreational chinook fisheries in Haida Gwaii (QCI) in Areas 1, 2, 101, 102 and 142.

The AABM chinook fishery targets Canadian and U.S. origin wild and enhanced chinook populations. The main components of the harvest are U.S. and Fraser origin chinook, however, most BC chinook conservation units may be encountered in this area. Most of the catch consists of mature fish migrating to spawn but a small portion of the catch includes immature or rearing fish (feeders).

13.1.2.2 STOCK ASSESSMENT INFORMATION

13.1.2.2.1 Pre-season

Stock outlooks that may influence the conduct of NBC AABM chinook fisheries

Conservation Unit	Stock Outlook for 2017
WCVI Chinook	<p>Overall returns in 2017 will likely decline relative to levels observed in 2016. Observed returns of earlier age classes and ocean and leading species indicators of marine survival rate for the 2013 and 2014 brood years are low. In contrast, the survival rate for production from the 2012 brood year was high. Therefore a relatively abundant return of the 5-year old age class is expected. (2016 Outlook Category was 3.)</p> <p>Wild populations have been well below target for several generations showing limited or no signs of rebuilding. While in recent years stocks in the NWVI CU showed moderate improvement, this trend is not generally observed in SWVI populations; particularly those from Clayoquot Sound. Expectations are for continued low abundance in 2017. (2016 Outlook Category was 1)</p>
Fraser River Spring and Summer 52 Chinook	<p>The Outlook is low. Expectations are for continued overall low abundance related to depressed parental escapements and continuing unfavorable and highly variable marine survival conditions. Abundance estimated in-season based on Albion test fishery CPUE.</p>

The Chinook Technical Committee (CTC) provides a final calibration of the Chinook Model annually. The completed calibration provides the Abundance Indices (AI) that are required for determining the pre-season estimated allowable catches for the three AABM fisheries.

Effective January 1, 2009 the renegotiated PST terms were put into effect including, the implementation of a 15% reduction in Southeast Alaska (SEAK) and a 30% reduction in the Total Allowable Catch (TAC) for the WCVI AABM. No reductions were applied to NBC fisheries.

Pre-season Abundance indices and associated allowable catches for the October 1, 2016 to September 30, 2017 NBC AABM Fisheries:

	SEAK	NBC	WCVI
Abundance Index	1.27	1.15	0.77
Allowable Catch	209,700	149,500	115,300

13.1.2.2.2 In-season

Sport and troll catch and effort in NBC are monitored in-season. Genetic samples are collected from chinook salmon caught in both fisheries and troll fishery samples are analyzed in-season. Troll effort data are monitored to inform the effort based approach to predict WCVI chinook harvest rates by the Area F Troll fishery.

13.1.2.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Within the PST chinook management framework, Canadian domestic policy further defines fishing opportunities. The domestic objectives or policies which will most affect fishing opportunities include: conservation, Canada's constitutional obligations to First Nations, the WSP, *An Allocation Policy for Pacific Salmon*, and the *Policy for Selective Fishing in Canada's Pacific Fisheries*. Domestic conservation concerns may reduce the TAC to levels less than identified under the PST chinook AABM fisheries.

When there is a TAC identified for the AABM management area, targeted chinook fisheries are planned for recreational and commercial sectors. The table below describes management measures that will be taken to minimize impacts on stocks of concern in AABM chinook fisheries.

Table 13.1-1: Stock management actions anticipated in Northern British Columbia AABM Chinook fisheries to limit impacts on stocks of concern

Stock of Concern (constraint)	First Nations (FN) Fishery	Recreational Fishery	Commercial Fishery
WCVI Chinook	No impacts on First Nations fisheries anticipated	No impacts on recreational fisheries anticipated	Area F – restrictions in the North Coast troll fishery to limit ER to 3.2%. Time and area closures and effort limits
Fraser River Spring 52 and Summer 52 Chinook	No impacts on First Nations fisheries anticipated	No impacts on recreational fisheries anticipated	Proposed start date delayed until June 21st if returns are in management zone 1

The Department manages the Area F chinook troll fishery to limit its catch of WCVI chinook to 3.2% of the return to Canada. Between 2003 and 2013, in-season DNA analysis of the stock

composition of the catch and the pre-season WCVI forecast was used to manage to this objective. WCVI forecasts have been problematic, with a significant low bias in the forecast error over the past decade. In 2014, the Department developed and implemented an in-season management tool to estimate the WCVI harvest rate using the historical daily fishing effort to daily WCVI harvest rate relationship derived from historical DNA-based stock composition estimates and post-season estimates of WCVI returns to Canada. The Department will continue to use the Effort Harvest Rate Management Tool, which is independent of the WCVI pre-season forecast, to manage the 2017 Area F chinook fishery to the 3.2% WCVI exploitation rate. In addition, the fishery will be spatially constrained to the recent past's chinook fishing area and temporally constrained by closures during part of August when WCVI are known to be more prevalent. The Department will continue to collect and analyze DNA samples from the catch which will be used for post-season identification of stock composition in the catch and post-season evaluation of management objectives.

The projected catch of chinook by the Haida Gwaii recreational chinook fishery for 2017 is 41,000 and will be re-assessed in-season. If the in-season estimate of total annual recreational catch is expected to be less than the forecasted amount, a portion of the total AABM TAC may be reallocated to the troll fishery. In this case, the amount will be divided up amongst licences based on their in-season proportion of the troll TAC, after all transfers have been taken into account.

13.1.2.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO AABM CHINOOK FISHERIES

AABM fisheries may be subject to constraints due to concerns for specific domestic stocks and or co-migrating species (such as coho) as described in the table below.

Fishery Period	Risk of impact on stocks of concern
Oct. – Jan	Low risk. This period is outside the migration timing and area for stocks of concern such as WCVI chinook, Fraser River Spring 42 and Spring and Summer 52 chinook.
Feb. – June	Moderate risk. Specific concerns for WCVI, Fraser River Spring 42 and Spring and Summer 52 chinook as these stocks are prevalent during this period. Risk declines into June as the majority of Fraser River Spring stocks have migrated out of the area by the third week of June. Impacts on WCVI chinook are reduced by time and area restrictions.

Fishery Period	Risk of impact on stocks of concern
July	Low-Moderate risk. WCVI chinook may be avoided by area restrictions. Additional restrictions may be implemented in-season to ensure that the NBC troll does not exceed 3.2% ER limit on WCVI chinook. Fisheries are concentrated on abundant stocks that migrate through outside management areas in late June and into July to reduce incidence on stocks of concern.
August	Moderate risk. Specific concerns for WCVI chinook as peak migration of this stock through the area occurs during August. Reduced NBC troll chinook fishing opportunities during August.
September	Low Risk. WCVI chinook may be avoided by area restrictions. Risk declines through September as most stocks of concern have migrated out of the area in September.

Given the poor outlook for Fraser River Spring 52 and Summer 52 chinook in recent years, the Department has planned a cautious management approach at the start of the season based on returns less than 45,000 (zone 1-please see Southern B.C. IFMP for further details on Zone 1 management). Fishery restrictions are then reviewed in mid-June based on the in-season abundance of chinook at the Albion test fishery and estimated abundance of Fraser River Spring 52 and Summer 52 chinook returns. Troll fisheries will remain closed for the first three weeks of June due to weak stock concerns for Fraser River Spring 52 and Summer 52 chinook. Please refer to Southern BC Salmon IFMP for more information.

Under zone 1 management for Fraser River Spring 52 and Summer 52 chinook the Area F troll fishery would open June 21st. The opening date may move as early as June 15th if the status of returns of Fraser River Spring 52 and Summer 52 chinook is upgraded to zone 2 in early June. The closing date will be determined in-season using an effort harvest rate relationship to manage the WCVI chinook 3.2% exploitation rate. All chinook must be unloaded and validated within 5 days of the closure date. The fishery will be further constrained by a closure in August to protect weak stocks of WCVI chinook as this period is known to have high proportions of WCVI in the catch. The chinook fishery is expected to re-open at the end of August, provided the estimated exploitation rate of WCVI remains below the 3.2% ceiling, and close on September 30th.

13.1.2.5 ALLOCATION AND FISHING PLANS

13.1.2.5.1 First Nations Fisheries

Food, Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are no Treaty fisheries for Northern AABM chinook.

13.1.2.5.2 Recreational Fisheries

Sport fisheries in Canada receive priority access over commercial fisheries to chinook salmon. Two of the largest recreational fisheries in Northern BC (NBC) occur in Haida Gwaii and Chatham Sound. NBC recreational fisheries experienced significant growth until 2005 when they reached a maximum catch of 82,000 chinook. Since that time, catches have fluctuated between 40,000-55,000 chinook salmon annually.

Sport fisheries in Haida Gwaii and Chatham Sound are mixed stock fisheries and migrating stocks of chinook salmon originating from Alaska to California are encountered. In North Coast tidal waters, the minimum size limit for chinook salmon is 45 cm, the daily limit is 2 and the annual limit is 30. The open time is April 1st to March 31st. The possession limit for salmon is twice the daily limit.

AABM recreational chinook fisheries occur primarily in the tidal waters surrounding Haida Gwaii, with the majority of effort focused along the shoreline from Masset to Langara Island in Area 1 and between Englefield Sound and Port Louis in Area 2W. Recreational fishing occurs primarily between May and September with peak effort and catch occurring in July and August. The daily aggregate limit for salmon is four (4) per day, and a maximum of 2 of which may be chinook. The recreational fishery targets chinook of mixed stocks primarily from the southern U.S. The average annual catch of chinook over the past 5 years has been approximately 45,250 chinook salmon.

Updates to recreational fisheries are provided via Fishery Notice and published on the recreational fisheries website at:

<http://www.bcsportfishingguide.ca>

Fishery Monitoring and Catch Reporting

In Haida Gwaii, DFO has been collecting recreational catch data through the Lodge Log Book Program and the Haida Creel Program since 1995. Participation in monitoring and reporting of recreational catch in Areas 1 and 2 has been excellent over the past 25 years. Monitoring is continuing to improve with region-wide initiatives.

13.1.2.6 ALLOCATION

For PST purposes, the accounting year for chinook runs from October 1 to September 30 of the following year. The allowable AABM northern B.C. total allowable catch (Management Areas 1 to 5) for 2017 is 149,500.

13.1.2.6.1 Recreational Fisheries

The expected harvest of chinook by the Haida Gwaii recreational chinook fishery will be approximately 41,000 pieces. The recreational expected harvest will be re-assessed in-season. If the in-season estimate of total annual recreational catch is expected to be less than the forecasted amount, a portion of the total AABM TAC may be reallocated to the Area F troll fishery. If this is the case, the amount will be divided up amongst licences based on their in-season proportion of the troll TAC, after all transfers have been taken into account.

13.1.2.6.2 Commercial Fisheries

The preliminary Area F troll allowable catch will be 108,500 (The total AABM for northern BC minus the recreational expected harvest).

Specific Conservation Measures:

The opening of the fishery will be delayed to June 21 under a Zone 1 management strategy measure to reduce impacts on Fraser River Spring and Summer 52 chinook. The fishery will be further restricted by area and time closures to restrict impacts to a maximum 3.2% harvest rate objective on WCVI chinook.

Allocation

The overall TAC for northern BC chinook fisheries is calculated using the Abundance Index (AI) determined by the Chinook Technical Committee of the PSC. The commercial TAC is derived by deducting the expected use by the Haida Gwaii recreational fleet from the overall TAC for northern BC AABM chinook.

The northern BC chinook TAC is usually available in April each year.

Table 13.1-2: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
Northern BC AABM chinook	1, 2E, 2W, 101-105, 130, 142	*	*	100.0% ^a

Notes on chinook allocations (north):

* by-catch provisions

^a Northern BC AABM chinook harvest

AABM Chinook Fishing Plan

Area F Troll Fishing Plan

All dates are anticipatory. Subareas open and hours of fishing will be announced in fishery notices prior to openings.

Please note: All chinook must be validated within 5 days of a chinook closure.

The troll fishery is limited in 2017 to 108,500 chinook. This equates to 450 chinook for each of the approximately 241 Area F trollers based on an Individual Transferable Quota (ITQ) of 1/241 (i.e. 0.4149%). The number of Area F troll licences may be updated prior to licence issuance based on the ongoing troll licence retirement program. The troll fishery will be managed to a maximum 3.2% harvest rate on WCVI chinook.

The chinook fishery will be conducted under the ITQ rules. The fishery will open between June 15th and June 21st depending on the in-season assessment of early Fraser 5₂ chinook and consultations with the Area F Harvest Committee. The fishery will close if the 3.2% harvest rate is reached as determined in-season by the relationship between effort and harvest rate developed from historical DNA catch information. The harvest rate will be validated by CWT and DNA analysis of catch post-season. The fishery will be further constrained by a closure in August to protect weak stocks of WCVI chinook as this period is known to have high proportions of WCVI in the catch. The chinook fishery is expected to re-open at the end of August, provided the estimated harvest rate of WCVI remains below the 3.2% harvest rate, and close on September 30th.

The ceiling on the number of uncaught chinook that can be held on any single licence is the equivalent to the sum of three licence ITQ allocations which equates to 1.25% of the TAC or 1,351 chinook in 2017. The amount of uncaught quota shall be determined by fisher-supplied catch reports, dockside validations or a combination of the two. This is intended to prevent speculation and large scale amassing of quota.

All Areas and Subareas mentioned are subject to change in-season. Below is a list of areas and Subareas expected to open (These dates are subject to on-going consultations.) (Pink salmon will open in conjunction with chinook.):

Subareas 1-1, 101-1, 101-2, 101-4, 101-5, 101-8 to 101-10.

Those portions of Subareas 1-2, 1-3 and 1-7 that are outside and seaward of 1 nautical mile from the Graham Island and Langara Island shorelines (defined at the mean high water mark).

Subarea 1-5, except that portion inside or shoreward of a line commencing at Wiah Point then following the Subarea boundary east for one nautical mile, then running parallel to the mean high water mark of Graham Island at a distance of one nautical mile to a point true north of Skonun point, then running true south to Skonun Point.

Those portions of Subareas 101-3, 101-6 and 101-7 except those portions inside or shoreward of a line commencing at 54°14.976' N and 133°04.386' W then true west for one nautical mile then north and east running parallel to the mean high water mark of the shorelines of Langara Island and Graham Island at a distance of one nautical mile.

That portion of Subarea 2-88 north of 53 degrees 37-minutes north latitude. Subareas 2-92, 2-97, 2-98.

That portion of Subarea 142-2 north of 53 degrees 37-minutes north latitude.

The Frederick Island Rockfish Conservation Area remains closed to hook and line fisheries (see below for description).

Those portions of Subareas 1-1, 101-1 and 142-2 that lies outside a line that: begins at 53 deg 56.246 min N and 133 deg 17.500 min W then true East to 53 deg 56. 246 min N and 133 deg 11.862 min W (Hope Point) then to 53 deg 57.144 min N and 133 deg 07.938 min W (Graham Island) then southerly following the shoreline of Graham Island to the intersection with 53 deg 47.0 min north latitude, then to 53 deg 47.000 min N and 133 deg 10.00 min W thence to the beginning point.

The above boundaries retains the 1.0 nautical mile ribbon boundary in Areas 1 and 101 following the Graham Island and Langara Island shorelines initiating at Langara Island and terminating at Skonun Point. There will be no commercial trolling shoreward of this ribbon boundary.

Fishery Monitoring and Catch Reporting

The Area F troll fishery has three levels of catch monitoring. This includes fisher-reported catch, dockside validation and dockside sampling of catch. The first level of catch monitoring is

provided fishery reported catch logs. Fishers are required to provide a daily record of their catch and releases by species and area within 24 hours of landing their catch. This information is entered into the Fisheries Operating System (FOS) database by a third party service provider.

The second level of catch monitoring is dockside monitoring of chinook landings which is mandatory in ITQ fisheries. Therefore 100% of all offloads containing chinook are required to be validated by a dockside validation service provider. All species are accounted for in these offloads. The third level of monitoring is dockside sampling of catch. This sampling program includes DNA sampling of chinook as well as salmon head recovery in chinook and coho to estimate the stock-specific impacts of the troll fishery.

In accordance with the conditions of the Area F troll license, all vessels are required to bring all chinook and coho heads (or snouts if they are cut properly to include any CWT) to the dock for submission, unless the license is listed in a fisheries notice listing the Area F troll licenses that are exempted from retaining salmon heads during the 2016 fishing season. This fisheries notice is expected to be released prior to the opening of the fishery.

Poor compliance and head retention practices in past fishing seasons led to the requirement that 50% of the Area F troll fleet retain salmon heads to ensure that Canada met its obligation to sample a minimum of 20%. In recent years, salmon head recovery compliance by the Area F troll fleet has improved allowing for a reduction in the number for vessels that retain salmon heads.

For 2017, the exemption rate will be between 70% and 75%. As in past seasons, licences that were insufficiently diligent in carrying out their conditions of license to bring in all chinook and coho heads will not be exempted in 2017.

13.1.2.6.3 ESSR Fisheries

There are no ESSR fisheries for northern AABM chinook.

13.1.3 SKEENA-NASS ISBM CHINOOK

13.1.3.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

The Skeena is the second largest chinook producer on the BC coast, with significant numbers also returning to tributaries of the Nass River as well. Skeena chinook are harvested in all northern BC fishing areas as well as southern Alaskan troll, net and recreational fisheries. Returning adults tend to follow a north to south migration pattern. Peak timing of chinook past the Tyee test fishery is in the last week of June and first week of July, with escapements continuing into late August.

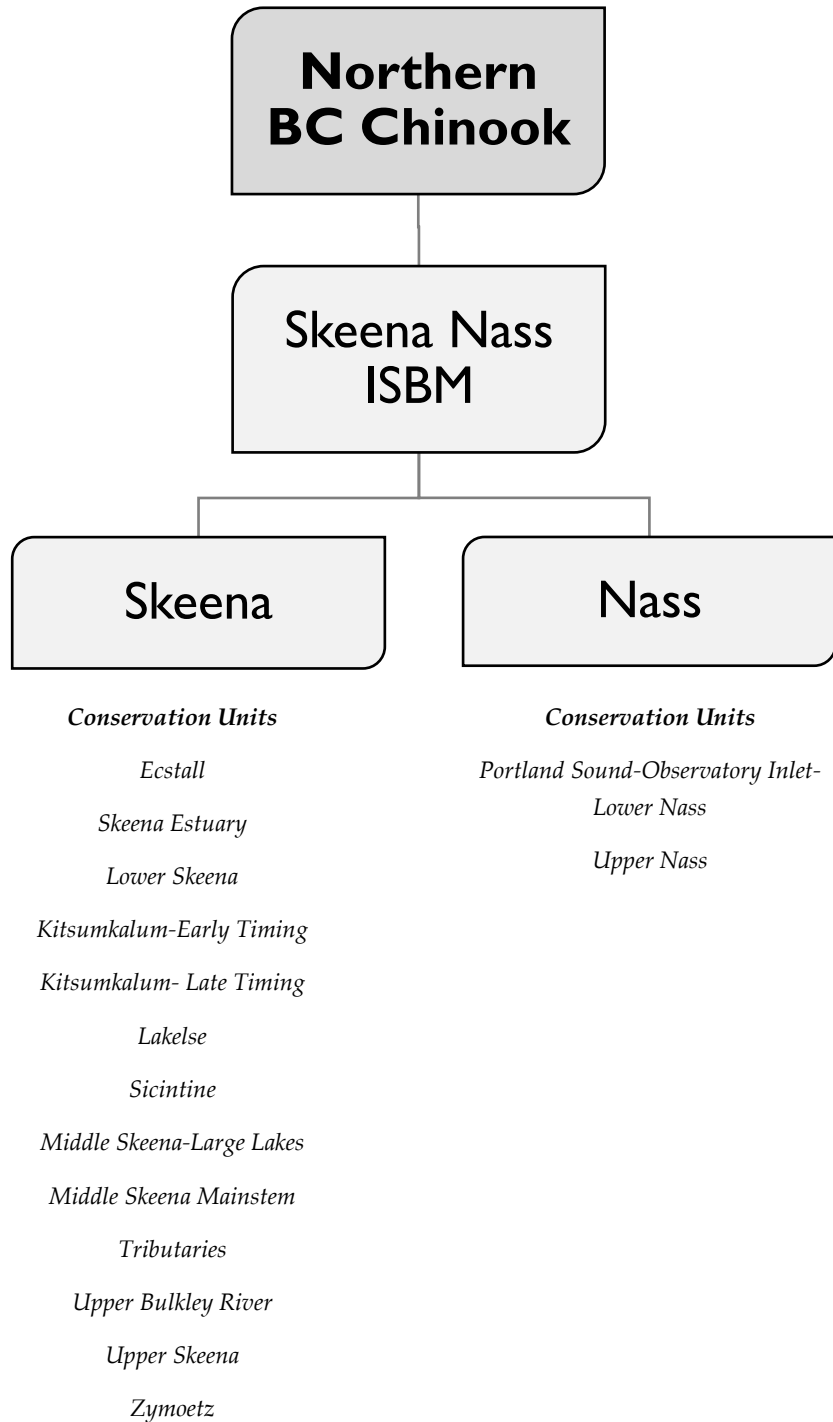


Figure 13.1-3: Overview of the Skeena-Nass ISBM Chinook

13.1.3.2 STOCK ASSESSMENT INFORMATION

13.1.3.2.1 Pre-season

There are no formal pre-season forecasts for Skeena-Nass ISBM chinook stocks. The Outlook for Nass chinook for 2017 is “average” with variable returns in recent years, and the Outlook for Skeena chinook is “average” to “below average” again with variable returns seen in recent years.

13.1.3.2.2 In-season

The status of North Coast chinook stocks is evaluated primarily by observed escapements to individual streams. On the Nass, in-season assessments of chinook stocks are conducted by Nisga’a Fisheries through a mark-recapture program on the Nass River.

The Tyee test fishery is the main in-season stock assessment tool for estimating the relative abundance of Skeena River salmon and steelhead through the use of a multi-panel gill net with varying mesh sizes. Daily in-season escapements and total run size are estimated for sockeye only. Salmon returns are variable and estimates are also subject to error as annual run timing and the annual catchability of salmon by the Tyee test fishery net varies. More accurate estimates of Skeena chinook abundance are based on returns of indicator stocks to the Kitsumkalum River post-season.

13.1.3.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

If the returning run strength is very weak, additional management actions may occur on the commercial and recreational fisheries. These actions could include reduced daily limits in tidal waters, closed times and areas, gear restrictions in non-tidal waters, or monthly quotas in non-tidal waters. Consultation with First Nations and recreational advisors would be taken to determine a course of action to protect the chinook run. Management actions would be in accordance with the allocation policy.

13.1.3.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO SKEENA-NASS ISBM CHINOOK FISHERIES

- Targeted fisheries for Nass chinook occur in Nisga’a Treaty and recreational fisheries.
- There may be increased harvest pressures on Skeena chinook in 2017 to satisfy FSC salmon requirements for Skeena First Nations if Skeena sockeye abundance is poor.

- Opportunities for a chinook-targeted gill net fishery in Area 4 may occur. When abundances permit, this chinook fishery is managed to a maximum catch of 4,000 chinook. Fishing opportunities will be dependent upon stock abundance determined from the Tyee test fishery and CPUEs on the first opening. If average or better abundances are indicated, flexibility will be exercised to facilitate the harvest of the 4,000 chinook by the gill net fleet. It is unlikely that this fishery will proceed in 2017.
- Brailing and sorting, with mandatory release of all chinook will be in place for the seine fisheries in both Areas 3 and 4
- Retention of chinook in the Area 3 gill net fishery may be in place initially but could revert to non-retention if chinook abundance past the fish wheels indicates that the aggregate escapement requirements for upper Nass chinook will not be met.
- Area 4 net fisheries may begin with chinook retention but could be revert to non-retention if chinook abundance is poor.
- Gill nets have a 137 mm (5.39 in) maximum mesh restriction. This restriction is in place so that sockeye is targeted selectively and larger, non-target species such as chinook and chum are impacted to a lesser degree.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.1.3.5 ALLOCATION AND FISHING PLANS

13.1.3.5.1 First Nations Fisheries

Food, Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (see Section [0](#)) is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Specific Conservation Measures for First Nations Fisheries

Protective measures may be considered in terminal areas to reduce harvest impacts. Potential measures will be the subject of discussion with First Nations communities prior to development of fishing plans.

Treaty Fisheries

Nisga'a Fisheries

The Nisga'a Annual Fishing Plan (NAFP) is developed by the Nisga'a-Canada-BC Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final Agreement and the Nisga'a

Harvest Agreement of the Nisga'a Treaty. The Nisga'a Harvest Agreement includes Nisga'a fish allocations expressed as a percentage of the adjusted total allowable catch of Sockeye and Pink salmon. The NAFP is developed in accordance with Chapter 8 of the Nisga'a Final Agreement. Once approved by the Federal Minister of Fisheries, the Nisga'a Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries.

Nisga'a salmon allocations, as defined in the Nisga'a Treaty, are set out as a percentage of the Total Return to Canada (TRTC) up to maximum catch thresholds (63,000 sockeye [10.5%], 6,300 pink [0.6%], 12,600 chinook [21%], 19,200 coho [8%], and 12,000 chum [8%]) in large return years. These Nisga'a salmon allocations have the same priority in fisheries management decisions as domestic [food, social and ceremonial (FSC)] fisheries that target Nass salmon.

The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The NAFP is provided to other Nass watershed First Nations for their information and is reviewed by the JFMC prior to being

submitted to the Minister for approval. Nisga'a Lisims Government is responsible for the internal allocation of catch opportunities between Nisga'a fishers and day to day operation of the Nisga'a fishery.

Pre-season estimates and ranges for the Nisga'a salmon allocations in 2017 are:

Nass chinook: The TRTC 50% probability point estimate from the average of two different pre-season forecast (sibling and 5-year average) methods is **24,000** with a range of point estimates from **19,000 (75% probability estimate) to 31,000 (25% probability estimate)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**10,000**) for Nass chinook, the Nisga'a allocation ranges between **4,000** and **6,500**. The mean TRTC estimate (24,000) will be used for calculating the initial target for the in-season Nisga'a allocation (approximately **5,000**) of Nass area chinook for 2017. The actual allocation target, depending on run strength, may be larger (up to **12,000**), to account for the current cumulative underage (approximately **7,000**) accrued from 2006 to 2016. The cumulative underages would only be targeted in years where adequate abundances are available for harvest, as indicated by in-season assessments.

13.1.3.5.2 Recreational Fisheries

Recreational fisheries in Canada receive priority access to chinook over commercial fisheries. Two of the largest recreational fisheries in Northern BC (NBC) occur in Haida Gwaii and in Chatham Sound. NBC recreational fisheries experienced significant growth until 2005 when they reached a maximum catch of approximately 82,000 chinook. Since that time, catches have fluctuated between 40,000 to 55,000 chinook salmon annually.

The recreational fisheries in Haida Gwaii and Chatham Sound are mixed stock fisheries and migrating stocks of chinook salmon originating from Alaska to California are encountered.

Areas 3 and 4 roughly represent the terminal areas of the Nass and Skeena Rivers respectively. The Nass and Skeena river systems are PSC escapement indicator stocks that drain into Chatham Sound.

Recreational salmon fishing occurs in the tidal waters adjacent to the Nass and Skeena Rivers with the peak of the season being from June to August. The minimum size limit for chinook salmon is 45 cm, the daily limit is 2 and the annual limit is 30. The open time is April 1st to March 31st.

The possession limit for salmon is twice the daily limit.

The Nass River and tributaries are in Region 6 freshwater fishing area, and there are openings for chinook salmon throughout the watershed at different time periods. The minimum size limit

is 30 cm, with daily limits of 4 per day only 1 of which can be over 65 cm. There are also monthly and annual quotas for chinook, that apply to non-tidal waters.

The Skeena River and tributaries are also in Region 6 freshwater fishing area, and there are openings for chinook salmon throughout the watershed at different time periods. On the lower Skeena River mainstem the fishery is open April 1st . On the upper Skeena River mainstem, some sections of the river open in April and some in June. Many of the Skeena river tributaries are closed year-round for chinook salmon. There are also monthly and annual quotas for chinook that apply to non-tidal waters.

For 2017, recreational fishing for all species of salmon in the Skeena River Watershed will be closed, from June 15 to July 14. Recreational fishing for chinook salmon will re-open on July 15, with a maximum daily limit of 2 chinook salmon, only 1 of which can be over 65 cm. The minimum overall length is 30 cm. In addition, the Skeena River mainstem upstream of the Sustut River and most of the Skeena River tributaries, with the exception of sections of the Babine, Bulkley, Kitsumkalum, Morice, and Sustut Rivers, will be closed to chinook fishing all year. Closures will also be in place at the mouth of the Kitwanga and Kispiox Rivers, from July 15 to August 15. These closures are to protect the weaker chinook stocks. The entire Skeena River Watershed will close on August 15 to protect chinook spawning stocks.

Updates to recreational fisheries are provided via Fishery Notice and published on the recreational fisheries website at:

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

Fishery Monitoring and Catch Reporting

The Area 3 and 4 creel program operated from June 1 to August 31, 2016 with 12,581 boat trips and a retained catch of 10,043 chinook.

A boat and vehicle based freshwater creel survey was carried out in the Lower Skeena River by Kitsumkalum First Nation technical field staff and LGL Ltd. The creel ran from June 1 to September 17, 2016. Total effort in 2016 was estimated at 188,397 angler hours and estimates from 2010-2015 ranged from 92,375 to 230,627 angler hours (Robichaud et al. 2016). Total catch (includes releases) in 2016 was estimated at 3,657 large and 1,188 jack chinook salmon.

A creel survey of the freshwater recreational fisheries in four river systems of the Nass watershed was conducted from July to September 2016 by Nisga'a Fish and Wildlife staff. The estimated catch of chinook salmon was 300, which is below the mean of 1,000.

13.1.3.5.3 Commercial Fisheries

Allocation

Table 13.1-3: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
North-Inside	3 to 5	*	100.0% ^d	*

Notes on chinook allocations (north):

* by-catch provisions

^d by-catch provision and near-terminal directed fisheries (e.g. Skeena)

Skeena ISBM Chinook Fishing Plan

Area C Gill Net Fisheries

Dates for the first directed gill net chinook fishery in Area 4 will be recommended pre-season by the Area C Harvest Committee. When abundances permit, this chinook fishery is managed to a maximum catch of 4,000 chinook. For 2017, it is not anticipated that there will be any directed gill net opportunities for chinook salmon in Area 4. In most years, the fishery begins with an initial opening of 18 hours. Subsequent fishing opportunities are dependent upon stock abundance determined from the Tyee test fishery and CPUEs on the first opening. If average or better abundances are indicated, flexibility will be exercised to facilitate the harvest of the 4,000 chinook by the gill net fleet. This may include some flexibility with the timing of openings to provide increased opportunity to harvest chinook.

If the returning run strength is very weak, additional management actions may occur on the commercial and recreational fisheries. These actions could include reduced daily limits in tidal waters, closed times and areas, gear restrictions in non-tidal waters, or monthly quotas in non-tidal waters. Consultation with First Nations and recreational advisors would be taken to determine a course of action to protect the chinook run. Management actions would be in accordance with the allocation policy.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.

- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type*).

13.1.3.5.4 ESSR Fisheries

There are no ESSR fisheries for chinook on the North Coast

13.1.4 CENTRAL COAST ISBM CHINOOK

13.1.4.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

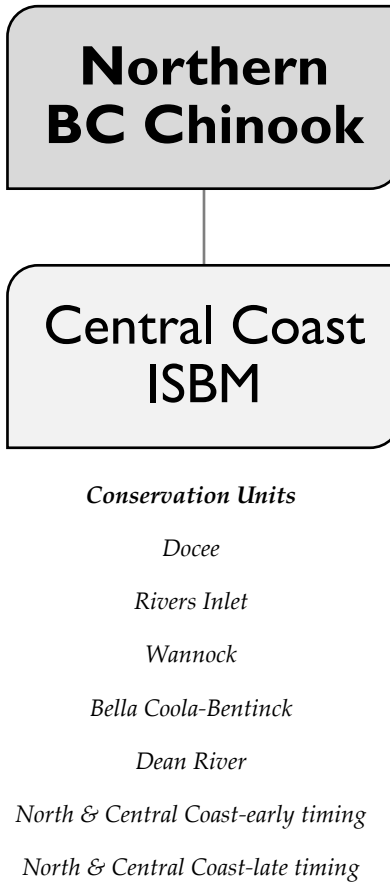


Figure 13.1-4: Overview of Central Coast ISBM Chinook

ISBM management regimes apply to all chinook salmon fisheries subject to the PST that are not AABM fisheries and include marine and freshwater salmon fisheries from northern British Columbia to northern Oregon coast. ISBM fisheries in Northern BC include First Nations, recreational, and Central Coast gill net.

Atnarko Chinook

The Atnarko chinook stock in Area 8 is an enhanced chinook population that supports First Nations FSC and recreational fisheries, as well as, a terminal commercial chinook gill net fishery.

13.1.4.2 STOCK ASSESSMENT INFORMATION

13.1.4.2.1 Pre-season

There is no formal pre-season forecast for Central Coast ISBM chinook.

The Outlook for Areas 7 and 8 for 2017 is “above average.” Returns for the Bella Coola/Atnarko system have been good over the last several years, and should the stocks remain productive, the 2017 returns should be above average. The Outlook for Areas 9 and 10 is “average” for the Wannock River and “below average” for Owikeno tributary stocks and the Chuckwalla/Kilbella systems.

13.1.4.2.2 In-season

There are few in-season estimates of abundance for Central Coast ISBM chinook.

For Atnarko chinook, catch per unit effort is used as an indicator of run size; the Nuxalk First Nation’s FSC fishery provides the best indication of run strength and is used as an assessment fishery to predict run size.

13.1.4.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Atnarko Chinook

DFO is working with local advisors and the First Nations Central Coast Salmon Coordinating Committee for advice on fisheries in these areas.

There are currently no biologically based escapement goals for Atnarko chinook but there are estimates of the escapement required to produce maximum sustained yield (SMSY) and the spawning escapement at replacement (SREP). SMSY was estimated to be 5,009 and the spawning escapement at replacement SREP was estimated to be 14,595 (Vélez-Espino et. al. 2014).

Opportunities for a one day gill net fishery on the last week in May or the first week in June are evaluated during the pre-season planning process in November/December. If recent escapement estimates indicate an increasing or stable run, the fishery will likely go ahead. In-season, these opportunities are evaluated based mainly on First Nations FSC fishery catches with consideration of commercial and recreational catches as well. Atnarko chinook escapements have increased since 2012 to a record return of 44,329 in 2015. The 2016 return was comparable to previous returns and at a size of 21,000 is considered a good return.

13.1.4.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO INSIDE CHINOOK ISBM FISHERIES

Atnarko sockeye continue to be a stock of concern and any fisheries will be managed to avoid or minimize impacts on these stocks.

13.1.4.5 ALLOCATION AND FISHING PLANS

13.1.4.5.1 First Nations Fisheries

First Nations Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (see Section [0](#)) is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food,

Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Specific Conservation Measures for First Nations Fisheries

Protective measures may be considered in terminal areas to reduce harvest impacts. Potential measures will be the subject of discussion with First Nations communities prior to development of fishing plans.

Treaty Fisheries

There are no treaty fisheries for Central Coast ISBM chinook stocks.

13.1.4.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters of the Central Coast (Areas 6 to 10), with interception fisheries beginning in late April and the peak of the season being from June to August. The minimum size limit for chinook salmon is 45 cm, the daily limit is 2 and the annual limit is 30. The open time is April 1st to March 31st. The possession limit for salmon is twice the daily limit.

In Area 6 the initial effort is mostly by local independent anglers out of Kitimat, however the most significant portion of the recreational fishing season develops late May and continues to mid-September with the addition of a number of charter operators to the recreational fleet. One recreational fishing lodge operates in Area 6.

In Area 7, the main recreational fishing activity takes place in Milbanke Sound off of St. Johns Harbour and in Seaforth Channel between St. Johns and Idol Point; fishing effort is primarily from several recreational lodges and charter operators.

In Area 8, the main recreational fishing effort in tidal water is concentrated in the Hakai Pass area by guests of the recreational lodges in the area. There were four lodges operating in 2016.

In Area 9, a total of 6 lodges operated in Rivers Inlet during the 2016 season.

A condition of licence in the recreational Tidal Waters Sport Fishing Licence, applies to all angling in the Rivers Inlet Special Management Zone (SMZ). Any anglers fishing in this area should consult the Tidal Waters Sport Fishing Regulations before commencing fishing.

Recreational harvesting occurs in Area 10 with participation by independent anglers and charter operators.

The Central Coast non-tidal waters are in Regions 5B and 6 freshwater fishing areas, and there are openings for chinook salmon in the different watersheds at different time periods. The minimum size limit is 30 cm, with common daily limits of 4 per day and only 1 fish over 65 cm (some rivers only 1 fish over 50cm). There are also monthly and annual quotas for chinook, that apply to non-tidal waters.

Updates to recreational fisheries are provided via Fishery Notice and published on the recreational fisheries website at:

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

Fishery Monitoring and Catch Reporting

In Areas 6 to 9, DFO has been collecting recreational catch data through the Lodge Log Book Program. In Area 10, Logbook information is used to provide catch and release numbers from anglers fishing there.

Area 7

A total of 3,998 chinook were caught during the 2016 season. The 2016 chinook CPUE of 0.47 is down from last year's 0.55 but above the 10 year average of 0.42.

Area 8 - Tidal

Chinook catch in the Hakai Pass area during the 2016 season was 647, with a CPUE of 0.11. The 2016 CPUE is below the 10 year average of 0.16.

Area 8 – Non-Tidal

Salmon sport fishing on the Bella Coola and Atnarko Rivers was below average for chinook in 2016.

Area 9

In Area 9, 1,192 chinook were caught during the 2016 season. The 2016 chinook CPUE of 0.13 is similar the 10 year average of 0.16.

Area 10

286 chinook were reported caught during the 2016 season. The 2016 chinook CPUE of 0.41 is similar the 5 year average of 0.39.

13.1.4.5.3 Commercial Fisheries

Allocation and Fishing Plans

Table 13.1-4: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
Central	6 to 10	*	100.0% ^b	* ^c

Notes on chinook allocations (north):

* by-catch provisions

^b near-terminal fisheries (primarily hatchery origin)

^c review potential re-entry of troll into Production Areas 6 + 7. By-catch provisions

Central Coast Chinook ISBM Fishing Plan

Area C

Area 8: **June 05** – First anticipated gill net opening in the Bella Coola gillnet area. This will be a directed chinook fishery. Minimum mesh size 203 mm (7.99 inches).

Atnarko chinook are harvested by the commercial gillnet fleet in North Bentinck Arm, a portion of South Bentinck Arm, Labouchere Channel and Burke Channel. A fleet of approximately 40 gill net vessels using large mesh nets is normal for recent years.

Gill nets have a 203 mm mesh restriction. This restriction is in place so that chinook are selectively targeted and other non-target species, such as sockeye, are impacted minimally.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type*).

13.1.4.5.4 ESSR Fisheries

There are currently no ESSR fisheries for Central Coast chinook.

13.2 NORTHERN CHUM SALMON FISHING PLAN

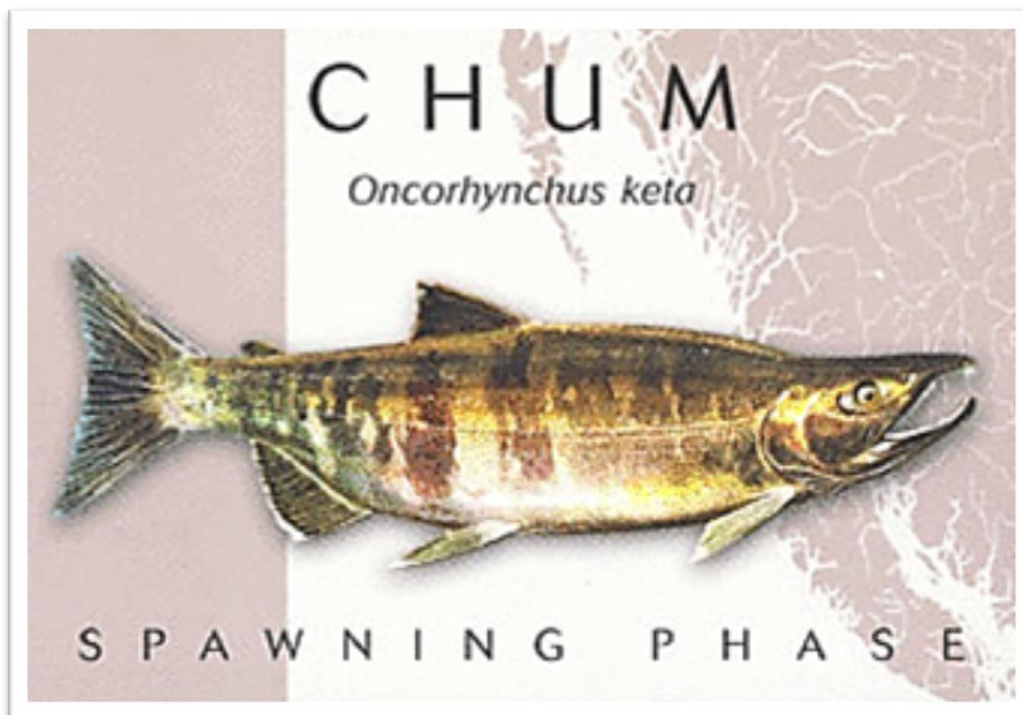
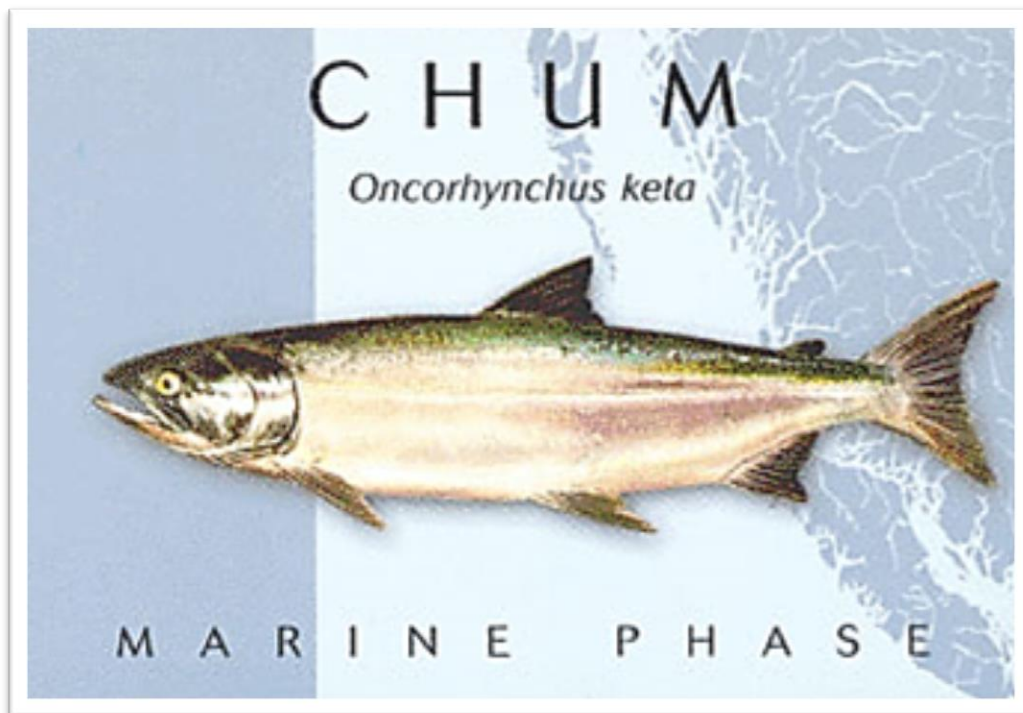


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13.2.1 NORTHERN CHUM OVERVIEW

Chum salmon have the most extensive geographic distribution of all the salmon species and can be found from northern California to Alaska, including the Aleutian Islands, as well as the Yukon and Mackenzie rivers in the Arctic.

Returns are predominately age 3 to 5 fish and are the latest of the five salmon species to enter their natal rivers and stream to spawn. Chum salmon have pale flesh and a low fat content, and are usually marketed as a fresh, frozen or smoked product.

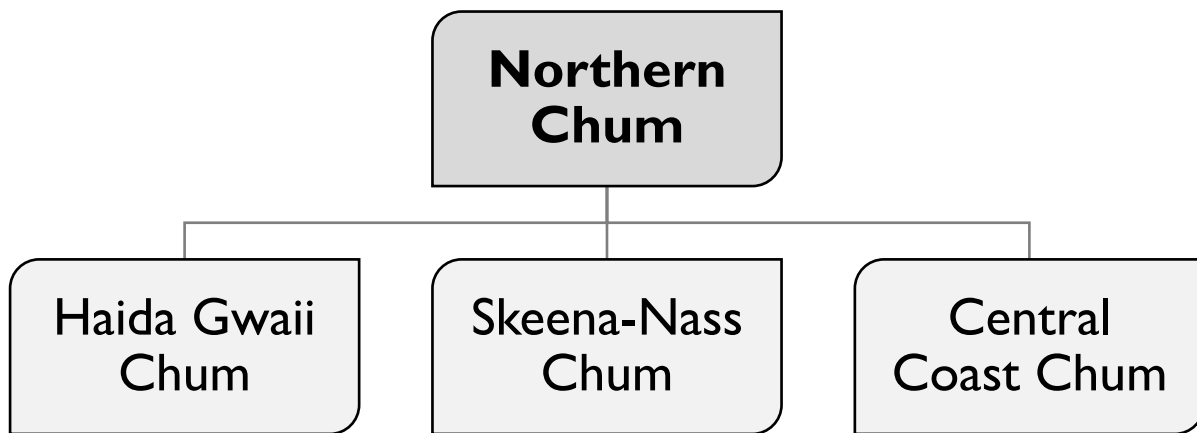


Figure 13.2-1: Overview of Northern Chum

13.2.1.1 NORTHERN CHUM ENHANCEMENT INFORMATION:

The major DFO operation enhancement facilities that produce chum are:

- BC North Coast:
 - Kitimat River hatchery
 - Snootli Creek hatchery

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries.

There are two datasets available: **Post-Season Production** from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release), and the **Production Plan**, which includes proposed targets for the upcoming 2017 brood year.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>.

13.2.2 HAIDA GWAII CHUM – OVERVIEW

13.2.2.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

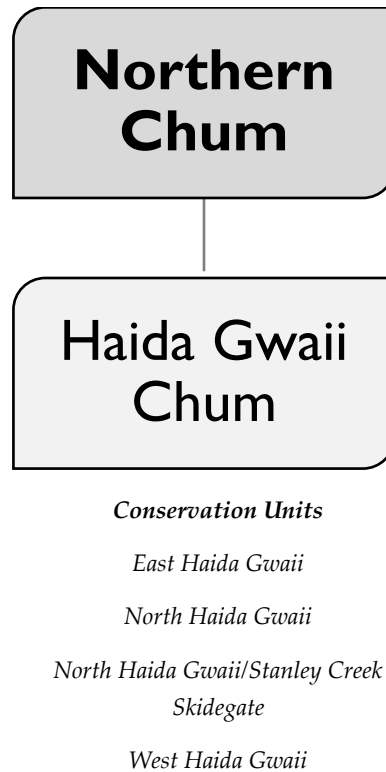


Figure 13.2-2: Overview of Haida Gwaii Chum

Historically, terminal chum salmon harvesting opportunities have occurred in a variety of wild stock locations in Haida Gwaii. In general, returns to Haida Gwaii have been far below management targets with the exception of west Haida Gwaii where returns have been consistently at or slightly above management targets. Chum returns have declined to levels where fishing opportunities for net fisheries have frequently not been observed. The size of the runs to these systems can usually be determined by observations of fish holding in front of the streams and the historic average run timing for that system. Chum net fisheries will be managed in-season on a local basis.

13.2.2.2 STOCK ASSESSMENT INFORMATION

13.2.2.2.1 Pre-season

Formal quantitative forecasts are not prepared for Haida Gwaii chum, but the qualitative Salmon Outlook for 2017 is “poor”. Chum salmon harvesting opportunities are expected to be limited in 2017.

13.2.2.2.2 In-Season

Monitoring to determine incoming runs throughout the season will be concentrated on the east coast of Haida Gwaii between Skidegate Inlet and Darwin Sound, and on the west coast between Dawson Inlet and Tasu Sound.

13.2.2.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Terminal net fishery openings are based on fish observed to be schooling in front of the various systems. Fisheries will only be considered if the estimated return of salmon is sufficient to meet escapement goals. The size of the return will be estimated by charter patrolmen using visual assessments.

For Area F troll, there will be non-retention of chum in effect in Dixon Entrance and Hecate Strait to protect northern and eastern Haida Gwaii chum stocks as well as northern mainland BC chum stocks. Retention of chum may be allowed along the west coast of Haida Gwaii during August and September as west Haida Gwaii stocks are considered healthy.

13.2.2.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO FRASER CHUM FISHERIES

- Assessment of escapements to streams in and near any identified surpluses to be harvested will need to be conducted. Conservation of smaller and/or weaker returning stocks that may be affected by a potential harvest opportunity may influence the timing and/or location of the fishery or may result in the foregoing of the fishery.
- Coho by-catch may be a concern in some areas and so brailing by seines and the use of revival tanks by both gill nets and seines may be required.
- To minimize the amount of by-catch, all fisheries will be held during daylight hours, generally 11 or 12 hour days during September reducing to 10 or 11 hour days in October.

- All net fisheries are managed so that catch may be delivered within two days, at the request of the commercial industry.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at: http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.2.2.5 ALLOCATION AND FISHING PLANS

13.2.2.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for FSC purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in the Northern BC / First Nations Fisheries.

Fishery Monitoring and Catch Reporting

Fishery monitoring will be conducted by DFO and the First Nations under Fisheries Agreements if applicable. First Nations keep records of harvest and provide catch information to DFO in a variety of formats. If a commercial vessel is used for fishing under this licence, First Nations are asked to provide information respecting the species and quantity of fish harvested by the vessel to the DFO Catch Reporting Officer within 24 hours of the landing of fish harvested from that vessel. With respect to timing of catch reports, First Nations are requested to report as follows: by the end of each month between April 1 and May 14; weekly (Wednesdays) between May 15 and October 31 inclusive; and at the end of each month between November 1 and March 31.

Treaty Fisheries

There are no Treaty fisheries for Haida Gwaii chum.

13.2.2.5.2 Recreational Fisheries

Recreational salmon fishing occurs primarily in the tidal waters surrounding Haida Gwaii, with the majority of effort focused along the shoreline from Masset to Langara Island in Area 1 and between Englefield Bay and Port Louis in Area 2W. Recreational fishing occurs primarily between May and September with peak effort and catch occurring in July and August. Chum salmon are incidentally retained in the recreational fishery which primarily targets chinook and coho salmon. The daily aggregate limit of salmon is four (4) per day and a maximum 2 of which may be chinook.

Recreational fishing updates are provided via Fishery Notice and published on the recreational fisheries website:

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

Fishery Monitoring and Catch Reporting

DFO has been collecting recreational catch data through the Lodge Log Book Program and the Haida Creel Program since 1995. Participation in monitoring and reporting of recreational catch in Areas 1 and 2 has been excellent over the past 25 years. Monitoring is continuing to improve with region wide initiatives.

13.2.2.5.3 Commercial Fisheries

Allocation

Table 13.2-1: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
North	1, 2E, 2W, 101 to 111, 130, 142	54.0%	43.0%	3.0%

Haida Gwaii Chum Fisheries

Area A and Area C

Mid-September to October: Possible terminal fisheries directed on identified surpluses of local chum stocks in Areas 1, 2E and 2W.

No gill net or seine fisheries will be directed on passing stocks.

Area F Troll

Chum retention will not be permitted in Dixon Entrance and Hecate Strait in 2017. Retention of chum may be allowed along the west coast of Haida Gwaii during August and September depending on in-season indications of chum stock strength.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type*).

13.2.2.5.4 ESSR Fisheries

There are no ESSR fisheries anticipated for Haida Gwaii chum.

13.2.3 SKEENA-NASS CHUM

13.2.3.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

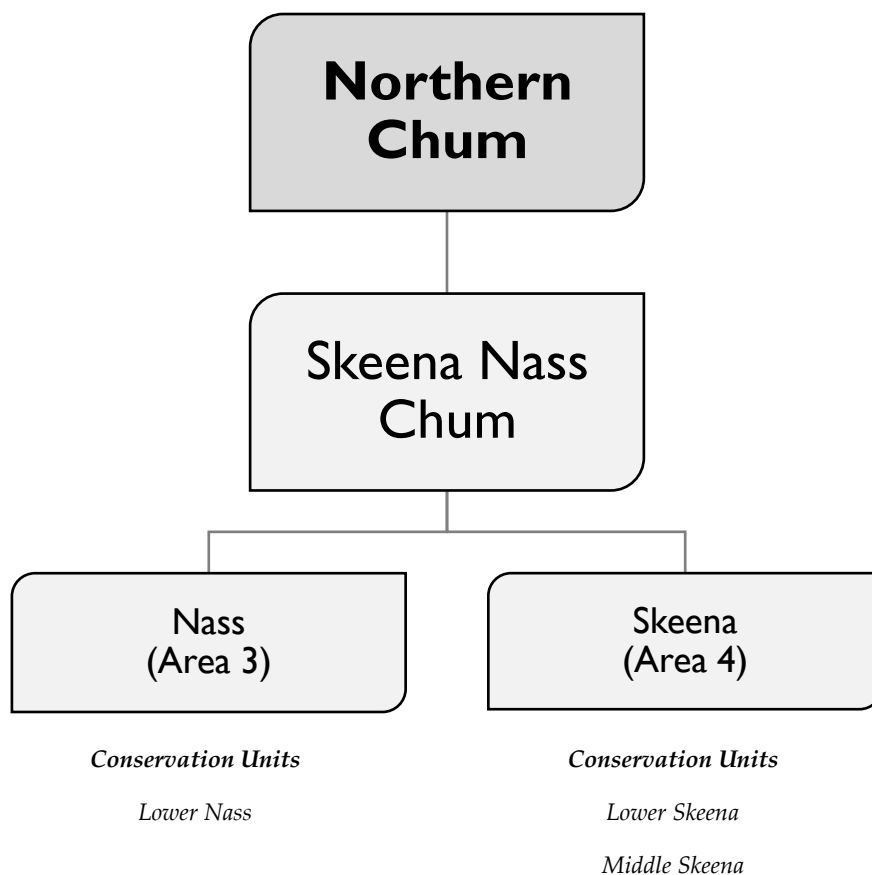


Figure 13.2-3: Overview of Skeena-Nass Chum

There is no single major chum producer in Area 3, but significant stocks return to the Kshwan, Stagoo and Khutzeymateen Rivers.

Chum salmon are the least abundant salmon species in the Skeena system and return to the fewest number of streams. There are 43 chum streams or rivers in Area 4.

Stock status for both Nass and Skeena wild chum is poor and retention is not permitted in any commercial fisheries; except for some limited opportunities as by-catch in Area 3 when enhanced chum are abundant. Rebuilding plans for both stocks can be found in [Appendix 6](#) and [Appendix 7](#).

13.2.3.2 STOCK ASSESSMENT INFORMATION

13.2.3.2.1 Pre-season

Formal quantitative forecasts are not prepared for Nass or Skeena chum, but the qualitative Salmon Outlook for both stocks for 2017 is “very poor” based on very poor brood year escapements. Chum salmon surpluses are not expected in 2017.

13.2.3.2.2 In-season

Returns of chum salmon to the Nass River are monitored through the fish wheel program operated by Nisga’a Fisheries. Chum stocks are managed to stream-specific escapement goals in Area 3.

The Tyee test fishery on the Skeena River is the main indicator for relative abundance of chum salmon in Areas 4 and 5 through the use of a multi-panel gill net with varying mesh sizes. Returns are variable and estimates are subject to error as annual run timing and catchability of salmon by the Tyee test fishery net varies.

13.2.3.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

All commercial fisheries in Areas 3 and 4 will be managed to avoid wild chum stocks in these areas. There will be no opportunities for directed harvest on wild Nass or Skeena chum.

Retention of chum in Area 3 will be permitted as by-catch in times and areas coinciding with high abundances of US hatchery origin chum, while still meeting the objective of maintaining reduced impact on Canadian wild stocks. All other times and areas will remain non-retention/non-possession of chum in Area 3 fisheries. Otolith samples will be collected in Area 3 to determine the presence of US hatchery chum in both retention and non-retention area.

13.2.3.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO SKEENA AND NASS CHUM FISHERIES

Area 3:

- Area 3 chum are a stock of concern and will require focused management planning. A rebuilding plan can be found in [Appendix 7](#). Fisheries will continue to be managed to reduce impacts to Canadian chum. Part of the rebuilding plan for the immediate future is to keep the Canadian average exploitation rate (ER) below 10%.
- Commercial fisheries are limited to daylight hours.

- Non-retention of steelhead is mandatory in all fisheries.
- Gill nets have a 137 mm (5.39 inch) maximum mesh restriction. This restriction is in place so that sockeye is targeted selectively and larger, non-target species such as chum and chinook are impacted to a lesser degree.
- Pink fishing opportunities will be managed to conserve weak stocks of Area 3 chum.

Area 4:

- Fishing is limited to daylight hours except during directed chinook gill net fisheries when mesh size and run timing are used to target chinook only.
- Retention of chum and steelhead is prohibited in all fisheries.
- Gill nets have a 137 mm (5.39 inch) maximum mesh restriction during the sockeye fishery. This restriction is in place so that sockeye is targeted selectively and larger, non-target species such as chum and chinook are impacted to a lesser degree.
- Skeena chum remain a stock of concern and Canadian harvest impacts will be limited to a maximum exploitation rate of 10% in Canadian fisheries. This is a ceiling and harvest impacts would be expected to be well below this level in most years. It is anticipated that these management measures will be in place for an extended period. A rebuilding plan for Skeena chum can be found in [Appendix 8](#).

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at: http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.2.3.5 ALLOCATION AND FISHING PLANS

13.2.3.5.1 First Nations Fisheries

First Nations opportunities to harvest salmon for FSC purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis.

Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in the Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

Nisga'a Fisheries

The Nisga'a Annual Fishing Plan (NAFP) is developed by the Nisga'a-Canada-BC Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final Agreement and the Nisga'a Harvest Agreement of the Nisga'a Treaty. The Nisga'a Harvest Agreement includes Nisga'a fish allocations expressed as a percentage of the adjusted total allowable catch of Sockeye and Pink salmon. The NAFP is developed in accordance with Chapter 8 of the Nisga'a Final Agreement. Once approved by the Federal Minister of Fisheries, the Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries.

Nisga'a salmon allocations, as defined in the Nisga'a Treaty, are set out as a percentage of the Total Return to Canada (TRTC) up to maximum catch thresholds (63,000 sockeye [10.5%], 6,300 pink [0.6%], 12,600 chinook [21%], 19,200 coho [8%], and 12,000 chum [8%]) in large return years. These other Nisga'a salmon allocations have the same priority in fisheries management decisions as domestic [food, social and ceremonial (FSC)] fisheries that target Nass salmon.

The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The NAFP is reviewed by the JFMC prior to being submitted to the Minister for approval. Nisga'a Lisims Government is responsible for the internal allocation of catch opportunities between Nisga'a fishers and day to day operation of the Nisga'a fishery.

Pre-season estimates and ranges for the Nisga'a salmon allocations in 2017 are:

Nass Chum: The TRTC 50% probability point estimate from a 5-year average pre-season forecast method is **24,000** with a range of point estimates from **18,000 (75% probability estimate) to 33,000 (25% probability estimate)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**30,000**) for Nass Area Chum, the Nisga'a allocation (less than 500) will be incidental by-catch harvest only. The mean TRTC estimate (**24,000**) will be used for

calculating the initial target for the in-season Nisga'a allocation (less than 500). If the return of Nass chum is strong and the escapement goal is anticipated to be reached in 2017, the actual allocation target may be larger to account for the current cumulative underage (approximately 1,430) accrued from 2015 to 2016. The cumulative underage would only be targeted in years where adequate abundances are available for harvest, as indicated by in-season assessments.

13.2.3.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters adjacent to the Nass and Skeena Rivers, Areas 3 and 4. The fishery is open April 1st to March 31st, with the peak of the season from June to August. The daily limit for chum salmon is four (4) per day, unless otherwise varied. The minimum size limit for chum is 30 cm. The possession limit for salmon is twice the daily limit.

The Skeena and Nass Rivers are in Region 6 freshwater fishing area, and are closed to fishing for chum salmon.

Recreational fishing updates are provided via Fishery Notice and published on the recreational fisheries website:

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

Fishery Monitoring and Catch Reporting

The Area 3 and 4 Creel Program operated by the North Coast Skeena First Nations Stewardship Society ran from June 1st to August 31st, 2016, with a recorded total of 12,581 boat trips and a retained catch of 442 chum salmon.

13.2.3.5.3 Commercial Fisheries

Table 13.2-2: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
North	3 to 5	55.0% ^b	45.0% ^b	*

Notes on chum allocations (north):

^b recent chum non-retention; fishery allows by-catch of chum

* by-catch provision

Area A (Seine) and Area C (Gillnet)

- There will be no directed commercial opportunities for wild Nass or Skeena chum.

- Retention of chum as by-catch in Area 3 will be permitted in times and areas coinciding with high abundances of US hatchery origin chum, while still meeting the objective of maintaining reduced impact on Canadian wild stocks. All other times and areas will remain non-retention/non-possession of chum in Area 3 fisheries. Otolith samples will be collected in Area 3 to determine the presence of US hatchery chum in both retention and non-retention area. All fisheries will be announced via fishery notice.

Area F (Troll)

- There will be non-retention of chum in effect all year in Dixon Entrance and Hecate Strait to protect wild Skeena and Nass chum.

Fishery Monitoring and Catch Reporting

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type).

13.2.3.5.4 ESSR Fisheries.

There are no ESSR fisheries for Skeena or Nass chum.

13.2.4 CENTRAL COAST CHUM

13.2.4.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

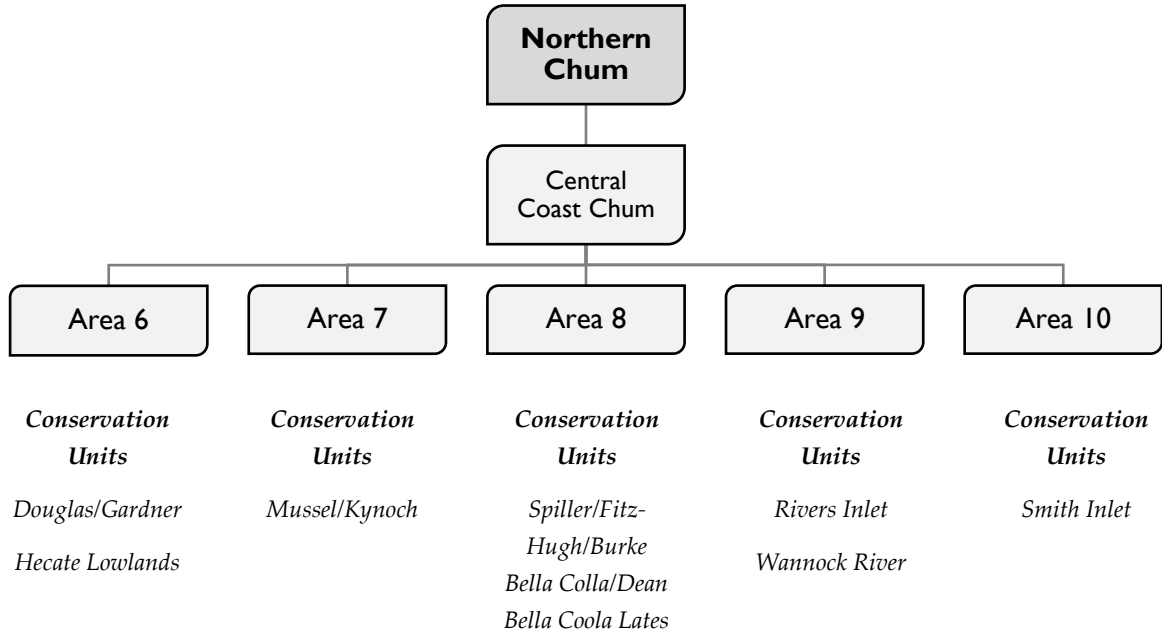


Figure 13.2-4: Overview of Central Coast Chum

Wild chum stocks in Area 6 remain depressed. The only directed chum fishery has been on enhanced stocks returning to the Kitimat Hatchery in terminal areas.

The major wild chum salmon stocks that are actively managed in Area 7 are the Mussel, Kainet, Neekas, Quartcha and Roscoe stocks. The Kitasoo and McLoughlin Bay Hatcheries contribute to the chum harvests as well. These fisheries occur in terminal areas or the approach areas where timings of these stocks are known. Fisheries for Mussel and Kainet chum generally occur in late July and August, while fisheries for the other stocks occur in the later part of August and September. Gill net and seine fleets are usually small for these fisheries but can be larger depending on fishing opportunities in other areas.

Chum fisheries in Area 8 target mainly on Kimsquit and Bella Coola River stocks. Fisheries also occur on returns to Lower Dean streams (Elcho, Cascade and Jenny) but to a lesser extent. The Bella Coola River system is enhanced while the Kimsquit River is not. Fisheries in North Bentinck Arm, Dean Channel and Burke Channel are gill net only while fisheries in Fisher Channel and Fitz Hugh Sound are open for gill net as well as seine.

Area 9 chum returns have been stable and below target escapement in recent years, resulting in limited ability to forecast. Area 9 chum fisheries are not expected in the 2017 season.

In Area 10, Nekite chum returns have been very modest for several years now and the ability to forecast returns is limited. Should commercial sockeye opportunities occur during the 2017 season, chum retention is not likely to be permitted.

13.2.4.2 STOCK ASSESSMENT INFORMATION

13.2.4.2.1 Pre-season

Formal quantitative forecasts are not prepared for Central Coast chum. The qualitative Salmon Outlook for Area 6 chum for 2017 is for modest expectations due to modest brood year escapement. Chum returns in recent years to this area have been poor. Kitimat enhanced chum return strength is uncertain and depends on ocean survival. The qualitative Salmon Outlook for chum stocks in Areas 7 to 10 is “good” based on generally good brood year escapements. Returns of enhanced stocks are again dependent upon ocean survival which has been highly variable in recent years.

13.2.4.2.2 In-season

There are no in-season assessment tools for chum stocks in Areas 6 to 10. Opportunities for harvest will be considered based on in-stream escapement assessments in Area 6 and reports from the hatchery on run strength of the enhanced stock.

In Areas 7 and 8, harvest opportunities will be based on brood year escapements, in-stream escapement assessments and the success of assessment fisheries that will be run to gauge run strength.

13.2.4.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Area 6:

Opportunities for a directed terminal gill net fishery in Kitimat Arm are based on Kitimat Hatchery chum production, assessment fisheries and in-season escapement estimates. Opportunities to harvest local surpluses of wild chum may be considered based on in-stream escapement assessments.

For Areas 7 to 10, decisions are made in consultation with local First Nations, the Central Coast First Nations Salmon Coordinating Committee, and Central Coast advisors, for the management of fisheries in these areas.

Area 7:

Opportunities for one-day gillnet and seine assessment fisheries in the last week of July or first week of August are determined pre-season based on recent trends in brood year escapement and in-season information. If recent escapement estimates indicate an increasing or stable run, the assessment fisheries will very likely proceed. Since they occur early in the run, these fisheries have little impact on the overall escapement and provide an improved indication of run strength. One-day assessment fisheries are under consideration for lower Finlayson, lower Mathieson, Sheep Pass and the eastern portion of Seaforth Channel.

July and First Week of August: One additional day of fishing during daylight hours is considered if the run appears strong. The assessment of run strength is based on a review of catch data and salmon escapements to the Mussel and Kainet Rivers to-date.

Second Week of August until Mid-October: The results of the past week's fisheries, status of target stocks and their implications for any potential by-catch are reviewed with the local advisory group. If stock strength permits, fishing opportunities are considered each week until mid-October. Announcements for the next week's opportunities are made on the Thursday at 1600 hours or Friday of the week preceding the proposed fishery.

Subject to in-season assessment, Lama Pass (McLoughlin Bay) may be opened in mid-August and the fishing time may be spread over more than one day each week, depending on observed chum abundance and processing capacity. Seines and gill nets will alternate fishing opportunities each week with the seine fleet going first in 2017.

Subject to in-season assessment, the Klemtu Pass area may be opened to harvest surplus chum returning to the Kitasoo Creek Hatchery. Openings targeting Kitasoo Creek Hatchery stocks and surplus chum in terminal areas would follow the pattern of gill nets fishing first day and seines the second day.

Subject to in-season assessment, portions of Spiller Channel may be opened to seines and gill nets in late August. Openings in that area will depend on chum returns to Neekas Creek.

Subject to in-season assessment, portions of Johnson Channel and Roscoe Inlet may be opened to seines and gill nets in late August. Openings in that area will depend on chum returns to the Roscoe, Quartcha and Clatse systems.

Area 8:

In November/December during the pre-season planning process, opportunities for two-day gill net assessment fisheries in the first two weeks of July are evaluated. The evaluation is mainly

based on chum brood year escapements. This fishery is implemented to get an early assessment of run strength. It has very little impact on the stock because it occurs early in the run and provides information to better manage the fishery later in the season.

Second Week of July: The assessment openings may be extended if the runs appear strong based on a review of catches to-date. Opportunities for a gill net and seine opening on Monday in the third week of July are considered, based on the results of the assessment fisheries:

- If Atnarko pink stocks are weak but Bella Coola and Kimsquit chum stocks are strong, Subareas 8- 3 and a portion of Subarea 8-4 south of a line from Walker Point to Hergest Point may be closed. This is not anticipated for the 2017 season.
- If Kimsquit chum are weak but Bella Coola chum are strong, Subarea 8-5 may be closed.
- If Kimsquit chum are very weak but Bella Coola chum are strong, Subareas 8-5 and 8-4 north of Walker Point may be closed.

Area 9:

Escapement levels for Area 9 chum have been below target for several years. No fishery is anticipated.

Area 10:

In-season escapement information will be used to evaluate fishing opportunities for Nekite chum. No fishery is anticipated. Should commercial sockeye opportunities occur during the 2017 season, chum retention is unlikely to be permitted.

13.2.4.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO CENTRAL COAST CHUM FISHERIES

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be

operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

Area 6:

- Commercial net fishing is limited to daylight hours.
- Mandatory brailing for all seine sets and non-retention of chinook and steelhead in all fisheries and non-retention of chum at the Gil Island seine fishery.

Constraints for the Kitimat gill net chum fishery are as follows:

- Gill nets will be required to have a 149mm minimum and 165mm maximum mesh restriction when fishing chum to reduce encounters of non-target species.
- Gill net chum fisheries will be restricted to 6-1 & 6-2 unless surplus stocks are identified elsewhere in-season.

Area 7:

- Gill nets with 149mm minimum mesh restriction all season to protect sockeye stocks in central coast systems.
- Seines are required to brail and release sockeye, chinook and steelhead to the water with the least possible harm for the duration of the season.
- Fishing is limited to daylight hours.
- Net fisheries will initially be non-retention coho. Easing of restrictions in-season could occur if abundance is high.
- The half-mile radius boundary around Mary's Cove Creek and Sockeye Creek are in effect year-round to conserve Sockeye Creek, Mary's Cove and Lagoon Creek sockeye.
- During periods of high salmon catches in Areas 7 or 8, fisheries will most likely be managed so that there is a maximum of two consecutive days of fishing. This action has been recommended by fishers and processors to maximize the value of the salmon caught.

- Where possible, openings in Areas 6 through 10 will be coordinated to distribute effort appropriately.
- Additional fishing time: A large fleet size could adversely affect small mixed-stock runs in the area. Extra fishing time may depend on openings in other areas in the North Coast.

Area 8:

- Gill net fisheries have a 158mm minimum mesh restriction until the beginning of August to protect weak sockeye stocks. Gill nets with 149mm mesh will be allowed for the remainder of the season. Gill net fishermen are requested to release all live sockeye to the water with the least possible harm, all season long.
- Fishing is limited to daylight hours.
- Net fisheries will begin with a non-retention of coho restriction in place. Easing of restrictions in- season could occur if abundance is high.
- Seines are required to brail and release sockeye, chinook and steelhead to the water all season. Gill nets are required to release steelhead.
- If salmon stocks surplus to escapement requirements are identified, fisheries could occur in areas where incidental catch or by-catch concerns do not preclude harvest activities.
- The seine opening date is usually coordinated with other seine openings on the North Coast.
- During periods of high salmon catches in Areas 7 or 8, fisheries will be managed so that there is a maximum of two consecutive days of fishing. This action has been recommended by fishers and processors to maximize the value of the salmon caught.
- When possible, openings will be coordinated with other North and Central Coast areas.

Area 10:

- If a fishery takes place, a maximum mesh restriction of 150mm will be in place to protect Docee River chinook stocks.
- Boundaries will be restrictive to protect non-targeted stocks. There will be no coho retention unless abundance warrants.

13.2.4.5 ALLOCATION AND FISHING PLANS

13.2.4.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations target local salmon stocks for food, social and ceremonial (FSC) purposes throughout the North Coast.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34

current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are no Treaty fisheries for Central Coast chum.

13.2.4.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters of the Central Coast (Areas 6 to 10). The chum salmon fishery is open April 1st to March 31st, with the peak of the season being from June to August. The daily limit for chum salmon is four (4) per day, unless otherwise varied.

The minimum size limit for chum salmon is 30 cm, in tidal waters and freshwater. The possession limit for salmon is twice the daily limit.

In Area 6 the early season effort is mostly by local independent anglers out of Kitimat, however the most significant portion of the recreational fishing season develops late May and continues to mid- September with the addition of a number of charter operators to the recreational fleet. One recreational fishing lodge operates in Area 6.

In Area 7, the main recreational fishing activity takes place in Milbanke Sound off of St. Johns Harbour and in Seaforth Channel between St. Johns and Idol Point, by several recreational lodges and charter operators.

In Area 8, the main recreational fishing effort in tidal water is concentrated in the Hakai Pass area by guests of the recreational lodges in the area. There were four lodges operating in 2016.

In Area 9, a total of 6 lodges operated in Rivers Inlet during the 2016 season.

There is a condition of licence in the recreational Tidal Waters Sport Fishing Licence that applies to all angling in the Rivers Inlet Special Management Zone (SMZ). Any anglers fishing in this area should consult the Tidal Waters Sport Fishing Regulations prior to commencing fishing.

Recreational harvesting occurs in Area 10, with participation by independent anglers and charter operators.

The Central Coast non-tidal waters are in Regions 5B and 6 freshwater fishing areas, and there are openings for chum salmon in the different watersheds at different time periods. The minimum size limit is 30 cm, with daily limits of 1 or 2 per day.

Recreational fishing updates are provided via Fishery Notice and published on the recreational fisheries website:

<http://www.bcsportfishingguide.ca>

Fishery Monitoring and Catch Reporting

In Areas 6 to 9, DFO has been collecting recreational catch data through the Lodge Log Book Program. In Area 10, logbook information is used to provide catch and release numbers from anglers fishing in the area.

13.2.4.5.3 Commercial Fisheries

Table 13.2-3: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
Central	6 to 10	45.0% ^c	55.0%	*

Notes on chum allocations (north):

^c currently chum non-retention

* by-catch provision

Area 6

- **Area C:** Gill net openings will be dependent upon in-season assessments of hatchery chum returns to the Kitimat River.
- **Area A:** Seine openings will be targeting pink salmon populations in the Area. Bycatch of chum is not permitted. Opportunities for targeting hatchery chum will be assessed in-season.

Area 7

- **Area F:** No troll opportunities for chum fisheries in this area in 2017.
- **Area A & C:** July 24 – First anticipated gill net and seine opening in 7-5, portion of 7-6 (Finlayson), portions of 7-9 (Mathieson) and 7-29 (Sheep). Minimum mesh size 149 mm.
- Mid-late August – Consideration for net openings in 7-17 (McLoughlin Bay hatchery chum). Gear types will alternate each week; Subarea 7-5 terminal chum harvest on Kitasoo Creek Hatchery stocks with gill nets first and seines second. Net opening in Spiller Channell to harvest Neekas Creek chum.

- Late August to early September – Considerations for net openings in 7-30 (Johnson Channel), 7-15 (Roscoe Inlet) and 7-13 (Spiller Channel).
- **Area F:** No troll opportunities for chum fisheries in this area in 2017.

Area 8

- **Area C:** July 5 – Anticipated chum gill net opening in the Bella Coola gillnet area and Fisher Channel/Fitz Hugh Sound. Minimum mesh size 158 mm (6.22 inches).
- **Area A:** July 17 – First anticipated seine opening in Fisher Channel/Fitz Hugh Sound.
- Minimum bunt mesh size 70 mm (2.76 inches)
- July 3-week of August 13: Weedlines are in effect in upper 8-5 (Fisher Channel) and 8-8 (Upper Dean Channel)
- **Area F:** No troll opportunities for chum fisheries in this area in 2017.

Area 9

- No chum fisheries for any gear type are anticipated for this area in 2017.

Area 10

- No chum fisheries for any gear type are anticipated for this area in 2017

13.2.4.5.4 ESSR Fisheries

There are no ESSR fisheries for Central Coast chum

13.3 NORTHERN COHO SALMON FISHING PLAN

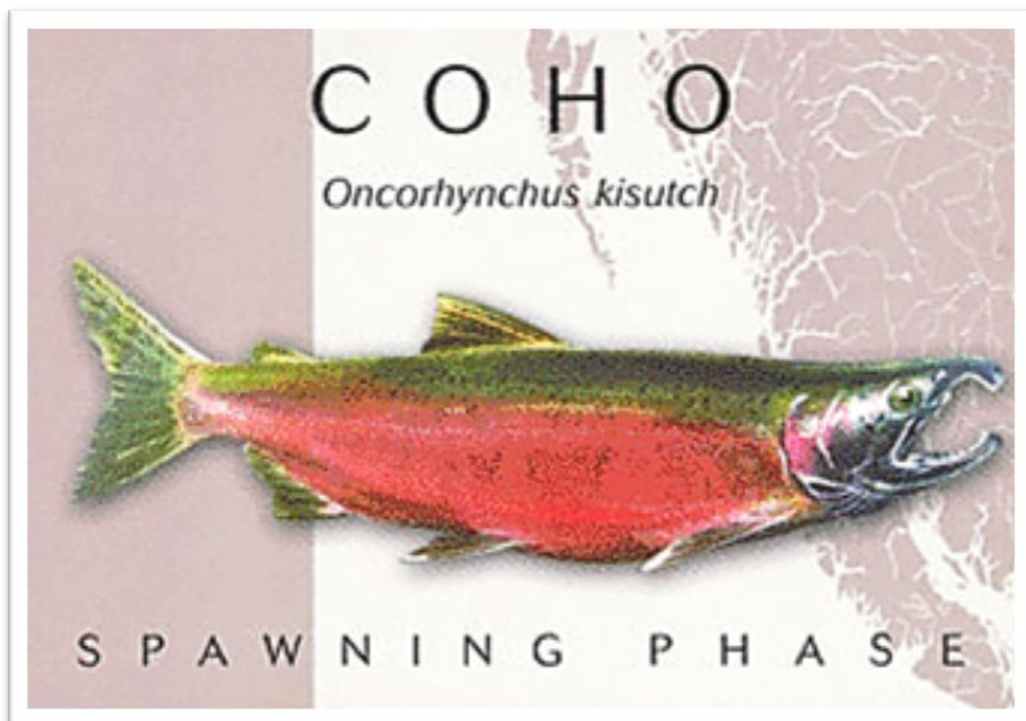
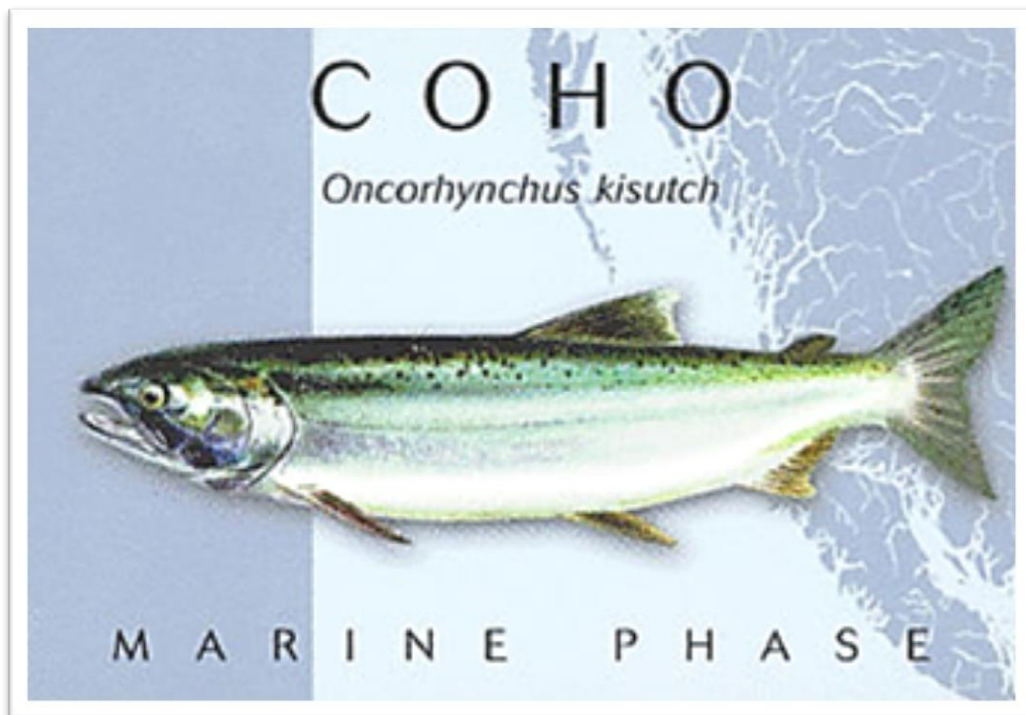


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13.3.1 NORTHERN COHO OVERVIEW

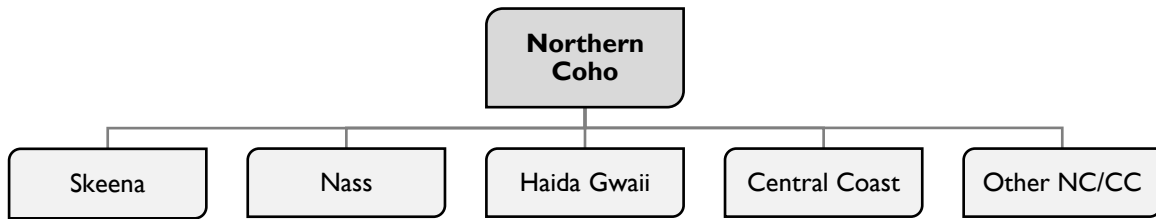


Figure 13.3-1: Overview of North Coast Coho

In general, North Coast coho are managed to a modest Canadian harvest rate in the range of 5 to 10%.

In recent years, Northern Coho are mostly harvested as part of mixed-species fisheries; formal guidelines for abundance based harvest levels have not been developed. In general, commercial fisheries on the North Coast and Central Coast start with coho non-retention, which is reviewed in- season in each area based on observed abundance.

13.3.1.1 NORTHERN COHO ENHANCEMENT INFORMATION:

The major DFO operation enhancement facilities that produce Northern coho are:

- BC North Coast:
 - Kitimat River hatchery
 - Snootli Creek hatchery

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries.

There are two datasets available: **Post-Season Production** from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release), and the **Production Plan**, which includes proposed targets for the upcoming 2017 brood year.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>.

13.3.2 NORTHERN COHO

13.3.2.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

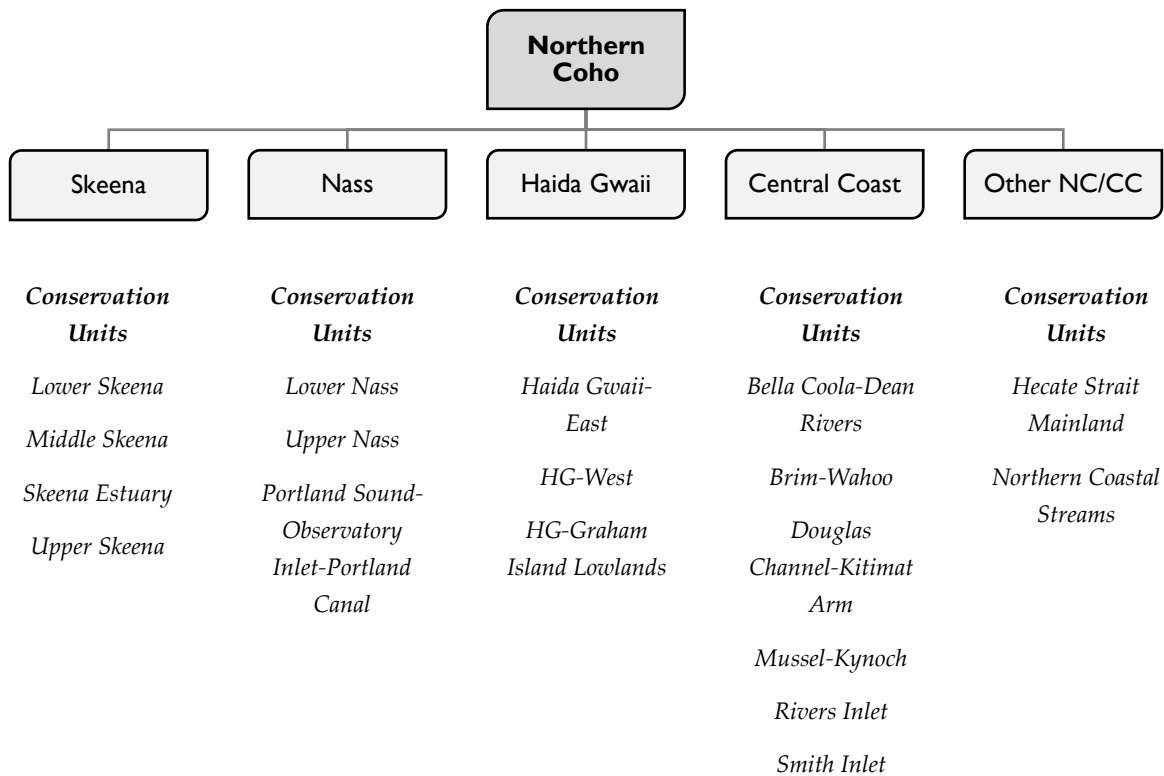


Figure 13.3-2: Overview of North Coast and Central Coast Coho

In Northern BC, coho are typically caught as by-catch during First Nations’ FSC fisheries that are directed on sockeye but some small directed coho FSC fisheries do occur. Nisga’a coho catches are limited by the Nisga’a Final Agreement and the Nisga’a Harvest Agreement that depends on in-season abundance estimates generated from the Nass fishwheel mark-recapture program. First Nations coho FSC catches have rarely been constrained by conservation objectives in the North and Central Coast.

Coho catches in the recreational fishery are managed by daily/possession limits and time and area closures. Under the recent abundance levels and escapements, full marine recreational limits (4 per day) with no time and area closures are currently in place. Freshwater regulations are stream specific with restrictions in daily limits and time and area closures for some streams.

There are currently no directed marine commercial net fisheries for coho in the North and Central coasts. Coho by-catch is permitted in commercial marine net fisheries depending on in-season indices of abundance.

Coho harvest by Area F troll in western Dixon Entrance and around northern Haida Gwaii are composed of a wide variety of stocks, mostly from northern coastal mainland streams. In-season management adjustments are made based on observations of coho abundance.

13.3.2.2 STOCK ASSESSMENT INFORMATION

13.3.2.2.1 Pre-season

There are no formal pre-season forecasts for Northern BC coho. Most adults returning in 2017 are from the 2014 brood year that went to sea in 2016. Ocean indicators suggest conditions affecting early marine survival have been variable in recent years. Therefore, pre-season predictions for coho returns in 2017 are uncertain. The qualitative Salmon Outlook contains the following predictions:

Haida Gwaii

Stocks in Haida Gwaii (Areas 1, 2E, 2W) have not been issued an Outlook category due to a lack of consistent assessment information across stocks. Deena coho in the East Haida Gwaii CU are used as an indicator stock for Haida Gwaii. Returning coho are also enumerated at the Tlell counting fence. Limited stock assessment information is available for the remainder of Haida Gwaii CU's. Coho returns to Haida Gwaii are generally considered to be healthy.

Nass River

Nass River coho (Area 3) are expected to be average. Returns will depend on the survival of juveniles that went to sea in 2016.

Skeena River

Recent returns have been good except unknown for lower Skeena tributaries. Returns are uncertain and depend on the survivals of the juveniles that went to sea in 2016.

Areas 5 and 6

Returns are uncertain and depend on the survival of the juveniles that went to sea in 2016.

Central Coast

Survivals have been modest in recent years for Central Coast coho (Areas 7 to 10). Returns are uncertain and depend on the survival of juveniles that went to sea in 2016.

13.3.2.2 In-season Assessment

At this time, there are no in-season assessments done on most Northern BC coho stocks. On the Skeena River, the Tye test fishery provides a relative indication of in-season abundance but is only used to provide in-season escapement estimates for sockeye. On the Nass River, in-season estimates of coho abundance are gained from the Nass fish wheel program operated by Nisga'a Fisheries.

13.3.2.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

There are no targeted coho net fisheries in the North Coast. Coho may be retained as by-catch during sockeye-directed fisheries in Areas 3 and 4 when abundance permits. Changes to retention rules can occur in-season as abundance information is received. There will be non-retention of coho in all net fisheries in Areas 1, 2, 9 and 10. In Areas 6, 7 and 8, net fisheries may begin the season as non-retention coho. Should returns indicate sufficient numbers, this may be re-evaluated in-season.

For Area F troll, management adjustments are made on an annual basis based on trends in abundance or impacts of the troll fishery on specific stocks. The coho-directed troll fishery will open in the northern half of Dixon Entrance on July 1 and then in the southern half on July 10.

The coho-directed troll fishery may open in Area 3 depending on in-season coho abundance indicator information. DFO will work closely with the Nisga'a to monitor coho run strength.

Central Coast areas will initially be closed to full fleet troll opportunities but this may be adjusted in-season depending on coho abundance. Continuation of the Central Coast Limited Effort Coho Demonstration Fishery, as proposed within Commercial Salmon Allocation Framework discussions may be considered for 2017.

13.3.2.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO NORTHERN COHO FISHERIES

Coho retention will be allowed initially in sockeye-directed fisheries in Areas 3 and 4. Changes to retention rules may change in-season if there are indications of lower abundance through the Nass fishwheels and/or through the Tye test fishery.

There may be increased harvest pressures on Skeena coho in 2017 to satisfy FSC salmon requirements for Skeena First Nations if Skeena sockeye abundance is poor.

Non-retention of coho in all net fisheries in Areas 1, 2 and 7 through 10.

Opportunities for Area F troll in Area 3 and in the Central Coast will depend on in-season expectations of abundance being greater than spawning requirements for upper Nass coho for Area 3, as indicated by in-season abundance past the Nass fishwheels. Troll opportunities for Central Coast coho will depend on in-season indicators of abundance such as catch per unit effort (CPUE) in any net fisheries and in the recreational fleet.

The Pacific Salmon Treaty (PST) includes a provision for closing North Coast troll fisheries. Specifically, a coho CPUE for a specified time period and location of the southeast Alaska troll fishery is used as a trigger for closures to areas 1, 3, 4, 5 and adjacent offshore areas. This provision of the treaty has never been invoked.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.3.2.5 ALLOCATION AND FISHING PLANS

13.3.2.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in the Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

Treaty Fisheries

Nisga'a Fisheries

The Nisga'a Annual Fishing Plan (NAFP) is developed by the Nisga'a-Canada-BC Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final

Agreement and the Nisga'a Harvest Agreement of the Nisga'a Treaty. The Nisga'a Harvest Agreement includes Nisga'a fish allocations expressed as a percentage of the adjusted total allowable catch of Sockeye and Pink salmon. The NAFP is developed in accordance with Chapter 8 of the Nisga'a Final Agreement. Once approved by the Federal Minister of Fisheries, the Nisga'a Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries.

Nisga'a salmon allocations, as defined in the Nisga'a Treaty, are set out as a percentage of the Total Return to Canada (TRTC) up to maximum catch thresholds (63,000 sockeye [10.5%], 6,300 pink [0.6%], 12,600 chinook [21%], 19,200 coho [8%], and 12,000 chum [8%]) in large return years.

These other Nisga'a salmon allocations have the same priority in fisheries management decisions as domestic [food, social and ceremonial (FSC)] fisheries that target Nass salmon.

The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The NAFP is reviewed by the JFMC prior to being submitted to the Minister for approval. Nisga'a Lisims Government is responsible for the internal allocation of catch opportunities between Nisga'a fishers and day to day operation of the Nisga'a fishery.

Pre-season estimates and ranges for the Nisga'a salmon allocations in 2017 are :

Nass Coho: The TRTC 50% probability point estimate from a 5-year average pre-season forecast method is **276,000** with a range of point estimates from **187,000 (75% probability estimate) to 407,000 (25% probability estimate)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**40,000**) for Nass coho, the Nisga'a allocation ranges between **15,000 and 19,200 (maximum limit)**. The mean TRTC estimate (**276,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (**19,200**) of Nass area coho for 2017. The actual allocation target may be larger (up to 36,000), depending on run strength, to account for the current cumulative underage (approximately **17,000**) accrued from 2000 to 2016. The cumulative underage would only be targeted in years where adequate abundances are available for harvest, as indicated by in-season assessments.

13.3.2.5.2 Recreational Fisheries

Recreational fisheries targeting Northern BC coho take place in marine Areas 1 through 10 and in- river. Conservation measures to protect coho will be in place in a number of areas and times.

Recreational coho fisheries typically operate July-October and updates are provided via Fishery Notice. Any changes in-season to fishing regulations can be found at:

<http://www.bcsportfishingguide.ca>

The possession limit for salmon is twice the daily limit.

In North Coast tidal waters, the minimum size limit for coho salmon is 30 cm, the daily limit is 4, and the open time is April 1st to March 31st.

Haida Gwaii (Areas 1 and 2)

Recreational salmon fishing primarily occurs in the tidal waters surrounding Haida Gwaii, with the majority of effort focused along the shoreline from Masset to Langara Island in Area 1 and between Englefield Bay and Port Louis in Area 2W. Recreational fishing occurs primarily between May and September with peak effort and catch occurring in July and August. The recreational fishery targets coho of mixed stocks from across the north and central coast of B.C. The mean annual catch of coho over the past five years has been approximately 35,700 fish.

Nass (Area 3)

Recreational salmon fishing occurs in the tidal waters adjacent to the Nass River, with the peak of the season being from June to August.

The Nass River and tributaries are in Region 6 freshwater fishing area, and there are openings for coho salmon throughout the watershed at different time periods. The standard close time for coho is November 1st to December 31st. The minimum size limit is 30 cm, with daily limits of 4 per day, only 2 of which may be over 50 cm.

Skeena (Area 4)

Recreational salmon fishing occurs in the tidal waters adjacent to the Skeena River, with the peak of the season being from June to August.

The tidal waters salmon recreational fishery in Pacific Fishery Management Area 4 begins with low effort in late April with early season participation by local area residents. Independent and guided day charter effort increases significantly in late May and remains high throughout the peak season in June, July and August, decreasing at the end of August with primarily local participants again by the end of September.

The Skeena River and tributaries are in Region 6 freshwater fishing area, and there are openings for coho throughout the watershed at different time periods. On the lower Skeena River mainstem, the standard opening is July 15th to November 30th, with daily limits of 4 per day and 1 or 2 fish over 50 cm. On the upper Skeena River mainstem, the standard opening is July

15th to October 15th, with daily limits of 4 per day and 2 fish over 50 cm. The minimum size limit is 30 cm.

Areas 5 & 6 tidal waters

The Area 5 tidal water interception salmon recreational fishery begins in late April. Initial effort is mostly by local independent anglers out of Prince Rupert and Port Edward, however the most significant portion of the recreational fishing season develops late May and continues to mid- September. The fleet operating in Area 5 is made up mainly of independent anglers and charter operators.

The Area 6 tidal water interception salmon recreational fishery begins in late April. Initial effort is mostly by local independent anglers out of Kitimat. One recreational fishing lodge and a number of charter operators also fish in Area 6 with the most significant portion of the recreational fishing season taking place between late May and mid-September.

In the mainland watersheds of Region 6 freshwater fishing area, a standard closed time for coho is November 1st to December 31st. Depending on the watershed, openings occur on different dates, with daily limits of 4 per day, only 1 or 2 fish over 50 cm.

Central Coast (Areas 7 to 10)

In Area 7, the main recreational fishing activity takes place in Milbanke Sound off of St. Johns Harbour and in Seaforth Channel between St. Johns and Idol Point, by several recreational lodges and charter operators.

In Area 8, the main recreational fishing effort in tidal water is concentrated in the Hakai Pass area by guests of the recreational lodges in the area. There were four lodges operating in 2016.

In Area 9, a total of 6 lodges operated in Rivers Inlet during the 2016 season.

A condition of licence in the recreational Tidal Waters Sport Fishing Licence, applies to all angling in the Rivers Inlet Special Management Zone. Any anglers fishing in this area should consult the Tidal Waters Sport Fishing Regulations prior to commencing fishing. The online guide can be found at:

<http://www.bcsportfishingguide.ca>

Recreational harvesting does occur in Area 10, with participation by independent anglers and charter operators.

The Central Coast non-tidal waters are in Regions 5B and 6 freshwater fishing areas, and there are openings for coho salmon in the different watersheds at different time periods. The

minimum size limit is 30 cm, with common daily limits of 4 per day and only 2 fish over 50cm. Many rivers have closures from October to December.

Fishery Monitoring and Catch Reporting

In Haida Gwaii, DFO has been collecting recreational catch data through the Lodge Log Book Program and the Haida Creel Program since 1995. Participation in monitoring and reporting of recreational catch in Areas 1 and 2 has been excellent over the past 25 years. Monitoring is continuing to improve with region wide initiatives.

The Area 3 and 4 creel program operated by the North Coast Skeena First Nations Stewardship Society ran from June 1 to August 31, 2016 with a recorded total of 12,581 boat trips and a retained catch of 37,350 coho.

A boat and vehicle based freshwater creel survey was carried out in the Lower Skeena River by Kitsumkalum First Nation technical field staff and LGL Ltd. The creel ran from June 1st to September 17th, 2016. Total effort in 2016 was estimated at 188,397 angler hours, and estimates from 2010-2015 ranged from 92,373 to 230,627 angler hours (Robichaud et al. 2016). Total catch (includes releases) in 2016 was estimated at 1,091 coho salmon (Robichaud et al. 2016).

A creel survey, of the freshwater recreational fisheries in four river systems of the Nass Watershed, was conducted from July to September, 2016 by Nisga'a Fish and Wildlife staff. The estimated catch of coho was 200, down from the mean of 400.

In Areas 6 to 9, DFO has been collecting recreational catch data through the Lodge Log Book Program. In Area 10, Logbook information is used to provide catch and release numbers from anglers fishing there.

Area 7

A total of 3,697 coho were reported caught during the 2016 season. The coho CPUE for 2016 of 0.44 is well below last year's 0.72 and significantly down from the 10 year average (2006-2015) average of 0.93.

Area 8 - Tidal

A total of 2,067 coho were reported caught during the 2016 season. The 2016 CPUE was 0.34 compared to the 10 year average of 0.79.

Area 8 – Non-Tidal

Anecdotal reports of recreational coho fishing in 2016 indicates that fishing was very poor,

Area 9

A total of 7,086 coho were reported caught during the 2016 season. The coho CPUE of 0.77 for 2016 is near the ten year average of 0.74.

Area 10

95 coho were reported caught during the 2016 season. The coho CPUE of 0.14 for 2016 is significantly below the 5 year average of 0.56.

13.3.2.5.3 Commercial Fisheries

There are no coho-directed net fisheries for North Coast coho. Coho may be taken as by-catch in sockeye-directed net fisheries in Areas 3 and 4. Commercial opportunities for coho for the Area F troll fleet occur in off-shore portions of Haida Gwaii and in Dixon Entrance. Additional opportunities in Area 3 and in the Central Coast are possible in years of sufficient abundance.

Allocation

Table 13.3-1: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
North	1 to 10, 101 to 111, 130, 142	12.5%	6.5%	81.0%

*Northern BC Coho Fisheries**Area C Gillnet*

There are no directed fisheries for Northern BC coho. The Area C Harvest Committee has indicated interest in creating a coho-directed fishery in portions of Areas 3 and 4, but no proposal with fishery details has been submitted to the Department for consideration.

Retention of coho will be allowed initially in sockeye-directed gill net fisheries in Areas 3 and 4. This may be modified in-season as more information on stock abundance becomes available.

Non-retention of coho in all gill net fisheries in Areas 1 and 2.

In the Central Coast, gill net opportunities will be non-retention coho unless otherwise specified.

Area A Seine

There are no directed fisheries for Northern BC coho.

Retention of coho will be allowed initially in sockeye and pink-directed seine fisheries in Areas 3 and 4. This may be modified in-season as more information on stock abundance becomes available. Non-retention of coho in all seine fisheries in Areas 1, 2 and 6.

In the Central Coast, seine openings will be non-retention coho unless specified in the fishery notice.

Area F Troll

July 1 - Open to coho in Subareas 101-3 north of 54 degrees 24 minutes north latitude, 101-4, 101-5, 101-8 and 101-9.

July 10 - Coho open in the following areas. Refer to the Fishery Notice issued prior to the opening in case there are any in-season changes.

- Subareas 101-2, 101-4, 101-5, 101-8 to 101-10.
- Subareas 1-2, 1-3 and 1-7 except those portions inside or shoreward of a line running parallel to the mean high water mark of Graham Island and Langara Island at a distance of one nautical mile.
- Subarea 1-5, except that portion inside or shoreward of a line commencing at Wiah Point then following the Subarea boundary east for one nautical mile, then running parallel to the mean high water mark of Graham Island at a distance of one nautical mile to a point true north of Skonun point, then running true south to Skonun Point.
- Subareas 101-3, 101-6 and 101-7, except those portions inside or shoreward of a line commencing at 54°14.976' N and 133°04.386' W then true west for one nautical mile then north and east running parallel to the mean high water mark of the shorelines of Langara Island and Graham Island at a distance of one nautical mile.
- Subareas 1-1, 101-1 and 142-2 except those portions that lie inside a line that begins at 53 deg
- 56.246 min N and 133 deg 17.500 min W then true east to 53 deg 56.246 min N and 133 deg 11.862 min W (Hope Point) then to 53 deg 57.144 min N and 133 deg 07.938 min W (Graham Island) then southerly following the shoreline of Graham Island to the intersection with 53 deg 47 min N then to 53 deg 47 min N and then to the beginning point.

- That portion of Subarea 142-2 north of the parallel passing through 53°37' N, except that portion set out in Bullet 5 above.
- That portion of Subarea 2-88 north of 53 degrees 37 minutes north latitude.
- ©Subareas 2-92, 2-97, 2-98.
- That portion of Subarea 142-2 north of 53 degrees 37 minutes north latitude
- Subareas 2-3, 2-4 and 102.
- Those portions of Subareas 3-1 and Areas 103 and 104 north of 54 degrees 12 minutes north latitude and west of 131 degrees 10 minutes west longitude.
- Subarea 105-1.
- Subarea 105-2, except that portion inside or shoreward of a line that begins at 53 deg 27.900 min N and 130 deg 39.800 min W then to 53 deg 27.985 min N and 130 deg 35.246 min W then to 53 deg 23.700 min N and 130 deg 22.700 min W then to 53 deg 18.700 min N and 130 deg 21.500 min W then to 53 deg 24.300 min N and 130 deg 38.000 min W and then to the beginning point.
- Subarea 105-2, except that portion inside or shoreward of a line that begins at 53 deg 15.900 min N and 130 deg 22.200 min W then to 53 deg 16.100 min N and 130 deg 16.700 min W then to 53 deg 10.000 min N and 130 deg 06.200 min W then to 53 deg 10.000 min N and 130 deg 21.300 min W and then to the beginning point.
- Trolling is closed in all rockfish conservation areas listed in [Appendix 3](#).

Area 3 and Central Coast troll openings could be provided based on coho abundance determined in- season. Continuation of the Central Coast Limited Effort Coho demonstration fishery for the Area F troll fishery may occur in 2017.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch*

reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type).

- Mandatory validation of all salmon for vessels that have retained chinook.

All Area F trollers are required to submit daily catch reports within 24 hours of landing.

Retention of freezer troll salmon heads

In accordance with the conditions of the Area F troll license, all vessels are required to bring all chinook and coho heads (or snouts if they are cut properly to include any CWT) to the dock for submission, unless the license is listed in a fisheries notice listing the Area F troll licenses that are exempted from retaining salmon heads during the 2016 fishing season. This fisheries notice is expected to be released prior to the opening of the fishery.

Poor compliance and head retention practices in past fishing seasons led to the requirement that 50% of the Area F troll fleet retain salmon heads to ensure that Canada met its obligation to sample a minimum of 20%. In recent years, salmon head recovery compliance by the Area F troll fleet has improved allowing for a reduction in the number for vessels that retain salmon heads.

For 2017, the exemption rate will be between 70% and 75%. As in past seasons, licences that were insufficiently diligent in carrying out their conditions of license to bring in all chinook and coho heads will not be exempted in 2017.

13.3.2.5.4 ESSR Fisheries

There are currently no ESSR fisheries for Northern BC coho.

13.4 NORTHERN PINK SALMON FISHING PLAN

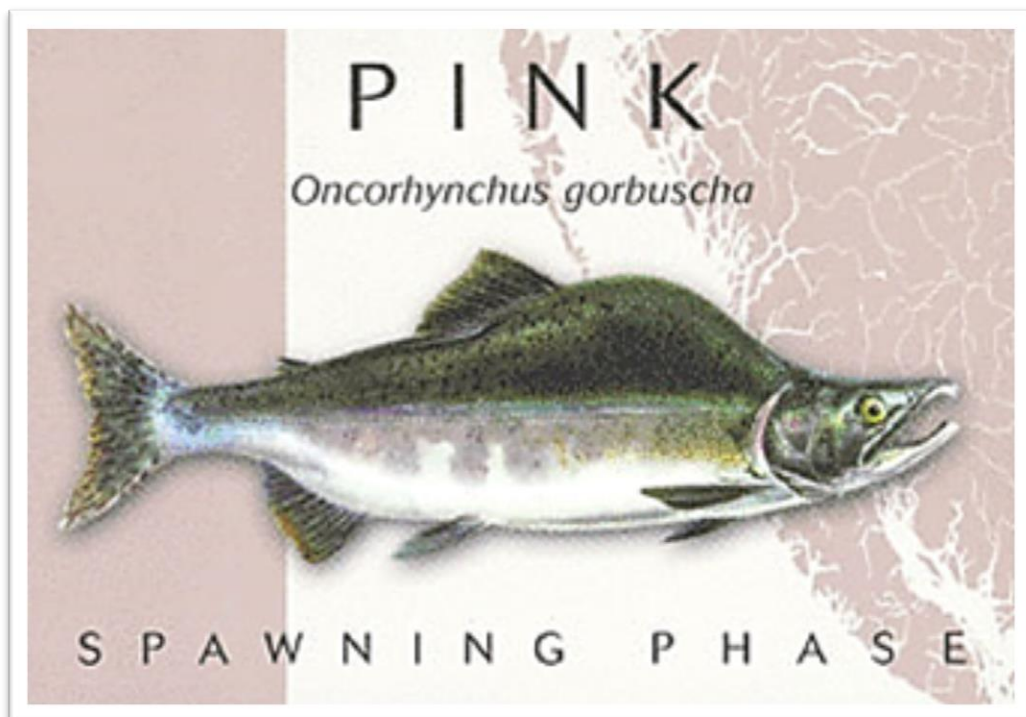
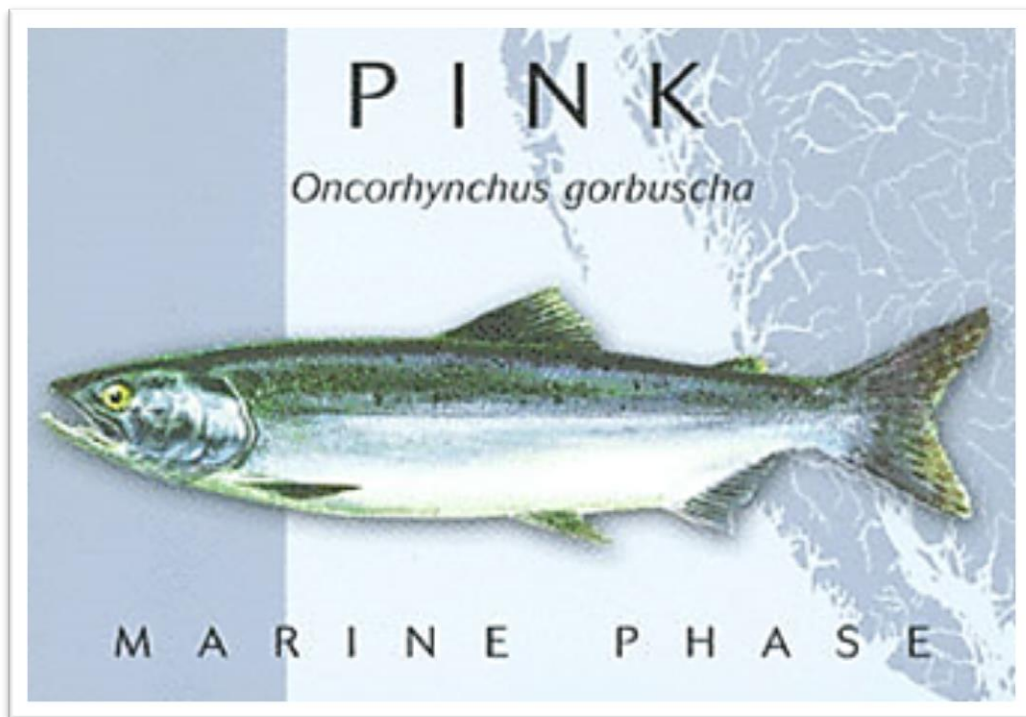


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13.4.1 NORTHERN PINK SALMON OVERVIEW

Pink salmon are the most abundant of the salmon species. They are unusual in having a fixed 2-year life span and also are the smallest in size as adults. Most areas of the North Coast see a dominant year class in pink returns, with either an odd-year or even-year class returning in much greater numbers than the year previous.

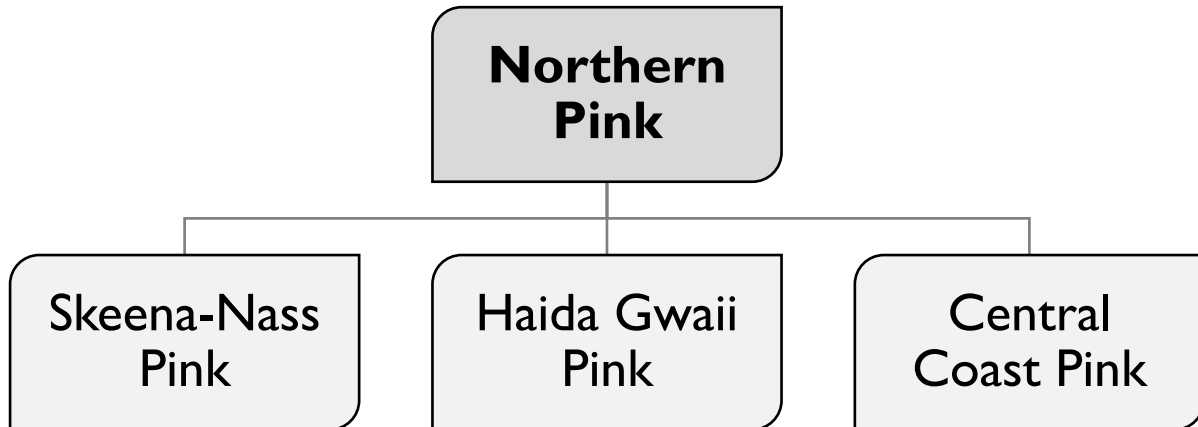


Figure 13.4-1: Overview of Northern Pink Salmon

13.4.1.1 NORTHERN PINK SALMON ENHANCEMENT INFORMATION

The major DFO operation enhancement facilities that produce pinks are:

- BC North Coast:
 - Snootli Creek hatchery

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries.

There are two datasets available: **Post-Season Production** from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release), and the **Production Plan**, which includes proposed targets for the upcoming 2017 brood year.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>

13.4.2 HAIDA GWAII PINK SALMON

13.4.2.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

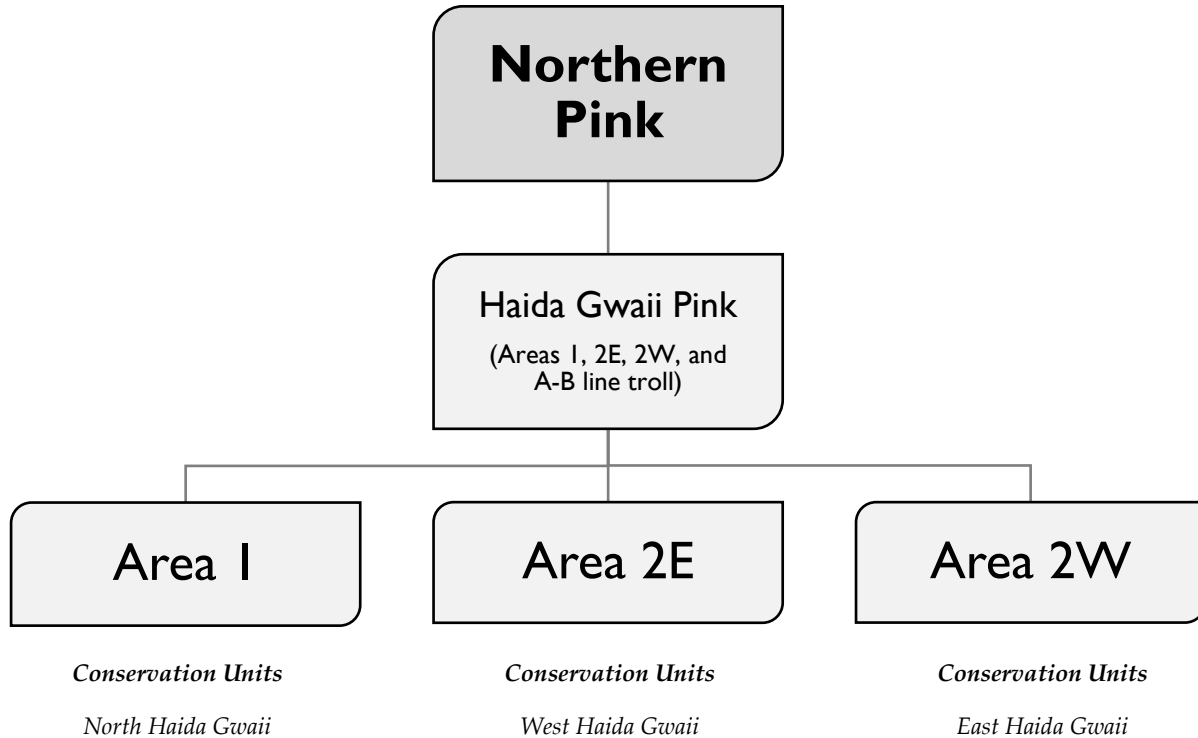


Figure 13.4-2: Conservation Units in the Haida Gwaii Pink Salmon Management Unit (1 CU)

Haida Gwaii pink salmon return on a two year cycle, with dramatic differences in return strength between even and odd calendar years. Most streams have a strong return of Haida Gwaii pink salmon during even calendar years only. Directed harvests are only anticipated during even years.

Pink salmon are also harvested in the Area F troll fishery.

13.4.2.2 STOCK ASSESSMENT INFORMATION

13.4.2.2.1 Pre-season

There are no formal pre-season forecasts for Haida Gwaii pinks. Pre-season predictions for pink salmon surpluses are not reliable and opportunities for pink salmon fisheries are managed in-season.

The Outlook prediction for Haida Gwaii odd year pinks is poor based on consistently low returns of odd year pinks to Haida Gwaii. Returns are highly dependent on pink survival rates.

13.4.2.2 In-season

In odd numbered years, there is no in-season assessment for pink salmon.

In even years, assessment of Haida Gwaii pink run size and escapement is visually assessed by charter patrolmen and opportunistically by DFO staff. Additional assessments are coordinated with the Haida Fisheries Program. The main areas assessed for harvest opportunities are Masset Inlet, Skidegate Inlet, Cumshewa Inlet, Selwyn Inlet, Darwin Sound, Rennel Sound, West Skidegate and Englefield Sound.

13.4.2.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Terminal net fishery openings are based on fish observed schooling in front of the various systems. Fisheries will only be considered if sufficient salmon return to meet escapement goals. The size of the return will be estimated by charter patrolmen visual assessments.

For Area F troll, Canada will manage the Area 1 troll fishery to achieve an annual catch share of 2.57 percent of the annual allowable harvest (AAH) of a portion of south-east Alaska, as agreed to in the Pacific Salmon Treaty (PST). The methodology for AAH calculations is provided in the PST. Canada can carry forward from year to year annual deviations from the prescribed catch. To optimize the pink catch, the northern section of Dixon Entrance will open to pink salmon fishing on July 1st. During this fishery, coho retention will also be allowed. Pink salmon retention will also be allowed during the chinook fishery.

13.4.2.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO HAIDA GWAII PINK FISHERIES

Odd year Haida Gwaii pink returns are low and fisheries are not planned to target directly on the stock.

In even years, assessment of escapements to streams in and near the surplus to be harvested will need to be conducted. Conservation of smaller and/or weaker returning stocks that may be affected by a potential harvest opportunity may influence the timing and/or location of the fishery or may result in the forgoing of the fishing opportunity.

Coho by-catch may be a concern in some areas. Brailing by seines and the use of revival boxes by both gill nets and seines will be required.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above.

Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.4.2.5 ALLOCATION AND FISHING PLAN

13.4.2.5.1 First Nations Fisheries

Food Social and Ceremonial Fisheries

First Nations opportunities to harvest salmon for FSC purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are currently no Treaty fisheries for Haida Gwaii pink salmon.

13.4.2.5.2 Recreational Fisheries

Recreational salmon fishing primarily occurs in the tidal waters surrounding Haida Gwaii, with the majority of effort focused along the shoreline from Masset to Langara Island in Area 1 and between Englefield Bay and Port Louis in Area 2W. Recreational fishing occurs primarily between May and September with peak effort and catch occurring in July and August. Pink salmon are incidentally retained in the recreational fishery which primarily targets chinook and coho salmon. The daily aggregate limit of salmon is four (4) per day and a

maximum 2 of which may be chinook. Updates are provided via Fishery Notice and published on the recreational fisheries website:

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

Fishery Monitoring and Catch Reporting

DFO has been collecting recreational catch data through the Lodge Log Book Program and the Haida Creel Program since 1995. Participation in monitoring and reporting of recreational catch in Areas 1 and 2 has been excellent over the past 25 years. Monitoring is continuing to improve with region wide initiatives.

13.4.2.5.3 Commercial Fisheries

In 2017, potential opportunities for commercial fisheries for Haida Gwaii pink salmon are not anticipated.

Description	Areas	Seine A	Gill Net C	Troll F
North	1, 2E, 2W (even), 3 to 5, 101 to 105	75.5%	22.5% ^a	2.0%

Notes on pink allocations (north):

^a Skeena sharing 75% seine: 25% gillnet

Haida Gwaii Pink Fisheries

It is not anticipated that there will be commercial fishing opportunities for Haida Gwaii pink salmon in 2017 as odd year returns are typically weak.

Area A (Seine) and Area C (Gill Net)

No gillnet or seine fisheries will be directed on passing stocks.

Mid-August to September: Possible terminal fisheries directed on identified surpluses of local pink stocks. The most likely areas anticipated to produce commercial harvest opportunities are Masset Inlet in Area 1, Darwin Sound in Area 2E and West Skidegate Inlet in Area 2W.

Area F Troll

Retention of pink salmon will be permitted in conjunction with troll openings targeting other species as follows:

June 15 to 21 - Targeted chinook ITQ opening.

July 1 – AB Line Targeted pink and coho fishery opening. See Section [13.3](#) – Northern Coho for details.

July 10 – Targeted coho fishery opening. See Section [13.3](#) – Northern Coho for details.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type*).

13.4.2.5.4 ESSR Fisheries

There are no anticipated ESSR fisheries for Haida Gwaii pink salmon

13.4.3 SKEENA-NASS PINKS

13.4.3.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

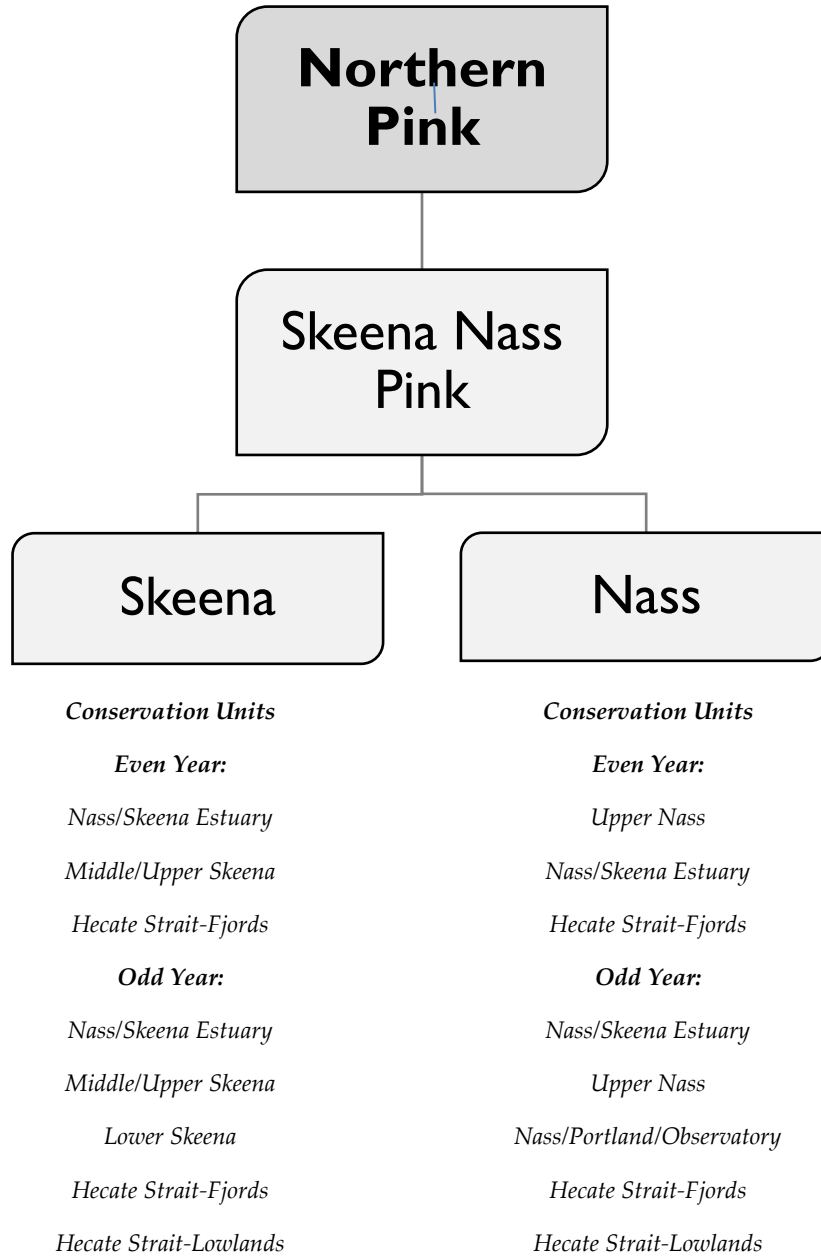


Figure 13.4-3: Conservation Units in the Skeena-Nass Pink Salmon Management Unit

Pink returns to the Nass watershed are dominant in odd-years with major returns seen to the Iknouk, Kwinimass and Khutzeymateen Rivers. Most Area 3 pink stocks arrive in the fishing

area at approximately the same time, usually in mid-July. The outer coastal stocks are an exception, arriving in August and early September.

In the Skeena River, 128 systems have recorded pink salmon presence. Tagging studies were conducted in 1982, 1984 and 1985. These studies were designed primarily to provide information on interception rates of southeast Alaskan pink stocks, but also provided information on stock abundance, migration and timing of Canadian stocks. Management stock groupings are Skeena River and Coastal. There are no major coastal pink stocks in Areas 4 or 5; the majority of returns to these areas are from a number of small streams that contribute to the total return.

13.4.3.2 STOCK ASSESSMENT INFORMATION

13.4.3.2.1 Pre-season

There are no formal pre-season forecasts for pinks in the Nass or Skeena systems. Both systems usually see greater returns in odd years, with smaller returns in even years. Historically pink returns have been highly variable and expectations are highly uncertain.

The 2017 Salmon Outlook prediction for Skeena-Nass pinks is abundant based on the strength of the brood year. However, returns are known to be highly variable. Fishing opportunities in Areas 3, 4 and 5 will be based on in-season indications of abundance.

13.4.3.2.2 In-season

Returns of pink salmon to the Nass River are monitored through the fish wheel program operated by Nisga'a Fisheries. Pink stocks are managed to stream-specific escapement goals in Area 3 while keeping within the Pacific Salmon Treaty pink annex considerations. Targeted net pink fisheries will be based upon identified surpluses with consideration for stocks of concern.

The Tyee test fishery on the Skeena River is the main indicator for relative abundance of pink salmon in Areas 4 and 5 through the use of a multi-panel gill net with varying mesh sizes. Returns are variable and estimates are also subject to error as annual run timing and the annual catchability of salmon by the Tyee test fishery net varies. Fishing opportunities for pinks in Area 5 are managed in conjunction with Area 4 openings.

13.4.3.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

In-season Decisions

Weekly in-season decisions for Nass pinks are made from run size predictions based on:

- Catch and effort data from the Area 3 and Alaskan Tree Point commercial net fisheries.
- Escapement information from the Nisga'a Fishwheel Program conducted at test-fishing sites near Gitwinksihlkw on the Nass River and fish counts at the Meziadin fishway, and later from individual stream inspections for pinks.
- Pink stocks are managed to stream-specific escapement goals in Area 3 while keeping within the Pacific Salmon Treaty pink annex considerations. Targeted net pink fisheries will be based upon identified surpluses with consideration for stocks of concern.

Fisheries on the Skeena traditionally switch focus from sockeye to pink salmon in mid-August. Once the fishery switches to pink management, if the yearly escapement is not expected to reach one million, the fishery may close. Pink returns between one and two million are managed with a balance between catch and escapement, and this balance depends on escapement distribution and concern for other species. Coastal Area 4 and 5 pink stocks are traditionally managed in accordance with Skeena runs until early-August when local pink stocks become prevalent. Care will be taken not to over-harvest local stocks while conducting the Skeena directed fishery. For instance, in years when there are large surpluses of Skeena pink salmon, boundaries may be established around local, coastal pink streams to protect pinks holding in front of these systems while conducting the main Skeena directed pink fishery. Seine fisheries for coastal pink stocks are then considered based on catch and stream escapement information.

Seine fisheries for Area 5 pink stocks are considered starting in mid-August based on catch and stream escapement information. A targeted selective gill net fishery for pinks in Area 5 is possible while Skeena pinks are transiting the area and before the terminal stocks in Ogden Channel appear. Small mesh nets would be implemented to minimize the by-catch of sockeye and chum, and the fishery would be terminated if by-catch encounters were found to be high.

If abundances permit, a troll pink fishery in Area 3 may be conducted. This fishery would be managed to minimize by-catch of chum and gear conflicts with net fleets.

13.4.3.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO SKEENA AND NASS PINK FISHERIES

- For Nass area fisheries, pink fishing opportunities will be managed to conserve weak stocks of Area 3 chum. Area 3 chum and Kwinageese sockeye are stocks of concern and will require focused management planning.

- Non-retention of steelhead in all Skeena and Nass area fisheries is mandatory.
- Area 4 and 5 fisheries will be managed in late July and early August to minimize impacts to weak sockeye and chum stocks.
- Skeena pink fishing opportunities may be limited to reduce harvest impacts on Skeena sockeye and chum stocks by restricting late season openings and ensuring compliance during seine pink harvests.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.4.3.5 ALLOCATION AND FISHING PLANS

13.4.3.5.1 First Nations Fisheries

Food Social and Ceremonial Fisheries

First Nations opportunities to harvest salmon for FSC purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community

needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

Nisga'a Fisheries

The Nisga'a Annual Fishing Plan (NAFP) is developed by the Nisga'a-Canada-BC Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final Agreement and the Nisga'a Harvest Agreement of the Nisga'a Treaty. The Nisga'a Harvest

Agreement includes Nisga'a fish allocations expressed as a percentage of the adjusted total allowable catch of Sockeye and Pink salmon. The NAFP is developed in accordance with Chapter 8 of the Nisga'a Final Agreement. Once approved by the Federal Minister of Fisheries, the Nisga'a Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries.

Nisga'a fish allocations of Sockeye and Pink salmon, as defined in the Nisga'a Harvest Agreement, are set out as a percentage of the Canadian Total Allowable Catch for Nass Area stocks, 13% for Nass Sockeye and 15% for Nass Pink). Nisga'a Harvest Agreement fisheries have the same priority in fisheries management decisions as other commercial and recreational fisheries that target Nass Area salmon stocks. Other Nisga'a salmon allocations, as defined in the Nisga'a Treaty, are set out as a percentage of the Total Return to Canada (TRTC) up to maximum catch thresholds (63,000 sockeye [10.5%], 6,300 pink [0.6%], 12,600 chinook [21%], 19,200 coho [8%], and 12,000 chum [8%]) in large return years. These other Nisga'a salmon allocations have the same priority in fisheries management decisions as domestic [food, social and ceremonial (FSC)] fisheries that target Nass salmon.

The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The NAFP is reviewed by the JFMC prior to being submitted to the Minister for approval. Nisga'a Lisims Government is responsible for the internal allocation of catch opportunities between Nisga'a fishers and day to day operation of the Nisga'a fishery.

Pre-season estimates and ranges for the Nisga'a salmon allocations in 2017 are:

Nass Pink: The TRTC 50% probability point estimate from a 5-year average pre-season forecast method for odd-year returns of Nass Pink is **355,000** with a range of point estimates from **216,000 (75% probability estimate) to 583,000 (25% probability estimate)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**150,000**), the Nisga'a allocation ranges between **1,500** and **57,000**. The mean TRTC estimate (**355,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (approximately **21,000**) of Nass area pink for 2017. The actual Nisga'a allocation target for 2017 will be reduced by 5% (approximately 3,230) or more depending on run strength to account for some of the current cumulative overage (approximately 64,000) owed for Nass area odd-year pink accrued from the 2015 return.

13.4.3.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters adjacent to the Nass and Skeena Rivers, Areas 3 & 4. The fishery is open April 1st to March 31st, with the peak of the season being from June to August. The daily limit for pink salmon in Areas 3 & 4 is four (4) per day, unless otherwise varied.

The Nass and Skeena Rivers and tributaries are in Region 6 freshwater fishing area, and an opening for pink salmon occurs on the Nass and Skeena mainstems from July 1st to September 15th. The minimum size limit is 30 cm, and a daily limit of 2 fish.

The minimum size limit for pink salmon is 30 cm, in tidal waters and freshwater. The possession limit for salmon is twice the daily limit.

Updates to recreational fisheries regulations are provided via Fishery Notice and published on the recreational fisheries website:

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

For 2017 in Northern BC tidal waters, it is anticipated that there will be recreational pink fisheries targeting Skeena and Nass pink stocks.

Fishery Monitoring and Catch Reporting

The Area 3 and 4 Creel Program was run by the North Coast Skeena Stewardship Society and operated from June 1st to August 31st, 2016, with 12,581 recorded boat trips and a retained catch of 3,336 pink salmon.

A boat and vehicle based freshwater creel survey was carried out in the Lower Skeena River by Kitsumkalum First Nation technical field staff and LGL Ltd. The creel ran from June 1st to September 17, 2016. Total effort in 2016 was estimated at 188,397 angler hours and estimates from 2010-2015 ranged from 92,373 to 230,627 angler hours (Robichaud et al. 2016). Total catch (includes releases) in 2016 was estimated at 1,016 pink salmon (Robichaud et al. 2016).

A creel survey of the freshwater recreational fisheries in four river systems of the Nass watershed was conducted from July to September 2016 by Nisga'a Fish and Wildlife staff.

13.4.3.5.3 Commercial Fisheries

Allocations

Table 13.4-1: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
North	1, 2E, 2W (even), 3 to 5, 101 to 105	75.5%	22.5% ^a	2.0%

Notes on pink allocations (north):

^a Skeena sharing 75% seine: 25% gillnet

Skeena-Nass Pink Fisheries

Fishing opportunities may be considered if stocks appear to be returning in sufficient abundance. Commercial harvest opportunities are dependent on run timing, but typically occur between mid-July and mid-August. The areas typically fished are outlined below and may be updated in-season.

Area A Seine

- **Area 3:** July 3 – First anticipated seine fishery opening will be determined in-season based on sockeye and pink abundance. Minimum bunt mesh size 70 mm (2.76 inches). Earlier fishery possible if stocks are abundant.
- **Areas 4 and 5:** Openings will be based on Skeena salmon returns and the target annual exploitation rate and will be similar to previous years subject to ongoing discussions with First Nations and commercial fishing interests.

Area C Gill Net

- **Area 3:** June 6 – First anticipated gill net fishery, but may vary depending on run size. Maximum mesh size is 137 mm (5.39 inches).
- **Areas 4 and 5:** Openings will be based on Skeena salmon returns and the target annual exploitation rate and will be similar to previous years subject to ongoing discussions with First Nations and commercial fishing interests.

Area F Troll

- **Area 3:** If abundances permit, a troll pink fishery may be conducted. This fishery would be managed to minimize by-catch of chum and gear conflicts with net fleets.

Fishery Monitoring and Catch Reporting

For 2017, the Department is continuing to work with Area Harvest Committees on catch monitoring programs in the following areas:

Area A Seine (PFMA 3 to 6):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload
- Independent verification of landed catch through a designated service provider
- Deployment of at-sea observers with priority placed on highest profile fisheries occurring concurrently

Area C Gill net (PFMA 3 to 5):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload

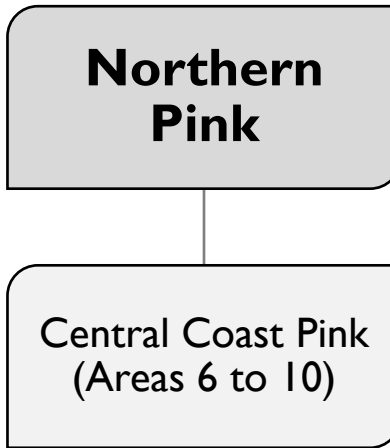
Additional details on the catch monitoring programs will be communicated via Fisheries Notices.

13.4.3.5.4 Testing of methods for verification of landed catch ESSR Fisheries

All pink ESSR fisheries will be by selective means with live release of all non-target species. If a local surplus of pinks is identified, an ESSR opportunity may be available at the Kitwanga weir (Gitanyow First Nation) and Moricetown fishway (Wet'suwet'en First Nation)

13.4.4 CENTRAL COAST PINK SALMON

13.4.4.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT



Conservation Units

Areas 6 to 10

Even Year:

Hecate Strait Fjords

Hecate Strait Lowlands

Odd Year:

Hecate Strait Fjords

Hecate Strait Lowlands

Areas 9 and 10

Homathko-Klinaklini Rivers-Smith

Inlet-Bella Coola-Dean

Figure 13.4-4: Conservation Units in the Central Coast Pink Salmon Management Unit

The Central Coast has more than 130 streams and rivers that support populations of pink salmon. Central Coast streams support both odd and even year stocks with even year stocks usually being more abundant in Areas 7 to 10 and in odd years in Area 6. Both Area 6 and Area 8 can see extremely large returns of pink salmon.

13.4.4.2 STOCK ASSESSMENT INFORMATION

13.4.4.2.1 Pre-season

There are no formal pre-season forecasts for pinks in the Central Coast. Area 6 usually sees greater returns in odd years, while Areas 7 to 10 historically saw larger runs in even years. Pink returns have been highly variable and expectations are highly uncertain.

The 2017 Salmon Outlook prediction for Central Coast pinks is abundant for Area 6 based on the strength of the brood year. For Areas 7 to 10, poor returns are expected based on low 2015 brood year escapements for Area 7 and Area 8. However, returns are known to be highly variable. Fishing opportunities in Areas 6 to 10 will be based on in-season indications of abundance.

13.4.4.2.2 In-season

Catch and spawning escapement data are used as indicators of stock abundance for Central Coast pink stocks. Catch per unit effort in the commercial fishery is monitored as an indicator of overall pink abundance, and can be used as an indicator as to whether or not escapement targets will be met. Each area contains key streams whose escapements are actively monitored in-season to determine run timing and size. This is accomplished by visual counts of fish in streams, either from the air or by walking the streams.

13.4.4.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

13.4.4.3.1 In-season Decisions

Where possible, openings in Areas 6 through 10 will be coordinated to distribute effort appropriately.

For Area 6, seine pink fishing opportunities and opening dates are evaluated pre-season based on brood year escapements, run timing and any concurrent fisheries taking place in other areas. Seine fisheries will target pink stocks returning to numerous streams near Gil Island with the Quaal and Kemano Rivers being the main producers in this area. Additional fishing opportunities are based on in-season assessments of commercial catch per unit effort (CPUE), with high CPUE's being indicative of a strong return. As the season progresses, the in-season indicator changes to the assessment of stream escapements to determine if further fishing opportunities are available.

For Areas 7 through 10, in-season decisions are made in consultation with local First Nations, the Central Coast First Nations Salmon Coordinating Committee and Central Coast Advisors for the management of fisheries in these areas.

Pink salmon are mainly caught as by-catch in chum-directed fisheries in Area 7. In Area 8, pink fisheries target mainly Atnarko River stocks but there is a component of Kwatna River and Koeye River pinks that are fished. The pink fishery on Kwatna stocks occurs at the same time as the Atnarko fishery, while Koeye pinks are harvested during the latter part of August. There are no pink-directed fisheries in Areas 9 or 10.

13.4.4.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO CENTRAL COAST PINK FISHERIES

Area 6:

- Area 6 can produce large returns of pink salmon in some years (e.g. 2009 and 2013). Seine fisheries targeting large pink returns will be managed with consideration of impacts to non- target species such as wild chum.
- Commercial net fishing is limited to daylight hours.
- Other management measures in effect include mandatory brailing for all seine sets and non- retention of chinook and steelhead in all fisheries and non-retention of chum at the Gil Island seine fishery.
- Opportunities to retain incidental catches of coho may be considered based on in-season information on stock strength.

Area 7:

- Fishing will be limited to daylight hours.
- Net fisheries will begin with non-retention of coho. Easing of restrictions in-season could occur if coho abundance is high. In McLoughlin Bay and Kitasoo hatchery chum targeted fisheries, coho retention will likely be allowed due to the terminal nature of these fisheries and the hatchery origin of the stocks.
- Harvesting opportunities for pink salmon will be coincidental to chum-directed harvests.
- Seines are required to brail their catch and release sockeye, coho, chinook and steelhead. Gill nets are required to release steelhead and coho.

- During periods of high salmon catches in Areas 7 or 8, fisheries will be managed so that there is a maximum of two consecutive days of fishing. This action has been recommended by fishers and processors to maximize the value of the salmon harvested.

Area 8:

- Fishing will be limited to daylight hours.
- Net fisheries will begin with non-retention of coho. Easing of restrictions in-season could occur if coho abundance is high.
- Seines are required to brail their catch and release sockeye, coho, chinook and steelhead. Gill nets are required to release steelhead and coho.
- If salmon stocks surplus to escapement requirements are identified, fisheries could occur in areas where incidental catch or by-catch concerns do not preclude harvest activities.
- Between July 3 and the week of August 13, weedlines are required for all gill nets in Subareas 8-5 north of Bold Point and 8-8 to reduce steelhead interceptions.
- During periods of high salmon catches in Areas 7 or 8, fisheries will be managed so that there is a maximum of two consecutive days of fishing. This action has been recommended by fishers and processors to maximize the value of the salmon harvested.

Areas 9 and 10:

- There are no pink-directed fisheries in these areas.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank.

The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

13.4.4.5 ALLOCATION AND FISHING PLANS

First Nations Fisheries

Food Social and Ceremonial Fisheries

First Nations opportunities to harvest salmon for FSC purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe details of the FSC fishery, including the dates, times, methods, and locations of harvest. Communal licences for north coast First Nations are typically multi-species, and are issued on an annual basis. Licences may also be amended for shorter durations.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing

system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are no Treaty fisheries for Central Coast pink salmon.

13.4.4.5.1 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters of the Central Coast (Areas 6 to 10). The pink salmon fishery is open April 1st to March 31st, with the peak of the season being from June to August. The daily limit for pink salmon is four (4) per day, unless otherwise varied.

The minimum size limit for pink salmon is 30 cm, in tidal waters and freshwater. The possession limit for salmon is twice the daily limit.

The Area 6 tidal water recreational salmon fishery begins in late April. Initial effort is mostly by local independent anglers out of Kitimat. One recreational fishing lodge and a number of charter operators also fish in Area 6 with the most significant portion of the recreational fishing season taking place between late May and mid-September.

In Area 7, the main recreational fishing activity takes place in Milbanke Sound off of St. Johns Harbour and in Seaforth Channel between St. Johns and Idol Point, by several recreational lodges and charter operators.

In Area 8, the main recreational fishing effort in tidal water is concentrated in the Hakai Pass area by guests of the recreational lodges in the area. There were four lodges operating in 2016.

In Area 9, a total of 6 lodges operated in Rivers Inlet during the 2016 season.

A condition of licence in the recreational Tidal Waters Sport Fishing Licence, applies to all angling in the Rivers Inlet Special Management Zone (SMZ), and reads as follows:

Area 9 Special Management Zone (SMZ). Any anglers fishing in this area should consult the Tidal Waters Sport Fishing Regulations prior to commencing fishing.

Recreational harvesting occurs in Area 10 with participation by independent anglers and charter operators.

The Central Coast non-tidal waters are in Regions 5B and 6 freshwater fishing areas, and there are openings for pink salmon in the different watersheds at different time periods. The minimum size limit is 30 cm, with common daily limits of 2 per day.

Updates are provided via Fishery Notice and published on the recreational fisheries website: <http://www.bcsportfishingguide.ca>.

For 2017 in Northern BC tidal waters, it is anticipated that there will be recreational pink fisheries targeting Central Coast pink stocks.

Fishery Monitoring and Catch Reporting

In Areas 6 to 9, DFO has been collecting recreational catch data through the Lodge Log Book Program. In Area 10, logbook information is used to provide catch and release numbers from anglers fishing in the area.

13.4.4.5.2 Commercial Fisheries

Allocations

Table 13.4-2: Commercial Allocation Implementation Plan for the 2015–2019 period

Description	Areas	Seine A	Gill Net C	Troll F
Central	6 to 10	95.0%	5.0% ^b	*

Notes on pink allocations (north):

* by-catch provision

^b potential for future re-negotiation

Central Coast Pink Fisheries

Fishing opportunities may be considered if stocks appear to be returning in sufficient abundance. Commercial harvest opportunities are dependent on run timing, but typically occur between mid-July and mid-August. The areas typically fished are outlined below and may be updated in-season.

Area 6

- **July 10:** First anticipated seine opening; areas open will be determined in-season. Minimum bunt mesh size 70mm. Catch rates in this fishery will be used as an indicator of returning abundances of pink salmon to Area 6.

Area 7

- Harvest opportunities for pink salmon will be incidental to chum-directed fisheries for both seine and gillnets.

Area 8

- **Second week of July:** The assessment openings may be extended if the runs appear strong based on a review of catches to-date. Opportunities for a gill net and seine opening on Monday in the third week of July are considered, based on the results of the assessment fisheries:
 - If Atnarko pink stocks are weak but Bella Coola and Kimsquit chum stocks are strong, Subareas 8-3 and a portion of Subarea 8-4 south of a line from Walker Point to Hergest Point may be closed;
 - If Kimsquit chum are weak but Bella Coola chum are strong, Subarea 8-5 may be closed;
 - If Kimsquit chum are very weak but Bella Coola chum are strong, Subareas 8-5 and 8-4 north of Walker Point may be closed.

Areas 9 and 10

- No commercial harvesting of pink salmon is anticipated in these areas in 2017.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries.

In addition, for any fisheries in for any Area 6 the following will be implemented as a part of the catch monitoring pilots (Area A Seine: PFMA 3 and 6; Area C Gill net: PFMA 3 to 5):

Area A Seine (PFMA 3 to 6):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload
- Independent verification of landed catch through a designated service provider
- Deployment of at-sea observers with priority placed on highest profile fisheries occurring concurrently

Area C Gill net (PFMA 3 to 5):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload

Additional details on the catch monitoring programs will be communicated via Fisheries Notices.

13.4.4.5.3 ESSR Fisheries

All pink ESSR fisheries will be by selective means with live release of all non-target species. If a local surplus of pinks is identified, an ESSR opportunity may be available on the Kemano River or at Bish Creek (Haisla First Nation).

13.5 NORTHERN SOCKEYE SALMON FISHING PLAN

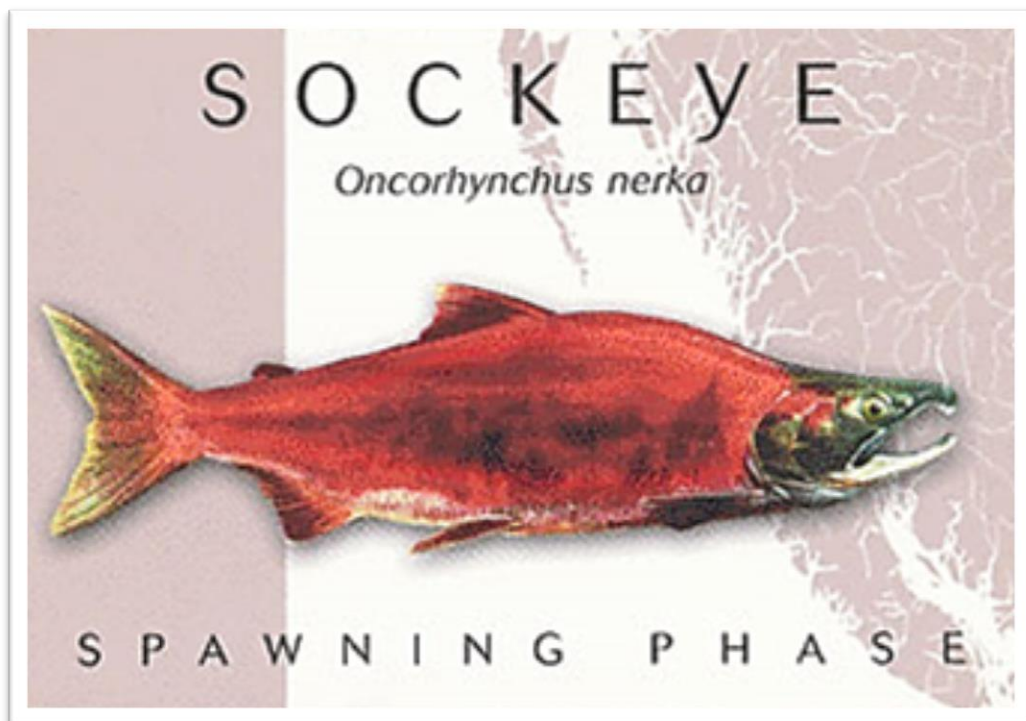
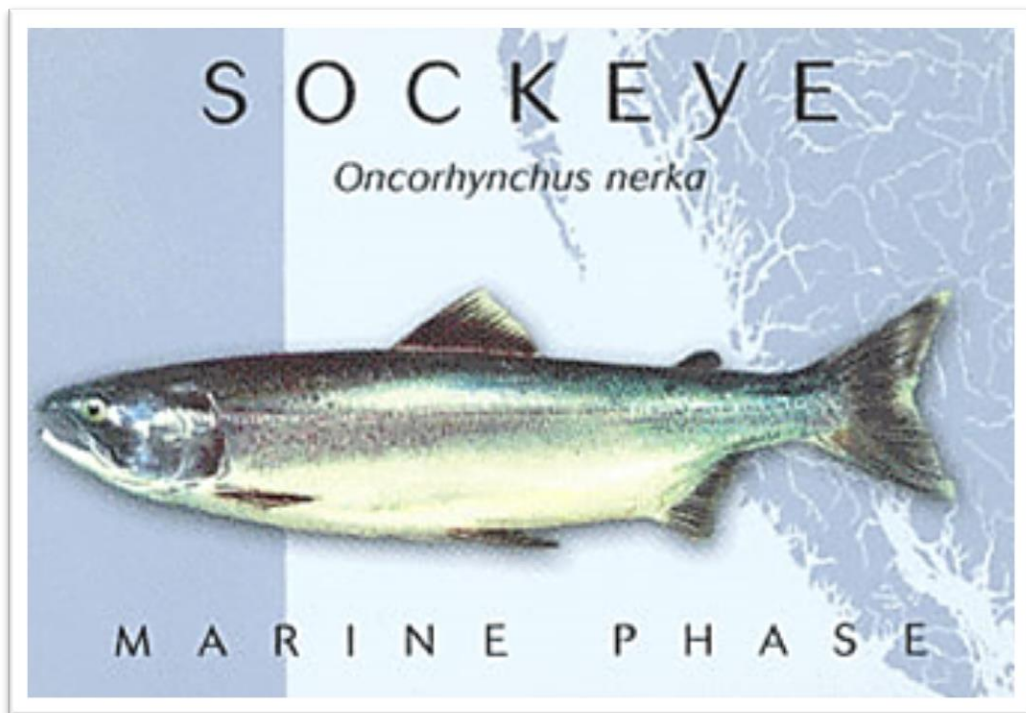


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13.5.1 NORTHERN SOCKEYE OVERVIEW

In northern BC, major spawning runs of sockeye salmon are found in the watersheds for the Skeena and Nass rivers, and historically to Rivers and Smith Inlets. Sockeye are the best known of the Pacific salmon species and are of special importance to the Indigenous people of the North Coast for food, social and ceremonial (FSC) harvesting.

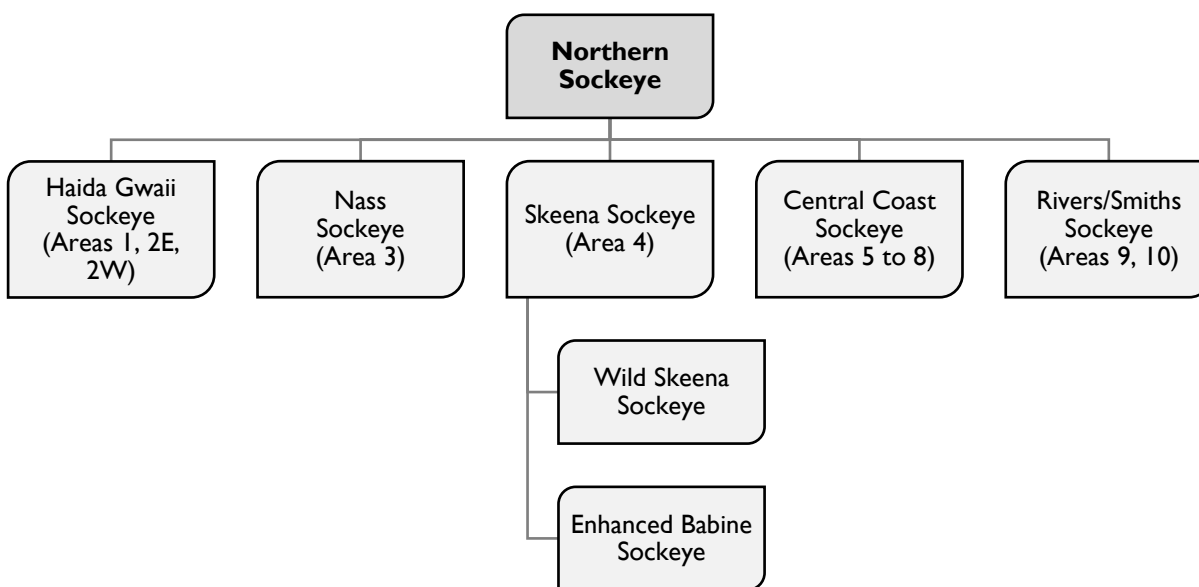


Figure 13.5-1: Overview of Northern Sockeye Salmon

13.5.1.1 NORTHERN SOCKEYE ENHANCEMENT INFORMATION

The major DFO operation enhancement facilities that produce sockeye are:

- BC North Coast:
 - Fulton River project
 - Pinkut Creek project
 - Snootli Creek hatchery

The information available at the link below addresses production from major DFO Operations (OPS) facilities, contracted Community Economic Development Program hatcheries (CEDP), larger or more complex Public Involvement Projects (Designated Public Involvement or DPI) operated by volunteers, and Aboriginal Fisheries Strategy (AFS). Not included are smaller Public Involvement Projects (PIPs) that are focused toward stewardship, stock rebuilding or educational activities and do not release large numbers of fish that would affect fisheries.

There are two datasets available: **Post-Season Production** from the 2015 brood year (i.e. 2016 releases, and #'s on hand for 2017 release), and the **Production Plan**, which includes proposed targets for the upcoming 2017 brood year.

<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html>.

13.5.2 HAIDA GWAI SCKEYE (AREAS I, 2W AND 2E)

13.5.2.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

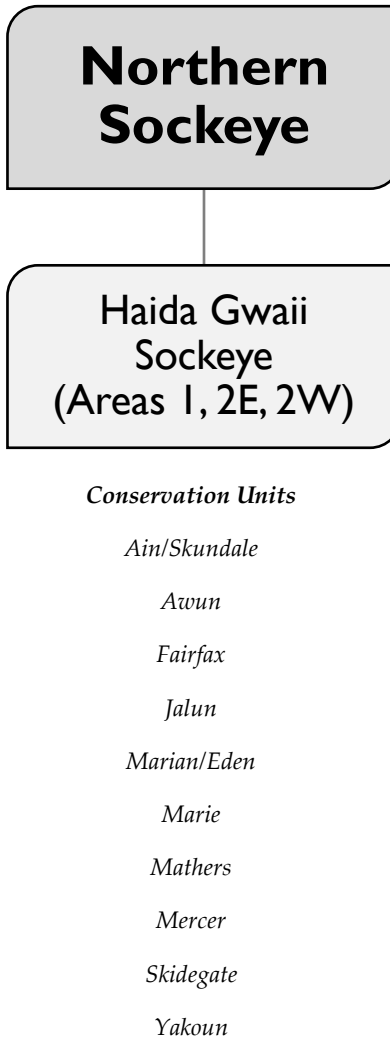


Figure 13.5-2: Overview of Haida Gwaii Sockeye

Sockeye returning to Haida Gwaii are relatively small stocks and are primarily harvested in targeted Haida food, social and ceremonial (FSC) fisheries

13.5.2.2 STOCK ASSESSMENT INFORMATION

13.5.2.2.1 Pre-season

There are no formal quantitative pre-season forecasts for Haida Gwaii sockeye. The qualitative Salmon Outlook prediction is uncertain due to limited assessment work. Most stocks are

generally considered healthy, however, the status of sockeye returns to the Ain River has been uncertain.

13.5.2.2.2 In-season

The Haida Fisheries Program conducts the stock assessment of Haida Gwaii sockeye to facilitate management of FSC fisheries. Sockeye returning to Skidegate Lake are visually enumerated at a floating fish fence at Copper Creek while the remainder of sockeye stocks are enumerated using visual stream counts during spawning.

13.5.2.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

There are no commercial fisheries and very little recreational effort directed on Haida Gwaii sockeye. The Haida Fisheries Program facilitates the management of the FSC harvest by conducting stock assessment, monitoring, FSC harvesting and develops FSC fishery management guidelines based on consultation with the Haida community.

13.5.2.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO HAIDA GWAII SOCKEYE FISHERIES

Haida Gwaii sockeye are generally a very early-timed stock, returning in mid-May to late June. Very small in size, these sockeye do not contribute to any commercial net harvest as a target species or as by-catch, and are not subject to known recreational harvest. Haida Gwaii sockeye are mainly harvested for FSC purposes.

The main producers of sockeye harvested in the Area F troll fishery are the Skeena and Nass Rivers, and trollers at times intercept a small amount of these fish in Dixon Entrance as by-catch in their directed Fisheries on coho, pink and chinook. Fisheries are managed to avoid migrating Fraser River sockeye by prohibiting sockeye retention west of 133 degrees West Longitude. In years of low Skeena or Nass sockeye returns, sockeye retention may be prohibited throughout the North Coast area.

13.5.2.5 ALLOCATION AND FISHING PLANS

13.5.2.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to

individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

First Nations Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, consultations will be undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

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The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South

Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are currently no Treaty fisheries for sockeye in Haida Gwaii.

13.5.2.5.2 Recreational Fisheries

Recreational salmon fishing occurs primarily in the tidal waters surrounding Haida Gwaii, with the majority of effort focused along the shoreline from Masset to Langara Island in Area 1 and between Englefield Bay and Port Louis in Area 2W. Recreational fishing occurs primarily between May and September with peak effort and catch occurring in July and August. Sockeye salmon are incidentally retained in the recreational fishery which primarily targets chinook and coho salmon. The daily aggregate limit of salmon is four (4) per day and a maximum of which 2 may be chinook.

Detailed information on salmon closures, daily limits, size limits, gear restrictions and other management measures are found online at:

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

This webpage also contains a link to subscribe to recreational Fishery Notices which can be sent to your email address.

Fishery Monitoring and Catch Reporting

DFO has been collecting recreational catch data through the Lodge Log Book Program and the Haida Creel Program since 1995. Participation in monitoring and reporting of recreational catch in Areas 1 and 2 has been excellent over the past 25 years. Monitoring is continuing to improve with region wide initiatives.

13.5.2.5.3 Commercial Fisheries

Allocation

Description	Areas	Seine A	Gill Net C	Troll F
Skeena/Nass	1, 3 to 5, 101 to 105	25%	75%	*

Notes on sockeye allocation (north):

* by-catch provisions

Haida Gwaii Local Sockeye Fisheries

There are no commercial fisheries targeting Haida Gwaii sockeye stocks, though some may be harvested incidentally by the Area F troll fishery at times of sockeye retention. The harvest of Haida Gwaii stocks during these fisheries is expected to be very low.

Area A&C

There are no net opportunities to harvest these stocks

Area F Troll

Retention of sockeye salmon will not be permitted as by-catch in 2017 due to low forecasted returns to the Nass and Skeena rivers.

Fishery Monitoring and Catch Reporting

Fishery Monitoring and Catch Reporting includes the following:

- Mandatory requirement to file fishing reports in all commercial fisheries, including “Start/Pause/Cancel/End” Fishing reports.
- Mandatory catch reporting by phone-in with a paper harvest log and electronic transmission with an electronic harvest log (E-log) in all commercial fisheries. (*Catch reporting requirements are specific to each licence group and are detailed in the conditions of licence for each gear type*).

13.5.2.5.4 ESSR Fisheries

There are currently no ESSR fisheries taking place for Haida Gwaii sockeye.

13.5.3 NASS SOCKEYE

13.5.3.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

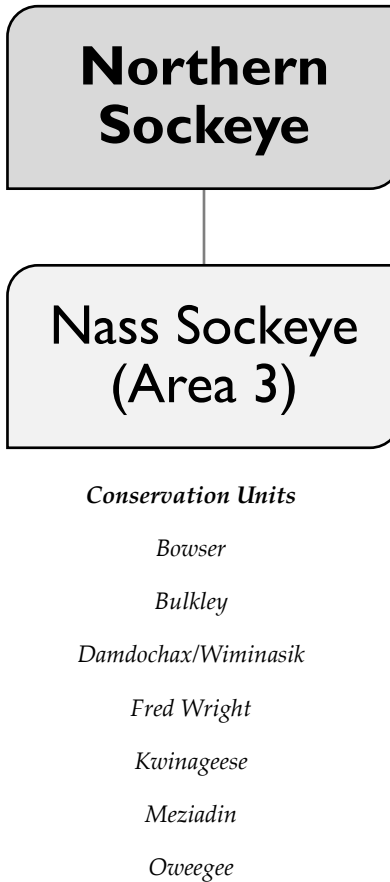


Figure 13.5-3: Overview of Nass Sockeye Salmon

There are 14 sockeye streams in Area 3, all but two of which are tributaries to the Nass. The major producers are Bowser, Damdochax, Kwinageese and Meziadin. Recent escapements to Meziadin have been near target but depressed for Damdochax and uncertain for Bowser. A rockslide in 2011 compromised fish passage through the Kwinageese River; since that time, the Nisga'a fish passage improvement measures have provided Kwinageese (Fred Wright Lake sockeye CU) river sockeye with escapements to rebuild the stocks that were impacted by the slide and subsequent river blockage.

Fisheries are managed to meet commitments in accordance with the Nisga'a Final Agreement (NFA), to meet First Nations FSC goals, Pacific Salmon Treaty (PST) obligations and to provide ocean commercial and inland commercial fisheries harvest opportunities.

By the beginning of July, the northern Chatham Sound portion of Area 3 is managed in conjunction with the Skeena River fishery because of the large numbers of Skeena sockeye and pink salmon passing through the area at that time.

13.5.3.2 STOCK ASSESSMENT INFORMATION

13.5.3.2.1 Pre-season

Prior to each fishing season, decisions are made about the spawning escapement plan, management priorities and identification of conservation constraints. These decisions are made based on pre-season forecasts of run size, timing, stock composition, other technical information and input from various consultative processes. Potential fishing opportunities are identified based on these pre-season guidelines and subsequently updated using in-season information.

Seasonal management, assessment of Nass Area salmon stocks and minimum and production-based salmon escapement goals are all discussed in the Nass Fisheries Operational Guidelines (FOG) developed to aid in the implementation of the Nisga'a Final Agreement. Additional information regarding the Nisga'a Fisheries Program can be found at:

<http://www.nisgaanation.ca/fisheries-management>

Nass sockeye are managed to achieve an aggregate spawning escapement target of 200,000. Returns in excess of the escapement target are harvested in First Nations, Nisga'a Treaty, recreational and commercial harvest opportunities. Similar to the past four years, management measures will be in place to reduce impacts to specific stocks of concern.

Opportunities for a gillnet fishery are evaluated during the pre-season planning process based on predicted returns. The fishery is implemented to assess sockeye strength.

The seine fishery is usually a targeted sockeye and pink fishery with restrictions such as time, area and gear restrictions in place to pass stocks of concern through to the spawning grounds.

Kwinageese sockeye are a stock of concern and will require focused management planning to reduce impacts on this stock.

The Salmon Outlook qualitative forecast for Nass sockeye is for below average returns.

Kwinageese sockeye returns are coming off of a poor brood year escapement in 2012 and an extremely poor brood year in 2013.

2017 Pre-season Nass River Sockeye Run Size Forecast:

Nass River sockeye returns are forecasted to be average to below average with an expected total return to Canada from 422,000 (75% probability) to 472,000 (25% probability) and a point

estimate of 446,000 (50% probability) based on a sibling-regression model. Nass sockeye returns will be carefully monitored to take into account increasing uncertainty and recent trends towards lower survival.

13.5.3.2.2 In-season

In-season Decisions

Weekly decisions are made from run size predictions based on:

- Catch and effort data from the Area 3 and Alaskan Tree Point commercial net fisheries;
- Escapement information from the Nisga'a Fishwheel Program conducted at test fishing sites near Gitwinksihlkw on the Nass River and fish counts at the Meziadin fishway, and later from individual stream inspections;

13.5.3.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Nass sockeye will be managed to achieve an aggregate spawning escapement target of 200,000. Returns in excess of the escapement target are harvested in Nisga'a Treaty, recreational and commercial harvest opportunities, both in marine and in-river fisheries. The minimum escapement target for Meziadin sockeye is 160,000. In years when Meziadin sockeye escapement is expected to be below this target, conservation concerns will influence decision-making for terminal commercial sockeye harvests that target this stock.

13.5.3.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO NASS RIVER FISHERIES

All Nass area net fisheries, with only a few exceptions, will normally be restricted to daylight hours.

The local manager may vary these net fishing times depending on circumstances such as by-catch concerns, strong returns of target species and abundance of prohibited species, weather or other factors. Times will be specified in fishery notices released prior to the fishery.

Commercial marine constraints this year include:

- Non-retention of steelhead is mandatory in all fisheries;
- Fisheries will continue to be managed to reduce impacts to Canadian chum. The rebuilding plan for the immediate future is to keep the Canadian average ER to below 10%;

- Brailing and sorting, with the mandatory release of all chinook will be in place for the seine fishery;
- Retention of chinook in the gill net fishery may be in place initially but could revert to non-retention if chinook abundance past the fish wheels indicates that the aggregate escapement requirements for upper Nass chinook will not be met;
- Retention of coho may be in place initially but could revert to non-retention depending on stock abundances;
- Gill nets have a 137 mm (5.39 in) maximum mesh restriction. This restriction is in place so that sockeye is targeted selectively and larger non-target species such as chum and chinook are impacted to a lesser degree;

KWINAGEESE SOCKEYE BROOD RETURN STATUS, 2011 TO 2021

		RETURN YEAR												
BROOD YEAR		Year	ESCAPEMENT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BROOD YEAR	2006	2,700	Age 5											
	2007	?	Age 4	Age 5										
	2008	?		Age 4	Age 5									
	2009	107			Age 4	Age 5								
	2010	48				Age 4	Age 5							
	2011	10,273					Age 4	Age 5						
	2012	3,688						Age 4	Age 5					
	2013	397								Age 4	Age 5			
	2014	438									Age 4	Age 5		
	2015	7,044										Age 4	Age 5	
	2016	19,797											Age 4	Age 5

Kwinageese sockeye are coming off of poor 2012 and 2013 brood years. Consequently, the Kwinageese closure for 2017 will be a two week closure. The management objective to reduce harvest impacts on Kwinageese and Damdochax sockeye remains. The majority of Kwinageese sockeye pass through the Area 3 commercial fishery areas from July 8th to July 28th with the peak occurring between July 12th and July 24th. Gill nets will be closed and seines will be non-retention sockeye from approximately July 9 to July 22 in all of Area 3.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly

to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at: http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

Gill Net Construction

In Management Areas 1 to 10, gill nets of different constructions may be used. Net construction may be either multistrand (30 filaments), or four, five or six filaments (Alaska twist). Specific restrictions such as the specifications for net construction and revival boxes are found in the conditions of the individual licences, which are attached to the licence. Fishers are urged to read these conditions carefully to ensure that their vessel and fishing techniques are in accordance with their licence.

All gill nets will meet one of the following configurations:

- Nets may be hung without a weed line (corkline to web distance 0 to 45 cm) to a maximum of 60 meshes deep.
- In Management Areas 3 to 5, nets may be greater than 60 meshes deep, but must be hung with a weedline (corkline to web distance minimum 0.76 m, maximum 1.5 m) to a maximum of 90 meshes deep. As well, every fifth cork must be red or another distinctive colour (not white).

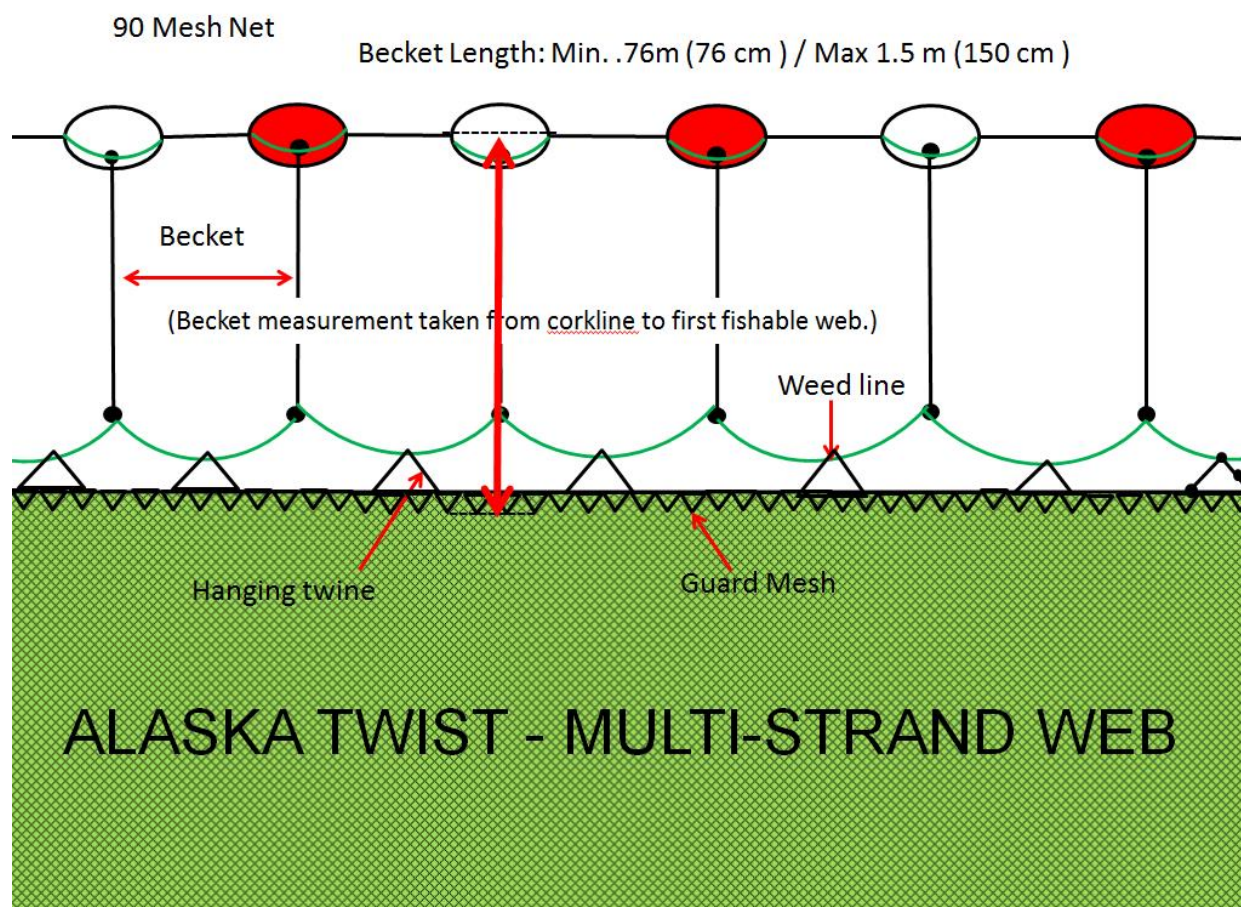


Figure 13.5-4: 90 Mesh Net Construction

Specific restrictions for net configuration are found in the Fishery Notice issued prior to every commercial fishery. Fishers are urged to read these carefully to ensure that their fishing gear is in accordance with the opening.

13.5.3.5 ALLOCATION AND FISHING PLANS

13.5.3.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First

Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

First Nations Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, consultations will be undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (see Section [1.6.4](#)) is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this

software application. In 2010, work started on compiling all aspects of the approximate 34 current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227

Treaty Fisheries

Nisga'a Fisheries

The Nisga'a Annual Fishing Plan (NAFP) is developed by the Nisga'a-Canada-BC Joint Fisheries Management Committee (JFMC) and governed by the terms of the Nisga'a Final Agreement and the Nisga'a Harvest Agreement of the Nisga'a Treaty. The Nisga'a Harvest Agreement includes Nisga'a fish allocations expressed as a percentage of the adjusted total allowable catch of Sockeye and Pink salmon. The NAFP is developed in accordance with Chapter 8 of the Nisga'a Final Agreement. Once approved by the Federal Minister of Fisheries, the Nisga'a Annual Fishing Plan remains in effect until replaced the following year. The fishing plan applies to persons who harvest fish, other than steelhead, in Nisga'a fisheries.

Nisga'a fish allocations of Sockeye and Pink salmon, as defined in the Nisga'a Harvest Agreement, are set out as a percentage of the Canadian Total Allowable Catch for Nass Area stocks, 13% for Nass Sockeye and 15% for Nass Pink). Nisga'a Harvest Agreement fisheries have the same priority in fisheries management decisions as other commercial and recreational fisheries that target Nass Area salmon stocks. Other Nisga'a salmon allocations, as defined in the Nisga'a Treaty, are set out as a percentage of the Total Return to Canada (TRTC) up to maximum catch thresholds (63,000 sockeye [10.5%], 6,300 pink [0.6%], 12,600 chinook [21%], 19,200 coho [8%], and 12,000 chum [8%]) in large return years. These other Nisga'a salmon allocations have the same priority in fisheries management decisions as domestic [food, social and ceremonial (FSC)] fisheries that target Nass salmon.

The NAFP defines the escapement goals required to guide management decisions for Nass salmon stocks, calculates Nisga'a allocations for each salmon species and provides the general regulatory requirements for catches of each salmon species. The NAFP is provided to other Nass Watershed First Nations and reviewed by the JFMC prior to being submitted to the Minister for approval. Nisga'a Lisims Government is responsible for the internal allocation of catch opportunities between Nisga'a fishers and day to day operation of the Nisga'a fishery.

Pre-season estimates and ranges for the Nisga'a salmon allocations in 2017 are:

Nass Sockeye: The Total Run size probability point estimate from a pre-season sibling-regression model is 569,000 (50%) with a range in point estimates between 538,000 (75%) and 602,000 (25%). Assuming a 22% Alaskan exploitation rate (based on the average of run

reconstructed even-years from 1999 to 2015, approximately 123,000 Nass Sockeye), the 50% probability point estimate for the Total Return to Canada (TRTC) of Nass Sockeye is 446,000 with a range of point estimates from **422,000 (75% probability) to 472,000 (25% probability)**.

Based on the pre-season TRTC forecasts and the minimum escapement goal (**100,000**), the Nisga'a allocation ranges between **67,000** and **78,000**. The mean TRTC estimate (446,000) will be used for calculating the initial target for the in-season Nisga'a allocation (**73,000**). The actual allocation target for Nass Sockeye may be larger (**up to 90,000**), depending on run strength, to account for the current cumulative underage (**approximately 17,000**) of Nass Sockeye accrued from 2011 to 2016. The cumulative underage would only be targeted in years where adequate abundances are available for harvest, as indicated by in-season assessments.

13.5.3.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters adjacent to the Nass River, with the peak of the season being from June to August. The daily limit for sockeye in Area 3 is four (4) per day, unless otherwise varied, and the open time is April 1st to March 31st.

The minimum size limit for sockeye salmon is 30 cm, in tidal waters and freshwater. The possession limit for salmon is twice the daily limit.

The Nass River and tributaries are in Region 6 freshwater fishing area and a sockeye opening occurs in Meziadin Lake and the Nass mainstem from July to September. The minimum size limit is 30 cm, and a daily limit of 2 fish.

In-season updates and fishery regulation changes can be found on the recreational fisheries website:

<http://www.bcsportfishingguide.ca>

You can also sign up to have fishery notices sent directly to your email.

Fishery Monitoring and Catch Reporting

The Area 3 and 4 creel program was operated by the North Coast Skeena First Nations Stewardship Society and ran from June 1 to August 31, 2016 with a total count of 12,581 boat trips and a retained catch of 56 sockeye.

A creel survey of the freshwater recreational fisheries in four river systems of the Nass watershed was conducted from July to September, 2016 by Nisga'a Fish and Wildlife staff. The mean average in-river recreational catch of Nass sockeye from 2000-2015 is 540 fish. The 2016 recreational catch is unknown at this time.

13.5.3.5.3 Commercial Fisheries

Allocation and Fishing Plans

Description	Areas	Seine A	Gill Net C	Troll F
Skeena/Nass	1, 3 to 5, 101 to 105	25%	75%	*

Notes on sockeye allocation (north):

* by-catch provisions

Nass Fisheries

Opportunities for targeted Nass sockeye fisheries will be determined based upon in-season assessment and abundance of Nass River sockeye stocks. Fishing opportunities will also be subject to achieving fisheries management objectives for constraining stocks and species of concern (e.g. Kwinageese sockeye, Nass chum) in areas where they are present. In 2017, Nass River sockeye returns are expected to be below average with a two-week Kwinageese gillnet closure/seine non-retention of sockeye period. Later-timed fisheries will be avoided in order to minimize interactions with wild Nass chum stocks of concern. Additional management considerations to address concerns for Skeena sockeye transiting Area 3 may be required.

Anticipated Net Opening Dates:

Area C Gill Net

June 6: First anticipated gill net fishery, but may vary depending on run size. Maximum mesh size is 137 mm (5.39 in). This fishery will assess the returning Nass River sockeye run strength.

Area A Seine

July 5: First anticipated seine fishery opening will be determined in-season based on sockeye and pink abundance. Minimum bunt mesh size 70 mm (2.76 in). Earlier fishery possible if stocks are abundant.

Fishery Monitoring and Catch Reporting

For 2017, the Department is continuing to work with Area Harvest Committees on catch monitoring programs in the following areas:

Area A Seine (PFMA 3 to 6):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)

- Catch estimates to be communicated prior to any shore-based offload
- Independent verification of landed catch through a designated service provider
- Deployment of at-sea observers with priority placed on highest profile fisheries occurring concurrently

Area C Gill net (PFMA 3 to 5):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload

Additional details on the catch monitoring programs will be communicated via Fisheries Notices.

Nass Sockeye Inland Demonstration Fisheries

The concept of the inland demonstration fishery is to transfer the catch of commercial gill net or seine licences to the inland portion of the Nass system. This inland demonstration fishery will only take place if the Nass sockeye run returns in sufficient strength to fish commercially in Management Area 3. This fishery will be managed with the same harvest decision guidelines as the marine commercial fishery.

Gill net or seine licence shares set aside for the inland demonstration fishery will be based on each commercial licence having an equal share of the available commercial allocation, by gear type in the Management Area 3 commercial fishery, and the weekly in-season forecast for aggregate sockeye returns to the Nass system. The total inland allocation will be equal to the gill net and seine shares multiplied by the number of licences set aside for the inland fishery. There are approximately 108 Area A seine licences and 630 Area C gill net licences in the commercial fleets (these numbers could vary slightly prior to the fishery). The licence share will be further adjusted to reflect the stock proportion available in a specific fishing area.

For the inland demonstration fishery, the intent will be to continue the selective methods that have been developed during the 1990s pilot sales fisheries. These could include beach seine, fishwheel, dip net, and fishwheels. Gill nets will not be permitted. Sockeye (and possibly pink) may be retained, based on the weekly allocation issued by Prince Rupert DFO, and all other species will be returned to the water with the least possible harm.

All inland commercial sockeye salmon harvests shall be checked through a compulsory landing station. All appropriate records are to be kept for proper monitoring and enforcement. No FSC fishing or retention will be allowed while participating in the inland demonstration fishery.

Each First Nations engaging in an inland demonstration fishery must submit a demonstration fishery plan. This plan must be approved by the Department prior to harvesting.

The DFO contact for more information is Sandra Davies at (250) 627-3426.

Licence Set-aside rules:

DFO may contribute commercial licences that are currently held by the Department. In addition, commercial licences may also be solicited through private ventures, through an arrangement between Nass First Nations and individual licence holders.

All licences that will be used in the inland demonstration fisheries will have to be either Area C gill net or Area A seine, and annual renewal fees will be paid in full for the current season. These licences cannot have been fished in any Area C or A fisheries during the current year. Licence documents will be held in the DFO office. This process may be updated to be consistent with licence issuance through the National Online Licensing System. Catch share transfers will be calculated based on the number of licences as indicated above. Catch shares will not be provided for marine commercial fisheries that have been announced prior to the licence transfer. Licenses transferred inland may be used simultaneously in other inland watershed demonstration fisheries as approved by DFO.

It is anticipated that the Nisga'a Lisims Government and Gitanyow First Nations demonstration fishery proposals under the Commercial Salmon Allocation Framework process will be considered in 2017. See Appendix 6 for more details.

13.5.3.5.4 ESSR Fisheries

Historically, ESSR fisheries for sockeye have taken place in Meziadin Lake for the Gitanyow and Nisga'a First Nations. No ESSR fisheries are planned for 2017

13.5.4 SKEENA SOCKEYE

13.5.4.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

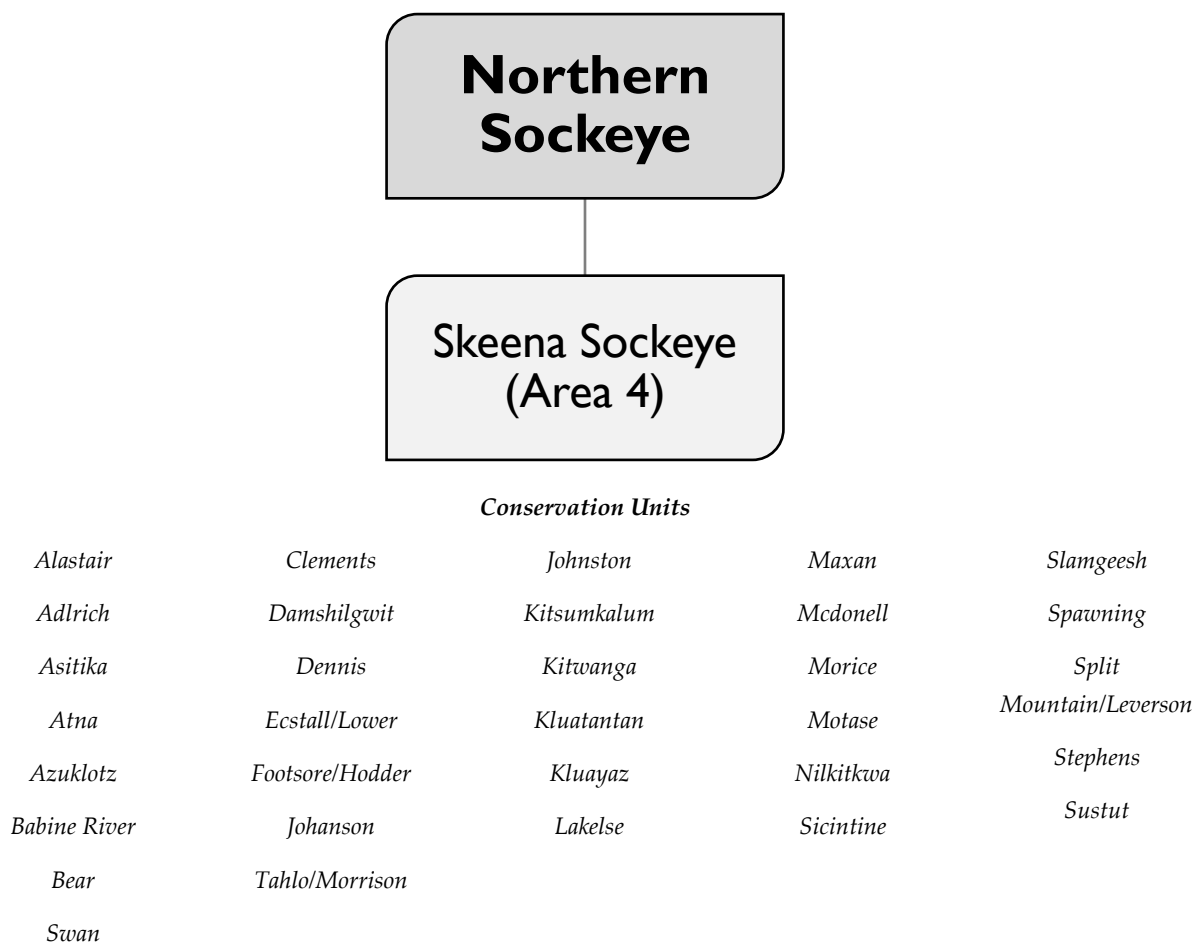


Figure 13.5-5: Overview of Skeena Sockeye Salmon

The Skeena River is the second largest producer of sockeye in B.C. The largest producers of sockeye salmon in the Skeena system are the enhanced runs to the Babine Lake tributary spawning channels at Fulton River and Pinkut Creek.

Sockeye from various streams and lake systems migrate up the Skeena from June through August. Wild stocks are generally less productive and therefore cannot withstand the same exploitation rate as the enhanced Babine stocks of Pinkut Creek and Fulton River. While there are a number of wild stocks of concern, current IFMP discussions have concentrated on three wild sockeye stocks, the Nanika-Morice, Kitwanga and Babine River. The Nanika-Morice sockeye peak through the fishing area in early July (early timing), and the Kitwanga and Babine River sockeye stocks peak through the fishing area in late July and early August.

Measures have been taken to reduce fishery impacts on Skeena River chum, steelhead, and wild sockeye stocks. These measures include non-retention of some species, gear and fishing modifications, and specific timing closures or sockeye harvest rate reductions when weak stocks are present.

Skeena River sockeye returns are harvested in Areas 3, 4 and 5.

13.5.4.2 STOCK ASSESSMENT INFORMATION

13.5.4.2.1 Pre-season

The qualitative Salmon Outlook for wild Skeena sockeye is “poor” based on the strength of the brood years that went to sea in 2014 and 2015 respectively and the extremely poor returns of jack sockeye in 2016. Return rates for wild Skeena sockeye have become more uncertain in recent years with greater variability among the Skeena stock components. The Outlook for enhanced Babine sockeye is extremely poor based on strength of sibling returns in 2016.

Pre-season Skeena River Sockeye Run Size Forecast:

The total Skeena sockeye return is expected to be extremely poor with a pre-season return forecast from 0.28 million (90% probability) to 1.24 million (10% probability) and a point estimate of 0.59 million (50% probability) based on the sibling model.

13.5.4.2.2 In-season Assessment

The Tyee test fishery is the main in-season stock assessment tool for estimating the relative abundance of Skeena River salmon and steelhead through the use of a multi-panel gill net with varying mesh sizes. Daily in-season escapements and total run size are estimated for sockeye only. Salmon returns are variable and estimates are also subject to error as annual run timing, and the annual catchability of salmon by the Tyee test fishery net varies.

13.5.4.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Historically, an in-season return to Canada forecasts of less than 550,000 Skeena sockeye would trigger consultations with First Nations who harvest Skeena sockeye to limit their food, social and ceremonial fisheries. If Skeena sockeye return to Canada are forecasted to be less than 400,000 all fishing activity on sockeye will cease.

For 2017, the Department has adopted the following recommendations from the Skeena First Nations Technical Committee regarding Skeena sockeye:

The trigger level for First Nations Section 35 (1) fisheries closures will be increased from 400,000 to 600,000;

The 2017 fishing season will start closed for fisheries targeting Skeena sockeye and measures will be taken to minimize the by-catch of Skeena sockeye in all fisheries targeting other non-sockeye stocks or other species.

Subject to Tier1 and 2 discussions, opportunities for First Nations FSC sockeye fisheries may take place if the in-season TRTC estimate exceeds 625,000 on or after July 26, 2017.

Individual Skeena First Nations FSC harvest plans will continue to be developed and refined based on in-season salmon return information.

The Skeena sockeye aggregate escapement target is 900,000 and First Nations food, social and ceremonial fishery requirements are in the range of 150,000.

- If the pre-season forecast or the Skeena sockeye return to Canada is greater than 1.05 million, then commercial fishery openings are planned.
- If the pre-season run size forecast is below 1.05 million, commercial fisheries will not take place until the in-season run size prediction is greater than 1.05 million.
- Any gill net fisheries on or after August 1 will be short-net, short-set.

The allowable Canadian commercial exploitation rate on the Skeena sockeye aggregate increases as the return to Canada increases. The allowable exploitation rate will be 0% for returns to Canada less than 1,050,000. The allowable exploitation rate will increase in a linear fashion from 0% at 1,050,000 to 20% at a run size of 2.0 million, 30% at 3.0 million, and up to a maximum of 40% at a return of 4.0 million or greater. See [Figure 13.5-6](#).

DFO may reserve sockeye allocation for seine vessels to account for sockeye by-catch during a directed pink fishery.

Directed fisheries for Skeena sockeye after August 1 will be constrained by sockeye and chum salmon stocks of concern. While the aggregate harvest rate schedule shown in [Figure 13.5-6](#) guides the overall commercial exploitation rate, other important considerations include protecting and rebuilding identified stocks and species of concern, incorporating concerns expressed by First Nations and stakeholders and impacts of other fisheries in setting weekly harvest rates. These additional considerations will guide weekly harvest rates in late July and early August.

SKEENA SOCKEYE

Commercial Mixed-Stock Fishery Abundance-Based Management Plan

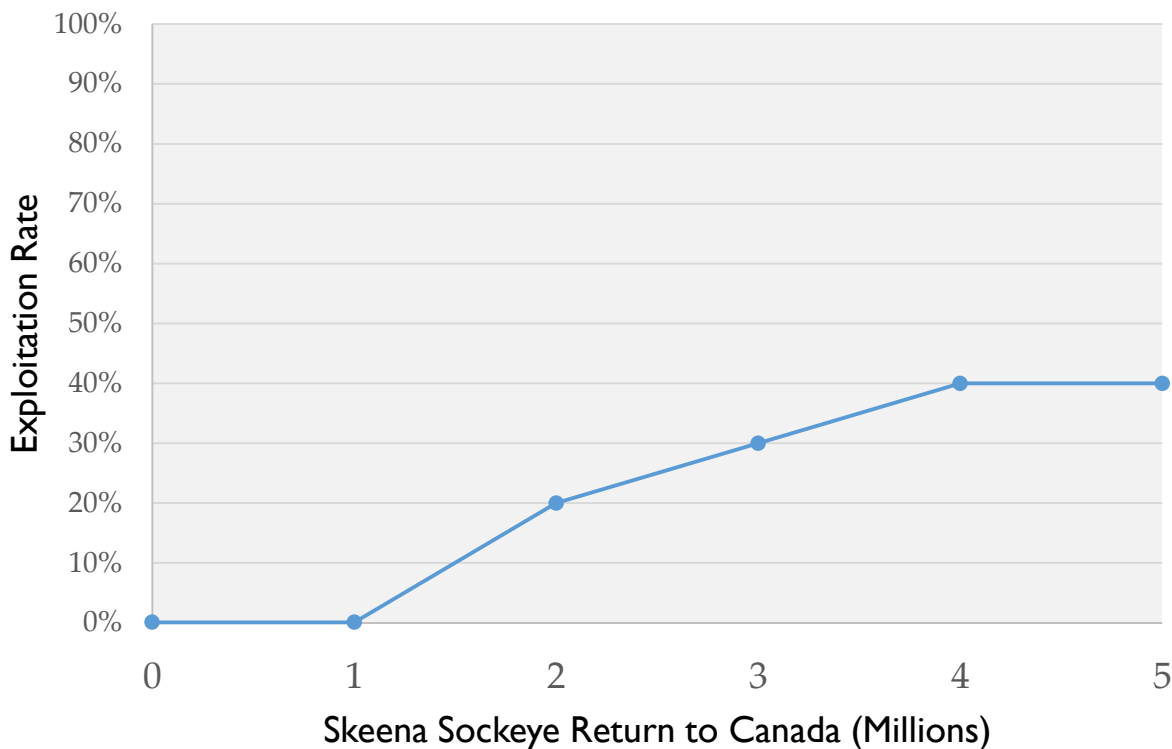


Figure 13.5-6: The allowable abundance based Canadian commercial exploitation rate on Skeena sockeye. This includes gillnet, seine and inland demonstration fisheries.

13.5.4.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO SKEENA SOCKEYE FISHERIES

- There is a request for First Nations not to fish near the confluence of the Kitwanga River, to protect Kitwanga sockeye that may be holding in that area.
- Fishing is limited to daylight hours except during directed chinook gillnet fisheries when mesh size and run timing are used to target chinook only.
- Co-migrating with strong sockeye stocks are weaker runs of wild sockeye, as well as stocks of all Pacific salmon species.
- As in recent years, the first sockeye opening will be delayed to reduce impacts on Nanika sockeye (the opening date is under discussion with the Wet'suwet'en First Nation and other interests).

- Measures are required to reduce harvest impacts on Skeena River chum, steelhead and some sockeye stocks. Retention of chum and steelhead is prohibited in all fisheries.
- Skeena chum remain a stock of concern and Canadian harvest impacts will be limited to a maximum exploitation rate of 10% in Canadian fisheries. This is a ceiling, and harvest impacts would be expected to be well below this level in most years. It is anticipated that these management measures will be in place for an extended period.
- Brailing and sorting with mandatory release of chinook will be in place for the seine fishery.
- Gill net sockeye fisheries may begin with chinook retention but could change to non-retention if chinook abundance is poor.
- Gill nets have a 137 mm (5.39 in) maximum mesh restriction during the sockeye fishery. This restriction is in place so that sockeye is targeted selectively and larger non-target species such as chum and chinook are impacted to a lesser degree.
- In-season assessments may change the management measures taken for various stocks. Measures taken could include non-retention of some species, gear and fishing modifications and specific timing closures or sockeye harvest rate reductions when weak stocks are present.
- In years of average run timing, the fishery will be managed to avoid high amounts of commercial harvest effort in late July and early August. Selective fishery constraints required to protect weak sockeye and chum stocks will be maintained even if late season sockeye run size upgrades indicate a remaining allowable harvest.
- Any fisheries on or after August 1 will be short-net, short-set gill net fisheries to reduce impact on steelhead and chum. For the August gill net fishery, the following rules will apply:
 - Half-length nets: Maximum net length will be 100 fathoms, or 187.5 m. It will not be acceptable to have a regular length net on your drum and only set half. It will also not be acceptable to have both halves of the net on your drum. Only one (half-length) net will be allowed on your drum or in the water.
 - 20 minute soak times: The maximum amount of time the net is allowed to be in the water from the time it is completely set to the time it begins to be retrieved is 20 minutes. Note that this “soak time” is designed to equal a 40 minute time from

when the first portion of the net enters the water to the time when the last portion of the net leaves the water. Times will be monitored on the grounds.

- Fish handling: Gill net fishers are encouraged to handle prohibited species with the greatest of care. Operating revival boxes are mandatory as in all gill net fisheries. However, if the salmon is in a vigorous condition, it is best to release it directly to the water rather than put it in the revival box. Fishers are asked to use their judgment on which fish should go into the revival box before they are then released to the water.
- Reduced fishing area: In order to effectively monitor this selective fishery, the fishing area will be reduced. This will be achieved by closing the northern portions of Chatham Sound.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

Gill Net Construction

In Management Areas 1 to 10, gill nets of different constructions may be used. Net construction may be either multistrand (30 filaments), or four, five or six filaments (Alaska twist). Specific restrictions such as the specifications for net construction and revival boxes are found in the conditions of the individual licences, which are attached to the licence. Fishers are urged to read these conditions carefully to ensure that their vessel and fishing techniques are in accordance with their licence.

All gill nets will meet one of the following configurations:

- Nets may be hung without a weed line (corkline to web distance 0 to 45 cm) to a maximum of 60 meshes deep.
- In Management Areas 3 to 5, nets may be greater than 60 meshes deep, but must be hung with a weedline (corkline to web distance minimum 0.76 m, maximum 1.5 m) to a maximum of 90 meshes deep. As well, every fifth cork must be red or another distinctive colour (not white).

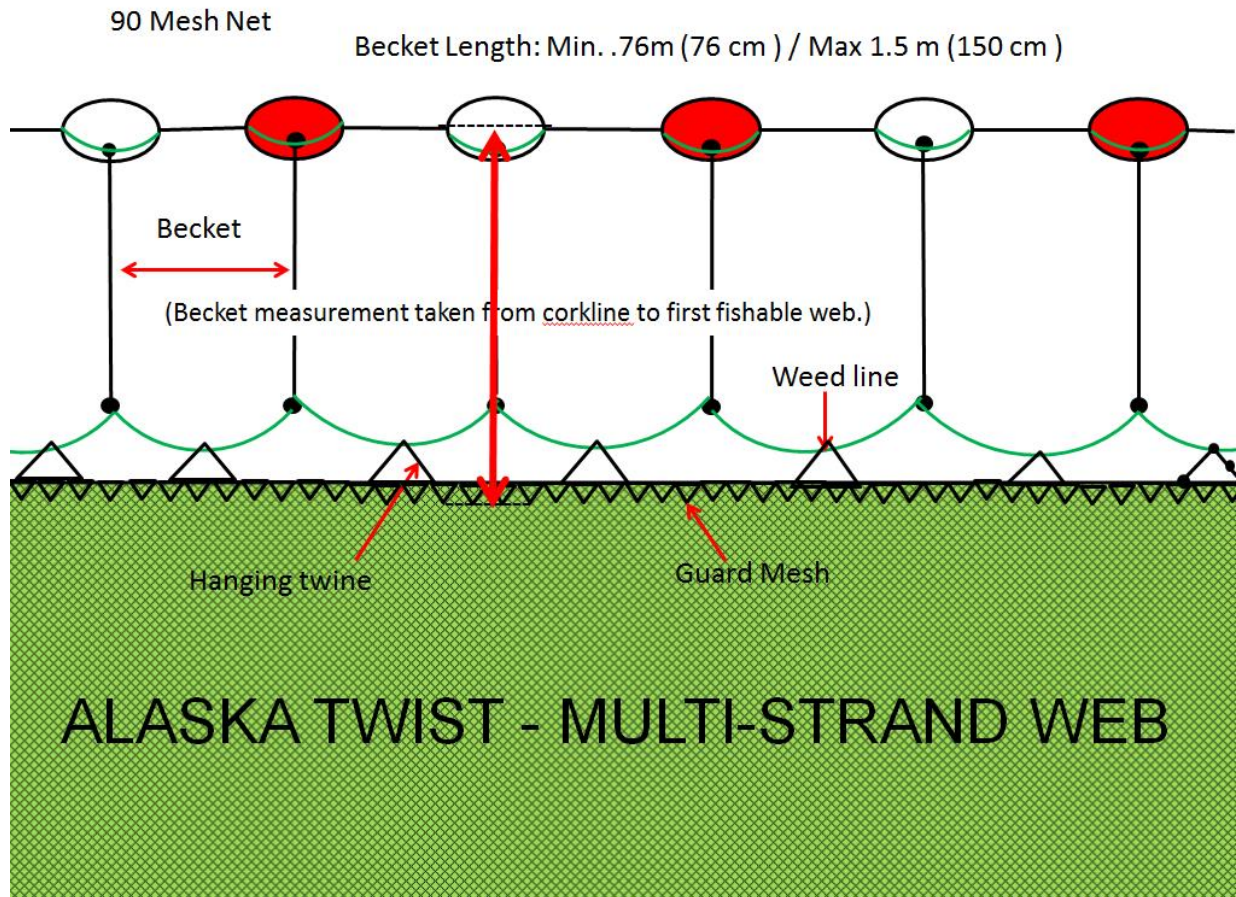


Figure 13.5-7: 90 Mesh Net Construction

Specific restrictions for net configuration are found in the Fishery Notice issued prior to every commercial fishery. Fishers are urged to read these carefully to ensure that their fishing gear is in accordance with the opening.

13.5.4.5 ALLOCATION AND FISHING PLANS

13.5.4.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

First Nations Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, consultations will be undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (see Section [0](#)) is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations

from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

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For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are currently no Treaty fisheries for Skeena sockeye.

13.5.4.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters adjacent to the Skeena River, with the peak of the season being from June to August. The daily limit for sockeye in Areas 3 to 5 is four (4) per day, unless otherwise varied, and open time is April 1 to March 31.

The minimum size limit for sockeye salmon is 30 cm, in tidal waters and freshwater. The possession limit for salmon is twice the daily limit.

The Skeena River and tributaries are in Region 6 freshwater fishing area, and there are openings for Skeena sockeye in Babine River and Lake, Pinkut Creek, Fulton River, and the Skeena mainstem.

The daily limits for Skeena sockeye in non-tidal waters, are set by the guidelines for management actions table below.

Table 13.5-1: Guidelines for Management Actions for Recreational Sockeye Fisheries in the Skeena Watershed

Forecasted Abundance	Daily Limits
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Forecasted Abundance	Daily Limits		
	Skeena Mainstem	Babine River	Babine Lake
Less than 0.8 million past Tyee	0	0	0
Between 0.8 million and 1.0 million past Tyee	1	1	1
Greater than 1.0 million past Tyee	2	2	2
Greater than 2.0 million return to Canada forecasted as of July 25th.	4	2	n/a
ESSR fishery on Babine Lake	n/a	n/a	4

* Return to Canada includes sockeye caught in Canadian marine waters

For the 2017 season, the daily limit for sockeye will be zero (0) from the start of the season until in-season forecasts suggest a change is warranted. In years of high abundance, the daily limit in Babine River will remain at 2 per day as per an agreement between DFO and BC Parks. Once DFO identifies a surplus to the spawning channels that would provide for an ESSR fishery on Babine Lake, the recreational sockeye limits in Babine Lake will be increased to 4 per day.

In-season updates and fishery regulation changes can be found on the recreational fisheries website:

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

You can also sign up to have fishery notices sent directly to you by email.

Fishery Monitoring and Catch Reporting

The Area 3 and 4 Creel Program was conducted by the North Coast Skeena First Nations Stewardship Society and operated from June 1 to August 31, 2016 with 12,581 boat trips recorded and a retained catch of 56 sockeye.

A boat and vehicle based freshwater creel survey was carried out in the Lower Skeena River by Kitsumkalum First Nation technical field staff and LGL Ltd. The creel started on June 1 and ended on September 17, 2016. The estimated harvest of sockeye was 2,365 pieces.

13.5.4.5.3 Commercial Fisheries

Allocation

Description	Areas	Seine A	Gill Net C	Troll F
Skeena/Nass	1, 3 to 5, 101 to 105	25%	75%	*

* by-catch provisions

Skeena Fisheries

No commercial sockeye fisheries would take place in Management Area 4 unless the predicted return to Canada is greater than 1,050,000. Above 1,050,000, allowable exploitation rates will be determined based on the abundance based exploitation rates showing in the Skeena sockeye harvest rate table above.

For 2017 Skeena River sockeye, returns are expected to be well below average (range from approximately 0.28 million to 1.24 million). Fisheries are not anticipated, but will be based on in-season assessments of actual sockeye returns.

Commercial allocation of Skeena and Nass sockeye (Areas 3 to 5) is 75% of the commercial TAC assigned to the gill net fleet, and 25% assigned to the seine fleet. The management strategy to achieve these allocations are to open the gill net fishery first, followed by the seine fishery, which usually opens mid-July, depending on estimated run size, current escapement information, and gill net catch to date. The sockeye allocation for seines may be caught in Area 3 when pink salmon are abundant in Area 3.

Area 4 Skeena River Sockeye Seine ITQ Demonstration Fishery Management Plan

Any seine fishery for sockeye salmon in Management Area 4 (Skeena) will be an Individual Transferable Quota (ITQ) demonstration fishery in 2016. The sockeye fishery will be managed to an equal share of a weekly quota for sockeye salmon for each of the registered 108 seine licences (0.92593% for each license). The opening times and quota will be posted weekly by fishery notice on the Department's web-site. ITQ management for the sockeye fishery may not apply to pink-directed seine fisheries that may occur in August. Any sockeye harvested in a pink-directed commercial fishery will still be subject to the sockeye abundance-based management rules.

For the sockeye ITQ seine fishery, the area will usually open for 5 days per week. Areas 4-12 and 4-15 will be among the Subareas open, but all vessels will be requested to exit this area if a

concurrent gill net opening occurs. These areas will close on short notice if a gear conflict cannot be resolved.

Valid licence eligibilities will be permitted to reallocate (transfer) their quota to another valid licence eligibility each week or for the whole season. Both weekly and whole-season “Request for Temporary Reallocation of Quota” forms are available by email, fax or pick up at the Prince Rupert office. Verbal reallocation transfers will not be accepted. For an email or fax copy, please contact Sandra Davies at Sandra.Davies@dfo-mpo.gc.ca or fax at (250) 627-3427.

Vessels receiving a reallocation for the season will receive one licence amendment with a new quota amount expressed as a percentage. Vessels requesting a short-term reallocation (less than the whole season) will receive an amendment after the TAC has been set for the given management week and vessels will receive an amendment that includes the number of sockeye reallocated.

Weekly TACs will expire, not be cumulative, and not carry over past the end of fishing on any given management week. Vessel masters must cease fishing when their quota has been achieved. All amendments to quota must be aboard the fishing vessel or the fishing vessel must have the DFO issued confirmation number of the quota transaction prior to fishing. As per the conditions of licence, quota reallocations will be permitted up to 48 hours after the fishery closes. Failure to reconcile quota within 48 hours of the fishery closure is a violation of the conditions of licence and will be forwarded on to DFO C&P for investigation.

Vessels must have a valid ASA licence (seine) with current Conditions prior to receiving or reallocating quota.

Start, end, pause and daily catch reports (per conditions of licence) must be made by Area A vessel masters to the salmon catch monitoring service provider or by E-log (refer to the conditions of licence).

Catch validation is mandatory for all ITQ fishery participants. This catch validation must be performed by an approved service provider, be done at dockside (no packers), and be done in Prince Rupert, Port Edward or Lax Kw’alaams. The contact number to arrange registration and validation will be published in a Fishery Notice immediately prior to any fishery.

Observers will be an integral part of this fishery and vessels may be requested to take an observer as per their licence conditions. Seines participating in the ITQ fishery will be required to participate in the at-sea observer program.

All vessels must enter Management Area 4 with clean holds, proper hail procedures and no overages from the previous week. If a vessel leaves the fishery to fish in another fishery, the catch shall be offloaded and verified by a validator prior to entering another fishery.

ITQ reallocations to the inland demonstration fishery will be allowed as long as there is at least one seine licence assigned to the inland demonstration fishery. The weekly inland transfer deadline will be announced in-season.

Anticipated Net Opening Dates

Openings will be based on Skeena salmon returns and the target annual exploitation rate and will be similar to previous years subject to ongoing discussions with First Nations and commercial fishing interests.

Fishery Monitoring and Catch Reporting

For 2017, the Department is continuing to work with Area Harvest Committees on catch monitoring programs in the following areas:

Area A Seine (PFMA 3 to 6):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload
- Independent verification of landed catch through a designated service provider
- Deployment of at-sea observers with priority placed on highest profile fisheries occurring concurrently

Area C Gill net (PFMA 3 to 5):

- Designated landing sites (list to be developed based on recommendations from the Area Harvest Committees)
- Catch estimates to be communicated prior to any shore-based offload

Additional details on the catch monitoring programs will be communicated via Fisheries Notices.

Skeena Sockeye Inland Demonstration Fisheries

It is anticipated that there will not be opportunities for Skeena River First Nations for an inland demonstration fishery on Skeena River in 2017. In years of higher abundance, commercial allocations of sockeye and pink salmon have been transferred inland to fisheries being conducted within the Skeena watershed. The Skeena River Sockeye Inland Demonstration

Fishery Management Plan follows. This fishery is managed as a part of the aggregate Skeena sockeye Canadian commercial harvest decision rule ceiling.

Skeena River Sockeye Inland Demonstration Fishery Management Plan

The concept of the inland demonstration fishery is to transfer the catch of a number of commercial gill net or seine licences to the inland portion of the Skeena River. DFO may contribute licences that have been relinquished from the commercial fleet and remain in the Department's inventory. In addition, commercial licences may also be solicited through private ventures, through an arrangement between Skeena First Nations and individual licence holders.

This inland demonstration fishery will only take place if the Skeena sockeye run returns in sufficient strength to trigger a commercial fishery. An inland demonstration pink salmon fishery may take place if there has been a marine commercial pink salmon fishery in Management Area 4.

The sockeye migration time from the marine commercial fishing area to the Terrace area is approximately 1 week; to the mid-river area around Hazelton is 2 weeks; and to the Babine River weir is 3 weeks. This timing is used to develop fishing plans with the interested First Nations on the Skeena.

Gill net licence shares set aside for the inland demonstration fishery, will be based on each commercial licence having an equal share of the available commercial allocation (currently based on actual weekly catches) by that gear type in the Management Area 4 commercial fishery. The total inland gill net allocation will be equal to the share multiplied by the number of licences set aside for the inland fishery. There are approximately 630 Area C gill net licences in the commercial fleet (these numbers could vary slightly prior to the fishery). The licence share will be further adjusted to reflect the stock proportion available in a specific inland fishing area.

Seine licence shares set aside for the inland demonstration fishery, will be based on each commercial licence having an equal share of the available commercial allocation by that gear type in the Management Area 4 commercial fishery. The individual vessel quota is set each week by the DFO Prince Rupert office. The total inland seine allocation will be equal to the share multiplied by the number of licences set aside for the inland fishery. There are approximately 108 Area A seine licences in the commercial fleet (these numbers could vary slightly prior to the fishery). The licence share will be further adjusted to reflect the stock proportion available in a specific inland fishing area.

For the inland demonstration fishery, the intent will be to continue the selective methods that have been developed during the 1990s pilot sales fisheries. These could include beach seine,

fishwheel, dip net, and the Babine weir. Gill nets will not be permitted. Sockeye (and possibly pink) may be retained, based on the weekly allocation issued by Prince Rupert DFO, and all other species will be returned to the water with the least possible harm.

All inland demonstration sockeye and pink salmon harvest shall be checked through a compulsory landing station. All appropriate records are to be kept for proper monitoring and enforcement. No FSC fishing or retention will be allowed while participating in the inland demonstration fishery.

Each First Nations engaging in an inland demonstration fishery must submit a demonstration fishery plan. This plan must be approved by the Department prior to harvesting.

This project is facilitated through the Skeena First Nations. The DFO contact for more information is Sandra Davies at (250) 627-3426.

Licence Set-aside rules:

DFO may contribute commercial licences that are currently held by the Department. In addition, commercial licences may also be solicited through private ventures, through an arrangement between Skeena First Nations and individual licence holders.

All licences that will be used in the inland demonstration fisheries will have to be either Area C gill net or Area A seine, and annual renewal fees will be paid in full for the current season. These licences cannot have been fished in any Area C or A fisheries during the current year. Licence documents will be held in the DFO office. This process may be updated to be consistent with licence issuance through the National Online Licensing System. Catch share transfers will be calculated based on the number of licences as indicated above. Catch shares will not be provided for marine commercial fisheries that have been announced prior to the licence transfer.

Licences may be used simultaneously in other inland watershed demonstration fisheries (e.g. Nass) as approved by DFO.

13.5.4.5.4 ESSR Fisheries

All ESSR fisheries are opportunistic and are not guaranteed from year to year. Harvests will be terminal in location and conducted by selective means, with live release of all non-target species.

The Lake Babine Nation has conducted ESSR fisheries in recent years in Babine Lake, targeting excess returns of enhanced sockeye to the Pinkut and/or Fulton spawning channels. A fishing plan for this fishery has been developed and is reviewed on an annual basis.

Harvest amounts are calculated in-season and along with harvest timing will be determined in close liaison with Pinkut Creek and Fulton River spawning channel managers and Lake Babine Nation Fisheries to ensure enough sockeye are available to meet the annual loading requirements for the Pinkut and Fulton systems.

13.5.5 CENTRAL COAST SOCKEYE

13.5.5.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

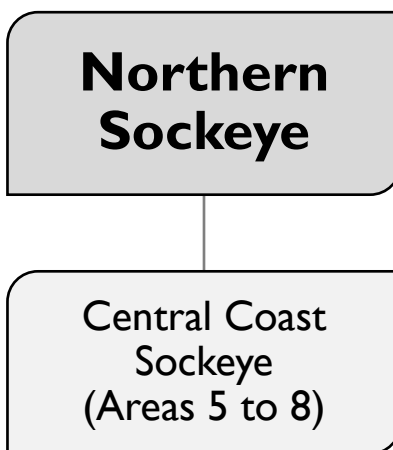


Figure 13.5-8: Overview of Central Coast Sockeye

The Central Coast MU is comprised of a number of small sockeye stocks from Areas 5 through 8. Portions of Area 5 are traditionally managed in conjunction with Area 4 to target Skeena sockeye and harvest opportunities may occur until mid- August when local pink stocks become prevalent. There are a number of sockeye streams in Area 5 that may have small surpluses that have provided for some FSC harvest by local First Nations in the past. Sockeye stocks in Areas 6, 7 and 8 have been weak in recent years and measures are in place to avoid impacting stocks during commercial fisheries.

13.5.5.2 STOCK ASSESSMENT INFORMATION

13.5.5.2.1 Pre-season

There is no formal pre-season forecast done for Central Coast sockeye.

Sockeye stocks in Areas 6 through 8 continue to be weak and measures will be implemented to avoid interception of these fish.

As noted above, commercial sockeye opportunities in portions of Area 5 will be managed in conjunction with Area 4. These portions include sub-areas 5-1, 5-2, 5-3, 5-10, and a portion of 5-13.

The qualitative Salmon Outlook for Central Coast sockeye is variable. Area 5 and 6 stocks are “uncertain” with some indications of improved escapements during the most recent cycle. Area

8 sockeye returns are expected to be “very poor” based on very low brood year escapements and continuing poor return rates.

13.5.5.2 In-season Assessment

There is currently no in-season assessment tool for sockeye in Area 7 and 8. In-stream enumerations are performed on some systems as well as overflights to estimate total escapement.

13.5.5.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

In Area 5, local streams could develop small surpluses and these will be monitored in-season. Area 5 will open in conjunction with Area 4 sockeye-directed openings until early August.

For Areas 6 through 8, there will be no targeted sockeye openings and sockeye will not be permitted as by-catch in the seine fishery.

13.5.5.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO CENTRAL COAST SOCKEYE FISHERIES

For Area 5, commercial gillnet fisheries targeting local stocks may be considered after discussion with Gitxaala on FSC harvest opportunities. For commercial gillnet fisheries to take place on local stocks, a stock assessment, catch monitoring and enforcement plan will be required.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank.

The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

Gill Net Construction

In Management Areas 1 to 10, gill nets of different constructions may be used. Net construction may be either multistrand (30 filaments), or four, five or six filaments (Alaska twist). Specific restrictions such as the specifications for net construction and revival boxes are found in the conditions of the individual licences, which are attached to the licence. Fishers are urged to read these conditions carefully to ensure that their vessel and fishing techniques are in accordance with their licence.

All gill nets will meet one of the following configurations:

- Nets may be hung without a weed line (corkline to web distance 0 to 45 cm) to a maximum of 60 meshes deep.
- In Management Areas 3 to 5, nets may be greater than 60 meshes deep, but must be hung with a weedline (corkline to web distance minimum 0.76 m, maximum 1.5 m) to a maximum of 90 meshes deep. As well, every fifth cork must be red or another distinctive colour (not white).
- Between July 11 and August 15 weed lines are required for gill nets in Subareas 8-5 north of Bold Point and 8-8. Maximum depth is 60 Meshes. Corkline to Web Distance a minimum of 100 cm and a maximum of 154 cm.

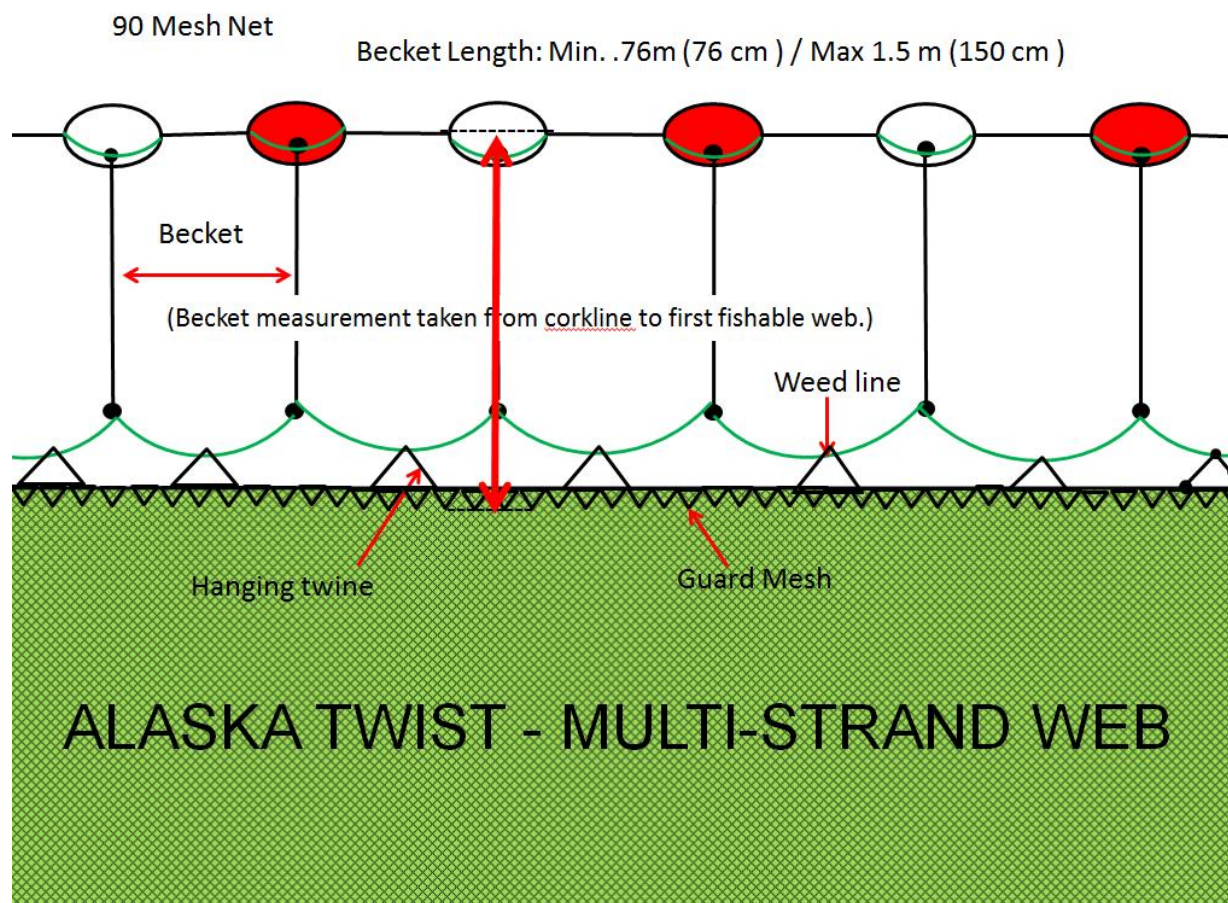


Figure 13.5-9: 90 Mesh Net Construction

Specific restrictions for net configuration are found in the Fishery Notice issued prior to every commercial fishery. Fishers are urged to read these carefully to ensure that their fishing gear is in accordance with the opening.

13.5.5.5 ALLOCATION AND FISHING PLANS

13.5.5.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First

Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

First Nations Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, consultations will be undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34

current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are currently no Treaty fisheries for Central Coast sockeye.

13.5.5.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters of the Central Coast (Areas 5 to 8) with interception fisheries beginning in late April and the peak of the season being from June to August.

In Area 5 the early season effort is mostly by local independent anglers out of Prince Rupert and Port Edward; however the most significant portion of the recreational fishing season develops late May and continues to mid-September. The fleet operating in Area 5 is made up mainly of independent anglers and charter operators.

In Area 6, tidal water recreational salmon fisheries begin in late April. Initial effort is mostly by local independent anglers out of Kitimat. One recreational fishing lodge and a number of charter operators also fish in Area 6 with the most significant portion of the recreational fishing season taking place between late May and mid-September.

The daily limit for sockeye in Areas 5 and 6 is four (4) per day, unless otherwise varied, and the open time is April 1st to March 31st. The catch of sockeye is most likely very small.

There is no retention of recreationally caught sockeye salmon in Areas 7 and 8 at any time of year. If a commercial fishery occurs in these areas, a recreational daily limit would be set.

There are several recreational lodges and charter operators in these areas.

The Central Coast non-tidal waters are in Regions 5B and 6 freshwater fishing areas, and there are no openings for sockeye.

Detailed information on salmon closures, daily limits, size limits, gear restrictions, and other management measures are found online at BC Sport Fishing Guide. This webpage contains a link to subscribe to recreational Fishery Notices, which can be sent to your email address.

BC Sport Fishing Guide link:

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

Fishery Monitoring and Catch Reporting

In Areas 6 to 8, DFO has been collecting recreational catch data through the Lodge Log Book Program.

13.5.5.3 Commercial Fisheries

Allocation

Description	Areas	Seine A	Gill Net C	Troll F
Skeena/Nass	1, 3 to 5, 101 to 105	25%	75%	*
Central Coast	6 to 8	80% ^a	20% ^b	*

Notes on sockeye allocation (north):

* by-catch provisions

^a share reflects current sockeye by-catch during pink directed fisheries

^b potential for re-negotiation of sharing arrangements in event of a future directed sockeye fishery

Central Coast Fisheries

No commercial opportunities are expected for sockeye stocks in Areas 6, 7 and 8. Area 5 will open in conjunction with sockeye-directed openings in Area 4

13.5.5.4 ESSR Fisheries

There are currently no ESSR fisheries for Central Coast sockeye

13.5.6 RIVERS & SMITH INLET SOCKEYE

13.5.6.1 SNAPSHOT OVERVIEW AND MAP OF MANAGEMENT UNIT

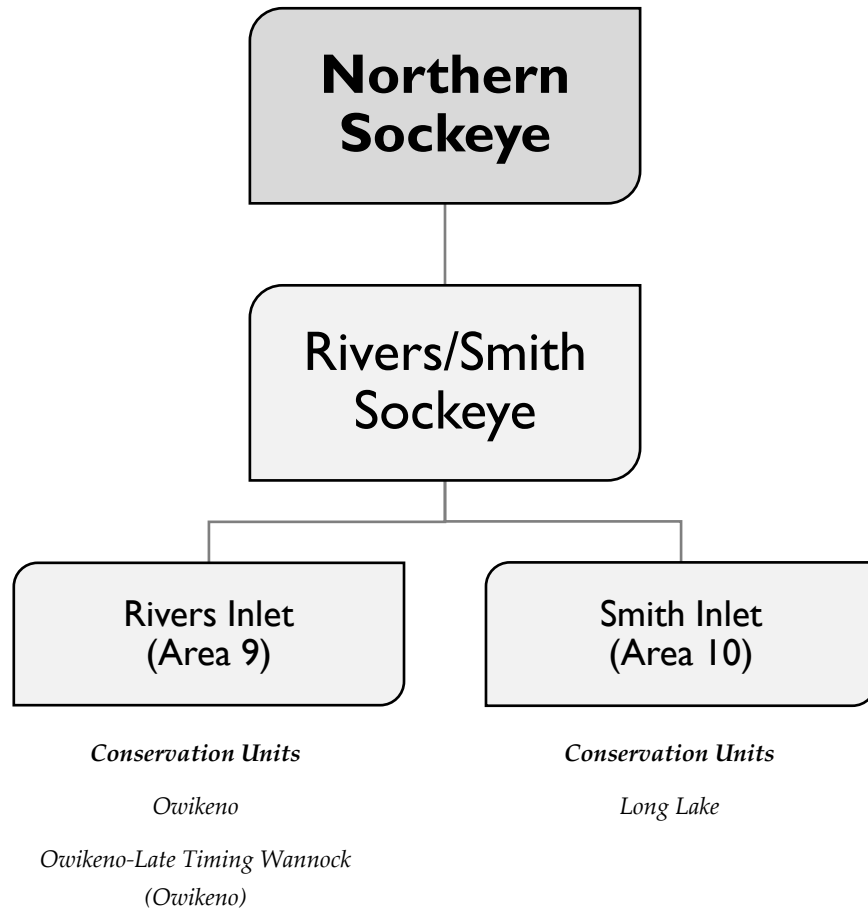


Figure 13.5-10: Overview of Rivers and Smith Inlet Sockeye

Poor marine survival has led to reduced returns of sockeye to both Rivers and Smiths Inlet in recent years. The sockeye fishery on stocks from Rivers and Smiths Inlets began in the late 19th century and increased rapidly during the early part of the 20th century. Both systems experienced dramatic declines in total returns of spawning adults since the mid-1990's and a high degree of variability in returns since that time.

There has been no gill net fishery in Rivers Inlet since 1995 after the sockeye returns declined dramatically in 1994. This decline was caused by poor marine survival beginning with the 1990 and 1991 brood years. Stocks have shown some inconsistent improvement in recent years. Sockeye salmon in Rivers Inlet remain a stock of concern.

Over the last 20 years sockeye returns to Long Lake in Smith Inlet have generally been poor, resulting in only three commercial fisheries since 1996. In recent years, returns have shown signs of improving, resulting in the three previously mentioned fishery opportunities, including a strong return in 2016 which resulted in a substantial gill net opportunity.

Long Lake sockeye productivity has been reduced in recent years as the lake is no longer being fertilized. The previous escapement goal of 200,000 has been reduced to 100,000 sockeye as an interim escapement goal. With this reduced escapement goal, a more cautious management strategy has been adopted.

13.5.6.2 STOCK ASSESSMENT INFORMATION

13.5.6.2.1 Pre-season

There is no formal pre-season forecast done for either Rivers Inlet or Smith Inlet sockeye.

The qualitative Salmon Outlook for Areas 9 and 10 is uncertain at this time.

Pre-season Rivers and Smith Inlet Sockeye Run Size Forecast:

- The total Rivers Inlet sockeye return for 2017 is forecasted to be improving but still below the range of desired escapement levels. No commercial or recreational fisheries are expected in 2017.
- Brood year escapements for Long Lake sockeye have improved, but forecasts are extremely uncertain due to highly variable return rates. The Docee River fence provides a good assessment of returns in-season, any commercial and recreational fishing opportunities will be based on that information.

13.5.6.2.2 In-season Assessment

There is currently no in-season assessment tool for Rivers Inlet sockeye. An acoustic survey project has been underway for several years; however the efficacy of the technique as an in-season assessment tool requires further review.

In-season assessment of Smith Inlet sockeye is conducted at the Docee counting fence. Installed in 1972, the Docee fence has allowed reliable in-season enumeration of escapements to Long Lake, facilitating the management of the sockeye fishery in-season.

13.5.6.3 DECISION GUIDELINES AND MANAGEMENT ACTIONS

Rivers Inlet

DFO is continuing to work with the local First Nations, the First Nations Central Coast Salmon Coordinating Committee and local recreational and commercial advisors to review fishing plans for this area. The current target escapement has been set as a range with the lower threshold of 200,000 sockeye. DFO expects to work collaboratively with First Nations and stakeholders to review this target using Science based evaluation of the system as a whole, through a request to the Canadian Science Advisory Secretariat (CSAS) process. Working with First Nations and stakeholders, it is anticipated that the results of this review will be used to inform a further evaluation of the management framework for sockeye fisheries in Rivers Inlet.

Nevertheless, with a pre-season forecast failing to meet the lower threshold of escapement currently in place for the system, no commercial or recreational sockeye fisheries are planned for Area 9 in 2017.

Smith Inlet

- The escapement target for Smith Inlet is 100,000 and is evaluated in-season based on fish counts past the Docee counting fence.
- Opportunities for Long Lake sockeye directed fisheries are evaluated in-season based on Docee Fence fish counts.
- The Long Lake sockeye stock remains a stock of concern because of the long period of generally low productivity.

13.5.6.4 INCIDENTAL HARVEST, BY-CATCH AND CONSTRAINTS TO RIVERS AND SMITH INLET SOCKEYE FISHERIES

Rivers Inlet

- If a fishery occurs, a maximum mesh restriction of 150mm would be in place to protect Rivers Inlet chinook stocks.
- Commercial gill net boundaries will be developed through consultations with First Nations, commercial, and recreational interests.

Smith Inlet

- If a fishery takes place, a maximum mesh restriction of 150mm will be in place to protect Docee River chinook stocks.
- Dependent on run strength and consultations with First Nations and commercial representatives, fisheries will be considered in Subarea 10-11.

- Boundaries will be restrictive to protect non-targeted stocks. There will be no coho retention unless abundance warrants.

Revival Tanks

Revival tanks conforming to the Conditions of Licence are required, and all prohibited species captured as by-catch must be either revived in the revival tank and released, or released directly to the water with the least possible harm. Management decisions will be influenced by compliance with revival tank provisions.

While gill net fishing, revival tanks must be operating from 10 minutes prior to the commencement of retrieval of the net and continue in operation at all times during retrieval and while fish are being held in the tank. For seine and troll fishers, the revival tanks must be operating while the seine net or hooks are in the water and while fish are being held in the tank. The revival tank(s) and equipment must be kept clean and in operable condition and shall be used for no other purpose than that outlined above. Revival tank construction drawings and additional details are available from the Fisheries and Oceans Canada website at: http://www.pac.dfo-mpo.gc.ca/ops/fm/selective/default_e.htm

Gill Net Construction

In Management Areas 1 to 10, gill nets of different constructions may be used. Net construction may be either multi-strand (30 filaments), or four, five or six filaments (Alaska twist). Specific restrictions such as the specifications for net construction and revival boxes are found in the conditions of the individual licences, which are attached to the licence. Fishers are urged to read these conditions carefully to ensure that their vessel and fishing techniques are in accordance with their licence.

All gill nets will meet one of the following configurations:

- Nets may be hung without a weed line (corkline to web distance 0 to 45 cm) to a maximum of 60 meshes deep.
- In Management Areas 3 to 5, nets may be greater than 60 meshes deep, but must be hung with a weedline (corkline to web distance minimum 0.76 m, maximum 1.5 m) to a maximum of 90 meshes deep. As well, every fifth cork must be red or another distinctive colour (not white).
- Between July 11 and August 15 weed lines are required for gill nets in Subareas 8-5 north of Bold Point and 8-8. Maximum depth is 60 Meshes. Corkline to Web Distance a minimum of 100 cm and a maximum of 154 cm.

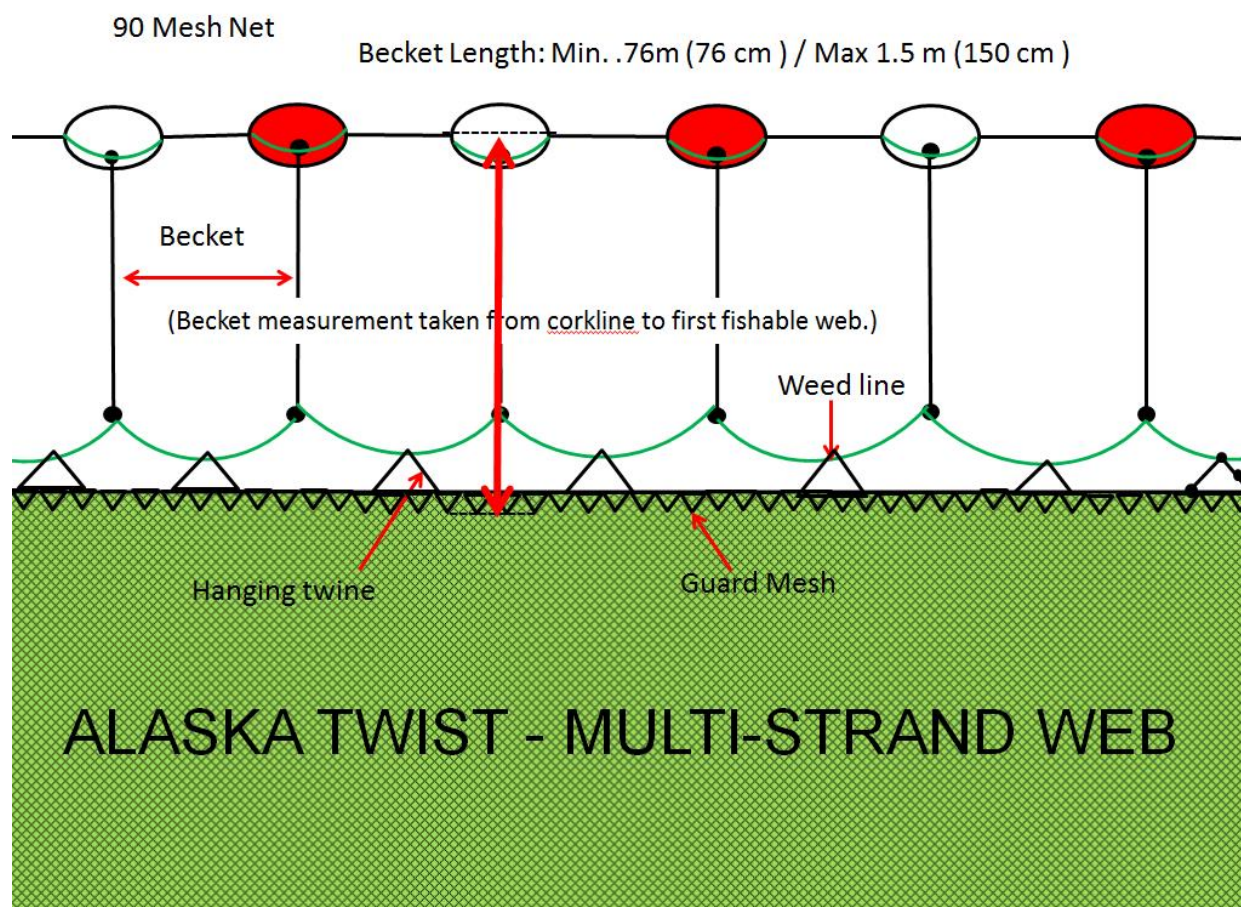


Figure 13.5-11: 90 Mesh Net Construction

Specific restrictions for net configuration are found in the Fishery Notice issued prior to every commercial fishery. Fishers are urged to read these carefully to ensure that their fishing gear is in accordance with the opening.

13.5.6.5 ALLOCATION AND FISHING PLANS

13.5.6.5.1 First Nations Fisheries

Food Social and Ceremonial

First Nations opportunities to harvest salmon for food, social and ceremonial purposes is provided through communal licences issued by DFO. These licences support the effective management and regulation of First Nations fisheries. These licences are typically issued to individual bands or tribal groupings, and describe the details of the FSC fishery including the dates, times, methods, locations of harvest. Communal licences for Northern Coastal First

Nations are typically multi-species and are issued on an annual basis. Shorter duration amendments to licences are also issued on occasion.

Actual opportunities and catches will be dependent on, among other factors; in-season stock strength, management measures taken to ensure conservation of individual stocks, community needs of First Nations, and alternative sources of salmon if preferred species are not available locally due to low abundance.

Refer to Section [10.2](#) for Communal Licence Harvest Target Amount [Table 10.2-1](#) in Northern BC First Nations Fisheries.

First Nations Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, consultations will be undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

Fishery Monitoring and Catch Reporting

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries is being applied in First Nations FSC fisheries across the region. Work towards this includes assessing current monitoring practices, programs and gaps. The First Nations Fishery Council (FNFC) and other area aggregate groups have assisted in engagement to communicate the requirements of the Framework and importance of improving catch information. In addition, a significant focus has been on the development of integrated and coordinated data management and data entry systems within DFO and First Nations Band offices.

Since the year 2000, Fisheries and Oceans Canada have been working with First Nations groups to design and develop an electronic recording and reporting systems for First Nations Food, Social and Ceremonial catch data. The electronic software has incorporated recommendations from numerous First Nations members and is based on their reporting requirements within their communities and those required by the Department. The application also has a licensing system, allowing First Nations to track FSC catch and other fishing information for their members.

The ultimate goal of this initiative is to improve the efficiency and accuracy of reporting FSC catch and other fishing information to the Department.

Since its beginnings as a Microsoft Access program, the database has expanded to other interested First Nations groups within the Pacific Region, including the B.C. Interior area, South Coast and the Central Coast. Approximately 34 First Nations groups have employed this software application. In 2010, work started on compiling all aspects of the approximate 34

current MS Access databases into one (1) VB style system that would be customizable for each Nations' needs. Work on the new system is ongoing.

For more information please contact Aleta Rushton at 250-230-1227.

Treaty Fisheries

There are currently no Treaty fisheries for Rivers or Smith Inlet sockeye.

13.5.6.5.2 Recreational Fisheries

Recreational salmon fishing occurs in the tidal waters of Rivers and Smith Inlets, with several recreational lodges and independent anglers fishing from late June to early September.

In 2016, a recreational fishery for sockeye salmon opened in Smith Inlet on July 18 as a commercial sockeye fishery also opened in the area. The recreational daily limit was four (4) sockeye with a minimum size limit of 30 cm. Rivers Inlet remained closed to recreational sockeye fishing.

A condition of licence in the recreational Tidal Waters Sport Fishing Licence applies to all angling in the Rivers Inlet Special Management Zone (SMZ). Please consult the regulations on tidal and freshwater salmon recreational fishing which can be found online at:

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

To sign up to have recreational fishery notices sent directly to your email, please visit our website at:

<http://www.bcsportfishingguide.ca>

There is a link to subscribe to fishery notices on the right hand side of the page.

Non-tidal waters that drain into Rivers and Smith Inlets are in Region 5B freshwater fishing area and there are no openings for sockeye.

Fishery Monitoring and Catch Reporting

In Area 9, DFO has been collecting recreational catch data through the Lodge Log Book Program. In Area 10, logbook information is used to provide catch and release numbers from anglers fishing in the area.

13.5.6.5.3 Commercial Fisheries

Allocation

Description	Areas	Seine A	Gill Net C	Troll F
Rivers/Smiths Inlets	9 to 10	5%	95%	^c

^c potential for future re-negotiation

Rivers and Smith Inlet Fisheries

No commercial or recreational fisheries are expected for Rivers Inlet sockeye in 2017, and will remain unlikely until there is a trend towards higher ocean survival and significant and consistent improvements in escapement.

Brood year escapements for Long Lake sockeye have improved, but forecasts are extremely uncertain due to highly variable return rates. The preliminary pre-season forecast suggests commercial opportunities are unlikely for 2017. Any commercial opportunities will be decided in- season based on forecasts of escapement past the Docee fence exceeding the target of 100,000.

13.5.6.5.4 ESSR Fisheries

There are currently no ESSR fisheries for Rivers Inlet or Smith Inlet sockeye.

APPENDIX I: LOGBOOK SAMPLES

SALMON TROLL Logbook I.D. # T **SAMPLE** Report Catch to: 1-(888) 387-0007 Record all catch in pieces Page #

Vessel Name: *Pacific Blue* VRN (CFV#): **12346** Vessel Master Name: *Dan Doe* ¹ FIN: **#####**

Date	Mgmt. Area	Zone or Subarea	Hours fished	Catch frozen or iced?	² Kept or Released	Sockeye	Coho	Pink	Chum	³ Legal Sized Chinook	³ Sublegal Sized Chinook	⁴ Grilse	Atlantic	⁵ Rockfish	⁶ Other Species
15 Jul	4	9	3	(F) or I	Kept	25	0	12	0	0	X	X	3	0	0
Trip ID #: <i>FOS-12345</i>					Rel.	0	0	0	0	3	3	5	0	⁸ Yellowtail, ³ Canary, ⁶ Silvergrey, 4 L, 2 D	
Comments: <i>8 Hake released, lots of seals around</i>													DCR Conf. # ⁷ <i>FOS-12346</i>		
15 Jul	4	5	8½	(F) or I	Kept	42	0	8	0	0	X	X	0	0	0
Trip ID #: <i>FOS-12345</i>					Rel.	0	0	0	0	2	5	1	0	⁸ Yelloweye, ⁶ unknown rockfish, 0	
Comments:													DCR Conf. # ⁷ <i>FOS-12346</i>		
16 Jul	5	1	10	F or I	Kept	12	0	0	0	0	X	X	0	0	0
Trip ID #: <i>FOS-12345</i>					Rel.	0	0	0	0	0	1	2	0	² Chilipepper, ² unknown rockfish, 0	
Comments:													DCR Conf. # ⁷ <i>FOS-12349</i>		
18 Jul	5	1	6	F or I	Kept	0	0	0	0	8	X	X	0	0	0
Trip ID #: <i>FOS-12398</i>					Rel.	0	5	0	0	0	1	0	0	0	1L
Comments: <i>1 Coho dead, 5 released in good condition</i>													DCR Conf. # ⁷ <i>FOS-12402</i>		
18 Jul	5	3	5½	F or I	Kept	0	0	0	0	12	X	X	0	0	0
Trip ID #: <i>FOS-12398</i>					Rel.	0	0	0	0	0	0	0	0	0	2D
Comments:													DCR Conf. # ⁷ <i>FOS-12402</i>		
19 Jul	5	3	11	F or I	Kept	0	0	0	0	7	X	X	0	0	0
Trip ID #: <i>FOS-12398</i>					Rel.	0	1	0	0	0	1	3	0	3 Canary	0
Comments:													DCR Conf. # ⁷ <i>FOS-12491</i>		

1. Enter the vessel master's Fisher Identification Number.
2. **Kept** are species retained on board; **Released** are species returned to the ocean.
3. As defined in the applicable Fishery Notice.
4. **Grilse** are juvenile salmon under 30 cm.
5. If possible, rockfish are to be identified by species (using names in accompanying guide); if unsure of species, record as Unknown Rockfish.
6. Other Species: L= Lingcod, H=Halibut, D=Dogfish, M= Mackerel, S= Steelhead, B=Bird.
7. **DCR Conf. #** is the confirmation number received upon completion of the Daily Catch Report.

2016

Date		Mgmt. Area	Sub-area(s)	Hours fished	# of sets	* Kept or Released	Sockeye	Coho	Pink	Chum	Chinook	Steelhead	Atlantic	Dogfish	Sturgeon	⁵ Other Fish	⁶ Non-fish							
SALMON GILLNET Logbook I.D. # G SAMPLE Report Catch to: 1-(888) 387-0007 Record all catch in pieces Page #																								
Vessel Name:		<i>Pacific Blue</i>		VRN (CFV#):		12346		Vessel Master Name:		Dan Doe		FIN: #####												
Net Details		Type ¹ :	A		# Strands ² :	6		Length:	200		(fathoms)	Weedline Depth ³ :	30cm		Hang Ratio:	3 : 1		Mesh Size ³ :	4 7/8"		# Meshes:	90		
4	Aug	12	12-4	5.5	5	Kept	4	0	23	127	0	0	0	0	0	0	0	0	0	0	0	0	Yes	
Trip ID #:						FOS-12480						Rel:	0	0	0	0	0	0	0	0	0	0	0	No
Comments:																2 birds killed in 10AM set, kept for research program. Probably surf scoters.		DCR Confirmation # ⁷ FOS-12346						
5	Aug	12	12-5	7	3	Kept	73	0	245	4	0	0	1	0	0	0	0	0	0	0	0	0	Yes	
Trip ID #:						FOS-12480						Rel:	0	2	0	0	0	0	0	2	0	2M, 1 salmon shark	0	No
Comments:																Offloaded at CANFISCO in Port Hardy on August 5 at 14:00.		DCR Confirmation # ⁷ FOS-12367						
5	Aug	12	12-4	2	3	Kept	88	0	116	7	0	0	2	0	0	0	0	0	0	0	0	0	Yes	
Trip ID #:						FOS-12480						Rel:	0	0	0	0	0	1	0	0	0	0	11 M, 2 R	No
Comments:																Steelhead released in good condition. 2 sea lions released alive around 11AM.		DCR Confirmation # ⁷ FOS-12367						
29	Aug	17	17-11	6	6	Kept	163	0	328	0	0	0	0	0	0	0	0	0	0	0	0	0	Yes	
Trip ID #:						FOS-12773						Rel:	0	0	0	0	3	1	0	0	0	0	0	No
Comments:																		DCR Confirmation # ⁷ FOS-12521						
29	Aug	29	29-2	4	6	Kept	205	0	493	0	0	0	0	0	0	0	0	0	0	0	0	0	Yes	
Trip ID #:						FOS-12773						Rel:	0	2	0	0	1	1	0	0	0	0	0	No
Comments:																Both coho put in rev. tank, one died, one released in good condition		DCR Confirmation # ⁷ FOS-12523						
						Kept																	Yes	
Trip ID #:												Rel:												No
Comments:																		DCR Confirmation # ⁷						

1. **Net Types**: enter 'A' for Alaska Tw ist, 'M' for Multi Strand or 'C' for Combination.
 2. Enter number of strands if net is 'Alaska Tw ist' type mesh.
 3. Give measurement units (/in or " = inches, cm = centimeters, mm = millimeters).
 4. **Kept** are species retained on board; **Released** are species returned to the ocean.
 5. **Other Fish**: M= Mackerel, L= Lingcod, H= Halibut, R= Rockfish. Give full name for other species.
 6. Circle Yes or No as appropriate if any **birds**, **marine mammals**, or **turtles** were encountered. Give time of capture and species details in comments.
 7. **DCR Confirmation#** is the confirmation number received upon completion of the Daily Catch Report.

SALMON SEINE Logbook I.D. # S SAMPLE Report Catch to: 1-(888) 387-0007 Record daily catch in pieces Page #

Vessel Name: *Pacific Blue* VRN (CFV#): *12346* Vessel Master Name: *Dan Doe* ¹ FIN: *#####*

Daily Catch Records

Date	Mgmt. Area	Sub-area(s)	Hours fished	# of sets	² Kept or Released	Sockeye	Coho	Pink	Chum	Adult Chinook	³ Jack Chinook	Steel-head	Atlantic	⁴ Other Fish	⁵ Non-fish
Day	Mon														

14	Aug	3	<i>3-3, 3-2</i>	8	5	Kept	42	0	431	0	0	0	6	0	<input checked="" type="radio"/> Yes
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Trip ID #: <i>FOS-12281</i>						Rel	0	3	0	12	2	0	0	0	0	No
-----------------------------	--	--	--	--	--	-----	----------	----------	----------	-----------	----------	----------	----------	----------	----------	----

Comments: *2 scoters released alive at 10 AM, 1 coho clipped, 2 coho dead, 1 alive at release* DCR Confirmation #: ⁶ *FOS-12346*

15	Aug	4	<i>4-5</i>	5½	2	Kept	38	0	850	0	0	0	0	0	<input checked="" type="radio"/> Yes
-----------	------------	----------	------------	-----------	----------	------	-----------	----------	------------	----------	----------	----------	----------	----------	--------------------------------------

Trip ID #: <i>FOS-12281</i>						Rel	0	0	0	2	1	0	1	0	<i>4 D, 1 L, 1 salmon shark</i>	No
-----------------------------	--	--	--	--	--	-----	----------	----------	----------	----------	----------	----------	----------	----------	---------------------------------	----

Comments: *1 harbour seal released, steelhead revived in tank, then released in good condition* DCR Confirmation #: ⁶ *FOS-12358*

19	Aug	4	<i>4-5</i>	9	4	Kept	53	0	560	0	0	0	0	0	<input checked="" type="radio"/> Yes
-----------	------------	----------	------------	----------	----------	------	-----------	----------	------------	----------	----------	----------	----------	----------	--------------------------------------

Trip ID #: <i>FOS-12403</i>						Rel	0	2	0	17	4	12	0	0	0	<input checked="" type="radio"/> No
-----------------------------	--	--	--	--	--	-----	----------	----------	----------	-----------	----------	-----------	----------	----------	----------	-------------------------------------

Comments: *Both coho rel'd in good condition. 12 jack chinook squishers all dead.* DCR Confirmation #: ⁶ *FOS-12428*

Offload Catch Records

Dates Fished				#	Date	Sockeye	Coho	Pink	Chum	Chinook	(Other)	Complete if catch pooled with that of another vessel:		
First date	Last date	Days	offloaded	Days	offloaded	<input type="checkbox"/> Peces <input checked="" type="checkbox"/> Lbs <input type="checkbox"/> Kgs	<input type="checkbox"/> Pcs <input type="checkbox"/> Lbs <input type="checkbox"/> Kgs	<input type="checkbox"/> Peces <input checked="" type="checkbox"/> Lbs <input type="checkbox"/> Kgs	<input type="checkbox"/> Peces <input type="checkbox"/> Lbs <input type="checkbox"/> Kgs	<input type="checkbox"/> Peces <input type="checkbox"/> Lbs <input type="checkbox"/> Kgs	<input type="checkbox"/> Pcs <input checked="" type="checkbox"/> Lbs <input type="checkbox"/> Kgs	Received from:	Offloaded to:	Vessel

14	Aug	15	Aug	2	15	Aug	471	0	3958	0	0	42	<input type="checkbox"/>	<input type="checkbox"/>	Name:
-----------	------------	-----------	------------	----------	-----------	------------	------------	----------	-------------	----------	----------	-----------	--------------------------	--------------------------	-------

Business and port offloaded to: *Canfisco, Pr. Rupert* Fish slip #: *79768* OCR Confirmation #: ⁶ *FOS-12380*

19	Aug	19	Aug	1	20	Aug	310	0	1692	0	0	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Name: <i>Home Run II</i>
-----------	------------	-----------	------------	----------	-----------	------------	------------	----------	-------------	----------	----------	----------	--------------------------	-------------------------------------	--------------------------

Business and port offloaded to: Fish slip #: *79801* OCR Confirmation #: ⁶ *FOS-12482*

1. Enter the vessel master's Fisher Identification Number.
2. Kept are species retained on board; Released are species returned to the ocean.
3. **Jack Chinook** are all chinook smaller than 67 cm fork length. Note that 67cm is approximately 26 inches.
4. **Other Fish:** M= Mackerel, L= Lingcod, H= Halibut, D= Dogfish, R= Rockfish. Give full name for other species.
5. Circle Yes or No as appropriate if any **birds, marine mammals, or turtles** were encountered. Give time of capture and species details in comments.
6. **DCR Confirmation#** is the confirmation number received upon completion of the Daily Catch Report. **OCR Confirmation** is the Offload Catch confirmation number.

2016

APPENDIX 2: FISHING VESSEL SAFETY

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I 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 Transport Canada (TC); emergency response with the Canadian Coast Guard (CCG) and DFO has responsibility for management of the fisheries resources. In BC, WorkSafeBC also regulates health and safety issues in commercial fishing. This includes requirements to ensure the health and safety of the crew and safe operation of the vessel. DFO (Fisheries and Aquaculture Management (FAM) and CCG) and TC through an MOU have formalized cooperation to establish, maintain and promote a safety culture within the fishing industry.

Before departing on a voyage the owner, master or operator must ensure that the fishing vessel is capable of and safe for the intended voyage and fishing operations. Critical factors for a safe voyage include the seaworthiness of the vessel, vessel stability, having the required personal protective and life-saving equipment in good working order, crew training, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel owner, crew, and other workers must be aware of the latest legislation, policies and guidelines prior to each trip.

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

- Education and training programs
- Marine emergency duties
- Fish Safe – Stability Education Course & 1 Day Stability Workshop
- Fish Safe – SVOP/Safe on the Wheel Course
- Fish Safe – Safest Catch Program
- First Aid
- Radio Operators Course
- Fishing Masters Certificate

- Small Vessel Operators Certificate
- Publications:
 - 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>)
 - Gearing Up for Safety – WorkSafeBC
 - Safe At Sea DVD Series – Fish Safe
 - Stability Handbook – Safe at Sea and Safest Catch – DVD Series
 - Safest Catch Log Book
 - Safety Quick

For further information see:

<http://www.tc.gc.ca/eng/marinesafety/menu.htm>

<http://www.fishsafebc.com>

<http://www.worksafebc.com>

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 drills 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 also to correct ballasting. Fish harvesters must be familiar with their vessel's centre of gravity, the effect of liquid free surfaces on stability, loose water or fish on deck, loading and unloading operations and the vessel's freeboard. Know the limitations of your vessel; if you are unsure contact a reputable naval architect, marine surveyor or the local Transport Canada Marine Safety Office.

Fishing vessel owners are required to develop detailed instructions addressing the limits of stability for each of their vessels. The instructions need to be based on a formal assessment of the vessel by a qualified naval architect and include detailed safe operation documentation kept on board the vessel. Examples of detailed documentation include engine room procedures, maintenance schedules to ensure watertight integrity, and instructions for regular practice of emergency drills.

The *Small Fishing Vessel Inspection Regulations* currently require, with certain exceptions, a full stability assessment for vessels between 15 and 150 gross tons that do not exceed 24.4 metres in length and are used in the herring or capelin fisheries. Once the proposed new *Fishing Vessel Safety Regulations* take effect, more vessels may be required to have a stability booklet.

In 2006, Transport Canada Marine Safety (TC) issued [Ship Safety Bulletin \(SSB\) 04/2006](#) (“Safety of Small Fishing Vessels: Information to Owners/Masters About Stability Booklets”), which provides a standard interpretation of the discretionary power available under Section 48 and the interim requirements prior to the implementation of the proposed *Fishing Vessel Safety Regulations*. The bulletin calls for vessels more than 15 gross tons to have a stability booklet where risk factors that negatively affect stability are present. The bulletin also suggests vessels less than 15 gross tons assess their risk factors. Every fishing vessel above 15 GRT built or converted to herring or capelin after 06 July 1977 and engaged in fishing herring or capelin must have an approved stability book. Additionally, Transport Canada has published a Stability Questionnaire (SSB 04/2006) and Fishing Vessel Modifications Form which enable operators to identify the criteria which will trigger a stability assessment. A stability assessment is achieved by means of an inclining experiment which has to be conducted by a naval architect. Please contact the nearest Transport Canada office if you need to determine whether your vessel requires one.

In 2008, TC issued [SSB 01/2008](#), which sets out a voluntary record of modifications for the benefit of owners/masters of any fishing vessels. For vessels of more than 15 gross tons, the record of modifications was to be reviewed by TC inspectors during regular inspections and entered on the vessel’s inspection record. However, information gathered during the Transportation Safety Board’s (TSB) Safety Issues Investigation into the fishing industry showed minimal recording of vessel modifications prior to this date.

The TSB has investigated several fishing vessel accidents since 2002 and found that vessel modifications and loading of traps have been identified as contributing factors in vessels capsizing, such as: [M02W0102](#) - *Fritzi-Ann*, [M05W0110](#) - *Morning Sunrise*, [M07M0088](#) - *Big Sisters*, [M08W0189](#) - *Love and Anarchy*, [M09L0074](#) - *Le Marsouin I*, [M10M0014](#) - *Craig and Justin*, [M12W0054](#) - *Jessie G*, [M12W0062](#) - *Pacific Siren*, and [M15P0286](#) - *Caledonian*.

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.

In 2013, Fish Safe developed a code of best practices for the food and bait herring fishery and the prawn fishery: 'Food and Bait – Best Practice Reminders'; 'Prawn Industry - Best Industry Recommended Practices.' Please contact Ryan Ford at Fish Safe for a copy of the program materials they developed to address safety and vessel stability in these fisheries. Ryan Ford – Cell phone: 604-739-0540 - Email: ryan@fishsafebc.com

2.2 EMERGENCY DRILL REQUIREMENTS

The Canada Shipping Act 2001 requires that the Authorized Representative of a Canadian Vessel shall develop procedures for the safe operation of the vessel and for dealing with emergencies. The Act also requires that crew and passengers receive safety training. The Marine Personnel Regulations require that all personnel on board required to meet the minimum safe manning levels have received MED (Marine Emergency Duties) training to an A1 or A3 level, depending on the vessel's voyage limits, within 6 months of serving aboard. MED A3 training is 8 hours in duration and is applicable to seafarers on fishing vessels less than 150 GRT that are within 25 miles from shore (NC2). MED A1 training is 19.5 hours duration and is applicable to all other fishing vessels.

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.

Between 2011 and 2015 the TSB investigated 17 fishing vessel accidents which resulted in 17 fatalities. The reports findings highlighted the lack of safety drills and safety procedures and practices.

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. BC waters are usually below 15 degrees. 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 WorkSafe Bulletin *Cold Water Immersion* (available from the WorkSafeBC website at <http://www.worksafebc.com>) where the need to don PFD's while working in or near the water during fishing operations is clearly emphasized.

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

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system early rather than later by contacting the Canadian Coast Guard (CCG). It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons should be registered with the National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources.

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

Since August 1, 2003 all commercial vessels greater than 8 metres in length are required to carry a Class D VHF Digital Selective Calling (DSC) radio. A registered DSC VHF radio has the capability to alert other DSC equipped vessels in your immediate area and MCTS that your vessel is in distress. Masters should be aware that they should register their DSC radios with Industry Canada to obtain a Marine Mobile Services Identity (MMSI) number or the automatic distress calling feature of the radio may not work. For further information see the Coast Guard website at:

<http://www.ccg-gcc.gc.ca/eng/CCG/Home>

or go directly to the Industry Canada web page:

<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01032.html>

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

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:

- g) every ship twenty metres or more in length,
- h) every ship engaged in towing or pushing any vessel or object, other than fishing gear,
- i) 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
- j) where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

Exceptions include:

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

More detailed information on VTS can be obtained by calling (250) 363 8904 or from the Coast Guard website:

<http://www.ccg-gcc.gc.ca/eng/CCG/Home>

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

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

Commercial fishing is legislated by the requirements of the Workers Compensation Act (WCA) and for diving, fishing and other marine operations Part 24 of the Occupational Health and Safety Regulation (OHSR) applies. Many general hazard sections of the OHSR also apply to commercial fishing and other marine operations. For example, Part 8: Personal Protective Clothing and Equipment addresses issues related to safety headgear, safety foot wear and personal floatation devices. Part 15 addresses issues on rigging, Part 5 addresses issues of exposure to chemical and biological substances, and Part 3 addresses training of young and new workers, first aid, and accident investigations. Part 3 of the WCA also defines the roles and responsibilities of owners, employers, supervisors and workers. The OHSR and the WCA are available from the Provincial Crown Printers or by visiting the WorkSafeBC website:

<http://ww.worksafebc.com>

For further information, contact an Occupational Safety Officer:

- Bruce Logan, Lower Mainland, (604) 244-6477
- Mark Lunny, Courtenay, (250) 334-8732
- Jessie Kunce, Victoria, (250) 881-3461
- Pat Olsen, Manager of Interest for Marine and Fishing, (250) 334-8777

For information on projects related to commercial fishing:

- Lisa Houle, (604) 214-6922, Toll-Free 1-888-621-6922, Lisa.Houle@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 fishermen in this goal. The Fish Safe Stability Education Course and 1 Day Stability Workshop are available to all fishermen who want to improve their understanding of stability and find practical application to their vessel's operation. The SVOP/Safe on the Wheel Course is designed to equip crewmen with the skills they need to safely navigate during their

wheel watch. The Safest Catch Program along with fishermen trained Safety Advisors is designed to give fishermen the tools they need to create a vessel specific safety management system.

Fish Safe is managed by Ryan Ford, Program Coordinator John Krgovich, interim Program Assistant Yana Ingelsman, bookkeeper Rhoda Huey and an experienced team of fishermen 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). The advisory committee meets quarterly to discuss safety issues and give direction to Fish Safe in the development of education and tools for fish harvesters.

Fish Safe also works closely with WorkSafeBC to improve the fishing injury claims process. For further information contact:

Ryan Ford, Program Manager

Cell: (604) 739-0540

Fish Safe Office: (604) 261-9700

#100, 12051 Horseshoe Way

Richmond, BC, V7A 4V4

Email: ryan@fishsafebc.com

Website: <http://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 released three investigation reports:

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

In 2016 the TSB released one investigation report:

- the capsizing of the trawl [Caledonian](#) and subsequent fatalities.

The TSB issues 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 fishermen 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 fishermen still don't wear them. Regulations currently require that PFDs be worn only if fishermen identify a risk, however; you never know when you could end up in the water. So the TSB is recommending to TC and WorksafeBC to require persons to wear suitable personal flotation devices at all times when on the deck of a commercial fishing vessel or when on board a commercial fishing vessel without a deck or deck structure and that programs are developed to confirm compliance.

For more information about the TSB, visit the website at:

<http://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 a brief video about some of the issues on the TSB's recent safety Watchlist, visit:

<http://www.tsb.gc.ca/eng/medias-media/photos/index.asp>

Reporting an Occurrence:

<http://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:

[Glenn Budden](#), Investigator, Marine - Fishing Vessels

Transportation Safety Board of Canada

4 - 3071 No. 5 Road

Richmond, BC, V6X 2T4

Telephone: (604) 666-2712

Cell: (604) 619-6090

Email: glenn.budden@tsb.gc.ca

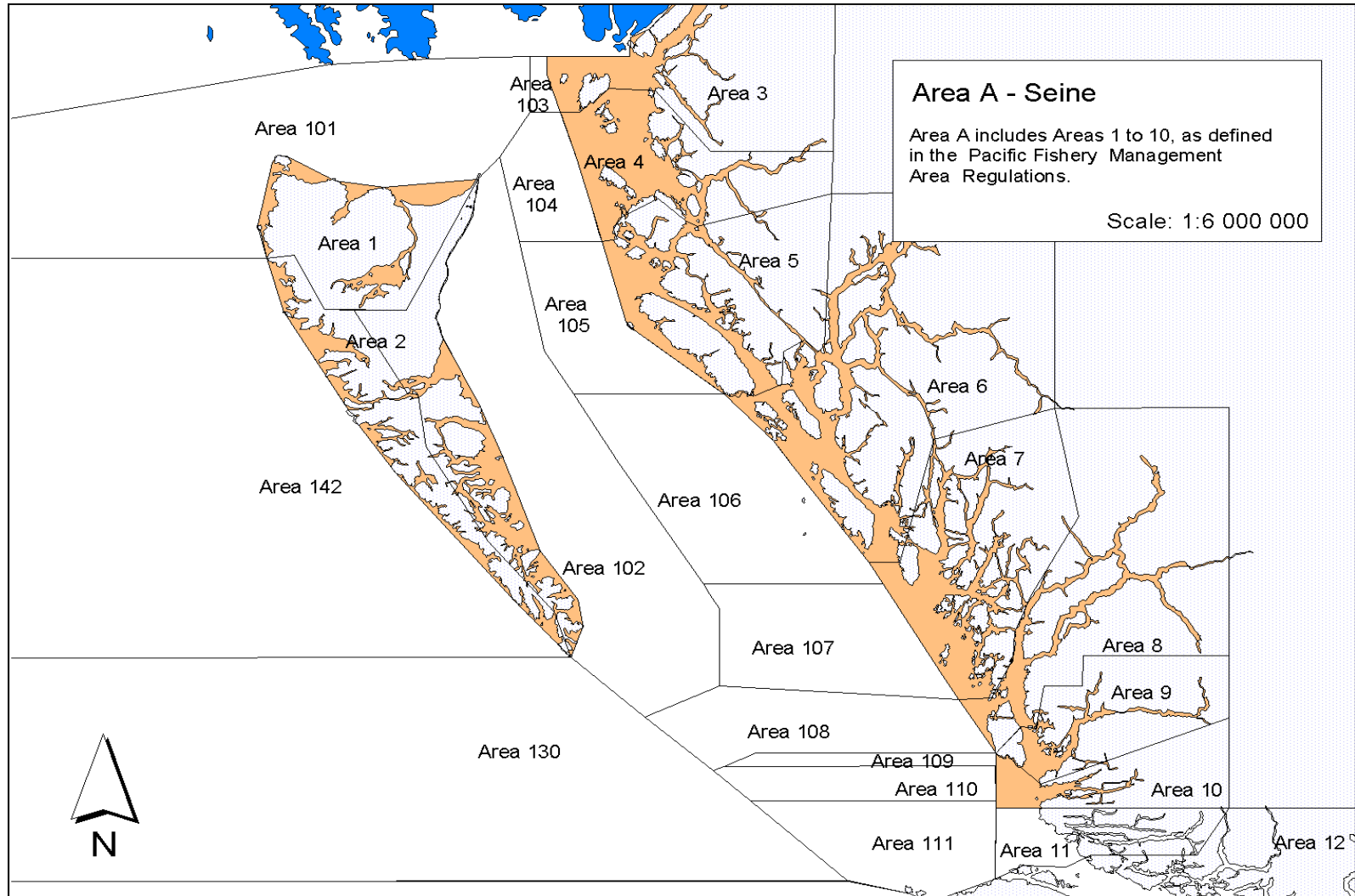
APPENDIX 3: COMMERCIAL SALMON LICENCE AREAS

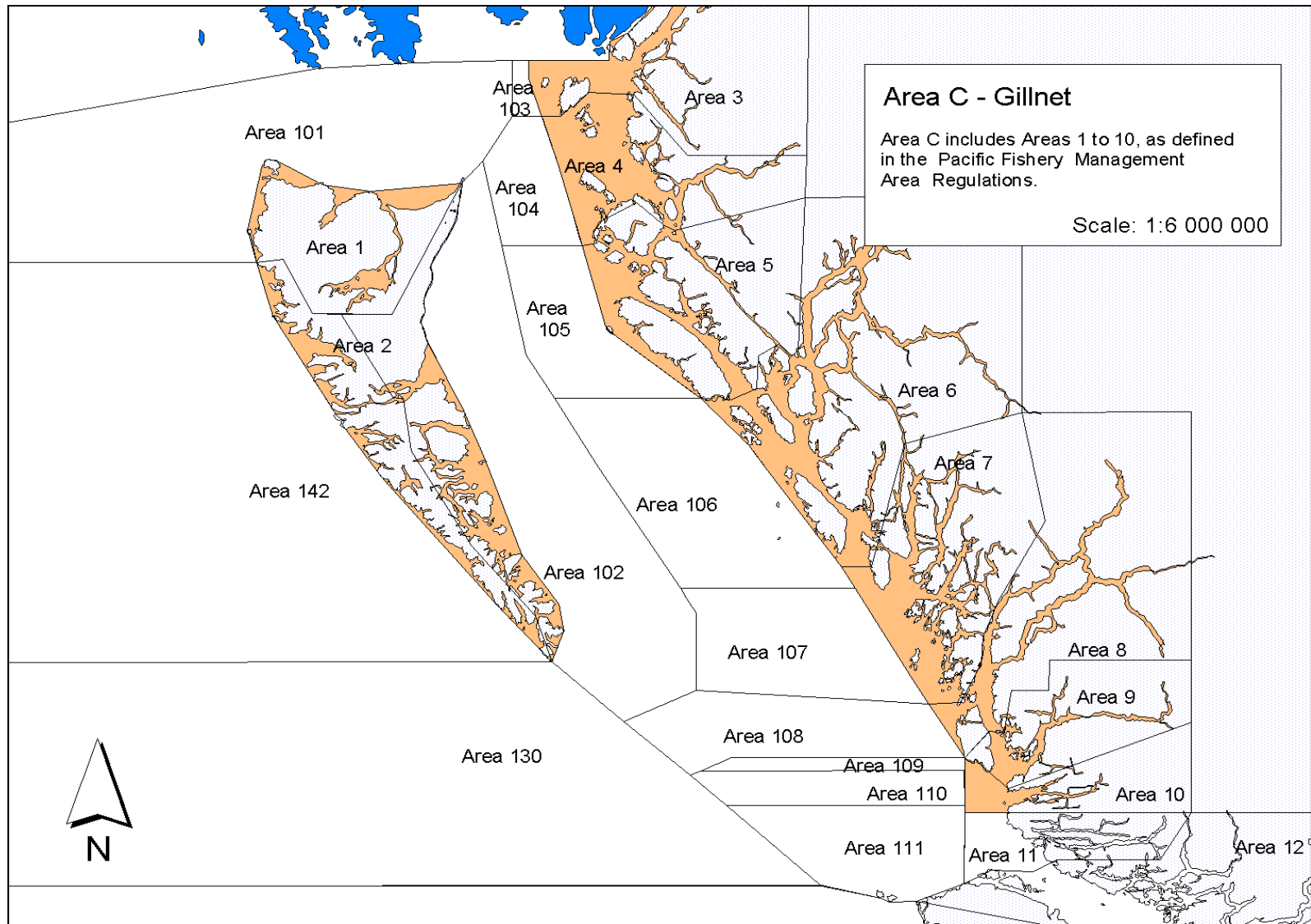
Pacific Salmon Fishing Area	Gear	Corresponding Pacific Fisheries Management Areas (PFMA)
Salmon Area A	Seine	Areas 1 to 10, Subarea 101-7
Salmon Area B	Seine	Areas 11 to 29 and 121
Salmon Area C	Gill net	Areas 1 to 10, Subarea 101-7
Salmon Area D	Gill net	Areas 11 to 15 and 23 – 27
Salmon Area E	Gill net	Areas 16 to 22, 28, 29 and 121
Salmon Area F	Troll	Areas 1 to 10, 101 to 110, 130 and 142
Salmon Area G	Troll	Areas 11, 20 to 28, 111, 121, 123 to 127 and Subareas 12-5 and 12-6
Salmon Area H	Troll	Areas 12 to 19, 28 and 29

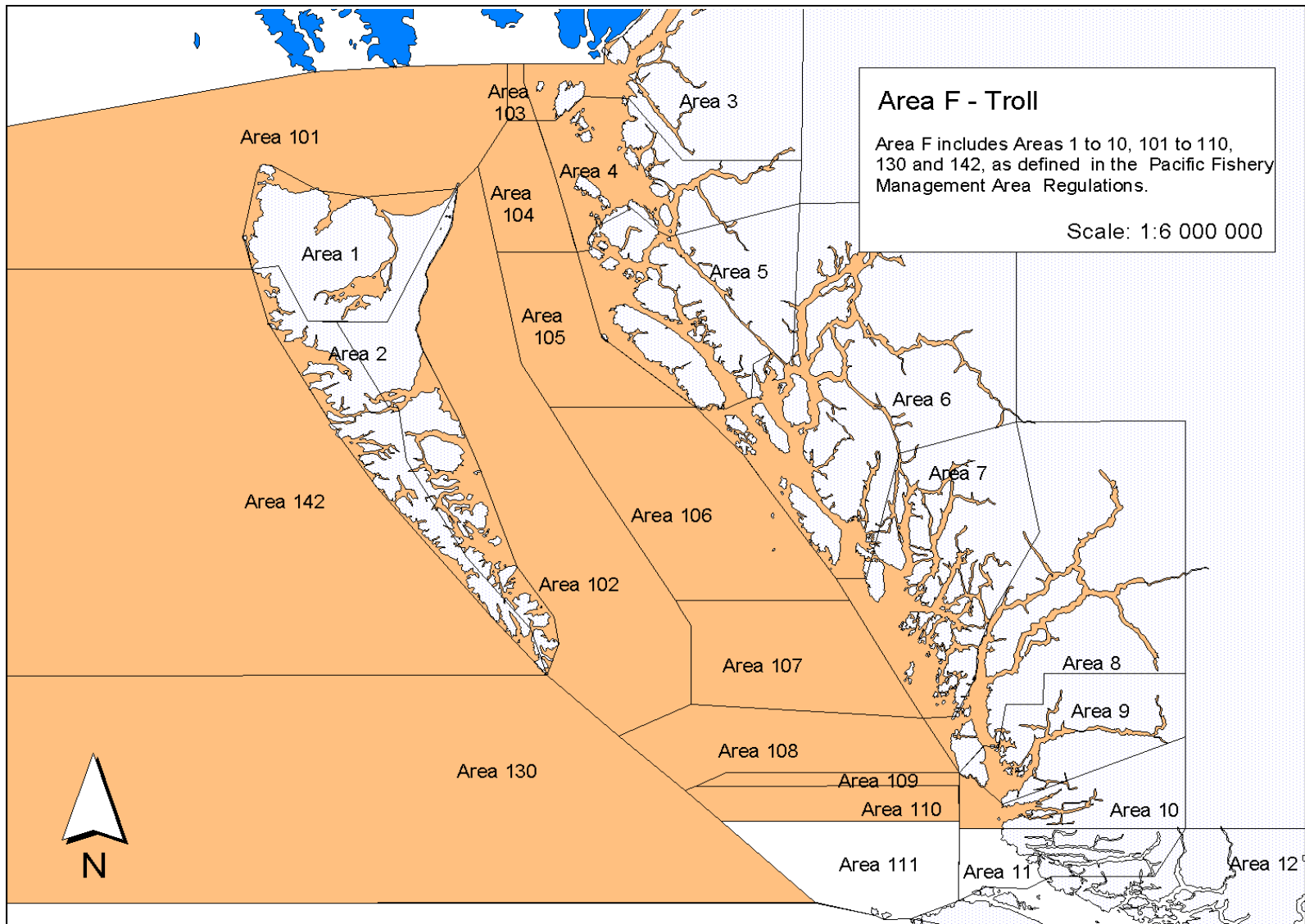
For North Coast PFMA's please see Appendix 6 of this IFMP.

For maps of North Coast commercial licence areas, please see [Appendix 4](#).

APPENDIX 4: MAPS OF NORTHERN BC COMMERCIAL LICENCE AREAS







APPENDIX 5: ADVISORY BOARD MEMBERSHIPS

Meeting dates and records of consultation can be found at:

<http://www.pac.dfo-mpo.gc.ca/consultation/fisheries-peche/smon/ihpc-cpip/index-eng.htm>

The IHPC membership list can also be found on the DFO website at:

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/ihpc-cpip/membs-eng.html>

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ALTERNATE

Vacant

FIRST NATIONS (FOUR) MEMBERS

Vacant

Vacant

Vacant

Vacant

PROVINCE (EX-OFFICIO) (ONE) MEMBER

Vacant

APPENDIX 6: UPDATES TO THE COMMERCIAL SALMON ALLOCATION FRAMEWORK

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I INTRODUCTION AND PURPOSE

The purpose of this appendix is to outline progress related to updates to the Commercial Salmon Allocation Framework (CSAF), including:

Document approved updates to the Commercial Salmon Allocation Framework and areas for further discussion;

Describe principles and guidelines for sharing arrangements, building on guidelines approved in the 2015/2016 IFMP (Section 3);

Outline CSAF demonstration fishery proposals received for consideration for the coming season which have been assessed through the Departments' Evaluation Framework.

2 BACKGROUND

In September 2013, as part of the Pacific Salmon Treaty Mitigation program, Fisheries and Oceans Canada started a process to obtain advice on updating the CSAF to address deficiencies raised by commercial harvesters and First Nations. The Department engaged the existing advisory processes, principally the First Nations Salmon Coordinating Committee (SCC) and the Commercial Salmon Advisory Board (CSAB), and also sought the views of other First Nations and commercial interest on possible changes to the framework. The Department developed a Terms of Reference that provided the scope for the work. Discussions with the SCC and CSAB were completed at the end of January 2015 and proposed updates were included in the draft 2015/16 IFMP and further feedback on these were sought in the fishery planning process. Updates approved by the Department in June, 2015 were included in the final Salmon 2015/2016 IFMP (see Commercial Salmon Allocation Plan in Section [Error! Reference source not found.12.4](#)). A summary of previous work completed related to the initiative to update the CSAF is also available through the following link:

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html>.

Principles and guidelines approved through the 2015 IFMP and additional principles, approved in 2017 are included in Section 2.3 below. These guidelines have been developed based on discussions with the SCC and CSAB and may be updated in future years.

2.1 WHAT IS THE CSAF?

An Allocation Policy for Pacific Salmon (<http://www.dfo-mpo.gc.ca/Library/240366.pdf>) outlines how DFO prioritizes salmon for conservation requirements, First Nations requirements for food, social and ceremonial purposes, and recreational harvest, as well as, outlining how the salmon are shared among commercial salmon fisheries. The part of the policy that outlines how

the commercial allowable harvest (after accounting for conservation, First Nations FSC requirements and recreational sharing arrangements) is shared among commercial salmon fisheries is referred to as the ‘commercial salmon allocation framework’ (CSAF).

2.2 DFO ROLE IN PROCESS TO UPDATE THE CSAF

The Department’s broad interests are to support changes to the CSAF that can improve the long term sustainability of Pacific wild salmon, help commercial fishery participants achieve greater economic benefit, and create more resilient commercial salmon fisheries. The Department’s role has not been to propose changes to the CSAF; rather its focus has been to consider proposed changes to ensure that these were consistent with key Departmental objectives (specified in the Terms of Reference), policies, and programs.

More specifically, the Department evaluated possible outcomes against several objectives. This included: improving compliance with conservation objectives; improving the stability of commercial salmon allocation arrangements; providing more flexibility to licence holders to adapt to uncertain business markets and fish abundance; assisting in catch reporting and monitoring; and promoting collaboration among licence holders, First Nations and the Department. In undertaking this work, the Department was directed by its policies, regulations and legal obligations and any outcomes from this initiative had to be consistent with this direction.

2.3 WHAT CHANGES TO THE CSAF WERE APPROVED FOR THE 2015/2016 SALMON IFMP?

Based on recommendations received from the SCC and CSAB following from discussions occurring from September 2013 through January, 2015, and feedback through the draft 2015/2016 IFMP process, the following key recommendations were approved by the Department:

Defined shares for commercial fleets at the species, fleet and fishery production areas for a period of 5 years with provisions to review the allocations after year 4, starting in 2015;

A set of principles and operational guidelines that would form the basis of incremental testing of flexibilities (alternatives fishing locations and methods) to harvest shares, with potential for testing starting in 2016 prior to wider implementation; and

The development of a revised collaborative advisory process to coordinate the collective interests of First Nations economic fishery and A-H commercial fleet fisheries.

3 PRINCIPLES AND GUIDELINES FOR CALCULATING SALMON SHARES

These principles and guidelines are intended to provide clarity on commercial sharing arrangements and have been developed as part of the initiative to update the CSAF in collaboration with the CSAB and SCC. Below are principles and guidelines included in the final 2015 IFMP as well as additional principles reviewed as part of this draft 2017 IFMP and approved for implementation in the 2017 fishing season.

Please note that these guidelines and principles may be reviewed and updated annually as part of the post-season review process to ensure they remain relevant and clear.

APPROVED PRINCIPLES

For simplicity, the updates to the CSAF are organized into three categories: 1. Stabilizing commercial shares; 2. Flexibility to harvest the shares and integrated planning process; and 3. Additional elements for future discussion.

CATEGORY 1: STABILIZING COMMERCIAL SHARES

The following recommendations form the basis for the commercial allocation plan starting in 2015:

Commercial salmon shares (specified as a % allocation of the allowable commercial harvest) will be assigned by species, fleet and fishery production area. Shares at the species, fleet and fishery production area are provided in Section 12.4 of the IFMP;

Shares will apply for a 5 year period with a provision for a review after year 4 to determine if adjustments should be made to Area A-H sharing arrangements in subsequent years. An earlier review could be considered if circumstances warrant by majority agreement of the commercial advisory board;

Sockeye equivalents will no longer be used to adjust shares on an annual basis;

Licences transferred to First Nations communities for commercial purposes, from an individual relinquished commercial licence, will be based on an equal percentage allocation of the allowable commercial harvest for all licences (e.g. $1/X$ where X = total licences per fleet) in that commercial licence area (i.e. Areas A to H). Please note that licence shares may change over time due to changes in fleet size (e.g. licence retirements, stacking) or updates to the A-H sharing arrangements outlined in the

commercial salmon allocation plan based on the periodic review (i.e. for the 2019 season).

A central, common tracking system developed to provide an open and transparent annual accounting of all commercial A to H licences/allocations and First Nation economic fishery allocations by each First Nations economic fishery.

In addition to the 22 fishery production areas that existed pre-2015, three new areas have been added, as of 2015, to better define sharing arrangements for troll fisheries limited by the Pacific Salmon Treaty including the WCVI Aggregate Abundance Based Management (AABM) chinook, Northern BC AABM chinook and the AB-line pink troll fisheries.

Sharing arrangements in the commercial salmon allocation plan are not fixed entitlements. Although best efforts will be made to achieve fishery production area target allocations over the course of the season, no guarantees are offered that allocations will actually be achieved in any given year. The achievement of commercial allocations will depend upon the ability to fish selectively and the conservation needs of the resource. In the event that allocations are not achieved over the course of the season, no compensatory adjustments (i.e. overage/underage provisions) will be made to future allocations.

Fishing opportunities for all commercial fisheries, including First Nations commercial fisheries, targeting the same fishery management unit should be planned to provide reasonable opportunities to harvest shares. Post season reviews will address whether fisheries adjustments may be required in future years to address situations where allocations are not achieved.

In the event of extenuating circumstances (e.g. when fisheries are opened until further notice after escapement objectives are met in a terminal fishery), commercial sharing arrangements may be set aside and commercial opportunities will focus on harvesting surplus salmon. These situations will be discussed at local processes where possible to coordinate fishing plans.

Further considerations on Stabilizing Commercial Shares

In addition to the three additional production areas which were approved starting in 2015, the SCC recommended adding an additional fishery production area for a total of 26. This 26th fishery production area would result by dividing the Fraser river chum from the southern inside chum production area. This additional production area was not approved, however may be considered in the future pending additional discussion.

It is expected that annual post-season reviews will be conducted to consider how well the approved allocation arrangements have been implemented in commercial fisheries that season.

CATEGORY 2: FLEXIBILITY TO HARVEST SHARES AND INTEGRATED PLANNING PROCESS

Both the CSAB and the SCC are seeking greater flexibility to harvest the shares that are assigned at the fishery production area level and/or are associated with voluntarily relinquished commercial licences transferred to First Nations.

The following principles and operational guidelines form the basis for the incremental testing of flexibilities to harvest shares which started in 2016 informed through the collaborative advisory process (CSAF small group, which includes participants of from the SCC, CSAB and DFO) and a Departmental evaluation framework (these are described in more detail under “further considerations on flexibilities” below):

Greater flexibility, such as fishing location and methods, should be provided to harvest the shares; however, ‘one size does not fit all’ and each gear type through its area harvest committee or First Nations economic fishery should determine the best approach to harvest their shares;

First Nations that have Area A-H licences may continue to fish those licences in the current A-H fisheries or they may choose to transfer the harvest share associated with those licences to a First Nation economic fishery. Under the SCC proposal, any First Nations economic fishery would have to be managed in coordination with other fisheries and would require approval from the Department (including proposed fishing method, location and time);

A revised collaborative process will be required to coordinate the collective interests of the A-H fisheries and First Nations economic fisheries in order to produce integrated fishing plans. A Terms of Reference for an updated commercial salmon advisory board that includes both First Nations economic fishery and CSAB representatives should be developed to clarify membership, roles and responsibilities, management functions, and other relevant features of the collaborative process. This could also include more local harvest planning processes as required;

In-season transfers of shares among and between A-H and First Nation economic fisheries will be considered. These arrangements will be subject to operational guidelines for pre-season and in-season transfers (see the current Guidelines for Temporary Commercial Salmon Share Transfers, Section 12.13);

Transfers between fisheries, including marine and inland areas, must account for similar stocks/species, as well as, any management adjustments that may need to be taken into consideration for transfers to inland areas;

By-catch and stocks of concern (i.e. non-targeted species that limit target species access) will not be formally allocated at this time. Available impacts must be shared between all commercial fisheries, including First Nation economic fisheries, in the development of operational plans to allow every fishery reasonable access to its target species. Operational plans should be discussed annually through a collaborative process among all commercial fishery participants, including First Nations economic interests. The use of by-catch will require more discussion to further clarify how by-catch is best used under different scenarios;

There will be a requirement to have accurate, timely and accessible fisheries data, such that there is sufficient information for all Pacific salmon fisheries to be managed sustainably and to meet other reporting obligations and objectives; and

Common standards and approach will be used for evaluating and approving flexibilities to harvest shares whether these are Area A-H or First Nations economic fisheries. Operational issues about how to operationalize harvest flexibilities in different areas has underscored the need for greater clarity and transparency in applying any of the proposed changes.

Assessment fisheries should take into consideration existing sharing arrangements between A to H and First Nations commercial fisheries; opportunities for assessment fisheries should be proportionate with existing shares or as agreed to by the relevant parties.

Further Considerations on Flexibility to Harvest Shares:

The SCC proposal envisaged that any First Nations that have Area A-H licence(s) may continue to fish those licence(s) in A-H fisheries or choose to transfer the harvest share associated with that licence to a First Nation economic fishery. This could result in First Nation economic fisheries in marine or inland areas based on shares converted from A-H fisheries. The relevant First Nations economic fishery (including any proposed fishing methods, times and locations) would need approval from the Department. Any First Nations fishery would have to be managed in coordination with other commercial fisheries (including A-H), on the same species and would have to meet Department requirements for stock assessment, catch monitoring, compliance and enforcement.

Similarly, the CSAB suggested that fleets in the A-H fisheries should decide how to best harvest their shares through harvest committee deliberations and thus endorsed the view that “one size does not fit all” when it came to how fleets may choose to harvest their shares.

The Department will adopt an incremental approach to implementation of harvesting flexibilities starting in 2016, informed through a collaborative advisory process and a common evaluation framework to review proposals submitted.

Collaborative Process

A revised commercial advisory board including commercial representatives from the A – H fisheries and First Nations economic fisheries will be required for the Department supporting implementation of any proposed flexibilities. This may include commercial harvesters developing a revised commercial salmon advisory board terms of reference including details on membership, roles and responsibilities. The purpose of this board would be as a forum to discuss and make recommendations for the Department’s consideration on implementation of the revised allocation framework, the operational details associated with proposed flexibilities and how to prioritize testing of potential harvesting flexibilities including: reviewing and assessing proposals pre-season and considering the results of pilots against evaluation criteria post-season. The Department will continue to work with the existing CSAB and SCC to determine next steps and support the use of the CSAF small group process for collaborative discussions.

Discussions on commercial harvest plans including which group fishes first, sequencing of opportunities, amounts of fishing time and other fishing plan parameters should be discussed among fishery participants at planning processes suitable to the scale of the fishery (e.g. local area) and included within the IFMP as required. The Department will continue to consider advice and recommendations on proposed fishing plans from the local First Nations, Area Harvest Committees, and other groups to promote integrated fishery planning.

Local management committees are encouraged to promote effective communication, consultation and support increased collaboration and integration of commercial fisheries. Structure and protocol for any local committees should promote effective management through open, transparent and collaborative process to develop and implement commercial fishing plans. Existing processes will be used whenever possible/practical to support pre-season planning, in-season management and post-season review. Operational plans should be guided by the principles and guidelines outlined in this document and, where possible, identify clear decision guidelines that

address the potential fishery configurations and effort associated with a range of potential commercial harvest scenarios.

Pre-agreed methods for calculating in-season harvest amounts associated with commercial allocations for all groups should be identified in local area fishing plans and/or the IFMP where appropriate and communicated preseason so all commercial participants have clarity on sharing arrangements. Methods should account for all commercial allocations including A to H fleets, FN demonstration, economic opportunities and harvest agreement fisheries.

Approaches for in-season communication (e.g. integrated conference calls, Fisheries Notices, etc.) of fishing opportunities, sharing arrangements and catch to date should be provided for discussion with First Nations and stakeholders.

Evaluation Framework

In 2016, DFO in collaboration with the SCC and CSAB developed an Evaluation Framework (E.F.) supported by all parties. The E.F. outlines the objectives and criteria that is used to assess CSAF proposals for flexible harvest arrangements for all commercial/economic fisheries. The E.F. may be reviewed and updated annually based on post-season discussions.

CATEGORY 3: ADDITIONAL ELEMENTS FOR DISCUSSION:

In addition to commercial allocation arrangements within Section 12.4 of the IFMP and those listed above in Category 2: *Flexibility to Harvest Shares*, there are a number of additional elements in the SCC and CSAB proposals where differences remain. These elements may have policy implications and require additional discussion, collaboration and analysis by commercial harvesters, First Nations and the Department.

Details are included within the original proposals received by both the SCC and CSAB in 2015 which can be reviewed at:

<http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html>

Further considerations on additional elements:

The following areas have been highlighted by the SCC and CSAB where there was no agreement concerning the proposed changes.

The SCC has proposed that the current DFO practice for treating un-harvested commercial allocations (catch not caught by a more seaward or downstream fishery) should continue. Specifically, un-harvested allocations should be transferred to other

fisheries, including First Nations economic fisheries, if it was no longer accessible to the original fishery. These arrangements would not require compensation.

Conversely, the CSAB has proposed that uncaught allocations should be handled differently including establishing the conditions when arrangements are required for the transfer of un-harvested allocations, and whether or not there should be compensation to the fleet with the un-harvested shares.

There was also a difference of views on the approach to dual fishing (the retention of fish for food, social and ceremonial purposes during a commercial fishery under agreed circumstances). The SCC has proposed that First Nations economic fisheries be permitted to have dual fishing whereas the CSAB has raised concerns about fairness of this approach to the A to H fishery and its potential conservation issues on stocks of concern. CSAB has recommended that the Department continue its' current approach to considering requests on a case by case basis.

The CSAB has indicated concerns with the guidelines for the conversion of an existing marine A-H commercial licence (not including licences held in DFO inventory) into a First Nation economic fishery allocation (guidelines the CSAB would like to be consider prior to approval of conversions include timing (e.g. pre-season vs. in-season), notification, and transfer/tracking requirements.

In addition, there are some proposed changes that are principally matters best handled between DFO and the relevant group. These matters will require further discussion with the Department.

- The SCC has proposed a separate management body/process to manage First Nations salmon shares including a proposed body (a 'First Nations' licensing board') to administer use of shares associated with relinquished commercial salmon licences from the DFO inventory or licences otherwise set aside for First Nations use.
- The CSAB had indicated interest in reviewing commercial licencing policy.

Finally, there are several areas such rules for determining the circumstances when by-catch can be treated like a target species and so forth where discussions have commenced but not concluded. These, mostly operational matters, will need to be addressed over time.

4 CSAF DEMONSTRATION FISHERY PROPOSALS FOR FLEXIBLE HARVEST ARRANGEMENTS

As part of implementing changes to the CSAF, the Department indicated that it would adopt an incremental approach to providing increased flexibility to harvest salmon shares starting in 2016. This decision was subject to completion of a common Evaluation Framework to review proposals submitted with the intent to use this Framework to define principles and operational guidelines to ensure appropriate implementation of proposed harvesting flexibilities. The Department’s Evaluation Framework was developed to assess proposals for 2016 with input from the SCC and CSAB and has been reviewed during the post-season. There was general agreement from DFO, the SCC and CSAB to continue using the Evaluation Framework with no updates to the principles, objectives and criteria suggested.

Below is a table outlining demonstration fishery proposals that were reviewed with the Department’s Evaluation Framework and did not result in substantial conservation concerns. Please note that proposals included within this IFMP reflect wording provided by the proponents and have not been revised by DFO. The Department will be discussing operational details with First Nations and stakeholders to develop fishing plans, which must be approved in the area, prior to initiating fisheries. CSAF demonstration proposals included below will proceed in 2017 subject to operational considerations being resolved and contingent on sufficient returns for commercial harvest. Should operational considerations not be resolved, the demonstration fishery will not occur in 2017.

Any demonstration fishery that does proceed in 2017 will be reviewed as part of the post-season review process. Below is a table which outlines the section and related demonstration fishery project included within this appendix.

Year	Salmon Coordinating Committee Northern B.C.	Commercial Salmon Advisory Board Northern B.C.
2016	4.1 Central Coast hatchery chum (2 proposals from Heiltsuk/Kitasoo)	4.6 Central Coast coho (Area F)
2016	4.2 Nass River sockeye (2 proposals from Nisga'a Lisims Government and Gitanyow)	
2016	4.3 Skeena sockeye - Area 4 (NCSFNSS)	
NEW 2017	4.4 Central Coast chum (Nuxalk)	

Year	Salmon Coordinating Committee Northern B.C.	Commercial Salmon Advisory Board Northern B.C.
NEW 2017	4.5 Haida Gwaii coho mosquito fleet (CHN)	

Year	Salmon Coordinating Committee Southern B.C.	Commercial Salmon Advisory Board Southern B.C.
2016	4.7 Cowichan chum (Cowichan Tribes)	4.9 Mainland/Inlet pink and chum (Area H)
		4.10 Fraser River sockeye, pink, chum - alternate gear (Area E)
NEW 2017	4.8 Area 18 Goldstream chum (Saanich Tribes)	4.11 Area 12 sockeye/coho encounter study (Area D)
		4.12 Area 14 chum (Qualicum/Puntledge) (Area D)

First Nations requests for access to salmon allocations associated with licences in the Departmental licence inventory will be reviewed internally by the Department and outcomes will be confirmed First Nations proponents. Demonstration fisheries that do not receive requested allocations will not proceed.

4.1 CENTRAL COAST HATCHERY CHUM (2 PROPOSALS INCLUDED WITHIN FINAL 2016 IFMP)

KITASOO NATION: TROUT BAY TERMINAL CHUM DEMONSTRATION FISHERY

Background

Participant: Kitsoo Nation – (either Band or Development Corp.)

Allocation: 15.9% of chum catch based the respective gear shares in the Central Coast Chum production area and the allocation associated with the 88 Area C and 19 Area A and 14 Area F licences in the DFO Inventory.

Final allocation % will be modified based on actual licenses converted to shares as identified by DFO and any other additional licences converted to shares and acquired by Kitsoo prior to the fishing season.

Proposal Overview

Fishing opportunity for the Kitsoo share will take place 1 - 5 days after each scheduled A and/or C fisheries prosecuted in the same area. (typically Monday/Tuesday).

In order to determine the target chum share for the Kitsoo fishing opportunity the total chum catch from the previous A and/or C fishery would be multiplied by 18.9% (or other percentage based on I-c).

Fishery Elements/Attributes

Location – Portion of 7-5 in front of Trout Bay – Klemtu village. Same fishing boundaries as designated for the previously scheduled Area A and/or C fisheries.

Gear type – gillnet and purse seine vessels similar to those used in Area C and A fisheries.

Number of vessels – to be determined based on the number of fish to be harvested. Anticipated to be 1 seine or 2- 6 gillnet vessels for each fishing opportunity for 2016.

Target Species – Kitsoo creek hatchery chum

Bycatch – small numbers of other salmon species. Handling requirements would be same for Area A and/or C fisheries in same area.

Other nearby/relevant fisheries – marine FSC fisheries and recreational fisheries in Area 7 and 8. It is possible the Kitsoo fishing opportunity could occur simultaneously with other all citizens commercial fisheries in the area (often scheduled for Thursday). Preference is to avoid days when other A and/ or C fisheries.

Harvest Guidelines and Management Decision Rules

All Fishing opportunities (A and C or Demonstration) will be based on abundance in the terminal area as determined by a management team consisting of DFO and Kitsoo Fisheries Program and Hatchery representatives.

Proposed fishery management controls

- i. Fishery Timing Controls – Typical timing is August 20 – September 20. with most fishing opportunities preferred prior to September 10 to maximize quality.
- ii. Times for each fishery opening (1 – 5 days after each regularly scheduled fishery) would be identified in the pre-season plan and modified in-season as required. The fishery would open at 6:00 am and would remain open till 6:00 pm or until the target is achieved.
- iii. Fishing Gear Control – The Kitsoo Fisheries Program representative would identify the vessels that may participate in a fishery at least 24 hours before each fishery opening.
- iv. Output Controls – it will be decided by the fishers in communication with the Kitsoo Fisheries manager to determine if the harvest target will be divided equally amongst the designated vessels or all vessels will fish as a pool.

Monitoring and Compliance Plan

Type of program to monitor – combination of at-sea patrols and a single designated mandatory landing site.

- v. At-sea patrols – a member of the Kitsoo Co-mgt program and/or DFO will monitor the fishery and record hauls after each set to confirm running tally of total fish captured relative to the target and relay this information to the fishers throughout the day. Also to confirm the number of fishing vessels participating and ensure compliance with fishing times and area boundaries.
- vi. Mandatory landing site – all of the catch would be enumerated by the Kitsoo Co-mgt. representative and potentially sampled at the designated landing sites (Trout Bay dock) and final tallies provided to DFO. If a single seine vessel is utilized the monitor would operate aboard the vessel and individually count fish into the fish holds after each set.

Security Clearance for Patrolman/validator- DFO and Kitsoo Fisheries Program would work cooperatively to train and provide designation and security clearance to the Kitsoo patrolman/validator. Guidelines to be determined.

Level of coverage – 100% dock side enumeration

Biological sampling requirements – any sampling requirements will be discussed with DFO

Monitoring plan – implemented by Kitasoo Fisheries Program and/or DFO.

In-season Reporting – numbers of each species caught, sold, kept and released by each participating FN will be provided to DFO within 24 hours of the end of each opening.

Communication protocol – Kitasoo Fisheries Program will be responsible for all pre-season, in-season and post-season communications with DFO and participating FNs.

Communication

A Kitasoo Fisheries demonstration fishery manager will be identified and will be responsible for the coordination of the Kitasoo fishery and will be the primary contact for all communication with DFO and fishers

Kitasoo Fisheries Program representatives will participate in pre-season planning meetings, in-season weekly conference calls and any post-season review meetings related to the operation of the Kitasoo Demonstration fishery.

HEILTSUK NATION: MCLOUGHLIN TERMINAL CHUM DEMONSTRATION FISHERY

I. Background

Participant: Heiltsuk Nation – (either Band or Development Corp.)

Allocation: 15.9% of chum catch based the respective gear shares in the Central Coast Chum production area and the allocation associated with the 88 Area C and 19 Area A and 14 Area F licences in the DFO Inventory.

Final allocation % will be modified based on actual licenses converted to shares as identified by DFO and any other additional licences converted to shares and acquired by Heiltsuk prior to the fishing season.

Proposal Overview

Fishing opportunity for the Heiltsuk share will take place 2 - 4 days after each scheduled A or C fisheries prosecuted in the same area. (A or C fisheries typically Monday).

In order to determine the target chum share for the Heiltsuk fishing opportunity the total chum catch from the previous A or C fishery would be multiplied by 18.9% (or other percentage based on I-c).

Fishery Elements/Attributes

Location – Portion of 7-17 in front of McLoughlin Bay. Same fishing boundaries as designated for the scheduled Area A or C fisheries.

Gear type – gillnet and purse seine vessels similar to those used in Area C and A fisheries.

Number of vessels – to be determined based on the number of fish to be harvested. Anticipated to be 1 – 2 seines or 3 - 8 gillnet vessels for each fishing opportunity for 2016.

Target Species – McLoughlin Bay creek hatchery chum.

Bycatch – small numbers of other salmon species. Handling requirements would be same for Area A or C fisheries in same area.

Other nearby/relevant fisheries – marine FSC fisheries and recreational fisheries in Area 7 and 8. It is possible the Heiltsuk fishing opportunity could occur simultaneously with other all citizens commercial fisheries in the area (often scheduled for Thursday). Preference is to avoid days when other A or C fisheries are open nearby to maximize product flow, quality and employment at Heiltsuk processing plant.

Harvest Guidelines and Management Decision Rules

All Fishing opportunities (A and C or Demonstration) will be based on abundance in the terminal area as determined by a management team consisting of DFO and Heiltsuk Fisheries Program representatives.

Proposed fishery management controls

- i. Fishery Timing Controls – Typical timing is August 20 – September 20. with most fishing opportunities preferred prior to September 10 to maximize quality.
- ii. Times for each fishery opening (2 – 4 days after each regularly scheduled fishery) would be identified in the pre-season plan and modified in-season as required. The demonstration fishery would open at 6:00 am and would remain open till 6:00 pm or until the target is achieved.

- iii. Fishing Gear Control – The Heiltsuk Fisheries Program representative would identify the vessels that may participate in a fishery at least 24 hours before each fishery opening.
- iv. Output Controls – it will be decided by the fishers in communication with the Heiltsuk Fisheries manager to determine if the harvest target will be divided equally amongst the designated vessels or all vessels will fish as a pool.

Monitoring and Compliance Plan

Type of program to monitor – combination of at-sea patrols and a single designated mandatory landing site.

- v. At-sea patrols – a member of the Heiltsuk Co-mgt program and/or DFO will monitor the fishery and record hauls after each set to confirm running tally of total fish captured relative to the target and relay this information to the fishers throughout the day. Also to confirm the number of fishing vessels participating and ensure compliance with fishing times and area boundaries.
- vi. Mandatory landing site – all of the catch would be enumerated by the Heiltsuk Co-mgt. representative and potentially sampled at the designated landing sites (Heiltsuk fish plant) and final tallies provided to DFO.

Security Clearance for Patrolman/validator- DFO and Heiltsuk Fisheries Program would work cooperatively to train and provide designation and security clearance to the Heiltsuk patrolman/validator. Guidelines to be determined.

Level of coverage – 100% dock side enumeration

Biological sampling requirements – any sampling requirements will be discussed with DFO

Monitoring plan – implemented by Heiltsuk Fisheries Program and/or DFO.

In-season Reporting – numbers of each species caught, sold, kept and released by each participating FN will be provided to DFO within 24 hours of the end of each opening.

Communication protocol – Heiltsuk Fisheries Program will be responsible for all pre-season, in-season and post-season communications with DFO and participating FNs.

Communication

A Heiltsuk Fisheries demonstration fishery manager will be identified and will be responsible for the coordination of the Heiltsuk fishery and will be the primary contact for all communication with DFO and fishers.

Heiltsuk Fisheries Program representatives will participate in pre-season planning meetings, in-season weekly conference calls and any post-season review meetings related to the operation of the Heiltsuk Demonstration fishery.

4.2 NASS RIVER SOCKEYE (2 PROPOSALS FOR NASS SOCKEYE – INCLUDED WITHIN FINAL 2016 IFMP)

NISGA’A NATION AREA 3 SOCKEYE ALLOCATION PROPOSAL 2017

NOTE: All **bold, highlighted** writing represent changes in the CSAF proposal for 2017/18 from the previously approved proposal in 2016/17.

I. Background

Nisga’a Lisims Government (NLG) is proposing to receive licence/quota for commercial Nass sockeye salmon as part of Fisheries and Oceans Canada’s new Commercial Salmon Allocation Framework process for allocation of harvest shares associated with licences in the DFO Inventory.

The Nisga’a Treaty expressly provides that the Nisga’a Nation continues to have the right to participate in and benefit from programs and services offered by Canada and British Columbia. Specifically, neither the Nisga’a Treaty nor the Nisga’a Harvest Agreement prohibits the Nisga’a Nation from acquiring additional commercial access to salmon or other fisheries resources in accordance with the general criteria applicable to a federal program.

Since 2013, the Nisga’a Nation has been participating in demonstration fisheries whereby a portion of unfished commercial licences have been transferred inland to the Nisga’a Nation. From 2013 to 2015, quota associated with these licences has been fished by NLG, on behalf of the Nisga’a Nation, at the Nisga’a Fish and Wildlife Department (NFWD) upper fishwheels. In 2016, the Nisga’a Nation decided to not fish in the demonstration fishery due to the

low return of sockeye at the Meziadin fishway which did not reach its escapement goal in 2016. The Nisga'a Nation demonstration fisheries that occurred from 2013 to 2015 were well managed and fully utilized each year and have provided additional harvest opportunities to the Nisga'a Nation. In fact, NLG has successfully conducted economic fisheries on the Nass River since the implementation of the Nisga'a Final Agreement ("Nisga'a Treaty") in 2000 and has had no catch disputes over the past 16 years of implementation. A copy of the Nisga'a Lisims Government Nass River In-land Demonstration Fishery (NIDF) Management Plan for the 2015 fishery is attached to this proposal (Appendix 7A).

NLG is requesting 12.9% of the CTAC for Nass sockeye for 2017 fisheries which is 100% of the potential re-allocation (hereafter referred to as sockeye shares) associated with the 88 Area C gillnet licences and 19 Area A seine licences currently available in the DFO Inventory with harvest shares for Nass sockeye (Appendix 7b). These sockeye shares would be for the benefit of all four Nisga'a Villages (Gingolx, Laxgalts'ap, Gitwinksihlkw, and Gitlaxt'aamiks) and four urban locals (Terrace, Prince Rupert, Port Edward, and Vancouver) representing over 7,000 eligible Nisga'a citizens based on NLG's Citizenship statistics to 31 March 2016.

Proposal Overview

The sockeye shares received by the Nisga'a Nation will be fished within the Nass Area by means of 1) fishwheels operated by NLG, 2) Individual Sale (IS) fisheries in marine portions of the Nass Area, and 3) IS fisheries within the lower Nass River. No changes will be required to the existing fishery management decision rules or harvest guidelines by virtue of a re-allocation of sockeye salmon shares to the Nisga'a Nation. NLG and DFO already have the necessary and proven fishery management protocols and procedures necessary for a well- managed fishery. Sockeye shares allocated to the Nisga'a Nation in accordance with this proposal will be fished in the same manner as for the Nisga'a Harvest Agreement shares and the NIDF. Sockeye catch will be delivered to either a marine packer (for the marine IS fishery) or the NLG Processing Plant in Gitlaxt'aamiks (for the in river IS fishery) using 100% validation of catch by NLG observers.

In addition to economic benefits to the Nisga'a Nation, this proposal has the following benefits to other beneficiaries of Area 3 sockeye fisheries;

- i. Nisga'a economic salmon fisheries have a very high probability of being successfully implemented and thus are good example of how First Nation economic fisheries can be conducted,
- ii. There are no additional management costs to Canada associated with this proposal, and
- iii. Any additional management costs to NLG are minor and will be fully absorbed by NLG.

Fishery Elements/Attributes

For Nisga'a commercial sockeye fisheries the anticipated fleet size will be approximately 25 marine gillnet vessels and 296 in-river permit holders fishing with river gillnets and vessels, based on 2015 fisheries. Sockeye harvested communally by NLG will take place at 4 fishwheels located at Grease Harbour.

As has occurred since the Nisga'a Treaty Effective Date in 2000, NLG (as represented by NFWD) and DFO will cooperatively plan Nisga'a fishery openings and general commercial fishery openings to ensure a smoothly run fishery. A pre-season fishing plan will be jointly developed to identify approximate weekly harvests, closures to protect Kwinageese sockeye and minimize by-catch of other non-target species like chum and steelhead, and fishery openings by day of the week. The fishing plan will be adjusted as the season progresses to account for run size, catch-to-date, and any other matters that might arise in-season.

NFWD have very experienced fishery managers that have been directly involved in managing Nass Area salmon fisheries for the past 25 years.

Bycatch handling requirements will be similar to those for Area C fisheries and **any by-catch kept will be accounted for as part of Nisga'a Treaty fisheries.**

Other nearby and relevant fisheries include marine and in-river Nisga'a Treaty domestic fisheries, other Areas 3 and 4 First Nation FSC fisheries, general commercial fisheries in Areas 3 and 4, and all citizen recreational fisheries in Areas 3 and 4.

Fisheries operations will be as in previous post-treaty years. NLG will determine the maximum number of sockeye that can be harvested by each Nisga'a permit holder who is authorized to participate in Nisga'a commercial fisheries. The

size of the individual share may vary during the season depending on the size of the total Nisga'a commercial TAC and fisher effort.

Harvest Guidelines and Management Decision Rules

As described above, a fishing plan will be developed jointly with DFO that will integrate the additional sockeye shares allocated to the Nisga'a Nation with existing economic fisheries already occurring under the Nisga'a Harvest Agreement. As such, no specific new decision rules or guidelines will be required.

NFWD monitors the returns of Nass sockeye to the fishwheels at Gitwinksihlkw using a combination of rigorous catch monitoring of Nisga'a fisheries, catch data provided in-season by DFO for non-Nisga'a fisheries, and a mark-recapture program that has been in operation since 1992. The run tracking and data management of Nass salmon and steelhead stocks by NFWD is widely recognized as extremely reliable in achieving annual escapement goals while maximizing commercial salmon fisheries opportunities in Area 3. Commercial fisheries in Area 3 have occurred annually while major sockeye fisheries in other areas of BC have recently struggled and not opened on an annual basis.

The sockeye shares provided to the Nisga'a Nation under this proposal will be integrated with existing Nisga'a Harvest Agreement shares and managed using well proven fishery controls on the Nisga'a IS fisheries including 100% catch validation within 12 hours of each fishery opening. This combined with daily run size estimation to Gitwinksihlkw enables DFO and NFWD managers to make adjustments to catch targets and fishery openings on a weekly basis.

Monitoring and Compliance Plan

As mentioned above, all Nisga'a Nation salmon fisheries are closely monitored with all Nisga'a IS fisheries receiving 100% catch monitoring and validation at either a marine packer or the Nisga'a Processing Plant in Gitlakdamiks. All Nisga'a fisheries are also sampled for marks (those applied at the Nass River fishwheels or otherwise). All non-target salmon caught (released and kept) are also accounted for in all Nisga'a salmon fisheries.

The nature and form of data collected in Nisga'a domestic and IS fisheries are well established and accepted by DFO managers in Prince Rupert since the implementation of the Nisga'a Treaty in 2000. They include weekly updates of Nisga'a catch to date and total run size as well as significant additional

data. An example of an in-season updated from NFWD in 2016 is attached as Appendix 7C to this proposal.

Communication

NFWD will continue as in previous years to provide timely information (e.g. Appendix 7C) to numerous recipients (DFO, BC FLNRO, NGOs, other First Nations) throughout the season by posting in-season weekly updates to DFO's (<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/nass-eng.html>) and NLG's sponsored websites (<http://www.nisgaanation.ca/stock-assessments>) and <ftp://ftp.lgl.com/Nass Stock Assessment Updates>) that are available publicly. NFWD managers will participate in weekly conference calls with DFO throughout the sockeye fishing season and will continue to provide in-season and post-season Nass escapement and run size information needed to manage Nass Area sockeye and other salmon species like in other.

* Appendices referred to in this proposal may be requested from Cynthia Johnston at cynthia.johnston@dfo-mpo.gc.ca.

GITANYOW NATION 2017 CSAF PROPOSAL (AREA 3 FISHERY)

NOTE: All **bold, highlighted** writing represent changes in the Gitanyow Nation CSAF proposal for 2017/18 from the previously approved proposal in 2016/17.

II. Background

The Gitanyow Nation has had an inland economic demonstration fishery in Area 3 (Nass River) since 2009, supported by DFO ATP/PICFI licences.

A Gitanyow CSAF Fishery proposal was approved in 2016 through the DFO 2016/17 IFMP process, but did not go ahead because of low sockeye abundance in the Nass River.

DFO allocated a total of 8 Area A licences (1.852% of the commercial TAC) and 37 Area C licences (4.412% of the commercial TAC) for the Gitanyow CSAF fishery in 2016. This allocation represented a total of 6.264% of the sockeye TAC for the Area 3 commercial fishery.

All the licences originated from the DFO ATP/PICFI licence bank. In total DFO had 19 Area A licences (4.398% of the commercial TAC) and 88 Area C licences (10.493% of the commercial TAC) which represented a total of 14.891% of the sockeye TAC for the Area 3 commercial fishery.

For 2017/18 DFO has indicated that there will likely be the same number of licences available overall for First Nation use in Area 3 from the DFO ATP/PICFI licence bank. However, the total share will only be 12.954% of the TAC for Area 3 commercial fishery because an error was made in the previous year where the Nisga'a Treaty sockeye allocation wasn't factored into the calculation of shares.

The Gitanyow proposes that all of the DFO ATP/PICFI licence allocation (19 Area A / 88 Area C licence) be provided to the Gitanyow CSAF fishery in 2017/18. The Gitanyow respectfully make this request given that the only other First Nation commercial fishery organization in Area 3, the Nisga'a Nation, have been accommodated for economic commercial access through the Nisga'a Treaty since the year 2000. **If the department does not plan on providing all of the available DFO ATP / PICFI licences to the Gitanyow CSAF fishery in 2017/18, it is recommended that a fair, transparent and equitable arrangements for licence sharing be implemented in consultation with the Gitanyow Nation.**

Proposal Overview - Concept being proposed / Changes:

Weekly shares based on in-season estimates of CTAC for Nass sockeye to be harvested using dipnets and seine nets in Gitanyow Traditional Territory in the inland waters of the Nass and Meziadin Rivers.

The Gitanyow harvest share would be distributed between the 8 traditional Gitanyow House groups who have the capacity and willingness to implement a fishery in 2017. It is anticipated that most of the harvest in 2017 will take place on the Meziadin River (like in other years), but that some pilot mainstem Nass River fisheries may also occur.

The Gitanyow are proposing like last year that the adjustments to the Gitanyow allocation to account for the Nass sockeye stock composition not available in the fishery, not be applied to harvests at the Meziadin fishing site in 2017. This change is being proposed in order to promote and recognize the benefits of the terminal and selective nature of the Gitanyow Meziadin fishery. The proposed harvesting within the Meziadin system will promote the conservation of other Nass sockeye stocks of concern (e.g. Kwinageese sockeye) and help rebuild them quicker than if the Gitanyow allocation was harvested from the Nass sockeye aggregate. This proposal has the potential to extend benefits to all fishing sectors that target Nass sockeye, because stock of concern can be rebuilt

quicker and fishing restrictions related to these stocks (e.g. Kwinageese sockeye window closure) can be lifted sooner. If in-season it looks like Meziadin sockeye will not meet and or exceed there management escapement goals, GFA proposes that provision adjustment remain in place to maximize the likelihood that the management goals will be met. This provision will be reviewed in-season regularly and in the post- season annually and Gitanyow and DFO will decide if it should be continued for future years. This provision will only apply to the Meziadin fishing site.

NOTE: Nisga'a Treaty and economic demonstration fishery adjustment provisions for stock composition in the inland waters of Area 3 have not been applied in any year since the Nisga'a Treaty was implemented and since the Nisga'a have been fishing in demonstration fisheries in the Nass (starting in 2015).

Fishery Elements/Attributes

Location – Mainstem Nass and the Meziadin River at existing traditional fishing sits.

Gear Type – Dipnets, and potentially the use of a fishwheel and / or beach seines in the mainstem of the Nass River.

Number of Fishing/Landing Sites – To be determined based on the number of fish to be harvested and number of participating Gitanyow house groups taking part in the fishery. We do not anticipate anymore than four fishing sites, and 3 landing sites. Only **two** landing sites will be open at any given time for the ease of management.

Target Species – Nass and Meziadin sockeye.

By-catch – At the Meziadin fishing site the water is very clear and fishing is conducted exclusively using dipnets. In the last 7 years there has been no by-catch in the economic fishery. If fishing takes place on the mainstem of the Nass, by-catch could include chinook, coho and steelhead. In these cases all by-catch would be released back into the river with the least possible harm **except for coho salmon. For 2017 the Gitanyow are requesting that if other commercial fishing sectors are allowed to retain coho salmon for sale, that the Gitanyow also be provided the opportunity to harvest and sell coho in Nass mainstem fisheries.** By-catch impacts are expected to be small overall and likely to have minimal impact due to the selective nature of the fisheries being proposed.

Other Nearby/Relevant Fisheries – In-river Gitanyow FSC fisheries, Nisga’a Treaty fisheries, Nass River recreational fisheries.

Fisheries Operations/Coordination – The GFA have effectively managed and operated Gitanyow FSC and inland demonstration commercial fisheries in the inland waters of Area 3 for the last 7 years and there have been very few if any fishing ground conflicts. This is partly because the GFA policy has always been to provide Gitanyow FSC fishers with priority access to the fishing sites over economic and it is expected that this policy will be followed again in 2017.

Recreational fishing sites do not overlap with mainstem Nass Gitanyow traditional fishing sites and salmon fishing is not permitted by DFO on the Meziadin River.

Nisga’a economic fishers have not fished on the Meziadin River for at least the last 20 years so we don’t expect any conflicts or competing interests at the Meziadin fishing site. We do not expect any fishing ground conflicts on the mainstem of the Nass River either, given that Gitanyow FSC fisheries and Nisga’a Treaty Fisheries have taken place without serious incident since the Treaty was implemented. If there are any potential conflicts in 2017, GFA suggests that the economic openings at this site (and any other potential overlap fishing sites) be coordinated (e.g. staggered) between GFA and Nisga’a Fisheries.

Harvest Guidelines and Management Decision Rules

Description of guidelines and management decision rules and process for adjusting allocations – The Gitanyow are proposing that allocations of Nass sockeye be based on a share of the CTAC from Area 3. The share would be determined weekly in-season through the existing Nass management process, whereby Nass sockeye abundance is estimated using information collected from outside fisheries and the Nass Fishwheels mark / recapture program. This system has been in place for many years (>15 years) and has been used since at least 2000 to allocate CTAC shares to the Nisga’a for Treaty entitlement. We propose that the Gitanyow share be calculated in- season using the same methods currently employed to determine the Nisga’a Treaty shares of the Nass sockeye fishery. GFA also recommends that clear fishery opening and closing triggers be developed in the pre- season and used in season to manage all fisheries so there is no confusion of subjectivity on when groups can fish or not fish. These clear transparent fishing rules should be based on good science and developed with the department in consultation with the GFA.

GFA does not believe that a CTAC system for the Gitanyow CSAF fishery will reduce DFO's workload in-season compared to the old system (pre-2016) whereby Gitanyow allocations were based on calculation multipliers applied to the Area A & C catch inseason.

Proposed fishery management controls

- i. Meziadin Fishery Timing Controls – At the Meziadin fishing site the fishery would be opened once sockeye become available for harvest at the fishing site (usually by Mid July). It would remain open until all the allocation has been caught for the season minus any other allocations designated for other fishing sites (mainstem Nass). The Gitanyow allocation (share) would be updated once a week. Because of the terminal nature of the Meziadin fishery there are no mixed stock concerns, therefore there is no need to manage it on a weekly basis.
- ii. Other Nass Fishery Timing Controls – Dates, times and a sockeye allocation of the Gitanyow share would be identified in the pre- season plan and modified in-season as approved by GFA and DFO, weekly prior to each fishery opening. Each fishing site would be allocated a share of the target weekly catch. Fishing would stop when a weekly harvest share has been harvested. Any uncaught allocation would move up to the Gitanyow Meziadin Fishing site once it passes the fishery area during any given week.
- iii. Fishing Gear Control – GFA will determine in consultation with DFO, the % allocation to be divided by fishing site to maintain an orderly fishery in 2017. Specific fishing site allocations may be increased or decreased in-season by GFA, in consultation with DFO, based on the performance and compliance of any given fishery. GFA would declare which fishing / landing sites would be open at least 48 hours prior to any fishery openings.

Monitoring and Compliance Plan

Monitoring Program – A combination of fishing site and landing site monitoring will take place in-season. GFA monitor(s) and DFO enforcement staff would conduct all monitoring of the Gitanyow fishery.

- iv. Fishing Sites –To ensure selective fishing provisions are being followed according to pre-season plans, by-catch is being released **except**

potentially coho on the Nass River mainstem), catch is accurately accounted for and timing and area boundaries are followed.

- v. Landing sites – All of the catch would be enumerated and potentially sampled at the designated landing sites.

Level of coverage – 100% of catch enumerated at landing sites.

Biological sampling requirements – Any sampling requirements will be discussed with DFO.

In-season Reporting – Numbers of each species caught, sold, kept and released broken down by fishing site and week will be provided to DFO within 48 hours of the end of each fishing week.

Communication protocol – GFA will be responsible for all pre-season, in- season and post-season communications with DFO and participating Gitanyow House Group fishers.

Communication

GFA representatives will participate in pre-season planning meetings, in- season weekly conference calls and any post-season review meetings related to the operation of the Gitanyow CSAF fishery. The Gitanyow Fisheries Authority would also communicate with DFO in-season and provide tag recovery information as timely as possible.

Fishery Benefits

This proposal will allow the Gitanyow Nation an opportunity to harvest a small share of the CTAC of Nass sockeye and coho salmon and continue to develop their fishery in a sustainable manner. It will also provide well- needed employment opportunities for the remote community of Gitanyow where unemployment rates are some of the highest in the province and where salmon fishing is one of the only economic drivers.

The Gitanyow proposed fishery will allow for more targeted selective and terminal fisheries in the Nass by moving additional CTAC to the largest and most productive Nass sockeye stock located in the Meziadin River. This will likely have conservation benefits for Nass sockeye as a whole, and provide particular benefits for stocks that are currently depressed such as Kwinageese sockeye.

It is the Gitanyow Nations hope that this fishery will help foster better cooperative fisheries management in the Nass Watershed between the Gitanyow, Nisga'a, DFO and the CSAB. It is hopeful that this can be achieved through the expansion of the current local harvest planning committees and the Nass Watershed Process whereby all First Nations would have representation and a say on how fisheries will take place Area 3.

By allocating all of the available DFO ATP/PICFI Licence inventory Area 3 through this proposal, DFO will realize the full benefits of PICFI and ATP programs in the Nass Watershed. Programs that were originally established to support First Nations' increased participation in Pacific commercial fisheries.

4.3 TSIMSHIAN AREA 4 SOCKEYE FISHERY (NCSFNSS – INCLUDED WITHIN FINAL 2016 IFMP)

NOTE: All **bold, highlighted** writing represent changes in the CSAF proposal for 2017/18 from the previously approved proposal in 2016/17.

I. Background

First Nation Group: North Coast Skeena First Nations Stewardship Society

Allocation: 4.968% of the allowable commercial harvest of Skeena sockeye which has been recently based on actual weekly commercial catches of sockeye in Area 4. This percentage is based on a 1/3 share of the 14.9% of Skeena sockeye allocation associated with the 88 Area C and 19 Area A licences in the DFO Inventory.

Proposal Overview

As proposed in 2016 and discussed with DFO, CSAB and Skeena First Nations during the 2016 post-season review of the 2016 Tsimshian CSAF Demo fishery, NCSFNSS propose that weekly catch targets for the Tsimshian Area 4 Sockeye Fishery be determined using in-season estimates of Commercial Total Allowable Catch (CTAC) for Skeena sockeye combined with a pre-season fishing plan and in-season estimates of the number of Skeena sockeye caught in Area A, Area C and Tsimshian commercial fisheries.

If DFO does not approve the proposed CTAC based approach for 2017, the Tsimshian weekly catch target will be equal to 5.83% of the weekly commercial sockeye TAC in Area A and C fisheries in Area 4, such that the allowable Tsimshian catch is equal to 4.968% of the total allowable commercial catch for

Skeena Sockeye in all Area 4 commercial fisheries and inland Demonstration fisheries. The equation used to calculate the 5.83% value is $1/3 * 14.9\% / (1 - 14.9\%)$.

The Tsimshian Area 4 commercial sockeye fishery will be conducted using gillnet and/or purse seine gear in Area 4-12 and 4-15 at times when Area C fisheries are closed for these areas.

The Tsimshian harvest share would be distributed equally between the 6 Tsimshian First Nations.

Fishery Elements/Attributes

Location – Area 4-12 and 4-15

Gear type – gillnet and/or purse seine vessels similar to Area C and A fisheries.

Number of vessels – to be determined based on the number of fish to be harvested and number of participating First Nations. Anticipated to be 1-3 vessels per Tsimshian First Nation for each fishing week in 2017.

Target Species – Skeena sockeye

Bycatch – will be a very small proportion of the total catch will be other salmon species. Species retention would be similar to those for Area C fisheries. For example: if Area C fishers are permitted to retain Coho salmon, Tsimshian fishers would be permitted to retain Coho salmon.

Other nearby/relevant fisheries – marine FSC fisheries, all citizens commercial fisheries and recreational fisheries in Area 4.

Fisheries operations – Tsimshian First Nations may collaborate on harvesting their shares depending on the number of fish to be harvested. This could change in-season depending on the number of vessels available and the relative success of the individuals involved.

Harvest Guidelines and Management Decision Rules

Guidelines and management decision rules used to implement the Tsimshian fishery will be similar to those for other Area 4 commercial fisheries that target Skeena sockeye salmon.

Proposed fishery management controls

- i. Fishery Timing Controls - dates and times for each fishery opening would be identified in the pre-season plan and modified in-season as required, at least one week prior to each fishery opening.
- ii. Fishing Gear Control – each Tsimshian FN would identify the vessels that may participate in a fishery at least 12 hours before each fishery opening.
- iii. Output controls – each FN would be allocated an equal share of the target weekly catch and fishing by a specific FN would stop when their harvest share has been reached. Target catch amounts could be defined as group or individual vessel quota. Target amounts may be adjusted for individual Nations depending upon variability of catch rates amongst the fleet and with the collective intent to harvest the entire allocation provided. Further discussions will occur in early 2017 to develop a fishing plan to coordinate fishery openings with existing fisheries.

Monitoring and Compliance Plan

Type of program to monitor

- iv. At-sea patrols – **at-sea patrols will be limited to a maximum of one per fishing week to confirm the number of fishing vessels participating. The 2016 fishery demonstrated complete compliance with fishing times, area boundaries and delivery at designated landing sites.**
- v. Mandatory fisher logs will track release of non-target species.
- vi. Landing sites – all of the catch would be enumerated and potentially sampled at the designated landing sites.

Landing, site(s)

Level of coverage – 100% dockside validation, will confirm the number of target and by-catch species landed

Biological sampling requirements – any sampling requirements will be discussed with DFO

Monitoring plan – implemented by NCSFNSS and chosen Service Provider

In-season Reporting – numbers of each species caught, sold, kept and released by each participating FN will be provided to DFO within 48 hours of the end of each fishing period.

Communication protocol – NCSFNSS will be responsible for all pre-season, in-season and post-season communications with DFO and participating FNs.

Communication and Coordination

NCSFNSS will work with other Skeena First Nations, DFO and CSAB to establish a Local Harvest Planning Committee (LHPC) to discuss and coordinate fishing plans. The first meeting of the proposed LHPC should be in April or May 2017.

NCSFNSS representatives will participate in pre-season planning meetings, in-season weekly conference calls and any post-season review meetings related to the operation of the Tsimshian fishery. Representatives from participating Tsimshian FNs will be encouraged to participate in these meetings and calls.

Fishery Benefits

The Tsimshian Area 4 Commercial Sockeye Fishery provides Tsimshian First Nations with the opportunity to harvest their portion on the catch represented by the 19 Area A and 88 Area C licences in the DFO inventory.

The proposed fishery will allow the participating Tsimshian First Nations to continue to evaluate the appropriate amount of fishing effort (vessel-days) needed to harvest their share of the weekly catch targets.

The fishery will assist each of the participating First Nations with their goal of maintaining the fishing capacity needed to access salmon and other fish species for both commercial and domestic (FSC) purposes.

There could be future benefits associated with improved in-season estimates of sockeye returns resulting from timely data on daily catch rates from Tsimshian fisheries conducted at locations close to the mouth of the Skeena River with similar fishing effort each week (i.e. small fleet test fishery to augment the information from the Tyee Test Fishery).

The proposed CTAC approach for determining weekly catch targets for Skeena sockeye commercial fisheries will facilitate the development of pre-season fishing plans and ensure that weekly catch targets consistent with in-season estimates of the Total Return to Canada, CTAC derived from the harvest rule for Skeena sockeye commercial fisheries, and the total commercial catch to date.

4.4 NUXALK NATION - BELLA COOLA TERMINAL CHUM DEMONSTRATION FISHERY (NEW FOR 2017)

I. Background

Participant: Nuxalk Nation – (either Band or Development Corp.)

Allocation: 15.6% of chum catch based the respective gear shares in the Central Coast Chum production area and the allocation associated with the 88 Area C and 19 Area A licences in the DFO Inventory.

Final allocation % will be modified based on actual licenses converted to shares as identified by DFO and any other additional licences converted to shares and acquired by Nuxalk prior to the fishing season.

Proposal Overview

Fishing opportunity for the Nuxalk share will take place 2 - 4 days after each scheduled Area C fisheries prosecuted in the same area. (Area C fisheries typically start Monday).

In order to determine the target chum share for the Nuxalk fishing opportunity the total chum catch from the previous Area or C fishery from the Bella Coola Gill net Area would be multiplied by 18.5% ($15.6\% / (1 - 15.6\%)$ or other percentage based on I-c).

Fishery Elements/Attributes

Location – Portion of 8-11 at the head of North Bentinck arm from Tallio Cannery to 10 mile point.

Gear type – gillnet vessels similar to those used in Area C fisheries.

Number of vessels – to be determined based on the number of fish to be harvested. Anticipated to be 3 - 7 gillnet vessels for each fishing opportunity for 2017.

Target Species – Bella Coola River hatchery chum.

Bycatch – small numbers of other salmon species. Handling requirements would be same for Area A or C fisheries in same area.

Other nearby/relevant fisheries – marine FSC fisheries and recreational fisheries in Area 8. Preference is to avoid days when other Area C fisheries are open.

Harvest Guidelines and Management Decision Rules

All Fishing opportunities (Area C or Demonstration) will be based on abundance in the terminal area as determined by a management team consisting of DFO and Nuxalk Stewardship Office representatives.

Proposed fishery management controls

- i. Fishery Timing Controls – Typical timing is June (22)– August 20 with most fishing opportunities preferred prior to August 31 to maximize quality.
- ii. Times for each fishery opening (2 – 4 days after each regularly scheduled fishery) would be identified in the pre-season plan and modified in-season as required. The demonstration fishery would open at 6:00 am and would remain open till 6:00 pm or until the target is achieved.
- iii. Fishing Gear Control – The Nuxalk Stewardship Office representative would identify the vessels that may participate in a fishery at least 24 hours before each fishery opening.
- iv. Output Controls – it will be decided by the fishers in communication with the Nuxalk manager to determine if the harvest target will be divided equally amongst the designated vessels or all vessels will fish as a pool.

Monitoring and Compliance Plan

Type of program to monitor – a single designated mandatory landing site.

- v. Mandatory landing site – all of the catch would be enumerated by the Nuxalk Coastal Guardian Watchman representative at the Bella Coola wharf and final tallies provided to DFO.

Security Clearance for Patrolman/validator- DFO and Nuxalk Coastal Guardian Watchmen would work cooperatively to train and provide designation and security clearance to the Nuxalk patrolman/validator. Guidelines to be determined.

Level of coverage – 100% dock side enumeration

Biological sampling requirements – any sampling requirements will be discussed with DFO

Monitoring plan – implemented by Nuxalk Stewardship Office and/or DFO.

In-season Reporting – numbers of each species caught, sold, kept and released by each participating FN will be provided to DFO within 24 hours of the end of each opening.

Communication protocol – Nuxalk Stewardship Office will be responsible for all pre-season, in-season and post-season communications with DFO and participating FNs.

Communication

A Nuxalk Coastal Guardian will be assigned as the demonstration fishery manager and will be responsible for the coordination of the Nuxalk fishery and will be the primary contact for all communication with DFO and fishers

Nuxalk Stewardship Office representatives will participate in pre-season planning meetings, in-season weekly conference calls and any post-season review meetings related to the operation of the Nuxalk Demonstration fishery.

Fishery Benefits

The Nuxalk CSAF Demo Chum Fishery provides the Nuxalk Nation with the opportunity to harvest our portion on the Central Coho commercial catch represented by the 19 Area A and 88 Area C licences in the DFO inventory.

The proposed fishery will provide Nuxalk fisheries managers with the information needed to evaluate the appropriate amount of fishing effort (vessel-days) needed to harvest their weekly catch targets.

The fishery will assist the Nuxalk Nation in our efforts to maintain the fishing capacity needed to access salmon and other fish species for both commercial and domestic (FSC) purposes.

4.5 COUNCIL OF THE HAIDA NATION: HAIDA GWAII COHO TROLL (“MOSQUITO FLEET”) (NEW FOR 2017)

*please note that this proposal has been updated from the original proposal included in the draft IFMP

I. Background

Participant: Haida Nation

Allocation: 3.1-10%⁷ of North Coast commercial coho catch based on the respective gear shares in the North Coast Coho production area and the allocation of the coho component of 19 Area A seine, 88 gillnet and 21 Area F troll licenses in DFO inventory.

Final allocation percentage will be modified based on the actual licenses converted to shares as identified by DFO and any other additional licenses acquired by Haida Nation prior to the fishing season.

Proposal Overview

Fishing opportunity for the Haida shares will take place in conjunction with the Area F Coho Troll openings

The Haida share will be a percentage of the total commercial harvest of North Coast Coho, which will be calculated on a weekly basis.

DFO will be responsible for estimating the weekly commercial Coho catch for North Coast Coho fisheries and providing these estimates along with the weekly catch targets for the Haida CSAF Demo Fishery on Monday of each week. The Haida Fishery will start in conjunction with the Area F Troll fishery and will continue until the Haida share of the total Coho catch has been achieved or closures due to conservation/allocation concerns. In the absence of any in season closures the Haida CSAF Demo Fishery will close for the balance of the season effective midnight September 30, 2017.

Fishery Elements/Attributes

Location: : In Area 1 (North Coast of Haida Gwaii) DFO fishing management areas 1-3, 1-5 and a portion of 101-7 east of Klashwun Point (Shag Rock) to the eastern boundary of Rose Spit. In Area 2W (West Coast Haida Gwaii) DFO fishing management areas 2-63, 2-64 & 2-68 (West Skidegate Inlet and Cartwright Sound).

- a.** Gear type: troll vessel with limit of one gurdy (or downrigger) per side, barbless hooks, no bait and lures which target coho over chinook.

⁷ The Haida share depends on the allocation of the 19 Area A, 88 Area C and 21 Area F licences in the DFO Inventory (3.1% is the harvest share associated with 19 Area A and 88 Area C licences; 10% is the harvest share associated with 19 Area A, 88 Area C and 21 Area F licences).

Number of vessels – vessels will be limited to boats 17 feet to 26 feet long (mosquito fleet) with food quality totes and ice for storage. Limit on the total number of vessels not anticipated. Expect participation of 20-30 total vessels.

Target species: coho

Bycatch: Chinook will not be retained. Bycatch of other salmon species (sockeye and chum) is expected to be minimal will also not be retained.

Other nearby/relevant fisheries include: recreational and First Nation FSC fisheries in all proposed areas

Fishers will be required to deliver daily or once every two days. Boats and storage will be subject to inspection and adherence to safe fish handling procedures.

Harvest Guidelines and Management Decision Rules

All opportunities will be based on abundance and determined by a management team consisting of DFO and Haida Fisheries Program representatives. First week's allocation will be a set number (based on previous years) or based on previous weeks total commercial landings. All subsequent allocations will be based on previous weeks total commercial landings.

Proposed fishery management controls

- i. Fishing Timing Controls: Timing for commercial Area F coho is typically mid-July 15 – to the end of September. Openings will coincide with Area F troll, but could be less if abundance and Haida allocation are very low.
- ii. Daily delivery of coho catch for accurate and timely information. Haida Demo Fishery will close in the following week if it is determined that the applicable inseason allocation is reached or is exceeded .
- iii. Fishing Gear control : Haida vessels participating in the fishery will be identified weekly and will be identifiable by a flag issued by HFP staff

Monitoring and Compliance Plan

Type of program to monitor: At-sea patrols and validation of all offloads at designated landing sites.

- iv. At-sea patrols: Haida Fisheries Guardians and /or DFO C&P will monitor the fishery and record Haida Demo vessels observed engaged in fishing activities

- v. All offloads will be monitored, recorded and observed by Haida Fisheries Guardians

Coho catch will be sold to Haida Wild and landing areas will be at CBI Island fish plant in Masset, the Albion offload facility in Queen Charlotte or as designated by Haida Wild (mobile offload a future possibility).

Level of coverage : 100% of dockside enumeration

Biological sampling requirements : TBD, possible CWT

DFO & Haida Fisheries Staff will work together on monitoring plan, but will be developed and led by Haida Fisheries

In-season Reporting – numbers of each species caught, sold, kept and released by each Haida participant will be provided to DFO within 24 hours of the end of each weekly opening.

Communication protocol – Haida Fisheries Program will be responsible for all pre-season, in-season and post-season communications with DFO and Haida participants

Communication

A Haida Fisheries demonstration fishery manager will be identified and will be responsible for the coordination of the Haida fishery and will be the primary contact for all communication with DFO and fishers

Haida Fisheries Program representatives will participate in pre-season planning meetings, in-season weekly conference calls and any post-season review meetings related to the operation of the Haida Demonstration fishery.

Fishery Benefits

The Haida CSAF Demo Coho Fishery provides the Haida Nation with the opportunity to harvest our portion on the North Coast Coho commercial catch represented by the 19 Area A, 88 Area C and 21 Area F licences in the DFO inventory.

The proposed fishery will provide Haida Fisheries managers with the opportunity needed to evaluate the appropriate amount of fishing effort (vessel-days) needed to harvest their weekly catch targets.

The fishery will assist the Haida Nation in our efforts to maintain the fishing capacity needed to access salmon and other fish species for commercial purposes.

4.6 CENTRAL COAST TROLL COHO FISHERY (AREA F - INCLUDED WITHIN FINAL 2016 IFMP)

I. Background

Area F troll

Allocation: A limited opportunity fishery is proposed to assist in determining any harvestable surplus. Limited numbers of vessels, area and time will be used to control harvests. This fishery currently lacks sufficient information to calculate a TAC. Any harvestable opportunities (set harvest ceiling, fixed harvest rate or defined effort fishery) would be shared as per the new CSAF. Assuming a harvestable surplus is identified each Area Harvest Committee would be responsible for determining an appropriate fishery for their fleets (ITQ, lottery limited effort, pool, allowing retention in net fisheries targeting other species, etc). These fishery plans should be made preseason to not limit or delay any opportunity.

Proposal Overview

This proposal is a change in harvest management. There has been limited to no troll coho opportunities for many years in the central coast. Recreational fisheries in these areas are at full quota of 4/day and 8 possession. This proposal is seeking to re-initiate directed commercial coho fisheries in a cautious systematic and well thought manner while respecting the First Nation FSC rights and recreational priorities as per the 1999 Allocation Policy. Coho returns were quite weak in the late 1990's and into the 2000's but have improved to generally good returns in recent years. Prior to the late 1990's the central coast was an important fishery for trollers. The DFO Outlook document projects good coho returns to Areas 6-10 (level 3 /4). Working with DFO the concept is to use a limited number of vessels to assess returning coho in the central coast Areas 6-7-8 for harvestable surpluses. It is proposed that 4 troll vessels would fish each of Areas 6, 7 and 8. The thought was to start the fishery in Area 6 Caamano Sound and work down towards Price Island and Ivory Island and potentially into Area 8. The main timing for coho assessment is early-July to late August (with each month divided into 2 time periods). CPUE and total

catch of coho in each time period and location would be used to determine relative abundance. The information from a limited opportunity fishery could allow for potential fishery opportunities for more vessels depending on catch results. Relative abundance estimates to be made in-season would potentially enable all groups to participate in the harvest depending on harvestable surplus. The coho results would assist in defining opportunities for other fleets which could potentially reduce discard mortalities (net fishery retention in fisheries directed at other species).

Chinook – In the future there may be opportunities for a chinook assessment fishery. There has been considerable discussion in recent years since the 2008 renewal of the Fishing Chapters of the PST that with the reduced AABM fisheries there should be increased opportunities in ISBM areas. At present we understand from DFO that overall North Coast chinook troll management is driven by concerns for the weak WCVI chinook stocks and also local stocks of concern (ISBM) in the Kilbella and Chuckwalla rivers. The Atnarko River and Kitimat Rivers are two local stocks that have had good returns in recent years. Discussion for potential ISBM limited opportunity fisheries should be established. DFO also advised that troll gear assessments in 2002 and more recently in recreational catches have found higher proportions of WCVI chinook in the central coast than further north. And lastly that as CWT rates have been decreased from Robertson Creek (WCVI indicator stock) that genetic and otolith sampling will also be required along with CWT monitoring for any new fisheries. Given the above it would be good for DFO managers and the central coast management group to consider when and where it may be appropriate to consider an assessment fishery which would be designed to focus on local (ISBM) stocks. A limited opportunity chinook fishery is not being considered for 2017.

Fishery Elements/Attributes

The target species would be coho salmon with retention of pink salmon. All other species would be released unless agreed to by DFO for sampling or other reasons (other commercial fisheries are open in the same areas for another species). Vessels would be assigned to each of the three Management Areas with data recorded in 2 week time strata. Specific locations/management units would be determined in meetings with DFO and First Nations economic fishery interests. Given the relatively low release mortality (15%) from trolling minimal impact to non-target encountered species is expected. However DFO

has identified a potential concern for releases of chinook due to 2002-2003 sampling results showing significant proportions of WCVI stocks. Areas of high chinook encounters may need to be closed.

The assessment data provided by this fishery would be available to evaluate the viability of First Nations Economic Fisheries and other commercial fleet's fisheries. Pre-season planning at the IHPC level would inform all harvest groups. There is unlikely to be any conflicts with overlap of harvest areas with other users. Data from the limited opportunity fishery would inform opportunities for others and could be defined pre-season limiting the need for an in season harvest committee. Conference calls could be good to assist in developing a good working relationship and ensure clear understandings by all parties. Pre-season Area F would define their fishery options for various harvest abundance opportunities (ITQ, limited fleet lottery, pooled, etc.). Net fleets would be seeking retention of coho in fisheries targeting other species if abundances warrant.

Areas of higher concentrations of non-target species could be identified for possible closures if needed. Historical harvests, CPUE and resulting escapements could be provided by DFO for stock abundance reference and shared pre-season to be used by the Central Coast management group to set relative abundances and potential fishery opportunities.

Harvest Guidelines and Management Decision Rules

Any fishery opportunities resulting from the limited opportunity fishery would be decided pre-season by the Central Coast management group. Initially these could be a range of low, low-moderate, moderate, moderate-high and high. After a number of years of information more specific harvest rates, harvest ceilings or effort management may be possible. Fishery plan options corresponding to return abundance should be established pre-season by harvest groups (e.g. low – no increase in vessels above assessment levels; low to moderate – up to 10 vessels per Area or X coho; moderate - up to 20 vessels per Area or 2X coho; mod-high - up to 30 vessels or 3X coho and high –full fleet). A low level of harvest during the limited opportunity fishery may result in vessels deciding to discontinue fishing in a given area or time period as the harvests are the only source of funds to cover costs. The pre-season management meeting would be tasked with setting relative levels of CUPE, catch per 2 week period or some other metric that would correspond to harvest opportunities. It is expected that after a few years of assessment data collection

as well as comparisons to key indicator spawning estimates this could allow for annual plans to be established pre-season for yearly implementation such as occurs for many chinook and coho fisheries.

If there are any known data on timing and abundances of any coho stocks of concern (e.g. Thompson River coho) this would assist in defining closed areas or times.

Proposed fishery management controls

- i. Input control would be provided by limiting opportunity fishery openings to 4 vessels maximum to each of Areas 6, 7 and 8. Not all areas would need to start at once. Specific locations within each management area could be set at pre-season meetings. Caamano Sound, Price Island and Milbanke Sound are thought to be the best starting locations with shifts into Area 8 based on reasonable results. Assessment period would be defined by DFO and the harvest committee but is expected to be set as 2 week intervals during early July through late August. Discussions are needed at the local harvest committee level to define how harvests and encounters will be analyzed with regards to any further fishing opportunities, impacts to FSC, and resulting spawning escapements. First Nations have indicated an interest in participating in increased stock assessment activities which would benefit all fisheries. If harvestable surpluses are identified it would be the responsibility of each group to set appropriate fishery controls as per its share. If a limited number of vessels were permitted then the Harvest Committee would need to define how its share of vessels would be determined e.g. lottery, pool, etc. Net fleets would be seeking to have coho retention in fisheries directed at other species if possible. First Nation economic fisheries would likewise need to define how their share would be harvested.
- ii. Output control would be defined by each group preseason depending on harvestable surplus (ITQ, max. boat days, or pool quota).

Monitoring and Compliance Plan

The risk assessment framework developed under the CMF would need to be completed to assess this fishery. Start, end, pause, cancel and daily catch reporting (as per conditions of licence) would be required of all vessel masters participating in the fishery. Catch reporting requirements as per other Area F

fisheries would be a starting point. Data from the limited opportunity fishery could be provided daily or weekly as appropriate to DFO, First Nation economic fishery rep and an Area F rep. Data from any fishery opening would be provided within 24 hours of offload.

A limited number of catch validation/landing sites may need to be confirmed in the pre-season meetings.

Level of monitoring would be 100% of vessels participating in the limited opportunity fishery. Level of monitoring of any fishery above the assessment level to be defined based on CMF risk assessment and fishery opportunity by local harvest committee.

Biological sampling could be undertaken based on discussions with DFO. All CWT coho would be sampled from the limited opportunity fishery and 20% sample rate would be objective for any further fishery opportunities. In 2015 9 CWT coho were identified in the Area 7 & 8 recreational catch of approximately 14,500. No data was available for Area 6. A discussion on the results from these CWT recoveries as well as any previous years would assist in setting appropriate sampling requirements and need for on-board monitors. DNA punches could be taken from released chinook to add to the general management of central coast chinook.

Communication in-season would be via the local harvest committee reps established pre-season. DFO Resource Managers currently provide weekly information bulletins to all harvest groups. It is expected this would continue to be the basis for informing all parties.

Vessel masters would be required to complete a logbook or E-log entry for each day of fishing. The catch data would be provided to DFO at intervals agreed between DFO and Central Coast harvest committee.

Assessment monitoring results would be provided weekly to all Central Coast reps via email.

Communication

Communication protocols with other fisheries and participants and DFO would be coordinated with the Resource Manager and could be distributed as part of current weekly fishery notices. Pre-season meetings should include local First Nations FSC reps to ensure no impacts to their planned fisheries and establish

a protocol for them to receive all data in a timely manner. This proposal would be identified in IHPC process and the IFMP for input from all groups.

Fishery Benefits

The Area F troll limited opportunity fishery will assist DFO and others in determining potential commercial fishery opportunities in cautious and controlled manner in an area with limited stock assessment data at present;

- iii. The proposed fishery will promote effective management arrangements and support open, transparent and collaborative decision making;
- iv. It will increase flexibility of licence holders and producers to better adapt and optimize economic benefits in an uncertain business environment; and
- v. Will improve required standards for monitoring and catch reporting so that timely and accurate information is available to decision-makers to support prosperous and sustainable fisheries.

4.7 COWICHAN TRIBES – COWICHAN TERMINAL CHUM DEMONSTRATION FISHERY (INCLUDED WITHIN FINAL 2016 IFMP WITH SOME SUGGESTED CHANGES)

*please note that this proposal has been updated from the original proposal included in the draft IFMP

I. Background

Participant: Cowichan Tribes

Allocation: 13% of chum catch based on the respective gear shares in the Southern Inside Chum production area and the allocation associated with the 23 Area B, 14 Area D and 70 Area E licences in the DFO inventory.

Final Allocation % will be modified based on actual licences converted to shares and acquired by Cowichan Tribes prior to the fishing season.

Proposal Overview

The initial fishing opportunity for the Cowichan share will take place prior to the Area B, E and H fisheries prosecuted in the same area.

The initial catch amount for Cowichan Tribes will be determined pre-season using a range that will be developed between DFO and Cowichan Tribes; so that in-season the amount aligns with the relative DIDSON count at that time.

Fishery Elements/Attributes

Location: A portion of Subarea 18-6 northwesterly of a line from Swartz Head on Vancouver Island, to the most southerly point of Pym Island, to Canoe Rock, to Beaver Point on Saltspring Island. A portion of Subarea 18-7 southeasterly of a line from Musgrave Point on Saltspring Island, to Separation Point on Vancouver Island to Cherry Point on Vancouver Island. A portion of Subarea 18-8 southeasterly of a line from Separation Point to the boundary sign at the Wilcuma Marina in Cowichan Bay. A 1/2 mile beach boundary is in effect from the boundary sign at the Wilcuma Marina to Hatch Point on Vancouver Island. – same boundary as those for Area B, D and E fisheries. Please note: a) Fisheries will only be considered in Subarea 18-6 once the spawning escapement targets in both the Cowichan and the Goldstream Rivers are estimated to be reached, b) all of Subarea 18-8 may be open to the Cowichan Tribes demonstration fishery if stock assessment determines there are no concerns with by-catch of Cowichan coho and chinook.

Gear Type: Seine (brailing of fish required and a revival tank in operating order) and gillnet vessels similar to those used in Area B and E fisheries.

Number of Vessels: to be determined based on the number of fish to be harvested. Anticipate being 1- 2 seines or 3-5 gillnet vessels for each fishing opportunity for 2016.

Target species: Cowichan River chum

Bycatch: small number of neighbouring river chum, Cowichan coho and Cowichan chinook stragglers. Handling requirements would be the same as those for Area B and E fisheries.

Outline any nearby/relevant fisheries – Marine and in-river First Nation food harvest fisheries and recreational fisheries in Area 18-6, -7 and -8. No overlap with commercial fleet fisheries opening to maximize product flow and quality but also provide space between the openings to allow fish passage.

Harvest Guidelines and Management Decision Rules

All fishing opportunities (Area B, E and H or Demonstration) will be based on abundance in the terminal area based on DIDSON counts and as determined by the harvest round table (representatives from Cowichan, DFO, commercial fleet and recreational).

Proposed fishery management controls

- i. Fishery Timing Controls: Typical timing is mid October – end of October, with most fishing opportunities preferred prior to October 20th to maximize quality.
- ii. Times for each fishery opening would be identified in the pre-season plan (June) and modified in-season as required. The demonstration fishery would open at 7:00 am and would remain open till 7:00 pm or until the target is achieved.
- iii. Fishing Gear Control: The Cowichan Tribes Fisheries Program representative(s) would identify the vessels that may participate in a fishery at least 24 hours before each fishery opening.
- iv. Output Controls: it will be decided by the fishers in communication with the Cowichan Tribes Fisheries Manager to determine if the harvest target will be divided equally amongst the designated vessels or all vessels will fish as a pool.

Monitoring and Compliance Plan

Type of program to monitor: combination of at-sea observations by Guardians and dock side:

- v. At-sea observer (Guardian): a member of the Cowichan Tribes Guardian program and/or DFO will monitor the fishery and record catch after each set to confirm running tally of total fish captured relative to the target and relay this information to the fishers throughout the day. Also to confirm the number of fishing vessels participating and ensure compliance with the fishing times and area boundaries. Potential sampling on-board.
- vi. Mandatory landing site: all of the catch would be further enumerated by the processor at the landing site (Sidney or Stevenson) and final tallies provided to Cowichan Tribes with fish slips.

Level of coverage: 100% At sea

Biological sampling requirements: any sampling requirements will be discussed with DFO.

Monitoring plan: implemented by the Cowichan Tribes fisheries department and/or DFO.

In-season reporting: numbers of each species caught, sold, kept, released by each participating vessel will be provided to DFO within 24 hours of the end of each opening and/or as requested. Data collection format to be discussed with DFO and any additional data requirements.

Communication protocol: Cowichan Tribes will take responsibility to communicate with DFO and vessels during pre-season, in-season and post-season.

Communication

A Cowichan Tribes Fisheries demonstration fishery manager will be identified and will be responsible for the coordination of the Cowichan fishery and will be the primary contact for all communication with DFO and fishers.

Cowichan Tribes Fisheries Program representatives will participate in pre-season planning meetings (June), in-season weekly conference calls (chum working group and harvest round table) and any post-season review meetings related to the operation of the Cowichan Tribes Demonstration fishery.

Fishery Benefits

The 2016 fishery and future Cowichan fisheries will assist us with our goal of building and maintaining the fishing capacity needed to access salmon and other fish species for both commercial and food harvest purposes.

Recommendations

Cowichan chum fishery to start when the DIDSON count has exceeded 70,000.

Cowichan chum fishery to have first opening each week and continue to fish prior to the commercial fleet at each opening and separate from the competitive commercial fishery openings. To be non-competitive and support our small fleet, allowing Cowichan Tribes to fish first, sets an allowable catch for the larger commercial fleet to target during its opportunity

Have the opportunity to seine within the commercial fishing area prior to the return of chum, first week of October, to ensure our fishery vessel and crew are prepared.

A set schedule, suggest daily, on which DFO will provide DIDSON count and commercial catch to date.

To follow the fishery plans agreed to prior to season opening, unless all those at the harvest roundtable reach consensus to change or deviate from the plan.

4.8 SAANICH NATIONS DEMONSTRATION CHUM FISHERY PROPOSAL (NEW FOR 2017)

*please note that this proposal has been updated from the original proposal included in the draft IFMP

I. Background

The Saanich Nations are proposing to conduct a Chum salmon fishery targeting Goldstream Chum with a proposed allocation of 13% of available chum catch. The catch for Area B and E fisheries will be multiplied by 14.9% to calculate the Saanich share so Saanich equals 13% of the total number of fish harvested by Area B, Area E and Saanich Nations. This is based on the respective gear shares in the Inside Southern Chum production area and the allocation associated with the 23 Area B, 14 Area D, 70 Area E and 20 Area H licenses in the DFO inventory.

The final Allocation % will be modified based on actual licenses converted to shares and acquired by Saanich Tribes prior to the fishing season.

Proposal Overview

Saanich Nations will have unlicensed Seine vessels for the fishing opportunity for the Saanich Nations. The fishing will take place during the Area B and E fisheries in the same area. In order to determine the target chum share for the Saanich Nations fishing opportunity the total chum catch from the previous B and E fishery would be multiplied by 13% or the modified allocation based actual licenses specified in I.a.

Fishery Elements/Attributes

Location:

A portion of Subarea 19-8 south of a line from Henderson Point to Bamberton, Subareas 19-10, 19-11, and that portion of Subarea 19-12 northerly of a line from Elbow Point to northerly side of Christmas Point.

Gear Type: Seine (brail of fish combined with a revival tank in operating order to release any non-targeted species) and gillnet vessels similar to those used in Area B and E fisheries.

Number of Vessels: to be determined based on the number of fish to be harvested and the length of the opening for the fishery. We anticipate up to 2 seine boats or three to five gillnet vessels for each fishing opportunity for 2017.

Target species: Goldstream Chum

Bycatch: Possible by-catch may include a small number of neighbouring river chum, coho and chinook salmon stragglers/hatchery strays. All efforts will be made to release the wild coho and wild chinook salmon. Handling requirements would be the same as those for Area B and E fisheries.

Outline any nearby/relevant fisheries –Marine and in-river First Nations food harvest fisheries and recreational fisheries in Area 18 - 6, - 7 and - 8. Preference is to avoid days when the other Area B and E fisheries are open to minimized impacts and allow Chum escapement to the Goldstream watershed. However, it may be possible to fish simultaneously with other commercial fisheries in the area depending on in river fish counts.

Harvest Guidelines and Management Decision Rules

All fishing opportunities (Area B and E or Demonstration) will be based on abundance in the terminal area as determined by the harvest round table (representatives from Goldstream Hatchery, Saanich Nations, Cowichan, DFO, commercial fleet and recreational).

Proposed fishery management controls

- i. Fishery Timing Controls: Typical timing is Late October to mid-November, with most fishing opportunities preferred prior to November 15th to maximize quality.
- ii. Times for each fishery opening (two to four days after each scheduled fishery) would be identified in the pre- season plan (June) and modified in season as required. The demonstration fishery would open at 6:00 am and would remain open till 6:00 pm or until the target is achieved.
- iii. Fishing Gear Control: The Saanich Tribes Fisheries Program representative(s) would identify the vessels that may participate in a fishery at least 24 hours before each fishery opening.
- iv. Output Controls: it will be decided by the Saanich Tribes Fisheries Managers in communication with the fishers to determine if the harvest

target will be divided equally amongst the designated vessels or all vessels will fish as a pool.

Monitoring and Compliance Plan

Type of program to monitor: combination of at - sea patrols and a single designated mandatory landing site.

- v. At sea patrols: a member of the Saanich Nations Fisheries program(s) and/or DFO will monitor the fishery and record hauls after each set to confirm running tally of total fish captured relative to the target and relay this information to the fishers throughout the day. Also to confirm the number of fishing vessels participating and ensure compliance with the fishing times and area boundaries.
- vi. Mandatory landing site: all of the catch would be enumerated by the Saanich Tribes co-management representative (guardian, biologist or technician) and potentially sampled at the landing site(primary Tsehum Harbour, Sidney, secondary if needed Cowichan Bay Government Wharf) and final tallies provided to DFO.

Level of coverage: 100% dock side monitoring

Biological sampling requirements: DFO will supply training, equipment and methods that enable fishery managers to collect samples during the fishery.

Monitoring plan: implemented by the Saanich Tribes fisheries department and/or DFO.

In-season reporting: numbers of each species caught, sold, kept, released by each participating vessel will be provided to DFO within 24 hours of the end of each opening. Data collection format and any additional data requirements to be determined in collaboration with DFO.

Communication protocol: Saanich Tribes will take responsibility to communicate with DFO and vessels during pre-season, in-season

Communication

A Saanich Tribes Fisheries demonstration fishery manager will be identified and will be responsible for the coordination of the Saanich fishery and will be the primary contact for all communication with DFO and fishers.

Saanich Tribes Fisheries Program representatives will participate in pre-season planning meetings (June), in-season weekly conference calls (Chum salmon working group and harvest round table) and any post - season review meetings related to the operation of the Saanich Tribes Demonstration fishery.

An agreement resulting from this proposal does not abrogate or derogate from any Aboriginal, treaty or other right or freedom that pertains now or in the future to any of the Saanich Nations.

Participating Saanich Nations to date:

Tsawout First Nation

Tseycum First Nation

Malahat First Nation

Pending Nations:

Pauquachin First Nation

Tsartlip First Nation

4.9 SOUTH COAST/MAINLAND INLET PINK & CHUM FISHERY (AREA H - INCLUDED WITHIN FINAL 2016 IFMP)

I. Background

Area H Troll

Allocation: A limited opportunity fishery is proposed to assist in determining any harvestable surplus. Limited numbers of vessels, area and time will be used to control harvests. This fishery currently lacks sufficient information to calculate a TAC. Any harvestable surplus would be shared as per the new CSAF. Assuming a harvestable surplus is identified each Area Harvest Committee would be responsible for determining an appropriate fishery for their fleets. These fishery plans should be made pre-season to not limit or delay any opportunity.

Proposal Overview

This proposal is a change in harvest management. Given the absence of harvest information in recent years and the limited assessment estimates, catch data from a limited opportunity fishery along with Johnstone Straits seine test fishery results and any spawning area information would be used to identify relative magnitude of pink and chum returns and potential further commercial

harvest opportunities (fixed harvest rate or effort based management). Fishery effort, areas and times would be limited. The concept is to use a limited number of vessels to assess potential locations for harvestable surpluses. It is currently understood that DFO relies primarily on a limited number of overflights to assess returns once the pinks and chums are near or in their natal spawning streams. The Johnstone Straits seine testing program for Fraser sockeye and pinks provides some indication of relative pink salmon returns. Stock discrimination is limited to Fraser, U.S. and Canadian south coast. The additional earlier information from a limited opportunity fishery will allow for a paced fishery each week, increased fish quality and relative abundance estimates to be made which would enable all groups to participate in the harvest depending on harvestable surplus. The limited opportunity fishery is with Area H troll gear that would occur in the Mainland Inlets and near major rivers on Vancouver Island of the Strait of Georgia and Johnstone Strait (Statistical Areas 12 to 19) and Howe Sound (Statistical Area 28). Working with DFO a limited number of vessels (2-3?) fishing 2-3 days/week would be designated to each of the specific areas with potential for a harvestable surplus based on brood year escapements and other available data. Specific locations to be determined in consultations with DFO managers. Pink Outlook levels are forecast at 2/3 except Howe Sound at ND with well above average escapements in Georgia Strait west and east in the brood year, Chum outlook is for level 3 with strong brood year abundances in Areas 11-13 and good but lower abundances than 2016 which was a very good return year and Coho outlook is level 2 to 2/3 with high uncertainty.

Fishery Elements/Attributes

The target species would be southern inside pink and chum salmon with non-retention of sockeye, chinook, coho and steelhead with the limited opportunity fishery focused on the northern half of this region in which production from the even-year pink salmon dominates. Enhancement programs in the Glendale Creek, Kakweiken River, Quinsam River, and Puntledge River have contributed to significant pink production which might enable fisheries as well. There would be the potential for coho retention in some areas and times if the harvest information indicates available surpluses and it does not impact on interior Fraser coho conservation and sharing arrangements.

The assessment data provided by this fishery would be available to evaluate the viability and coordination of First Nations economic fisheries and other

commercial fleets and recreational Mainland Inlet pink fisheries. The goal is to establish some assessment prior to all or a significant portion of the spawning objectives fish having already entered their natal rivers (as based currently on overflights). By-catch species data would be recorded as required. All by-catch would be released, given the troll release mortality rate at 10% there would be minimal impact to any other species. Assessments in the inlet areas would be expected to have minimal or no co-migrating pink encounters. Any assessments around the Quinsam/Puntledge areas may have a portion of co-migrating Fraser or US stocks. Fraser pinks are generally later timing and should be a small percentage of any harvest. A local harvest committee (DFO, First Nations economic groups and Area B, D, E reps) should be struck to review the acquired data and decide on fishery opportunities for the broader fleets. An established local coordinating committee meeting on set weekly dates and releasing a DFO Fishery Notice should reduce the phone calls/enquiries from individual fishers to DFO Fishery Managers. Having harvest committee reps as part of the fishery management process would result in a better understood and managed fishery. Weekly meetings could be done by conference call. Limited opportunity fishing and any fuller commercial opportunities could be limited to week days to limit conflicts with recreational fisheries.

Terminal First Nations FSC and recreational fisheries are understood to be small but coordination should occur with these groups. First Nations from the Campbell River and Alert Bay areas have been provided this proposal and not expressed any concerns.

Areas of higher concentrations of non-target species could be identified during the limited opportunity fishery for possible closures if needed. Historical harvests, CPUE and resulting escapements could be provided by DFO for stock abundance reference and shared pre-season. This data along with experience of the local harvest committee could be used to set pre-season relative abundance levels for any commercial fishery opportunities.

A review of the current and past spawning assessment programs will also assist in planning opportunities.

Harvest Guidelines and Management Decision Rules

CPUE rates or combined average harvests of all vessels in each specific location along with other in-season data (Johnstone Straits SN test results and stream inspection data) would be used to assess relative abundance. Various potential options (variable harvest rate/variable allowable effort –days/week and numbers of vessels/ various weekly catch ceilings) for controlling harvest could be considered by the local harvest committee and established pre-season (low –moderate-abundant or more exact if agreed to by local harvest committee) and harvest opportunities set in-season based on these parameters. Each harvest committee/First Nation economic fishery should prepare pre-season appropriate fishery plans for each potential fishery level (e.g. pooled, lottery, ITQ, etc.). If possible Area H would prefer that its fishery be conducted as an Individual Transferable Quota (ITQ) Catch Share fishery in which the initial ITQ estimates would be determined on a precautionary basis.

The available surplus/harvest opportunities would be estimated and adjusted based on the in-season assessment information and linked to pre-season plans. Sharing amongst fleets would be as per the updated CSAF.

Proposed fishery management controls

- i. Input control would be provided by limited opportunity fishery openings 2-3 days per week in each defined Statistical Subarea and the use of only 2-3 vessels per assessment area. Assessment period would be August and September. If commercial harvestable surpluses are identified it would be the responsibility of each group to set appropriate fishery controls as per its share (effort/gear/time/area) (pools, limited number vessels via lottery, ITQ) and fishery would be limited to set areas and times.
- ii. Output control would be provided by the ITQ for the Area H fleet and would be fleet (effort) size via pool or lottery or ITQ and need to be determined for each fleet based on whether the fishery is effort based or a harvest rate as determined in consultations with DFO.

Monitoring and Compliance Plan

A risk assessment under the CMP policy is needed for this fishery. Appropriate monitoring programs will be set. Start, end, pause, cancel and daily catch reporting (as per conditions of licence) would be required of all vessel masters participating in the fishery.

Catch validation – dockside at designated offload ports or at designated packers – would be a requirement of any ITQ fishery.

There should be no requirement for at-sea observers, however this can be considered during pre-season planning meetings

Given that this is not a mixed stock fishery, there is no requirement for biological sampling.

In cooperation with the Resource Manager, the Area H Harvest Committee will organize and implement the monitoring plan

Vessel masters would be required to complete a logbook or E-log entry for each day of fishing. Upon validation of the catch, the vessel master would be required to review and sign the validation form. The catch data would be entered into the database no later than 12 hours after the validation was completed.

In cooperation with the Resource Manager, the Area H Harvest Committee would be responsible for coordinating pre-season, in-season, and post-season Area H fleet communications.

Communication

Communication protocols with other fisheries and participants and DFO would be coordinated with the Resource Manager. The same type of program that occurs for southern inside chum is envisioned. Weekly conference call of the local harvest committee would review assessment data and other sources of data for possible fishery opportunities for all groups. Information on this proposal will be provided through the normal IFMP document for consideration by all harvesters. In addition local First Nations should be consulted on this proposal.

Fishery Benefits

The Area H troll limited opportunity fishery will assist DFO and others in determining potential commercial fishery opportunities in an area with limited stock assessment data at present;

The proposed fishery will promote effective management arrangements and support open, transparent and collaborative decision making;

It will increase flexibility of licence holders and producers to better adapt and optimize economic benefits in an uncertain business environment; and

Will improve required standards for monitoring and catch reporting so that timely and accurate information is available to decision-makers to support prosperous, sustainable fisheries and achieve conservation objectives.

4.10 PROPOSAL TITLE: FRASER RIVER SOCKEYE, PINK AND CHUM ALTERNATE GEAR (AREA E – INCLUDED WITHIN FINAL 2016 IFMP)

I. Background

Area E Harvest Committee

Area E Fraser sockeye and pink are a defined share of the updated CSAF. Chum salmon allocation is as IFMP implementation rules for terminal Fraser chum fisheries. No change to sharing arrangements are proposed. The harvest in this proposal is the entire Area E TAC for Sockeye, Pink and Chum which has not previously been harvested in the traditional fisheries. The usual reason for incomplete harvest of Area E's allocation are limitations on by-catch such as Coho, Steelhead and Cultus sockeye.

Proposal Overview

Concept being proposed: Alternate gear as a means to assist in harvesting the ongoing issue of Area E not being able to harvest all its share after all usual harvest opportunities have been exhausted. This proposal would use shallow pocket seines and beach seines in the area now traditionally fished by Area E. This proposal does not contemplate Area E using seine gear above Mission Bridge in 2017, but that will be a consideration in future years if it is necessary for Area E to harvest its complete allocation of any species. There is no change to existing fishery management decision rules/ harvest guidelines.

Fishery Elements/Attributes

The location of this proposal is the main stem Fraser River. Area E will limit the number of shallow seine nets and beach seines it uses to a number that is reasonable for the DFO to supervise with its present compliance and enforcement resources. In 2015 the DFO approved up to 15 shallow seines for Area E to harvest Pinks and that is a reasonable number for future pocket seine fisheries for Sockeye and Chum as well. In the past the DFO approved one beach seine for Area E for a Chum fishery, and that number should be increased to three. An important feature of both these seine fisheries is that the catch would be carefully sorted and the by-catch would be released immediately with minimal harm. This is the same goal as the beach seine and

pocket seine fisheries already in place by the First Nations in the Fraser River. The numbers of shallow seines and the beach seines would be also limited by the uncaught Area E allocation. Plans would be developed for appropriate numbers of each gear type depending on the available TAC. Area E is also requesting the opportunity to practice with the new gear in an area and at a time when salmon are not present. This is meant to learn to use the gear and develop safe fishing practices.

Commercial fishing in the lower Fraser River requires a coordinated approach. First Nation FSC, Treaty and EO fisheries as well as Area B seines also use the same areas. Presently all groups coordinate their fisheries through the DFO Resource Manager and this approach is okay but there could also be a local harvest committee developed if other commercial fleets and First Nations economic fisheries thought this would be useful. Area E could coordinate these shallow seine and beach seine fisheries with the FN EO and Area B seine fisheries which may be occurring in the same areas at similar times if appropriate.

Area E Harvest Committee would make the decision of when to implement these fisheries in coordination with DFO and other fisheries in the area.

Harvest Guidelines and Management Decision Rules

The decision to proceed with this fishery will require two conditions: firstly that the DFO determines that there is a TAC available for Area E and secondly that Area E has determined that it cannot harvest its TAC by its traditional gillnet fisheries.

No changes to TAC calculations is proposed.

Proposed fishery management controls

- i. The input control is the number of pocket seine (max. 15) and beach seines (max. 3) permitted to fish, and the times and area they can fish. The participants would be determined by Area E on a voluntary participation basis, and if there were more participants than needed, they would be limited by voluntary pools or draws. No quota is contemplated at this time. As the total Area E allocation or the limit set for this method of harvest is nearing, the vessels could be restricted to hailing after each set to ensure the target harvest is not exceeded. When the Area E total TAC is harvested, the fishery will end.
- ii. Output controls: no further controls are expected.

Monitoring and Compliance Plan

Dock side monitoring for the shallow seines and on grounds monitor for the beach seines. Monitoring standards will be the same as the Musqueam, Tsawassen and Area B vessels fishing in the same areas.

Landing sites: It is expected that 3 sites would be adequate. These sites would be some of the same sites as are now in place for the 25% monitoring requirement for FR sockeye. Likely choices would be Steveston, Ladner and Maple Ridge or Mission. For the beach seines the catch should be monitored at the site of the beach seine fishery.

Level of coverage: see above.

No biological sampling requirements are expected as all by-catch will be released immediately.

Area E would retain, pay for and implement the monitoring plan. Certified service providers would be used for validation and observation.

All landing would be monitored, but observer coverage would be similar to what the DFO has required in similar FN EO fisheries, the Area B seine fisheries and the 2015 Area E seine fishery which was about 25 % on a "roving" basis. Area E would provide data in the format required by DFO. This would include set logs, phone-in and written reports as required. The same format used in these other fisheries will be followed.

Catch and effort would be reported at the close of each fishery.

Communication

Area E would appoint a spokesperson for communication with other fisheries and DFO. It is expected that there would be at least weekly in-season communications with DFO and or a local harvest committee if one is struck.

Fishery Benefits

The Area E shallow seine and beach seine fishery will enable this fleet a better opportunity to harvest their commercial allocation of each species.

The proposed fishery will allow the Area E Harvest Committee to initiate the use of alternate gears and determine the appropriate amount of fishing effort (vessel-days) needed to harvest their expected uncaught share of their allocations.

The proposed fishery will allow the Area E Harvest Committee to initiate the use of alternate gears and develop the capacity to harvest the uncaught share of each salmon species with gear designed with a lower release mortality thus benefiting co-migrating species of concern.

This proposal encourages the cooperation and coordination and the development of capacity of the First Nations economic fisheries and Area B fishing similar gear in the same areas

The proposed fishery will promote effective management arrangements and support open, transparent and collaborative decision making.

It will increase flexibility of licence holders and producers to better adapt and optimize economic benefits in an uncertain business environment.

Will improve required standards for monitoring and catch reporting so that timely and accurate information is available to decision-makers to support prosperous, sustainable fisheries and achieve conservation objectives.

4.11 AREA 12 QUEEN CHARLOTTE SOUND SOCKEYE ENCOUNTER COHO GILLNET FISHERY (AREA D - NEW FOR 2017)

I. Background

Area D gillnet. Lead contact is Barry Crow johncrow@shaw.ca tel. 250-710-2111 and supported by Les Rombough.

Allocation: Area D has 21.6% of the Fraser sockeye allocation as per the CSAF. A limited effort assessment fishery is proposed to assist in determining any harvestable surplus of Fraser River sockeye. Vessels fishing may be Area D of FSC. If they are Area D the harvest would come out of their in-season allocation. This fishery has occurred in the past and the same structure is proposed.

Proposal Overview

Changes to existing fishery management decision rules or harvest guidelines are proposed. Subareas 12-9, 12-10, and the western portion of area 12-8 were historically an important part of the fishing area accessed by the gill net fleet fishing Fraser River sockeye. This area has been closed to gillnet fishing since 1998 due to non-targeted species by-catch concerns, including coho conservation concerns existing at that time. The objective of this proposal is to design a limited entry fishery that demonstrates that the Area D gill net fishery

can conduct fisheries directed at Fraser River sockeye in these areas while maintaining acceptable levels of non-targeted species impacts and mortalities.

Fishery Elements/Attributes

The demonstration fishery will run concurrent with other Area D Gill Net Fraser River sockeye directed fisheries operating in Areas 11, 12 and 13. Fishing times in the demonstration area will be the same as in Area 11, where fishing is only open from 6:00 AM to midnight (23:59 PM) daily and maximum soak times are 45 minutes. There will be a minimum of 20% on-board observer coverage in place. The level of observer coverage is still being discussed between the Department and the Area D AHC. All Area D licence holders will be eligible to participate, however, as this is a demonstration fishery effort controls will be in place to limit participation to between and 10 and 25 vessels fishing on any given day. The Area D AHC will work in concert with the DFO manager in selecting vessels from the Area D fleet to participate in this fishery. Vessel selection may require a lottery system. Participation in this fishery will require fishermen to support an observer and catch validation program. Gill Net: Minimum mesh 100 mm. Maximum depth 90 meshes. Maximum hang ratio 3:1. Cork line to web distance minimum 0 cm, maximum 1.5 m (same net used in regular Johnstone Strait sockeye fisheries). This fishery is planned to occur between late July (as soon as stocks of concern are not present) and late August

Target species would be sockeye salmon with catches of chum, coho and pink expected. The fishing area is Queen Charlotte Strait (Subareas 12-9, 12-10, and portion of 12-8).

Chinook would only be expected in small number if at all and steelhead are not expected to be encountered at the times of these fisheries. However all encounters of species of concern would be recorded and released either immediately or after use of revival tanks. The fishery will be limited to day-light operation only (6:00 AM to midnight 23:59 PM) with a maximum set time of 45 minutes. Mandatory revival boxes will be used. By-catch releases will be monitored by the on-board observers and reported daily to the DFO manager. The expectations is only limited coho will be encountered and within an acceptable encounter/release mortality rate. Fishery should be reviewed through the IFMP process for consideration with recreational and FSC fisheries. The demo fishery would be limited by Area D sockeye allocation. The assessment data provided by this fishery would be available to evaluate the viability of First Nations economic fisheries and commercial gill net fleets. A

new local harvest committee is not needed as the existing Fraser management committee could be used. Area D will coordinate its fleet's participation.

Harvest Guidelines and Management Decision Rules

A limited effort, time and area fishery is proposed. In-season management decision rules are as per the Fraser sockeye Panel and domestic decision processes.

The relative abundance and potential harvest opportunity would be estimated and adjusted as in-season CPUE and harvest information was generated from the limited opportunity fishery and any other data. Sharing amongst fleets would be as per the updated CSAF.

Proposed fishery management controls

- i. Input control would be provided by limiting effort of 10-25 vessels in management Area 12-8.9&10. Assessment period would be defined by DFO and the harvest committee but is expected to be late July and August.
- ii. Output control is the limited number of vessels and the Area D allocation share. Participation would be limited by a lottery if needed.

Monitoring and Compliance Plan

This fishery is subject to regular Area D Gill Net licence conditions and the fishery will be subject to the conditions of the pilot catch monitoring program that may be in place.

Data from the limited opportunity fishery could be provided daily to the local management committee.

Catch validation/landing sites – Vessels participating in this demonstration fishery will be required to have 100% dockside catch validation. The cost for observer coverage will be spread across the fleet and will be included in the payment to the Landing Observer Service Provider used in the Catch Monitoring Pilot occurring concurrently for all Area D gill net fisheries directed at Fraser sockeye. Payment options were arranged by the Area D AHC.

Level of monitoring to be defined in discussions with DFO and/or based on CMF risk assessment and fishery opportunity by local harvest committee.

Any coho DNA requirements will be met with samples passed to DFO.

Communication in-season would be via the Fraser harvest committee.

Vessel masters would be required to complete a logbook or E-log entry for each day of fishing. The catch data would be collected and provided by the service provider.

Coordination will be through the DFO Resource Manager.

Communication

Communication protocols with other fisheries and participants and DFO would be coordinated with the Resource Manager.

Fishery Benefits

The Area D gillnet limited effort selectivity fishery will assist DFO and others in improving stock and species data for coho salmon. It is expected there will be limited coho encounters and therefore an acceptable level of mortalities. Participating groups would pay the costs of this study.

The proposed fishery will promote improved updated information towards effective management arrangements and support open, transparent and collaborative decision making;

It will increase flexibility of licence holders and producers to better adapt and optimize economic benefits in an uncertain business environment; and

4.12 AREA 14 SCVI CHUM FISHERY PROPOSAL (AREA D – NEW FOR 2017)

I. Background

Area D Gillnet. Lead Barry Crow.

Allocation: Area D has 19.2% of the Southern Inside chum under the CSAF.

Established Chum sharing arrangements would be used to decide how any terminal harvestable surplus would be shared among the fleets or FN EO.

Proposal Overview

This proposal is a change in management objectives for terminal for the Qualicum's (Big and Little) and Puntledge river systems chum management. In discussions with local DFO fisheries manager he has identified there is different management objectives terminal chum fisheries for WCVI and inside Vancouver Is. It was agreed that the use of a limited number of gill net vessels may be useful to estimating abundance and getting full fleets fishing earlier than in recent years when pre-season forecast are not expected to be large. The

current use of stream walks, Didson sounder escapement data and local knowledge are used to calculate in season run sizes. Unfortunately this information arrives too late for effective in season run size estimation and fisheries are started well past peak migration timing often resulting in over escapement and missed opportunities as most fish have escaped into the rivers our are past areas of effective interception.

This proposal will introduce a similar style fishery used in the Nootka Sound Chum fishery. A preseason MSC (Marine Stewardship Council) minimum benchmark will be used to initiate the possibility (To be determined) of a four boat assessment fishery in the traditional fishing grounds of the Area B and D fishing fleets in each of the Area 14 fishing areas (Qualicum and Puntledge Rivers). The number of boats may vary depending on preseason run size estimations. In Nootka if the minimum MSC standard is met by the preseason forecast than four boats test fisheries are initiated, the next level indicates an eight boat test fishery. These bench marks can be worked out with the fisheries managers of Area 14. Fishing periods, areas of fishing, etc. details will be a collaborative effort between Area 14 fish managers and Area D fishers. The objective is using CPUE data from the assessment fishing and escapement data, gradually a data base can be built with high confidence that can be used to trigger full fleet fisheries in the future. As per newer commercial fishing initiatives sharing of assessment fishing opportunities can be shared within First Nation EO groups in the local areas and the Area D gillnet fleet.

Fishery Elements/Attributes

The target species will be Qualicum (Big and Little) and Puntledge Chum Salmon. As per traditional Fisheries Notices all non-target species will be released and noted in the harvest logs. Pink retention is allowed in these areas but all other species have non retention rules.

Area D will coordinate the fishing activity in the proposal. Any potential FSC fisheries will not be impeded and any participation of First Nation EO in the assessment fishery will be encouraged where possible.

Historical harvest have occurred in Area 14 by both seine and gillnet fleets.

Harvest Guidelines and Management Decision Rules

A limited effort, time and area fishery is proposed. No in season management decision rules are needed at this time but are expected to be developed in the

future. Any fishery opportunities in the future would be decided in-season by the local management group. Fishery opportunities beyond the assessment program should be defined pre-season. Initially these could be low – moderate and high or a wider range of options if agreed to by the committee. Fishery plan options corresponding to return abundance should be established pre-season by harvest groups.

The relative abundance and potential harvest opportunity would be estimated and adjusted as in-season CPUE and harvest information was generated from the limited opportunity fishery and any other data. Sharing among fleets would be as per the updated CSAF.

Proposed fishery management controls

- i. Input control would be provided by limiting effort of 4 vessels per the fishery areas, openings to 1-2 days per week in defined locations. Assessment period would be defined by DFO and the harvest committee but is expected to be early October into early November.
- ii. Output control not needed at this time, but would be defined by each group preseason depending on harvest surplus size (Area D would likely be a lottery fishery)

Monitoring and Compliance Plan

Start, end, pause, cancel and daily catch reporting (as per conditions of licence) would be required of all vessel masters participating in the fishery. Data from the limited opportunity fishery could be provided daily to the local management committee.

Catch validation/landing sites – should not be needed with catches reported daily to the DFO Manager. If a FN EO group was jointly participating in the limited opportunity fishery it would be good for FN EO vessels to review catch with Area D vessels daily to build coordination and transparent decision making.

Level of monitoring to be defined based on CMF risk assessment and fishery opportunity by local harvest committee.

No biological sampling is expected but this can be reviewed with DFO manager.

Communication in-season would be via the Chum working group committee.

Vessel masters would be required to complete a logbook or E-log entry for each day of fishing. The catch data would be provided to the harvest committee no later than 12 hours after each day's assessment fishery.

In cooperation with the DFO Resource Manager, First Nations EO rep and the Area D rep would be responsible for coordinating pre-season, weekly in-season assessment results by location, any catch and effort of weekly openings, and post-season communications. Any lack of reporting by any group could result in limiting further harvest opportunities.

Communication

Communication protocols with other fisheries and participants and DFO would be coordinated with the Resource Manager.

Proposal writer is unaware of First Nation fishing coordinators in Area 14

CSAB lead contact is Barry Crow 250 710 2111

Fishery Benefits

The Area D gillnet limited opportunity fishery will assist DFO and others in determining potential commercial fishery opportunities in a timely manner in an area with limited marine in-season stock assessment data at present. Participating groups would pay the costs of their vessels. It should be noted that vessels may stop fishing if catches are so low as to not cover their operating costs;

The proposed fishery will promote effective management arrangements and support open, transparent and collaborative decision making;

It will increase flexibility of licence holders and producers to better adapt and optimize economic benefits in an uncertain business environment; and

Will improve required standards for monitoring and catch reporting so that timely and accurate information is available to decision-makers to support prosperous, sustainable fisheries and achieve conservation objectives.

APPENDIX 6: UPDATES TO THE COMMERCIAL SALMON ALLOCATION FRAMEWORK

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APPENDIX 7: NASS CHUM DRAFT REBUILDING PLAN

CURRENT MANAGEMENT ACTIONS

The objective of the Area 3 chum rebuilding plan is to: “protect Area 3 wild chum and at the same time provide opportunities to retain enhanced US chum in places and times where they are most abundant”.

The Canadian Area 3 fishery is currently managed to significantly reduce Area 3 chum Canadian exploitation rates from historical levels, as a measure to rebuild Nass chum stocks. The harvest reductions have been achieved, with current Canadian exploitation rates averaging 7% down from 28% average 1982 to 1999 ([Figure 13.5-12](#)). The rebuilding plan for the immediate future is to keep the Canadian average exploitation rates below 10%.

Management measures that reduce Area 3 pink and sockeye fishery impacts on Area 3 wild chum include:

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- Non retention of chum for most net fisheries with exceptions in the early season in areas where the otolith analysis confirmed US hatchery chum are a very high percentage of the harvest.
- Gill nets will be closed from July 9 to July 22 in all of Area 3. (Kwinageese sockeye closure). This proves a 14 day window of no gillnet harvests of Canadian wild chum.
- Closed areas where chum are relatively abundant compared to the target species
- Brailing and sorting will be in place for the seine fishery.
- Gill nets have a 137 mm (5.39 in) maximum mesh restriction. This restriction is in place so that sockeye is targeted selectively and larger non-target species such as chum and chinook are impacted to a lesser degree.

BACKGROUND

General background information on Nass chum was provided in Peacock and Spilsted (2010). The Fishery Operational Guidelines associated with the Nisga'a Treaty set minimum and target escapement goals for chum and other species that are the limit and target reference points used

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to implement the Nisga'a Treaty. DFO uses the Management Escapement Goals (MEG) as both the limit and target reference points.

Details of the 2012 management approach for chum are included in DFO fisheries management post-season reports. Limited chum retention fisheries were provided that targeted US hatchery chum returns. Otolith samples were taken to refine our knowledge of the times and areas where the US hatchery stocks were most abundant relative to wild stocks. Thermal marks from US hatcheries were found on 91% of the chum sampled from chum retention fisheries in 2012. This information was used to refine the chum retention opportunities provided in 2013. Results are not yet available for the 2013 season.

STOCK STATUS TO 2013

Nisga'a Joint Technical Committee and recent DFO assessments indicate recent aggregate status in the yellow zone since 2007. The Portland Canal – Observatory CU is severely depressed and in the red zone. Chum stocks are not rebuilding even though exploitation rates have been significantly reduced since 2000. This appears to be the result of reduced productivity over the same period.

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The management escapement goal based on stream targets is higher than the spawners at maximum sustained yield (Smsy) estimate. In Area 3 there is concern that the stock-recruit (S-R) metrics are biased by a long history of high exploitation rates (ER), limiting the stock-recruit data range in the more recent time series. This will tend to underestimate Smsy, and the associated benchmarks will also be too low.

The management intent is to keep the Nass chum ER's low through a period of "normal" productivity to evaluate the productive potential.

ASSESSMENT OF FISHERY IMPACTS

English et al 2012 provided Area 3 chum exploitation rate time series for US and Canadian fisheries up to 2010 ([Figure 13.5-12](#)). The estimates for 2011 and 2012 are preliminary estimates from the Nisga'a Joint Technical Committee. The recent 4 year cycle average Canadian ER is 7% and the last decade average is 8%. This provides for total ER in the 20% to 30% range down from the 57% average from 1982 to 1999. The current ER is well below the level that would be expected to provide for rapid stock increases if "normal" productivity returns (given the Umsy estimate of .61). Keep in mind there is concern that the S-R metrics are biased by long history of

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high ER, limiting S/-R data range in the more recent time series. This will tend to over-estimate exploitation rates at maximum sustained yield (Umsy).

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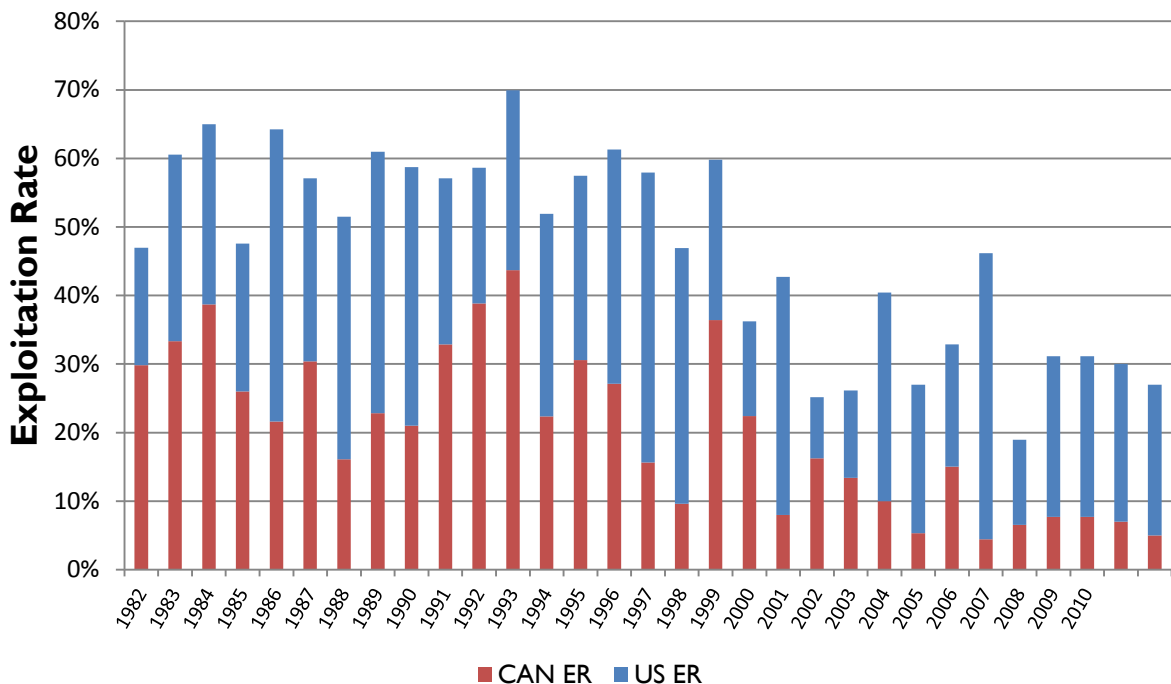
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Area 3 Chum Exploitation Rates US and Canada



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Figure 13.5-12: Area 3 Chum Exploitation Rates (US and Canada)

NASS CHUM REBUILDING PLAN ACTIVITIES

Key Activities	Status
Complete reconstructed time series of escapement, catch and run size for Nass chum.	Completed as described in English et al 2012 and updated in English 2013.
Develop chum harvest rate assessment models for Skeena chum.	Nisga’a Joint Technical Committee has over the past 10 years developed methods to estimate Nass chum escapement and catch. This technical background formed the basis for, and the technical committee participated in, the assessment model development revised and described in English 2013, and English et al 2012.

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Key Activities	Status
Analyse stock recruit metrics and indicated benchmarks and status interpretations.	Completed initial assessments by the Nisga’a Joint Technical Committee (for Nass area and CU’s) and by DFO (by Stat area and CU) in September 2013. Further review will be provided through the Nisga’a Joint Technical Committee spring 2014 meeting.
Complete 2012 and 2013 Northern Boundary Sockeye Reconstruction. Required to generate the weekly harvest rate estimates for Nass sockeye model. The weekly sockeye HR’s are used in the Nass chum HR assessment model.	2012 reconstruction completed in January 2014 by the Pacific Salmon Commission’s Northern Boundary Technical Committee. The Nisga’a Joint Technical Committee is expected to review and update the sockeye weekly harvest rate assessment during their spring 2014 meeting.
Review 2014 Nass chum escapement enumeration plans.	Enumerations plans reviewed each year through the Nisga’a Joint Technical committee. In addition, Nisga’a has submitted a northern fund proposal to refine and standardise Nass chum escapement estimates.

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Key Activities	Status
Collect otoliths from Area 3 fisheries to determine US hatchery contributions in both retention and non-retention areas	2011 and 2012 collected and analysed. 2013 samples collected a submitted for analysis. 2014 otolith collection and analysis program funded.
Evaluate enhancement and habitat restoration projects that would aid in Area 3 chum rebuilding.	Kincolith side channel restoration work initiated in 2013 and planned for 2014 and 2015. Kitsault restoration activities that should be considered are presented in Gaboury and Bocking 2007. Monitoring of the progress and contribution of these restoration activities is an important component of any rebuilding plan.
Continue to work through the Pacific Salmon Commission’s Northern Panel to discuss chum management plans in the northern boundary area.	PSC Northern Panel meetings are scheduled for January and February each year.

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Key Activities	Status
Review and update Nass chum harvest rate models, both sockeye and pink effort based. Include a sensitivity analysis of the model Area 3 chum run timing assumptions.	Requires 2013 sockeye reconstructions to be completed. Technical work scheduled for spring 2014 Nisga’a Joint Technical Committee.
The appropriateness of the ER objective should be reviewed each year taking into account the latest stock assessment information.	Review Nass chum assessments, status and the rebuilding plan with FN technical committees and with the Nisga’a JFMC, the IHPC and other interested parties.
Develop 2014 IFMP Nass chum fishing plan in cooperation with FN technical committees, the Nisga’a JFMC, the IHPC and other interested parties.	Nisga’a and IHPC meetings scheduled through to the spring of 2014.

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- Peacock. D. and B. Spilsted. 2010. Nass River Chum (*Oncorhynchus keta*) stock status. Canadian Science Advisory Secretariat Draft Report 2010. 58p. Available from authors.

APPENDIX 8: SKEENA CHUM DRAFT REBUILDING PLAN

CURRENT MANAGEMENT ACTIONS

The objective of the Skeena chum rebuilding plan is to: “rebuild Skeena chum and improve Skeena chum stock status”

The Canadian Area 4 fishery is currently managed to significantly reduce Skeena chum Canadian exploitation rates from historical levels, as a measure to rebuild Skeena chum stocks. The harvest reductions have been achieved, with recent Canadian exploitation rates averaging well below 10% ([Figure 13.5-13](#)). The rebuilding plan for the immediate future is to keep the Canadian average exploitation rates below 10%.

Management measures that reduce Area 4 sockeye and pink fishery impacts on Skeena wild chum include:

- Non retention of chum in all Area 4 commercial fisheries.
- Brailing and sorting will be in place for the seine fishery.
- Gill nets have a 137 mm (5.39 in) maximum mesh restriction. This restriction is in place so that sockeye is targeted selectively and larger non-target species such as chum and chinook are impacted to a lesser degree.

BACKGROUND

Background information on Skeena chum is provided in Peacock and Spilsted (2010). A recent paper by Price et al (2013) evaluates the historical abundance of Skeena chum.

STATUS

Skeena chum assessments have recently been completed by Korman and English (2013). The key conclusions are that Skeena chum are severely depressed, and are not rebuilding even though recent exploitation rates are well below Umsy values, likely due to reduced productivity in the last decade. DFO supports this assessment and has implemented sustained harvest reductions as a rebuilding plan.

FISHERY IMPACTS

English et al 2012 provided Area 4 chum exploitation rate time series for US and Canadian fisheries up to 2010 (Figure 13.5-13). The estimates for 2011 and 2012 are preliminary estimates from the DFO. The recent 4 year cycle average Canadian ER is 2% and the last decade average is 7%. This provides for total ER averaging 16% over the last decade, down from the 42% average from 1982 to 1999. The current ER is well below the level that would be expected to provide for rapid stock increases if “normal” productivity returns (given the Umsy estimate of 0.44). Keep in mind there is concern that the S-R metrics are biased by long history of high ER, limiting S-R data range in the more recent time series. This will tend to over-estimate Umsy.

Area 4 Chum Exploitation Rates US and Canada

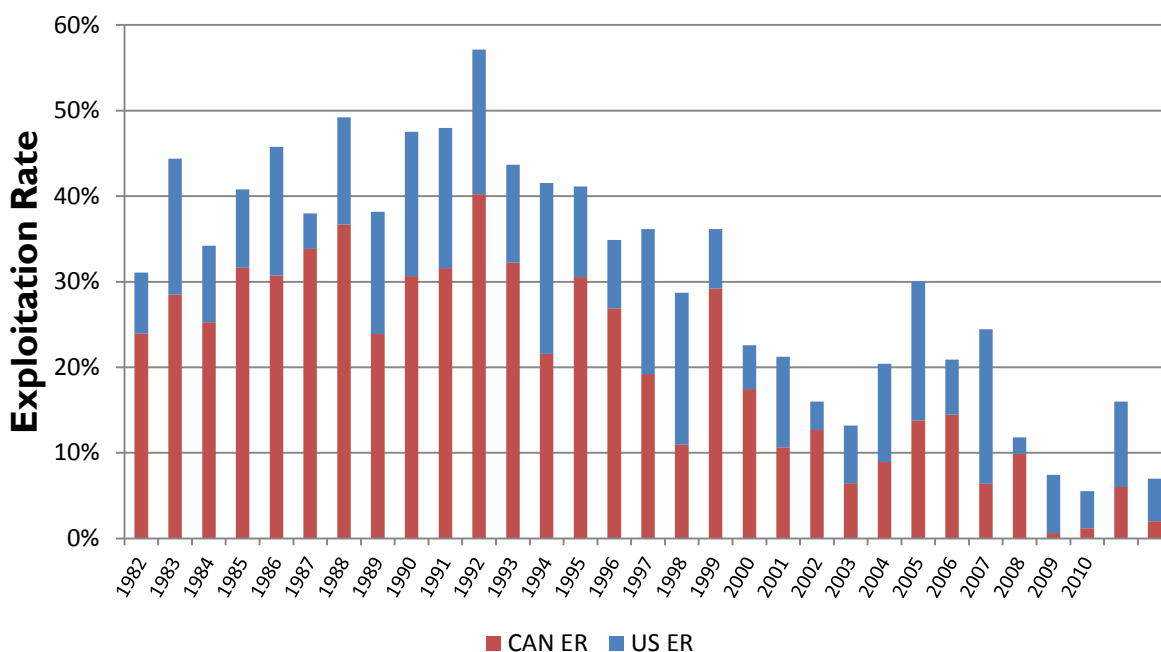


Figure 13.5-13: Area 4 Chum Exploitation Rates US and Canada

SKEENA CHUM REBUILDING PLAN ACTIVITIES

Key Activities	Status
Complete reconstructed time series of escapement, catch and run size for Skeena	Completed as described in English et al 2012, and updated English 2013.

Key Activities	Status
chum.	
Develop chum harvest rate assessment models for Skeena chum.	First versions completed as described in English 2013 and English et al 2012.
Analyse stock recruit metrics and indicated benchmarks and status interpretations.	Completed assessments by Korman and English (2013).
Continue to review potential enhancement and habitat measures to aid rebuilding.	A northern fund project “Kleanza Creek spawning weir accepted through the first round of reviews.
Complete 2012 Northern Boundary Sockeye Reconstruction. The reconstruction is required to generate the weekly harvest rate estimates for Skeena sockeye model. The weekly sockeye HR's are used in the Skeena chum HR assessment model.	Completed Jan 2014, Northern Boundary Technical Committee.
Complete 2013 Northern Boundary Sockeye Reconstruction. The reconstruction is required to generate the weekly harvest rate estimates for Skeena sockeye model. The weekly sockeye HR's are used in the Skeena chum HR assessment model.	Scheduled to be completed Jan 2015, Northern Boundary Technical Committee.
Evaluate Ecstall chum spawner enumeration methods.	First year completed 2013 by NCSFNSS. Northern Fund has approved the project for 2014.
Review and update Skeena chum harvest rate model, and evaluate utility of using the pink effort/HR model applied to chum as a comparison.	Requires 2012 (completed) and 2013 sockeye reconstructions to be completed. Work to be scheduled.
Review Skeena chum assessments and status with FN technical committees and through the IHPC and other interested parties.	Chum update at post-season review, and discussions will take place at the technical committees, and IHPC meetings.
Review 2014 Skeena chum escapement enumeration plans.	Enumerations plans reviewed each year through the Skeena FN technical committees.
Develop 2014 IFMP chum section.	Developed and reviewed annually through the IHPC and through discussions with FN.

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