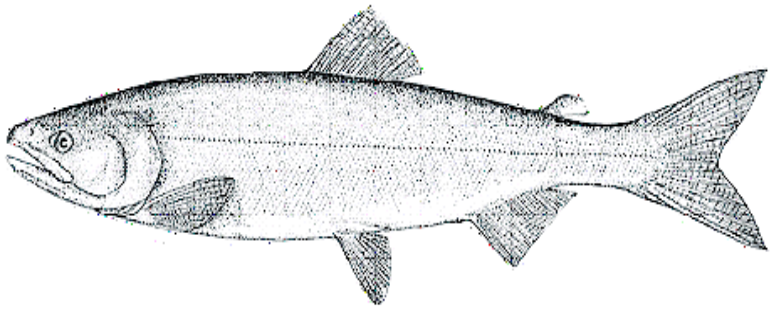
PACIFIC REGION

INTEGRATED FISHERIES MANAGEMENT PLAN

SALMON
NORTHERN BC
JUNE 1, 2015 - MAY 31, 2016



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

24 Hour Recorded Information (Commercial)	Vancouver	(604) 666-2828
	Toll Free	(888) 431-3474
Pacific Salmon Commission (PSC) Office		(604) 684-8081
PSC Test Fisheries (Recorded, In-Season Information)		(604) 666-8200

Recreational Fishing: www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.htm
Commercial Fishing: www.pac.dfo-mpo.gc.ca/fm-gp/commercial/index-eng.htm

Regional Headquarters

Regional Director, Fisheries Management Branch	Rebecca Reid	(604) 666-0753
Director, Res. Management, Program Delivery	Paul Ryall	(604) 666-0115
Salmon and PICFI Director	Lisa Kerr	(604) 666-0208
Regional Resource Manager - Salmon	Jeff Grout	(604) 666-0497
Regional Salmon Officer	Kelly Binning	(604) 666-4902
Regional Recreational Fisheries Co-ordinator	Devona Adams	(604) 666-3271
Regional Director, Conservation and Protection	Vacant	(604) 666-0604
Regional Director, Ecosystem Management	Bonnie Antcliffe	(604) 666-6532
Director, Aquaculture Management Division	Diana Trager	(604) 666-7009

Pacific Fishery Licence Unit (By appointment only) Toll-Free 1-877-535-7307
200-401 Burrard Street Email: fishing-peche@dfo-mpo.gc.ca
Vancouver, B.C. V6C 3S4

North Coast Area

A/Area Director	Colin Masson	(250) 627-3416
Area Chief, Conservation and Protection	Andy Lewis	(250) 615-5362
Area Chief, Salmon Stock Assessment	Dave Peacock	(250) 627-3467
A/Salmon Section Head	Sandra Davies	(250) 627-3426
Resource Manager - Haida Gwaii AFS and Commercial	Victor Fradette	(250) 559-4467
Assistant Resource Manager – Haida Gwaii	Peter Katinic	(250) 559-8330
Resource Manager - Nass/Skeena (Areas 3 to 6)	Corey Martens	(250) 627-3425
A/Assistant Resource Manager - (Areas 3 to 5)	Karen Kimura-Miller	(250) 627-3020
Resource Manager - Inland Demonstration Fisheries	Beth Petley-Jones	(250) 627-3417
Resource Manager - Central Coast commercial, rec	Vacant	(250) 799-5345
Resource Manager - Central Coast AFS	Kristen Wong	(250) 799-5346
Resource Manager - Northern Troll	Peter Katinic	(250) 559-8330
Resource Manager - Recreational Fisheries	John Webb	(250) 627-3409
A/Salmon Management Biologist, North Coast	Mark Potyrala	(250) 627-3457
Resource Manager, AFS North Coast coastal	Karen Kimura-Miller	(250) 627-3020

Resource Manager, AFS North Coast interior	Melanie Anthony	(250) 847-5108

Aquaculture Management:

Regional Marine Finfish Coordinator – IMAPs	Brenda McCorquodale	(250) 949-6434
Senior Finfish Coordinator – Licensing	Bernie Taekema	(250) 754-0398
Finfish Officer	Shirley Choi	(250) 754-0408
Senior Freshwater Coordinator – Licensing	Jennifer Mollins	(250) 754-0394
Chief, Conservation and Protection	Brian Atagi	(250) 754-0367

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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

Pacific Salmon Treaty (http://www.psc.org)

Background information; full text of the treaty

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Aboriginal Fisheries Strategy) or 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 Licencing

Commercial Fisheries http://www.pac.dfo-mpo.gc.ca/fm-gp/index-eng.html

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

Initiative to update the Commercial Salmon Allocation Framework

Website: 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.

Fisheries Notices (http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/fns/index.cfm?)

Want to receive fishery notices by e-mail? If you are a recreational sport licence vendor, 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-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/MPlans.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.htm)

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)

Web: www.dfo-mpo.gc.ca/fm-gp/sdc-cps/index-eng.htm

E-mail: SDC-CPS@dfo-mpo.gc.ca (please include postcode)

Telephone: 1-877-535-7307
Fax: 613-990-1866

TTY: 1-800-465-7735

Salmon (http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/index-eng.htm) 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 Tyee 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

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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).

PACIFIC REGION - POLICY AND COMMUNICATIONS

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Consultation Secretariat (http://www.pac.dfo-mpo.gc.ca/consultation/index-eng.htm)

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

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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 2015/2016

Key Changes for the 2015/16 North Coast Salmon IFMP

State of the Pacific Ocean and Freshwater Environmental Conditions

Extremely warm water temperatures were observed in the central NE Pacific ocean throughout 2014; warming of this magnitude has not been observed in over 50 years of historical observations. In contrast, cooler water occurred along coastal British Columbia in early 2014, but record warm water temperatures were observed in near-shore waters by mid-summer of 2014 and have continued into early 2015. These warm water temperatures have caused changes to marine species composition (e.g. marine food web-zooplankton), distributions and productivity. 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. For juvenile salmon entering the ocean in 2014 or earlier, negative impacts on survival or fish condition may be observed as early as 2015, particularly for returns of coho, pink or *jacks* (early maturing chinook and sockeye) and continued warm conditions could affect salmon returns for most species returning in 2016 and 2017. These conditions could also affect salmon returns in 2015 through changes in age-at-return, fish condition, migration routes and run timing.

In addition, extremely low snow pack levels in southern BC increase the probability of low river levels and high river temperatures this summer. These conditions are less than ideal for salmon migration and may be detrimental to salmon migration and survival in freshwater. Additional information can also be found on http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/index-eng.html

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 2015, 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.

Skeena Sockeye Management

Changes to in-season management; please see section 7.5

Kwinageese Closure

New closure dates; please see section 7.4.2

Gillnets Construction

Changes to weedline requirements for gillnets; please see Appendix 7, section 7.10

Catch Monitoring

Electronic Logbooks:

E-log pilot programs have been successfully used in several commercial, recreational and First Nations fisheries. DFO is now advancing an initiative to expand the current e-log initiative to a national program. The vision of the project is to develop and implement, over a phased multi-year approach, a national, integrated, electronic catch and effort system designed to enable ongoing solutions for the fishing industry to meet their evolving data capture and traceability needs. Under a national e-log system, DFO will no longer fund regional specific software programming. DFO will develop specific standards for e-log software in partnership with the Canadian General Standards Board (CGSB) along with a certification process to ensure that all e-log software meets these standards. Harvesters can continue to use their existing e-logs as long as no software changes are required to meet licence conditions. If software changes are required to meet licence conditions, harvesters can select to use paper logbooks or arrange for software updates with a service provider; harvesters will be responsible for any associated costs.

Licencing Service Changes

Fisheries and Oceans Canada (DFO) introduced the web-based National Online Licensing System (NOLS) in the spring of 2013. This web-based system replaces in-person counter service at Pacific Fishery Licencing Units. Fish harvesters/Licence Holders/vessel owners will now use the new online system to view, pay for and print their commercial fishing licences, licence conditions and/or receipts.

Fish harvesters received a one-time use only DFO Passcode in 2013, allowing them to log into NOLS to register and activate their accounts. At that time, they created their own unique Username and Password; fish harvesters must use this Username and Password each time to access their NOLS accounts in order to pay licence fees and request issuance of a licence.

Licence renewal and payment of fees is mandatory on an annual basis prior to the expiry date of each fishery, in order to maintain the eligibility to be issued the licence in the future. Please note the licence eligibility will cease if it is not renewed annually.

In March 2015, documentation will be provided by email detailing full procedures for salmon licence renewal/fees payment via NOLS, including the new ‘Submit Request’ feature allowing communal commercial licence eligibility holders to designate a vessel (application forms no longer required). Upon the Department receiving the required payment and all necessary information (i.e. logbook clearance), the licence will be issued and notification will be sent via email to advise Licence Holders/vessel owners that a change has been made to the licence holder’s NOLS account. The licence documents, licence conditions and receipt will be available to be printed from NOLS at that time.

For queries, NOLS access problems or transactions that are not yet available in NOLS (e.g. vessel replacements and nominations); licencing services will continue to be available via:

Telephone: 1-877-535-7307 (ask for the 'Pacific Region')

Fax: 604-666-5855

E-mail: fishing-peche@dfo-mpo.gc.ca (specify 'Pacific Region' in the subject line)

Please visit the Pacific Region Licencing website and subscribe to fishery notices for updates on NOLS and licencing services: http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html . Information on NOLS may be found on the DFO internet site at: http://www.dfo-mpo.gc.ca/fm-gp/sdc-cps/licence-permis-eng.htm.

Use of Fish for Financing Salmon Science and Management Activities

The list of salmon projects proceeding in 2015 is the same as those projects in 2014. 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. A change from 2014 is that the Pacific Salmon Commission Secretariat will no longer be directly administering the Albion chinook / chum gillnet; Skeena gillnet all species and Johnstone Strait chum seine. Details of test fisheries, including the list of proponents for 2015 are listed in Appendix 7, Section 7.5.

Commercial Salmon Allocation Framework

In September 2013, the First Nations Salmon Coordinating Committee (SCC) and the Commercial Salmon Advisory Board (CSAB) were engaged by the Department in a process to provide advice on updating the Commercial Salmon Allocation Framework (CSAF). Specifically, this work focused on the part of *Allocation Policy for Pacific Salmon* which outlines how the commercial salmon allowable harvest is shared among commercial salmon fisheries after accounting for conservation, First Nations food, social and ceremonial requirements and recreational sharing arrangements.

Since then, a series of productive meetings were held with the SCC, CSAB and interested First Nations to develop potential updates to the CSAF, guided by a Terms of Reference to address shortcomings in the CSAF identified by commercial harvesters and First Nations. Based on recommendations and feedback received through the draft IFMP process, the Department has determined changes are outlined in the sections below.

Please see **Appendix 7 (Section 7.4)** the commercial allocation plan with shares by species, fleet and fishery production area and **Appendix 8** for a description of other changes.

For background information on this initiative, including the Departments' Terms of Reference for the work and links to the independent facilitator's reports (which provides a summary from meetings held with the SCC and the CSAB, analysis completed and detailed proposals received and considered), please go to: http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html.

1. OVERVIEW

1.1 Introduction

This 2015/2016 Northern B.C. Salmon Integrated Fisheries Management Plan (IFMP) covers the period June 1, 2015 to May 31, 2016.

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, whiles Sections 3 and 4 consider the social, cultural, and economic performance of the fishery and its broader management issues. Section 5 describes the objectives to address the issues identified in Section 4. Sections 6 and 7 describe allocation and management procedures.

The Appendices provided in the IFMP provide information such as the post season review, and the fishing plans for the First Nations and the recreational and commercial sectors.

1.2 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.

1.3 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.

1.4 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 1-1).

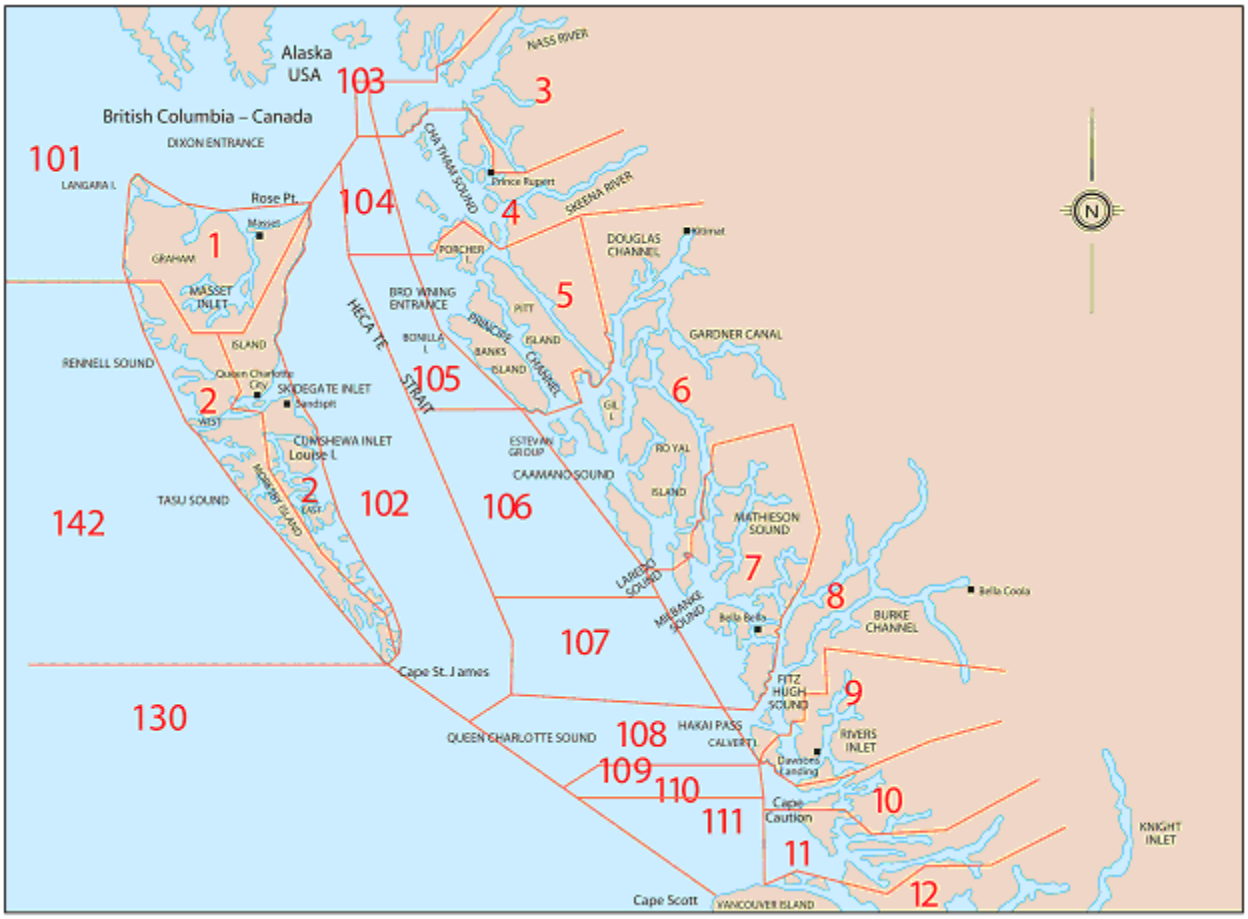

Figure 1-1. Management Areas for Northern B.C.

1.5 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.

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 food, social and ceremonial purposes. The Supreme Court found that where an Aboriginal group has a right to fish for food, social and ceremonial 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.

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. 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 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 sport 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 considerable consultation from all 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 Sustainable Fisheries Framework

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, and inclusive manner, and provides the foundation for new conservation policies to implement the ecosystem and precautionary approaches to fisheries management. These new policies include:

- Managing the Impacts of Fishing on Sensitive Benthic Areas;
- New Fisheries for Forage Species;
- A Fishery Decision-Making Framework Incorporating the Precautionary Approach

For more information on the Sustainable Fisheries Framework and its policies, please visit: http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm

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, *and A Policy for Selective Fishing, and A Framework for Improved Decision Making in the Pacific Salmon Fishery*, and the Pacific Region Fishery Monitoring and Reporting Framework.

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 4.1.1 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 6 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.

1.6.2 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.

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 economic 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 of the Pacific Integrated Commercial Fisheries Initiative, until the end of 2015-16.

1.6.4 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, strategies are being developed to improve catch monitoring programs by clearly identifying information requirements 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

1.7 Consultation

This plan incorporates the results of consultations and input from the Integrated Harvest Planning Committee (IHPC). The IHPC allows 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 the First Nations Salmon Coordinating Committee (SCC) and other regional and bilateral processes), recreational and commercial harvesters, and the MCC 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.htm.

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.htm

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, southwestern Beaufort Sea and surrounding fresh waters. They occur in an estimated 1300 - 1500 rivers and streams in B.C. and Yukon; notably, the Skeena River and Nass River in the north and the Fraser River in the south 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 1 week to 2 years. Most then go to sea for 1-5 years, undertaking a large ocean-feeding migration, although sockeye have also developed a land-locked form (kokanee). In the ocean, the 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, pink; 5 to 7 kg, chum; 3.5 to 7 kg, coho; 2 to 4 kg, sockeye; 6 to18 kg, 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 kilometres. 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 B.C. waters varies greatly from year to year and decade to decade, often with pronounced population cycles. For example, many sockeye salmon populations are very abundant every third or 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 live the longest. Chinook migrate upstream from the spring through the fall as far as 1,500 kilometres inland. Chinook fry may go to sea soon after hatching or, after one to two years in freshwater. Chinook mature at age three to seven years. Jacks, defined as 2-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 generally spawn in streams with lakes in their watershed, 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 3 to 6 years. Sockeye that live exclusively in fresh water are called kokanee.

Chum salmon generally spawn in the fall usually in the lower tributaries along the coast, rarely more than 150 kilometres inland. Fry emerge in the spring and go directly to sea. Chum generally mature in the 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 B.C. 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.

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. Salmon are also a major part of First Nations, commercial, and recreational fishing in British Columbia.

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.
- 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 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. These programs include:

- Georgia Strait Ecosystem Initiative
- http://www.pac.dfo-mpo.gc.ca/science/oceans/detroit-Georgia-strait/index-eng.html
- Fraser River Watershed Watch,
- Monitoring of physical, biological and chemical freshwater and marine conditions, and
- Chlorophyll and phytoplankton timing and abundance.

The annual State of the Pacific Ocean Report (available at http://www.pac.dfo-mpo.gc.ca/science/oceans-eng.html) reports on changes 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.

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 may 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 will also consider identifying potential partnerships with First Nation 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 forecasts future status of stocks under different scenarios. 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 Nation 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. Programs are required to monitor ecosystem status, species interactions, variations in conditions in aquatic environments, and biodiversity.

In the Pacific Region, salmon stock assessment advice is provided by the Stock Assessment Section of the Salmon and Freshwater Ecosystem Division. The Stock Assessment Coordinating Committee (SACC) serves as the principal forum in the Region for regional planning and coordination of salmon stock assessment programs across the Region's Organizational Areas, while the operational programs are delivered by the Area-based staff. Delivery of the region-wide salmon assessment program requires scientific and technical expertise to design and lead assessment projects, conduct related research and development, analyse data and report information, provide advice and communicate internally and externally.

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 457 discreet Conservation Units.

2. 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 CU's biological status relative to these benchmarks. Management will focus 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 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.

The Centre for Science Advice Pacific (CSAP) Salmon Subcommittee serves as the primary regional forum for peer review and evaluation of scientific research and literature, including TEK, on wild Pacific salmon. CSAP 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. CSAP also coordinates communication of the results of the scientific review and advisory processes. Reports on the status of salmon, environmental and ecosystem overviews, and research documents are available from CSAP web site. http://www.pac.dfo-mpo.gc.ca/science/psarc-ceesp/index-eng.html

2.5 Data Sources

Existing reports on the status of salmon and the environmental and ecosystem overviews are available from CSAP 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/outlook-perspective/salmon_outlook-perspective_saumon-2015-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 and status reviewed in 2011, both through Canadian Science Advisory Secretariat (CSA) Regional Peer Review (RPR) processes. DFO completed a CSAS RPR review of WSP benchmarks and status for Southern BC Chinook in February 2014, and an assessment of WSP benchmarks and status for Interior Fraser Coho in November 2014. Work is ongoing to develop a habitat based approach to determine benchmarks for Strait of Georgia and Lower Fraser River Coho Conservation Units.

Additional information about CSAS, the CSAS schedule of RPRs and publications can be found at http://www.pac.dfo-mpo.gc.ca/science/psarc-ceesp/index-eng.html

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 continuation of the 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 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 (e.g. Interior Fraser Coho Conservation Strategy, Cultus Lake Sockeye Conservation Strategy) 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.htm

Current research projects on salmon and environmental and human induced factors affecting 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. More information is available at: http://www.pac.dfo-mpo.gc.ca/science/oceans-eng.htmlAquatic 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.
- Ongoing research related to improving forecasting ability for salmon stocks and CU's is being conducted by DFO Stock Assessment and the Fisheries & Oceanography Working Group. The annual State of the Pacific Ocean Report is published by the Canadian Science Advisory Secretariat (CSAS) and is available at:
- http://www.pac.dfo-mpo.gc.ca/science/oceans/reports-rapports/state-ocean-etat/index-eng.htmlThe 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 and in collaboration with other organizations (North Pacific Anadromous Fish Commission (NPAFC), Pacific Salmon Commission (PSC)) are studying salmon production, distribution and survival in North Pacific.
- Annual juvenile salmon surveys monitor the distribution and survival of salmon in their early marine life history.
- The coded wire tag improvement program is a five-year program that began in 2009 to improve the quality and quantity of data used to monitor the survival, production, and fishing impacts on chinook salmon stocks in Canada and U.S. as part of the 2008 Pacific Salmon Treaty Agreement.
- In the sentinel stocks program, spawning escapements for natural chinook salmon stocks in Northern B.C. (Skeena and Nass rivers), Fraser River, and West Coast of Vancouver Island are being closely monitored to provide critical information and assessment of the salmon resource as part of the 2008 Pacific Salmon Treaty Agreement.

3 ECONOMIC, SOCIAL AND CULTURAL IMPORTANCE

The intent of this section is to provide a socio-economic review of the salmon fishery in British Columbia. 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 and commercial fishing sectors (including the Aboriginal communal commercial fishery), the processing sector and the export market. 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 North Coast.

3.1 Aboriginal Fisheries

Generally, DFO manages Aboriginal fisheries to provide access for both food, social, and ceremonial (FSC) and for commercial purposes. With respect to fishing for FSC purposes, DFO manages FSC fisheries to ensure that after conservation needs are met, the FSC fishery has priority over other fisheries. DFO seeks to provide priority for the FSC fishery in order to ensure that its management is consistent with the Supreme Court of Canada (SCC) decision in *R. v. Sparrow*, and subsequent case law, which found that where there is an aboriginal right to fish for FSC purposes, this fishery must be given priority over other uses.

First Nations view the harvesting and consumption of salmon as providing a range of social, cultural and health benefits. Fisheries chapters in modern First Nation treaties may articulate a treaty fishing right for FSC purposes that could be protected under Section 35 of the Constitution Act, 1982. Commercial access may be provided either through the general commercial fishery or a Harvest Agreement, which is negotiated at the same time as the treaty and is referenced in the treaty, but is not protected under the Constitution Act.

Three modern treaties (Nisga'a Final Agreement, Tsawwassen First Nation Final Agreement (TFA), and Maa-nulth First Nations Final Agreement (MNA)) have been ratified in British Columbia. These agreements articulate a treaty right to food, social and ceremonial harvest of fish and describe the role for First Nations in fisheries management.[1]

In addition to fishing opportunities for FSC purposes, there is a strong interest in the economic opportunities offered by fisheries. Also, five Nuu-chah-nulth First Nations have aboriginal rights to fish for any species of fish within their Fishing Territories and to sell that fish, with the exception of geoduck.

Appendix 5 provides background and details with regard to the Northern BC/Skeena River First Nations Fishing Plan.

Through the AFS Program, the Department provides Food, Social and Ceremonial (FSC) fishery access to aggregate groups or individual First Nations through fisheries agreements and communal licences. 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.
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

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[1] Details of the Nisga'a Final Agreement can be found at http://www.ainc-inac.gc.ca/al/ldc/ccl/fagr/nsga/nis/nis-eng.asp. Details of the TFA and MNA agreements can be found on the B.C. Treaty Commission website at www.bctreaty.net.

[2] 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.

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

AFS agreements serve as a guide for DFO and First Nations on the collaborative management of First Nations fisheries, and support a range of fishery co-management arrangements. Currently the Pacific Region accounts for roughly two-thirds of these agreements Canada-wide. In the region in 2014-2015, there were 85 AFS agreements, representing 164 First Nations that contain provisions relating to salmon management including, but not limited to, FSC fishery arrangements. Among the areas, BC Interior had 18 agreements, Lower Fraser had 13, North Coast had 18, South Coast had 32, and the Yukon had 4.

In addition to AFS, the Aboriginal Aquatic Resources and Oceans Management (AAROM) program has been implemented to fund aggregations of First Nation groups to build the capacity required to coordinate fishery planning and program initiatives. AAROM is focused on developing affiliations between First Nations to work together at a broad watershed or ecosystem level where there are common interests and where decisions and solutions can be based on integrated knowledge of several Aboriginal communities. In the conduct of their activities, AAROM bodies are working to be accountable to the communities they serve, while working to advance collaborative relationships between member communities, DFO and other interests in aquatic resource and oceans management. For 2015-2016, there are 20 AAROM agreements in the Pacific Region. The 20 AAROM Organizations are Aboriginal Aquaculture Association, A-Tlegay Fisheries Society, Canadian Columbia River Inter-Tribal Fisheries Commission, First Nations Fishery Council, Fraser River Aboriginal Fisheries Secretariat, Central Coast Indigenous Resource, Q'ul'lhanumutsun Aquatic Resources Society, Island Marine and Aquatic Working Group (IMAWG), Sumas First Nation (LFFA), Nlaka'pamux Nation Tribal Council, North Coast Skeena FNs Stewardship Society, Nuu-chah-nulth Tribal Council, Okanagan Nation Alliance, Pacific Salmon Commission – FNFC, Secretariat of the Haida Nation, Shuswap Nation TC (Secwepemc), Skeena Fisheries Commission, Sto:lo Nation, Sto:lo Tribal Council, and Upper Fraser Fisheries Conservation Alliance.

3.2 Recreational Sector

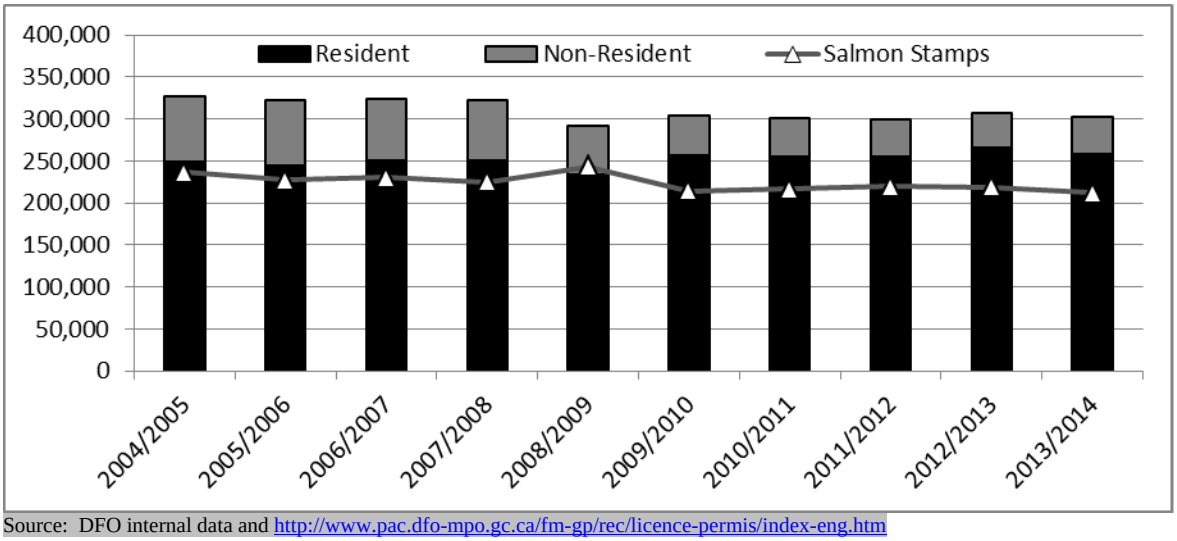
Recreational fishing for salmon may occur to provide food for personal use, as a leisure activity, or as a combination of the two. These activities provide a range of benefits to the participants as well as contribute directly and indirectly to the economy. Based on the 2010 Survey of Recreational Fishing in Canada, 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 caught and 65% of the fish kept. Recreational fishing effort for North Coast salmon accounted for roughly 15% of angler expenditures in 2010, or $107 million[2].

[2] 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.

In order to fish for salmon an angler needs either a tidal or a freshwater licence; however, in order to keep salmon the licence must also have a Pacific Salmon Conservation (PSF) Stamp. Since undertaking the 2005 survey, there has been a decline in the total number of tidal water licences issued by DFO, largely driven by a substantial decline in non-resident licences starting in the 2008/09 season (Figure 3-1, below). In fact, licence data show that the number of non-resident licences sold annually has declined almost continuously since 1999, dropping by 50% over the past 3 years, though the number of licences sold has been relatively stable over the past three years (Figure 3-1). The number of PSF Stamps also declined from 2008/09 to 2009/10, but has since made a partial recovery.

Figure 3-1 Tidal Water Recreational Fishing Licences and Pacific Salmon Conservation Stamps Sold, 2004/05 to 2013/14

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



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

The Survey of Recreational Fishing in Canada provides an estimate of individual expenditures and investment for recreational fishing. Historically, the combined tidal and freshwater fisheries of B.C. were the second largest recreational fisheries in Canada in terms of direct and package expenditures, and third largest in terms of investments. 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 totalled $139,772,544. This number understates the contribution of non-resident tidal water anglers, however, as it only includes expenditures directly attributable to their fishing experience[3]. Fishing opportunities in B.C.'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

[3] The British Columbia's Fisheries and Aquaculture Sector (2013) report 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.

have come to British Columbia at all if there had been no opportunities for tidal water angling[4]. A further 19% would have shortened their stay in the province.

Figure 3-2. Recreational Fishing Direct and Package Expenditures and Investments, in constant (2010) dollars

	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

Source: Survey of Recreational Fishing in Canada, multiple years

Figure 3-2 (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 B.C. economy, the rate of growth is slowing: total expenditures and investments grew by nearly 15% from 2000 to 2005, but by only 1.82% from 2005 to 2010. This slowdown is due mainly to a drop in visits (and therefore expenditures) to B.C. by non-resident anglers, particularly other (i.e. international) non-resident anglers whose total expenditures in B.C. 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 B.C. 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, accounting for 42% of package expenditures in 2010[5].

[4] 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.

[5] DFO Internal analysis

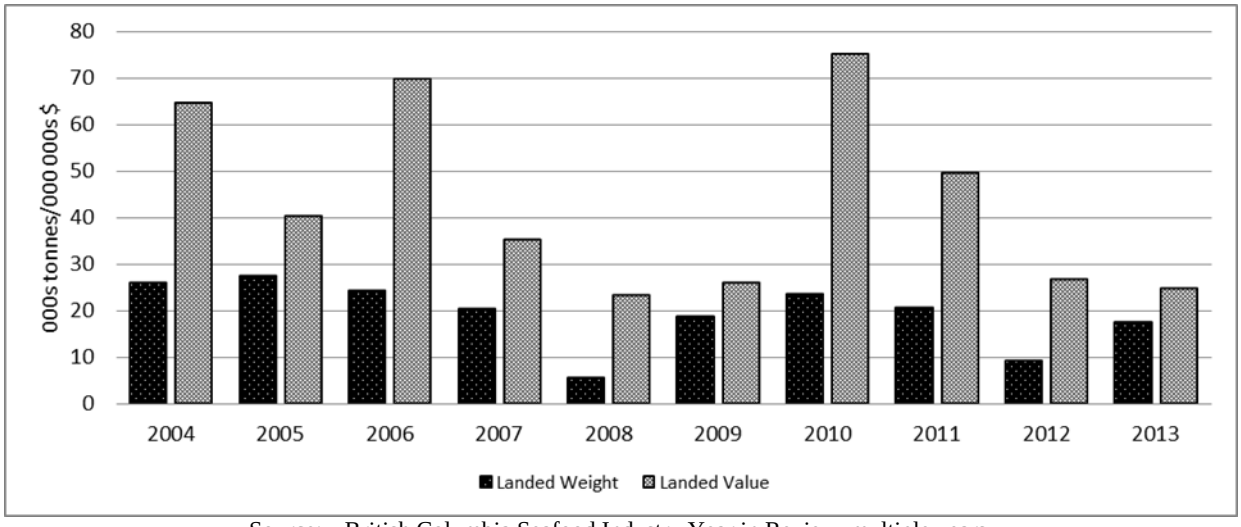
Additional information on the history and vision for recreational fisheries can be found in the document "Vision for Recreational Fisheries in B.C.": http://www.pac.dfo-mpo.gc.ca/consultation/smon/sfab-ccps/docs/rec-vision-eng.pdf

3.3 Commercial Sector

In B.C., the salmon fishery is a limited access, competitive fishery[6]; however, several parts of the fishery have operated under individual quotas during the past five years. Since 2005, five areas using seine, troll and gill net troll gear 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 B.C.'s seafood processing sector, much of which is ultimately exported, bringing new money into the province. BC Stats (2013) estimates that the commercial salmon fishery directly contributed $15.2 million to the gross domestic product (nominal) in 2011[7].

During the last decade, salmon contributed an average of 12% of the landed value and 10% of the volume of B.C. wild caught seafood (Figure 3-3 below). In 2013 dollars, the value ranged from a high of $75.1 million in 2010 to a low of almost $23.3 million in 2008. BC-wide, sockeye was the most important species in terms of landed value, followed by chinook and then chum.

Figure 3-3: Pacific Region salmon harvest and landed value (2013 dollars)

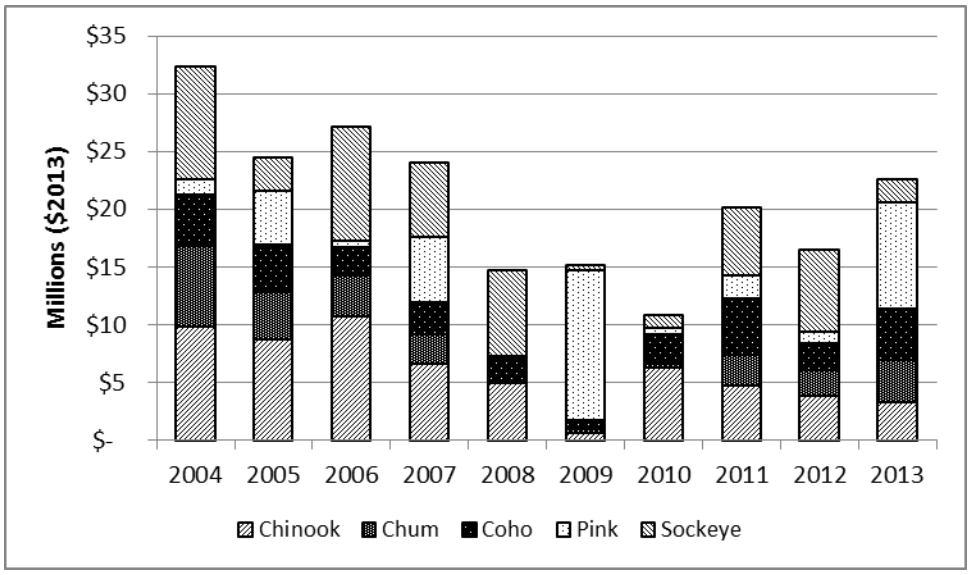


Source: British Columbia Seafood Industry Year in Review, multiple years.
Note: "Wild Salmon" here refers to salmon harvested by commercial fisheries and does not include aquaculture production.

[6] Other names for this style of fishery include derby and Olympic style fishery.
[7] BC Stats (2013). British Columbia's Fisheries and Aquaculture Sector, 2012 edition. Prepared for the Department of Fisheries and Oceans by BC Stats.

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. The landed value of the North Coast salmon harvest shows an overall decline prior to 2010 (Figure 3-4 below), which closely mirrors the decline in landings. There was growth in the value of chinook until 2006; however, this did not offset the decline in sockeye revenues.

Figure 3-4. North Coast salmon value by species, 2003-13 (2013 dollars)



Source: http://www.pac.dfo-mpo.gc.ca/stats/comm/summ-somm/index-eng.htm

Salmon licence values declined steadily from 2005 to 2010, reflecting poor returns to the fleet.[8] Licence values increased in 2011 due to improved outlook for the sockeye fishery (including the record run in 2010) and higher prices for pink and chum salmon. Seine licences have continued to increase in value through 2013, while gillnet and troll licences have been steady. A 2007 snap shot 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;[9] this was reiterated in the 2009 financial snapshot.[10] The results also suggested a positive financial performance for the troll fleet, which was enhanced further by participation in other fisheries.[11] 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. Detailed tables for each fleet (gill net, seine and troll) are

[8] Nelson, Stuart. Various years. West Coast Fishing Fleet: Analysis of Commercial Fishing Licence, Quota, and Vessel Values. http://waves-vagues.dfo-mpo.gc.ca/waves-vagues/

[9] Nelson, Stuart. 2009. Pacific Commercial Fishing Fleet: Financial Profiles for 2007. http://www.dfo-mpo.gc.ca/Library/343814.pdf

[10] Nelson, Stuart. 2011. Pacific Commercial Fishing Fleet: Financial Profiles for 2009. http://www.dfo-mpo.gc.ca/Library/343762.pdf

[11] Gislason, Gordon. 2011. British Columbia's salmon fleet financial profile 2009. http://www.dfo-mpo.gc.ca/Library/343812.pdf.

available within both documents (Nelson, 2009 & 2011), and are available by licence area in Gislason, 2011.

The Department's general approach is that Aboriginal commercial harvest opportunities are managed using similar rules to the commercial fishery. The landings and value attributable to Aboriginal commercial harvest are included in the values reported for the commercial sector below. Participation in the fisheries provides 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. 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 gill net licences (Category N), of which 193 were in the North Coast in 2014.

Since 1994, DFO has acquired a total of 479 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), the Allocation Transfer Program (ATP), the Pacific Integrated Commercial Fisheries Initiative (PICFI), First Nations Inland Demonstration Fisheries projects, Economic Opportunity Fishery arrangements and treaties. In the 2014 season, 159 communal commercial salmon licence eligibilities were issued to First Nations under the AFS and ATP, 45 were issued under PICFI, 255 were used to offset southern and northern First Nations Inland Demonstration Fisheries projects and Economic Opportunity Fishery arrangements with First Nations in the lower Fraser, Somass, Skeena and Nass Rivers, and 20 were used for treaties or other contingencies. The Demonstration Fisheries proposed for 2015 are described in sections 7.4.3 and 7.5.3.

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.

3.4 Processing Sector

Since 2000, salmon accounted for an average of 25% of the total wholesale value from seafood processing in B.C.[12]. Processing wild caught salmon provided about 1,473 positions in 2011, or a little over 30% of the B.C. total[13]. A 2008 report estimates that approximately 80% of this employment was to process domestic landings, with processing occurring primarily in the

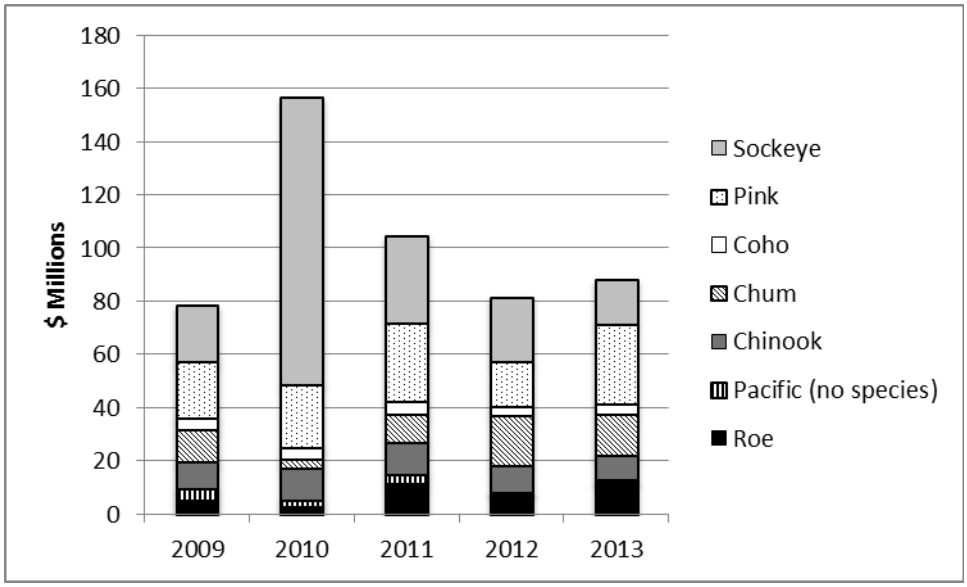
[12] British Columbia Seafood Industry Year in Review. Various years. BC Ministry of Environment.
[13] BC Ministry of Environment. 2011. 2008 British Columbia Seafood Processing Employment Survey Results. http://www.env.gov.bc.ca/omfd/fishstats/proc/employ-05.html

Greater Vancouver (47%) and the Skeena-Queen Charlotte (38%) regional districts.[14] 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.

3.5 Export Market

British Columbia benefits from a strong seafood exports sector, valued at $903M[15] in 2013, which is supplied by the domestic wild harvest, aquaculture and raw imports. The BC Year in Review further reports that pink and chum salmon are among the most widely exported seafood products in 2013, being shipped to 25 and 22 countries, respectively. Over the five-year period from 2009 to 2013, B.C. exported wild salmon to some 53 countries. On average over this period, the United States accounted for 27% of the export value ($27.4 million in 2013 dollars), followed by Japan (21% and $21.8 million) and the United Kingdom (15% and $15.2 million). Japanese imports of BC salmon closely follow trends in sockeye production, Japan absorbing much of the windfall arising from the record harvest of Fraser sockeye in 2010. China has grown as a market in recent years with an export value of $13.9 million in 2013.

Figure 3-5. Salmon Export Value by Species, 2009-13 (2013 dollars)



Source: Statistics Canada. December 2014.

[14] Fraser and Associates. 2008. Linkages Between the Primary Fish Production and Fish Processing Sectors in British Columbia.

[15] British Columbia Seafood Industry Year in Review. (2012).

4 MANAGEMENT ISSUES

4.1 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.

4.1.1 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. Since 2005, 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 more modest efforts to assess habitat and ecosystems as part of integrated strategic planning pilots in key areas. Currently, the Department is preparing a new Wild Salmon Policy Implementation Plan, which was one of the recommendations from the 2012 Cohen Commission Final Report. This work will allow alignment with changes to legislation and programs since the policy was released in 2005, such as recent changes to the Fisheries Act, implementation of the Fisheries Protection Program, and release of the Sustainable Fisheries Framework. Our intention is to start engaging First Nations and stakeholders on this work in 2015.

Additional details regarding WSP and its implementation can be found at: http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/index-eng.html

4.2 International Commitments

4.2.1 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. Various chapters in Annex IV of the Treaty have been renegotiated and ratified since 1985.

The Pacific Salmon Commission, established under the Pacific Salmon Treaty, provides regulatory and policy advice as well as recommendations to Canada and the United States (US) 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.

To properly account for the full impact of fishing on chinook and coho stocks, the Pacific Salmon Treaty specifies that the parties develop programs to monitor all sources of fishing related mortality on chinook and coho. Catch monitoring programs are being modified to include estimates of encounters of all legal and sub-legal chinook and coho, as well as other salmon species, in all fisheries.

Coded-wire tag data are essential to the management of chinook and coho salmon stocks under the Pacific Salmon Treaty. In 1985, the United States and Canada entered into an August 13, 1985 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. An expert panel review concluded the coded-wire tag system is the only technology currently capable of providing the data required for Pacific Salmon Treaty management regimes for chinook and coho salmon, thus confirming the approach being employed. The expert panel's full report may be found at http://www.psc.org/pubs/psctr18.pdf. In response to the Expert Panel's recommendations, the PSC appointed a CWT Workgroup to develop recommendations to correct deficiencies and to improve analysis of CWT recovery data. The Workgroup's full report may be found at http://www.psc.org/pubs/psctr18.pdf. As the CWT system is central to the ability to implement the 2009 PST Chinook Agreement, the Parties agreed to provide $7.5 million each in their respective currencies over a five year period to implement critical improvements to the CWT programs operated by their respective management agencies (Annex IV, Chapter 3, paragraph 3(b)). The Five Year Synthesis Report of the PSC Coded Wire Tag Improvement Program may be found at http://www.psc.org/pubs/psctr33.pdf.

The chapters in Annex IV outline the joint conservation and harvest sharing arrangements between Canada and the US 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.

Fisheries and Oceans Canada and US agencies continue to implement the management regimes under Annex IV for the 2015 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, 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 fishery and 30% below the 1999 catch ceiling in the Canadian West Coast Vancouver Island 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 aggregate abundance based management fisheries, as well as the individual stock-based management fisheries in both countries, should certain stocks fail to meet escapement objectives outlined in the agreement.

The agreement also includes provisions for a bilateral funding framework to support implementation of the chinook chapter. Key elements include: (i) $30M for Canada to help mitigate the impacts of commercial harvest reductions in Canada; (ii) $15M ($7.5M from each country) over five years to support the coast-wide coded-wire tag program; (iii) $10M from the Northern and Southern Endowment Funds for a "Sentinel Stocks Program"; and (iv) $1M from the US to improve the analytical models to implement the chinook agreement.

4.3 Oceans and Habitat Considerations

4.3.1 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

4.3.2 Pacific North Coast Integrated Management Area

An integrated management plan for the Pacific North Coast Integrated Management Area (PNCIMA) has been developed to help coordinate various ocean management processes and to complement and link existing processes and tools including IFMPs. The PNCIMA is one of five national Large Ocean Management Areas identified in Canada's 2005 Oceans Action Plan, and the plan is the product of a collaborative process led through an oceans governance agreement between the Government of Canada, British Columbia and First Nations, and contributed to by a

diverse group of organizations, stakeholders and interested parties. High level and strategic, the plan provides direction on and commitment to 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 a framework for ecosystem-based management (EBM) for PNCIMA that includes assumptions, principles, goals, objectives and strategies. This EBM framework has been developed to be broadly applicable to managers, 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.

Implementation of the plan is the shared responsibility of all signatories to the planning process and will be undertaken within existing programs and resources.

An electronic copy of the plan is online at http://www.pncima.org/

4.3.3 Marine Protected Area Network Planning

The *Oceans Act* mandates the Minister of Fisheries and Oceans 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* (*National Framework*) provides strategic direction for the design of a national network of marine protected areas (MPAs) that will be composed of a number of bioregional networks. This is an important step towards meeting Canada's domestic and international commitments to establish a national network of marine protected areas by 2012. Regionally, the Canada-*British Columbia Marine Protected Area Network Strategy* has been developed jointly by federal and provincial agencies and reflects the need for governments to work together to achieve common marine protection and conservation goals. Bioregional marine protected area network planning may identify new areas of interest for protection by DFO, Parks Canada, Environment Canada, the Province of B.C., and any other agencies with a mandate for protecting marine spaces. Future networks of MPA's may overlap and/or include salmon fishing areas, depending on the type and nature of the MPA

More information on MPA Network Planning can be found at the following links:

http://www.dfo-mpo.gc.ca/oceans/planning/marineprotection-protectionmarine/index-eng.htm

http://www.dfo-mpo.gc.ca/oceans/planning/marineprotection-protectionmarine/bc-mpa/index-eng.html

4.3.4 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). Work also continues towards designating the Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs Area of Interest as a Marine Protected Area under the *Oceans Act*. DFO has implemented fishing closures to protect nine glass sponge reefs in the Strait of Georgia and Howe Sound. Commercial and recreational bottom-contact fishing is prohibited within 150 metres of all nine glass sponge reefs. Starting April 1, 2016, all aboriginal communal licences that are issued and include these sponge reef closures will be prohibited from all bottom contact aboriginal fishing activities within 150 meters of all nine glass sponge reefs.

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 links: www.pac.dfo-mpo.gc.ca/oceans/index-eng.htm and http://www.dfo-mpo.gc.ca/oceans/marineareas-zonesmarines/mpa-zpm/index-eng.htm

4.3.5 National Marine Conservation Areas

Gwaii Haanas

Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site is a 5000 km^2 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 British Columbia. 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 Fisheries and Oceans Canada 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.

Development of a long-term management plan for the Gwaii Haanas marine area is underway and will be completed by 2015. This process will take place in consultation with the commercial and recreational fishing sectors through Fisheries and Ocean's established integrated fisheries planning and advisory processes. Annual fishing plans will be developed in consultation with stakeholders.

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.

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

4.3.6 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

4.3.7 Committee on the Status of Endangered Wildlife Species Assessments

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/rpts/Detailed_Species_Assessments_e.html

4.3.8 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. 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.

Endangered, threatened, and special concern marine species in Pacific region currently listed under SARA 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

- Ancient Murrelet – Special Concern
- Marbled Murrelet – Threatened

Fish

- Basking Shark - Endangered
- Green sturgeon – Special Concern
- Longspine Thornyhead – Special Concern
- Rougheye Rockfishes Types I & II – Special Concern
- Sixgill Shark – Special Concern
- Soupfin Shark (Tope) – Special Concern
- Yelloweye Rockfish – Special Concern
- White Sturgeon – Upper Fraser Designatable Unit – Endangered
- White Sturgeon – Upper Columbia Designatable Unit – Endangered
- White Sturgeon – Nechako Designatable Unit – Endangered
- White Sturgeon – Kootenay River Designatable Unit – Endangered

Mammals

- Blue Whale – Endangered
- Fin Whale – Threatened
- Grey Whale – Special Concern
- Humpback Whale – Threatened
- Killer Whale – Northern Resident Population – Threatened
- Killer Whale – Southern Resident Population – Endangered
- Killer Whale – Offshore Population – Threatened
- Killer Whale – Transient Population – Threatened
- North Pacific Right Whale – Endangered
- Sea Otter – Special Concern
- Sei Whale – Endangered
- Stellar Sea Lion – Special Concern

Reptiles

- Leatherback Sea Turtle – Endangered

Shellfish

- Shellfish Northern Abalone – Endangered

- Olympia Oyster – Special Concern

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

Fish

- Bocaccio Rockfish – Threatened
- Canary Rockfish – Threatened
- Darkblotched Rockfish – Special Concern
- Quillback Rockfish – Threatened
- Yellowmouth Rockfish – Threatened
- Eulachon – Fraser River Designated Unit – Endangered
- Eulachon - Central Pacific Coast Designated Unit– Endangered
- Eulachon - Nass/Skeena Rivers Designated Unit - Special Concern
- North Pacific Spiny dogfish – Special Concern

Mammals

- Northern Fur Seal – Threatened.

White Sturgeon

In August of 2006, four populations of White Sturgeon (Upper Fraser, Upper Columbia, Nechako, and Kootenay River) were listed as Endangered under SARA, while two populations (Lower Fraser and Mid Fraser) were not. Only those populations listed under SARA are subject to the general prohibitions.

A Recovery Strategy has been developed for the four listed populations, which provides a recovery goal and population and distribution objectives, as well as management activities for the two non-listed populations. The Recovery Strategy may be found at:

http://www.sararegistry.gc.ca/document/default_e.cfm?documentID=1774

Humpback Whales

In 2003, the North Pacific Humpback Whale population was assessed by COSEWIC, and was subsequently listed as Threatened under SARA in January 2005. Humpback was re-assessed by COSEWIC as Special Concern in 2011 and a change to the listed status of this species is being considered. A Recovery Strategy has been developed for this species. Threats identified in the Recovery Strategy include entanglement, vessel strike, acoustic disturbance and prey reduction. The Recovery Strategy may be found at:

http://www.sararegistry.gc.ca/document/default_e.cfm?documentID=1344

Salmon

Three populations of salmon have been designated as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (Cultus Lake sockeye (2003), Sakinaw Lake sockeye (2003), and Interior Fraser River coho (2002)) and one has been designated as Threatened (Okanagan Chinook (2006)). Following extensive public and stakeholder consultation processes for each population, the Government of Canada did not list these populations on Schedule I of SARA (Cultus Lake sockeye (2005), Sakinaw Lake sockeye (2005), Interior Fraser River coho (2006) and Okanagan Chinook (2010)). However, recovery efforts are continuing for each population.

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:

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 5.

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 bycatch in commercial, aquaculture and recreational fisheries. These guidelines include boat handling procedures during visual encounters with Basking Sharks as well as best practices for handling Canadian Pacific shark species during entanglement encounters.

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

Code of conduct for sharks: http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/shark-requin/conduct_shark-conduite_requin-eng.html

Code of conduct for Basking Sharks: http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/shark-requin/conduct_basking-conduite_pelerin-eng.html

4.3.9 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
Internet: 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: turtles@vanaqua.org

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

4.3.10 Northern and Southern Resident Killer Whales

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 is being developed and near completion which identifies implementation priorities to reduce anthropogenic threats and address research needs for resident

killer whales. 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 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 designed a series of 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 produce a report documenting its findings.

The first of the three workshops occurred September 21-23, 2011 in Seattle; the second occurred March 13-15, 2012 in Vancouver, Canada, and the third occurred in Seattle on September 18-20, 2012. A diverse and multidisciplinary group of approximately a hundred scientists is actively participating in the workshop process. These experts were drawn from Canadian and U.S. Federal, Provincial and State management and research agencies, First Nations, Treaty Indian Tribes, academia, non-governmental environmental organizations and industry (e.g., fishing and whale-watch industries).

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

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 US 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.pac.dfo-mpo.gc.ca/fm-gp/species-especes/mammals-mammiferes/view-observer-eng.html

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

Critical Habitat:
In the March 2008 Recovery Strategy for the northern and southern resident killer whales, their critical habitat was defined. On February 23, 2009 a Species at Risk Act Section 58(4) Order by the Ministers of Fisheries and Oceans, and Environment was posted to protect that critical habitat from destruction. The Recovery Strategy identifies 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.

Fisheries Depredation:
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 MarineMammals@pac.dfo-mpo.gc.ca or by calling (250) 756-7253. 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 log book/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.

More information on COSEWIC, SARA, and the listing process can be found at:
www.cosewic.gc.ca/eng/sct5/index_e.cfm
www.dfo-mpo.gc.ca/species-especes/home_e.asp
www.sararegistry.gc.ca/

Contacts for marine mammal inquiries:

Fisheries and Oceans Canada Contacts:
MarineMammals@pac.dfo-mpo.gc.ca
Paul Cottrell (604) 666-9965
Graeme Ellis (250) 756-7245

4.3.11 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.
Tel: (604) 940-4679
Email: laurie.wilson@ec.gc.ca.

4.3.12 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 the aquaculture industry in BC, including marine finfish, shellfish, freshwater and enhancement facilities. 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 requires comprehensive environmental monitoring to be undertaken by the marine finfish industry, and the Department also conducts additional monitoring, audits and investigations (where warranted). Public reporting is undertaken to ensure the transparency and accountability of the management of aquaculture in BC. 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 licencing, 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 Departmental Contacts section of this plan.

Integrated Management of Aquaculture Plans:
Integrated Management of Aquaculture Plans (IMAPs) provide 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.

Opportunities will be provided for commercial and recreational fishing interests, along with First Nations, to become engaged in the IMAP development process. More details related to IMAP consultations are available on the DFO consultation web pages:
http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.htm

Aquaculture Management Advisory Committees:
Aquaculture Management Committee Meetings (AMACs) engage the aquaculture industry, First Nations and other stakeholders in the development of IMPAs and on-going feedback relevant to the management of Aquaculture. Information relating to AMAC meetings is posted on the DFO Consultations web pages: http://www.pac.dfo-mpo.gc.ca/consultation/aquaculture/index-eng.htm. Meetings are open to the public.

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

4.3.13 Salmonid Enhancement Program

The Salmonid Enhancement Program (SEP) in British Columbia, Canada is comprised of nearly 300 projects across the province and the Yukon and includes hatcheries, fishways, spawning and rearing channels, and small classroom incubators. Projects range in size from spawning channels producing nearly 100 million juvenile salmon annually to school classroom incubators releasing fewer than one hundred juveniles.

SEP enhances Chinook, chum, coho, pink, and sockeye salmon at the population level throughout the Pacific Region, supporting sustainable fisheries through fish production that provides harvest opportunities. Fish production from the program also supports stock assessment and conservation, both of which enable harvest management as well as community involvement and public education.

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 and First Nations, and Public Involvement Program (PIP) projects that are

divided into designated (DPI) and non-designated categories. The latter are smaller projects that focus on outreach, stewardship and educational activities, and which do not produce large numbers of fish.

- The Resource Restoration Unit supports habitat improvements, stock assessment, effectiveness monitoring, watershed planning, and partnerships related to habitat initiatives.

Steelhead and cutthroat trout are produced at some SEP facilities in partnership with the province of British Columbia; however, targets and release numbers are not included in SEP production planning as the province is responsible for management of these species.

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. This production planning process operates within the consultative framework of an integrated harvest planning process that is used to develop the IFMP.

Production planning meetings involve most DFO sectors (SEP, Science, and Fisheries Management), and external consultation and involvement is achieved through the IFMP process. The outcome of production planning is a draft production plan that takes into account production priorities and the results of post-season reviews. This process operates on an annual planning cycle, while at the same time planning for the longer-term. Priorities are established annually based on the national and regional departmental priorities using a consistent approach across the program.

The production planning cycle establishes maximum numbers of eggs to be collected and juveniles to be released, 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. Operationally, SEP production targets for a given facility are set for individual populations or stocks. Each individual stock or population together with its run timing, release site, life-history stage and the associated release numbers, is known as a production group and has a specific production objective. A single regional production plan is produced, that comprises donor stocks, release sites, egg-take and juvenile salmon release targets, and stages at release for each SEP facility. Production targets are considered upper limits and will be documented as such in each Facility Pacific Aquaculture Regulation licence.

The risks of salmon enhancement to wild populations include undesirable genetic effects, disease implications, ecological interactions, harvest impacts and marine carrying capacity. DFO is aware of potential interaction of enhanced fish with wild stocks, and has developed and array of risk mitigation and management procedures, guidelines and practices. Hatchery programs are designed to avoid or minimize these risks.

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.

Facilities may also enhance steelhead and cutthroat trout; however, targets are not included as management of these species is under the authority of the Province of British Columbia.

There are two datasets available: **Post-Season Production** from the 2013 brood year (i.e. 2014 releases, and numbers on hand for 2015 release) and the **Production Plan** which includes proposed targets for the upcoming 2015 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

4.3.14 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.

5 OBJECTIVES

5.1 Fishery Management Objectives for Stocks of Concern

5.1.1 Rivers and Smith Inlet Sockeye

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.

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 will be achieved and a surplus is available.

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

5.1.2 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.

5.1.3 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.

5.1.4 North Coast Chum

The objective for wild north coast chum is to rebuild weak wild runs, 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 Appendices 13 and 14 for more details.

5.1.5 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 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.

5.1.6 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.

5.1.7 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.

Rockfish Conservation Areas (RCAs) are no fishing zones for fishing gear that impact on rockfish except for FSC access. Permitted fishing activities within RCAs for commercial and recreational fisheries are listed on the DFO's website at www.pac.dfo-mpo.gc.ca/recfish and in Appendix 3. DFO will continue working with First Nations so that management of their fisheries will be consistent with conservation objectives and priority access for food, social, and ceremonial purposes. First Nations are encouraged to employ fishing methods that do not impact inshore rockfish or fish in other locations to avoid the harvest of inshore rockfish in RCAs. DFO will also continue working with First Nations to improve catch reporting and rockfish identification.

There are currently 164 RCAs along the coast of British Columbia. The RCAs have been implemented within the Strait of Georgia and in all outside waters including Haida Gwaii. The conservation strategy for inshore 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 may take decades. The strategy addresses four areas under the fisheries management and stock assessment regime:

- Protect a part of inshore rockfish populations from harvest through the use of Rockfish Conservation Areas;
- Collect information on total fishery mortalities through improved catch monitoring programs;
- Reduce harvests to levels that are less than the estimates of natural mortality; estimated at 2%; and
- Improve the ability to assess the status of inshore rockfish populations and to monitor changes in abundance.

Prior to fishing, fish harvesters are reminded to review the locations of these RCA's and the permitted activities within RCA's. A description of all RCAs and permitted fishing can be found at: http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.htm

6 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*.

6.1 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 Northern Panel of the PSC and those results are published post-season.

6.2 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, *An Allocation Policy for Pacific Salmon* and the 2015 Pacific Salmon Commercial Allocation Implementation Plan (See Appendix 7, Section 7.4).

An Allocation Policy for Pacific Salmon sets out principals for allocation between the recreational and commercial sectors and also identifies sharing arrangements for each of the three commercial fishing gear groups. An explanation of some of the features of Allocation planning is set out in Section 6.5.

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

6.3 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 *An Allocation Policy for Pacific Salmon*.

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.

The Department is continuing to work with the FNFCs' Salmon Coordinating Committee to develop information summaries to inform specific performance measures for incorporation in the future. This information will be included in Appendix 5 once complete.

6.4 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 policies.

6.5 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 6-1 describes a generalized framework by which fishing opportunities are allocated to different fishing sectors at different abundance levels.

Table 6-1. 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 species or stocks is case specific. The inadvertent harvest of different species of concern 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 generally 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.

6.6 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 the fishing plan 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.

6.7 First Nations Inland Demonstration Fisheries

For a more detailed description of Aboriginal commercial fishing opportunities please refer to sections 7.4.3 and 7.5.3.

6.8 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 average of 5% of the combined recreational and commercial harvest of each species on a coast-wide basis over time.

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.

6.9 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 **Appendix 7 (Section 7.4)** 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) generally 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.

6.10 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, inaccurate 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 DECISION GUIDELINES AND SPECIFIC MANAGEMENT MEASURES

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 Appendices 5 to 7.

7.1 General Decision Guidelines

7.1.1 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 Marine Conservation Caucus and the experience of fishery managers.

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

7.1.2 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 pre-season plans; 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.

7.1.3 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 Canadian 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 SFI and go2, the resource for people in tourism, have developed an Industry Training Authority approved Tidal Angling Guide (TAG) certification program. The 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 area federal requirements for non-pleasure, passenger carrying vessels operating on the B.C. coast.

7.1.4 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 7-1. 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 7-1 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 7.1 - Post-Release Mortality Rates

Fishery	Pre 2001 Post-Release Rates (for historical comparison)	2001 Post 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.	20% for coho in Areas 1&2; 16% for coho in Areas 3 to 10; 10% for coho in other areas; 15% for chinook in all areas.
Commercial Gill net	60% to 70%	60% with provision for rates as low as 26%* where selective techniques warrant.
Commercial Seine – North Coast (Areas 1 to 10)	10% to 25%; 5% in Area 4 special seine fishery.	15% all areas, except 10% in the Area 4 special seine fishery.
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 tangle tooth net 3.5" mesh	n/a	10% sockeye, 15% coho

*Revised from 40% to 26% for 2011 based on a study done specific to the Skeena in the North Coast

**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 2014 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.

7.2 AABM Chinook Decision Guidelines

7.2.1 Background

Chinook salmon fisheries in B.C. are managed under the umbrella of the PST, with domestic considerations for stocks of concern, allocation between sectors of the fishery, and application of selective fishing practices.

The basis for managing fisheries impacting chinook 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, revised for implementation in 2009, maintains the abundance based management framework established under the 1999 Agreement.

Further explanation and the text of the chinook agreement can be found on the PSC website at: www.psc.org/Index.htm.

Two types of fisheries are identified in the agreement: Aggregate Abundance Based Management (AABM) fisheries; and Individual Stock Based Management (ISBM) fisheries.
Three mixed-stock aggregate fisheries make up the AABM fisheries identified by the PST: 1) Southeast Alaska sport, net and troll; 2) Northern British Columbia Troll and Haida Gwaii (Queen Charlotte Islands) Sport; and 3) West Coast of Vancouver Island (WCVI) troll and WCVI outside sport. These fisheries are managed to an annual total allowable catch based on the forecast abundance of the aggregate of stocks that contribute to each fishery.

7.2.2 Constraints

The mixed-stock aggregate fisheries of southeast Alaska, northern BC and WCVI are managed on the forecast abundance of the AABM stocks. Fisheries are managed based on a chinook fishery year which extends from October 1 in one calendar year to September 30 in the next calendar year.

7.2.3 Decision Guidelines

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 First Nations, recreational and commercial sectors. Table 7-2 describes management measures that will be taken to minimize impacts on stocks of concern in AABM chinook fisheries.

Table 7-2: Stock management actions anticipated in Northern British Columbia AABM Chinook fisheries to limit impacts on stocks of concern.

Stock of Concern (constraint)	First Nation (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 5_2 and Summer 5_2 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

7.2.4 Issues

Table 7.3 outlines the level of risk of impact on chinook stocks of concern during fishing periods throughout the year.

Table 7-3: Assessment of risk of impact on stocks of concern during chinook fisheries in the AABM management area of the WCVI.

Fishery Period	Risk of impact on stocks of concern
Oct. – Jan	**No risk.** This period is outside the migration timing and area for stocks of concern such as WCVI chinook, Fraser River Spring 4_2, Spring 5_2 and Summer 5_2 chinook.
Feb. – June	**Moderate risk.** Specific concerns for WCVI, Fraser River Spring 4_2 and 5_2 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.
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.

Fishery Period	Risk of impact 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.

7.2.5 Prospects

The Chinook Technical Committee (CTC) will complete a final calibration of the Chinook Model for the 2014/2015 fishing season (October 1, 2014 to September 30, 2015. The completed calibration provides the Abundance Indices (AI) that are required for determining the preseason estimated allowable catches for the three Aggregate Abundance Based Management (AABM) fisheries: Southeast Alaska all gear (SEAK), Northern British Columbia troll and Queen Charlotte Island sport (NBC), and West Coast Vancouver Island troll and outside sport (WCVI). The AIs and the associated allowable catches are shown in Table 7-4.

Effective January 1, 2009 the renegotiated Pacific Salmon Treaty 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. The allowable catches in Table 7-4 reflect this change.

Table 7.4: Pre-season Abundance indices and associated allowable catches for the 2015/2016 AABM Fisheries

	SEAK	NBC	WCVI
Abundance Index	1.45	1.23	0.85
Allowable Catch	236,995	160,400	127,278

Table 7-5: Stock outlook anticipated in AABM chinook fisheries

	Stock Outlook for 2015
WCVI Chinook	Overall, returns in 2015 will likely decline relative to the last few years due to very low apparent survival of the 2011 brood and low observed survival of the 2010 brood (returning as 4 and 5 year old fish in 2015). In contrast, ocean indicators suggest the 2012 brood may have experienced a relatively high survival rate. However, fish that return at 3 years of age are dominantly male and therefore make a lower contribution to egg-based brood and escapement targets. Pre-season forecasts are not yet available. Wild populations have either been well below target and/or declining for several generations. In recent years, stocks in the NWVI CU showed moderate improvements; however this trend is not generally observed in SWVI wild populations in Clayoquot. Expectations are for continued low abundance in 2015 and probable declines relative to recent years.
Fraser River Spring 5_2 and Summer 5_2 Chinook	The Outlook is low and the expectation is for a modest improvement over parental brood escapement levels but overall low escapements are due to depressed parental abundance and unfavourable marine conditions. Abundance estimated in-season based on Albion test fishery CPUE.

The remaining Canadian Chinook salmon fisheries are considered ISBM fisheries. For Canadian ISBM fisheries the agreement identifies a general obligation that limits on the total adult equivalent mortality rate for individual stock groups to 63.5% of that which occurred in the 1979 to 1982 base period.

7.3 Haida Gwaii Chum and Pink Decision Guidelines

7.3.1 Background

Surplus pink salmon opportunities on Haida Gwaii occur only during even years; odd year returns are either minimal or non-existent in most streams. Pre-season predictions of pink salmon surpluses are not reliable. Therefore pink fisheries will be managed in-season.

In the past, terminal chum salmon opportunities have occurred in a variety of wild stock locations. However, in recent years, returns of chum have declined to levels where surpluses have frequently not been observed. Chum fisheries will be managed in-season on a local basis.

7.3.2 Constraints

Assessment of escapements to streams in and near the surplus to be harvested will need to be assessed. 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 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 bycatch, 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.

7.3.3 Decision Guidelines

Initial openings are based on fish observed to be schooling in front of the various systems. If a poor run is predicted, such that only enough salmon are expected to return to stock the creek, then no fishing will occur unless an actual surplus is identified in-season. Conversely, if a surplus is forecast, an initial opening may be held to confirm returning stock abundance with subsequent openings as appropriate. The size of the return will be estimated by the CPUE of the first few openings.

In-season Decisions

In Area 1, the Yakoun River in Masset Inlet and Naden River in Naden Harbour are the primary pink salmon producers, and the Ain and Awun River systems in Masset Inlet and the Naden River in Naden Harbour are the primary chum salmon producers.

The primary pink salmon production areas are Darwin Sound and Cumshewa Inlet in Area 2 East, and Rennell Sound, West Skidegate and Englefield Bay in Area 2W. Streams supporting wild chum returns which may present surplus harvest opportunities in Area 2 East are located in East Skidegate Inlet, Selwyn Inlet, and Darwin Sound, and in Area 2 West are located in West Skidegate Inlet, Englefield Bay and Tasu Sound. 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.

All net fisheries are managed so that catch may be delivered within two days, at the request of the commercial industry.

7.3.4 Issues

- 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 are usually, but not always, required.
- All fisheries are during daylight hours, generally 11 or 12 hour days during September reducing to 10 or 11 hour days in October. This reduces the amount of by-catch.

7.3.5 Prospects

Chum salmon surpluses are expected to be limited in 2015. Monitoring to determine incoming runs throughout the season will be concentrated on the east coast between Skidegate Inlet and Darwin Sound, and on the west coast between Dawson Inlet and Tasu Sound.

7.4 Nass River Decision Guidelines

7.4.1 Background

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

Fisheries are managed to meet commitments in accordance with the Nisga'a Final Agreement (NFA), to meet Nass First Nation FSC goals, Pacific Salmon Treaty (PST) obligations, and to provide ocean commercial and inland commercial fisheries harvest opportunities.

The northern part of Chatham Sound in Area 3 is managed in conjunction with the Skeena River fishery because of the large numbers of Skeena sockeye and pink salmon passing through Chatham Sound during the fishing season.

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. The management measures implemented by the Department over the past three years coupled with the Nisga'a fish passage improvement measures provided Kwinageese (Fred Wright Lake sockeye CU) river sockeye escapement of 10,273 in 2011, 3,688 in 2012, 398 in 2013 and 438 in 2014.

There is no single major chum producer in Area 3, but significant stocks return to the Kshwan, Stagoo, and Khutzeymateen Rivers.

The major pink stocks return to the Kwinamass, Khutzeymateen, and the Iknouk Rivers (odd years). Most Area 3 pink stocks arrive in the fishing area at approximately the same time, mid-July. The outer coastal stocks are an exception, arriving in August and early September.

7.4.2 Constraints

Kwinageese sockeye and Area 3 chum are stocks of concern and will require focused management planning.

A chum rebuilding plan for Area 3 can be found in Appendix 14.

Commercial marine constraints this year include:

- Fishing is limited to daylight hours.

- 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 below 10%.
- Retention of chum 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 again in Area 3 to determine the presence of US hatchery chum in both retention and non-retention areas.
- Brailing and sorting, with the mandatory release of chinook will be in place for the seine fishery.
- Non-retention of chinook in the gill net fishery will be in place initially, but may revert to retention if chinook abundance is high.
- Retention of coho is expected to be allowed initially but may be modified 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.
- Due to the strength of the 2011 brood year, the Kwinageese closure for 2015 will be reduced to a single 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 July 19 to July 25 in all of Area 3.
- Pink fishing opportunities will be managed to conserve weak stocks of Area 3 chum.
- A troll fishery for coho in the inner portions of Area 3 will be considered if stock strength permits.

7.4.3 Decision Guidelines

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 and commercial harvest opportunities. Similar to the past three years, management measures will be in place to reduce impacts to specific stocks of concern

Opportunities for a gill net 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.

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 for chum and pink.
- 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.

Nass River Sockeye Inland Demonstration Fishery

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. The inland sockeye allocation will depend on the number of licences obtained by the First Nation, and the commercial catch as determined, in-season from the Prince Rupert office. 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 similar rules 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 (currently based on actual weekly catches), by gear type in the Management Area 3 commercial fishery. 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 requirement for selective fishing methods. Gill nets will not be allowed. Sockeye may be retained, and all other species shall 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 Nation 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 Beth Petley-Jones at (250) 627-3417.

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. 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.

7.4.4 Nass River Issues

Kwinageese sockeye have been identified as a stock of concern. The Department will continue to implement management measures to reduce impacts of Kwinageese sockeye.

Nass area chum remain a stock of concern.

Khutzeymateen and Kwinamass River chinook escapements have been very low in recent years. Management measures to protect chinook stocks in Portland Inlet will continue.

Seine fishery compliance with selective fishing measures will continue to be an important factor in management decisions.

7.4.5 Nass River Prospects

Nass River sockeye returns are forecasted to be average with an expected total return from 588,000 (90% probability) to 900,000 (10% probability) and a point estimate of 727,000 (50% probability) based on a sibling-regression model. Nass sockeye returns will be monitored carefully to take into account increasing uncertainty and recent trends towards lower survival.

Area 3 pink returns are expected to be average with limited harvesting opportunities anticipated. Area 3 chum returns are expected to be very poor. Fisheries will be managed to reduce harvest impacts on chum.

7.5 Skeena River Decision Guidelines

7.5.1 Background

Skeena salmon are taken in many northern B.C. and southern Alaskan fisheries. In B.C., directed net fisheries on Skeena sockeye and pink salmon occur in Areas 3, 4 and 5. Troll fishing effort is directed on pink, chinook, and coho salmon in Areas 1 and 101. Chinook and coho are the main targeted species for the recreational fisheries, and First Nations harvest all species of Skeena salmon.

Sockeye
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.

Steelhead
Steelhead retention throughout B.C. is prohibited in commercial fisheries. Any Skeena commercial gill net sockeye fishery will incorporate weedlines on all 90 mesh nets, daylight fisheries and revival tanks. Short nets and short sets are required for gill net fisheries starting August 1. Seine net fisheries will use daylight fisheries, revival tanks, brailing and sorting.

Coho
There are 154 recorded coho streams in Management Area 4. Individual stock arrival timing at the Tyee test fishery varies, but generally it is the streams of the upper Skeena (Bulkley, Babine, and Interior Skeena stocks) which arrive first (from late July to early August), followed by middle Skeena stocks, and lastly lower Skeena and coastal stocks.

Upper and middle Skeena coho have maintained a relatively high level of abundance in recent years. The status of the lower Skeena (late timing) coho stocks is less certain.

Pink
In the Skeena River, 128 systems have a 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.

Chum
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. Chum stock status is poor and a Skeena chum rebuilding plan is detailed in Appendix 15.

Chinook
The Skeena is the second largest chinook producer on the B.C. coast. Skeena chinook are harvested in all northern B.C. fishing areas as well as southern Alaskan troll and net 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.

7.5.2 Constraints

- 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 steelhead and chum is prohibited in all fisheries.
- Brailing and sorting with the mandatory release of chinook will be in place for the seine fishery.
- Gill net sockeye fisheries are expected to begin with Chinook retention, but could be changed 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.
- 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 these management measures will be in place for an extended period.

- A chum rebuilding plan is included as Appendix 15.
- The fishery will be managed to avoid high weekly harvest rates in late July and August. 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.

7.5.3 Decision Guidelines

Pre-season Decisions

Sockeye:
The Skeena sockeye aggregate escapement target is 900,000 and First Nation 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 fishery openings are planned.
- If the pre-season run size forecast is below 1.05 million 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.

In-season Decisions

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.

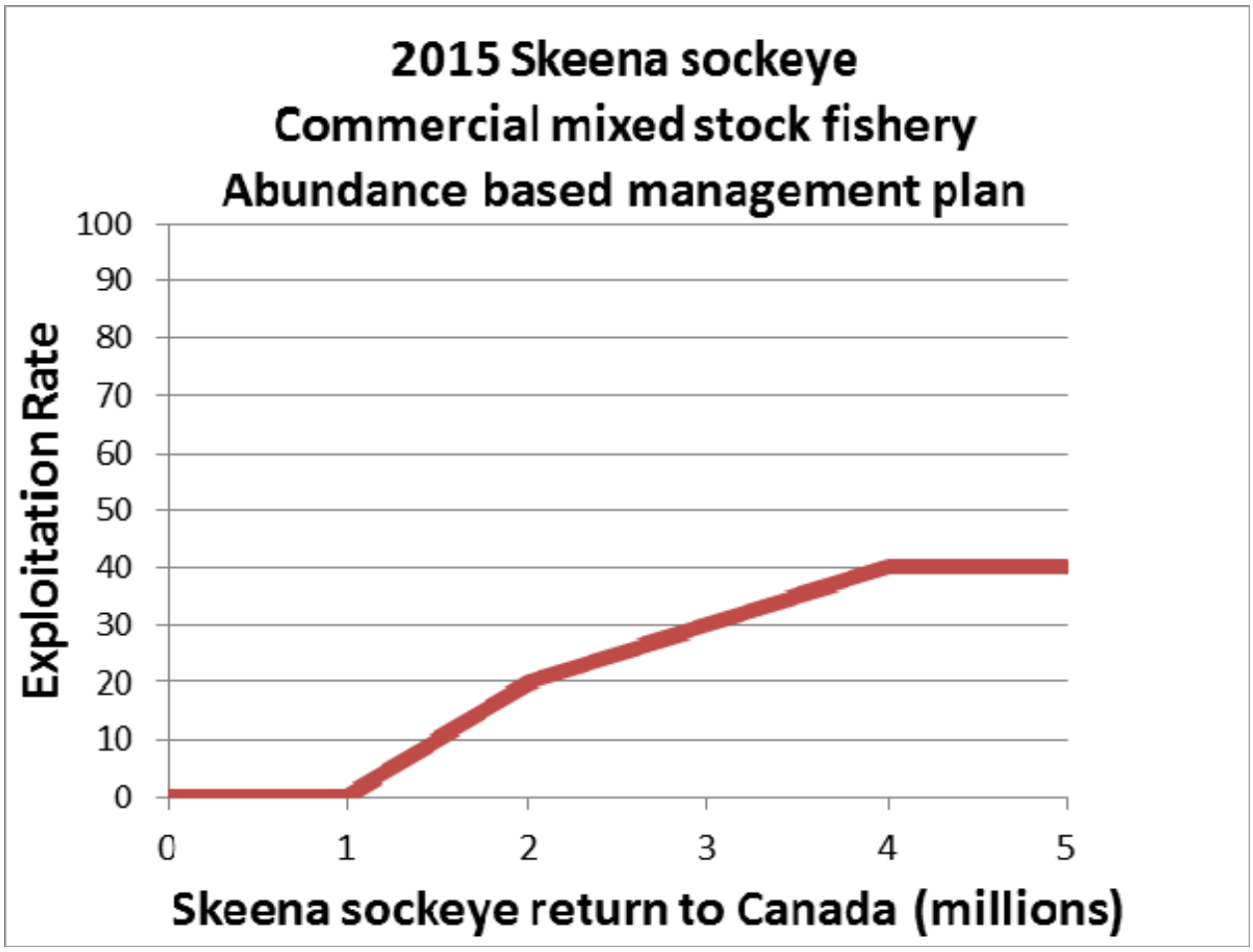
Sockeye

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. Please see figure 7-1.

- DFO may reserve sockeye allocation for seine vessels to allow for an incidental harvest of sockeye 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 7-1 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.

Figure 7-1 shows the allowable abundance based Canadian commercial exploitation rate on Skeena sockeye. This includes gillnet, seine and inland demonstration fisheries.



Food, Social and Ceremonial Fisheries

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. There is also 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.

First Nations Inland Demonstration Fisheries

It is anticipated that there will be opportunities for Skeena River First Nations for an inland demonstration fishery on Skeena River in 2015. Similar to what has been conducted in recent years, commercial allocations of sockeye and pink salmon will be 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 (Figure 7-1).

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 Nation 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 Beth Petley-Jones at (250) 627-3417.

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. 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 may be used simultaneously in other inland watershed demonstration fisheries (e.g. Nass) as approved by DFO.

ESSR
All ESSR fisheries will be by selective means, with live release of all non-target species. Amounts specified for harvest will be determined in close liaison with Pinkut Creek and Fulton River spawning channel managers to ensure enough sockeye are available to load the Pinkut and Fulton systems.

Recreational Sockeye Fisheries

For non-tidal waters in the Skeena mainstem, Table 7.3 outlines the guidelines for management actions that may occur.

Table 7.6. Guidelines for Management Actions for Recreational Sockeye Fisheries in the Skeena Watershed

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 2015 season, normal daily limits of 2/day will apply from the start of the season until in-season forecasts suggest a change is warranted based on Table 7-1. In years of high abundance, Babine River recreational limits will remain at 2/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 for the Lake Babine First Nation, the recreational sockeye limits in Babine Lake will be increased to 4/day.

Commercial Sockeye 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 Figure 7-1 in Section 7.5.3.

For 2015 Skeena River sockeye, returns are expected to be above average (range from approximately 1.7 million to 7.3 million). Fisheries 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 2015. 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 Karen Kimura-Miller at Karen.Miller@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.

Pink

During the second week of August, the target species in the commercial Area 4 fishery traditionally switches from sockeye to pink salmon. Once the fishery switches to pink management and 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. Skeena pink fishing opportunities may be limited to reduce harvest impacts on Skeena sockeye and chum stocks of concerns by restricting late season openings, and ensuring compliance during seine pink harvests.

Coastal Area 4 and 5 pink stocks are traditionally managed in accordance with Skeena runs until mid-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. In recent years Area 5 pink fisheries have taken place in August. There are no major coastal pink stocks in Areas 4 or 5 but a number of small streams contribute to this stock.

ESSR

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 in the Kitwanga weir (Gitanyow First Nation), and Moricetown fishway (Wet'suwet'en First Nation).

Chinook

The first directed gill net chinook fishery in Area 4 will be determined preseason by the Area C Harvest Committee. When abundances permit, this chinook fishery is managed to a maximum catch of 4,000 chinook. The first fishing opportunity will be June 12th, 2015 for 18 hours. Subsequent 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.

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 the 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.

Coho

- Retention of coho will be determined in-season by coho abundance indicators in Northern BC and Southeast Alaska.

7.5.4 Skeena River Issues

- Co-migrating with strong sockeye stocks are weaker runs of wild sockeye, as well as stocks of all the Pacific salmon species.
- Measures are required to reduce harvest impacts on Skeena River chum, steelhead, and some sockeye stocks.
- 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 and other interests).
- In recognition of the requirement to protect and rebuild stocks of concern such as late run sockeye (e.g. wild Babine River sockeye), Skeena steelhead and Skeena chum, there will be limitations on sockeye harvests in the last week of July and in early August.
- Even if there was a late season determination that increased the sockeye harvest allowance, any potential harvest opportunities will still be restricted because of concerns regarding harvest impacts to late run stocks of concern.
- 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.
- Compliance with selective fishing measures will be an important factor when considering harvest opportunities in August.

7.5.5. Skeena River Prospects

The total Skeena sockeye return is expected to be above average with a pre-season return forecast from 1.7 million (90% probability) to 7.3 million (10% probability) and a point estimate of 3.5 million (50% probability) based on the sibling model. The median estimate of the total return to Canada is 3 million.

Skeena pink returns are expected to be average with targeted harvesting opportunities anticipated based on abundance. Area 4 chum returns are expected to be very poor. Fisheries will be managed to avoid and release chum. Chum stocks are expected to return below desired levels in most north coast waters (Areas 3 to 6).

7.6 Area 5 Decision Guidelines

7.6.1. Background

Area 5 is traditionally managed in conjunction with Area 4 until mid-August when local pink stocks become prevalent. In recent years Area 5 pink fisheries have taken place in August. There are a number of sockeye streams in Area 5 that have small surpluses, and have generally been reserved for FSC purposes in the past. There is no single major pink stock in Area 5 but a number of small streams which all contribute to this fishery.

7.6.2. Decision Guidelines

Local streams could develop small surpluses, and these will be monitored in-season.

In-season Decisions

- Area 5 will open in conjunction with Area 4 sockeye-directed openings until early August.
- 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. Reports are that sockeye and chum would be rare, but small mesh nets would be implemented to minimize the by-catch. By-catch encounters would need to be confirmed by monitoring the fishery and the fishery would be terminated if by-catch encounters are high.

7.6.3. Issues

- Commercial gillnet fisheries in Area 5 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.

7.6.5. Prospects

Area 5 pink returns are expected to be average based on brood year escapements. Area 5 chum returns are expected to be very poor.

7.7 Area 6 – Pink and Chum Decision Guidelines

7.7.1. Background

Wild chum stocks remain depressed. The only directed chum fishery has been on stocks returning to the Kitimat Hatchery in terminal areas. The hatchery was successful in reaching targets for chum fry releases in the brood year for this year's return; there is potential for a surplus for 2015. Fishing opportunities will be discussed in-season with the Kitimat Hatchery manager.

7.7.2. Constraints

- Commercial net fishing is limited to daylight hours.

- Other management measures are also in effect, including 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.

7.7.3. Decision Guidelines

Seine pink fishing opportunities are usually evaluated pre-season for a start in mid-July. The anticipated opening date is determined from brood year escapements, run timing and concurrent openings in other areas. Seine fisheries will target pink stocks near Gil Island returning to numerous streams with the Quaal and Kemano Rivers being the main producers. Further fishing opportunities are based on the assessments of the fishery with good catch rates indicating a strong return. As the season progresses the focus changes increasingly to an assessment of escapements to determine further fishing opportunities.

Opportunities for a directed terminal gill net fishery in Kitimat Arm are based on Kitimat Hatchery chum production, assessment fisheries, and in-season escapements estimates.

Opportunities to harvest local surpluses of pink and chum may be considered based on in-stream escapement assessments.

Opportunities to retain incidental catches of coho may be considered based on in-season information on stock strength.

7.7.4. Issues

- 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.
- A pilot salmon catch monitoring program will continue for the Area 6 seine fishery in 2015. Please see Appendix 7 for more details.
- MCC and the processors have initiated a cooperative program to evaluate and enhance released chum survival in the Area 6 pink fishery.

7.7.5. Prospects

An above average commercial opportunity for pink salmon is anticipated for 2015 based on brood year escapements in 2013. The Haisla First Nation has submitted a proposal for a pink ESSR fishery on the Bish and Kemano Rivers. If these fisheries proceed, they will be prosecuted consistent with current policy. In-season assessments will be carried out and used to determine any fishing opportunities.

7.8. Area 7 Chum Decision Guidelines

7.8.1. Background

The major wild chum salmon 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 normally small for these fisheries with openings generally no more than two days per week. Pink salmon migrate during the same time period but are not targeted to the same extent as chum and are mainly caught as a by-catch.

7.8.2. Constraints

- 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 all 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 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 and seines second.
- 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 co-ordinated to distribute effort appropriately.

7.8.3. Decision Guidelines

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.

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.

In-season Decisions

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 advisory group noted above. . 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 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. Gill nets and seines alternate their fishing each week.

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.

7.8.4. Issues

Additional Fishing Time: A large increase in 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.

7.8.5. Prospects

Forecasts of Area 7 pink returns have been unreliable in recent years. Escapements in the brood year suggest an above average return. The catch in 2015 is expected to be incidental to the chum fishery. In-season monitoring will be carried out.

Chum returns have been highly variable in recent years. Brood year escapements for wild chum stocks were much improved from recent years and surpluses are predicted for the Mussel, Kainet, Neekas and Roscoe systems. Hatchery releases of fry from both facilities in Area 7 were near target and should provide commercial fishing opportunities. Historic average survival rates would suggest a potential harvest (combined hatchery and wild) of 180,000.

7.9. Area 8 Atnarko Chinook Decision Guidelines

7.9.1. Background

The Atnarko chinook stock is an enhanced chinook population that supports food, social and ceremonial and recreational fisheries, as well as a limited commercial chinook gill net fishery.

The Nuxalk First Nation's food, social and ceremonial fishery provides the best indication of run strength and is used as a small test fishery to predict run size. Atnarko chinooks are harvested by the commercial gill net 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.

7.9.2. Constraints

- Gill nets have a 203mm mesh restriction.
- The restriction is in place so that chinooks are targeted selectively and other non-target species, such as sockeye, are not impacted.

7.9.3. Decision Guidelines

DFO is working with local advisors and the First Nations Central Coast Salmon Coordinating Committee for advice on fisheries in these areas.

Opportunities for a one day gill net fishery on the last week in May or the first week in June is 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 Decisions

- June opportunities are evaluated based mainly on First Nations FSC fishery catches with consideration of commercial and sport catches as well.

7.9.4. Issues

Atnarko sockeye continue to be a major concern and any fisheries will be managed to avoid or minimize impacts on these stocks.

7.9.5. Prospects

For the Bella Coola/Atnarko system, slightly below average hatchery smolt releases and modest escapements in 2011, combined with apparent good survival from the 2010 hatchery release should result in an average Chinook return in 2015.

7.10. Area 8 Pink and Chum Decision Guidelines

7.10.1 Background

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. Pink fisheries in Area 8 have targeted mainly Atnarko River stocks but there is a component of Kwatna River and Koeye River pinks that have been 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. 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. Conservation measures to protect Rivers Inlet and local sockeye stocks are in place.

7.10.2 Constraints

- 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.
- Openings will be coordinated with other North and Central Coast areas.

7.10.3 Decision Guidelines

DFO is working with local advisors and the First Nations Central Coast Salmon Coordinating Committee for advice in managing fisheries in these areas.

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.

In-Season Decisions

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.

7.10.4 Issues

- Dean River steelhead remains a special concern. Between July 13 and August 15 weed lines are required for gill nets in Subareas 8-5 north of Bold Point and 8-8 to reduce steelhead interceptions.

7.10.5 Prospects

Area 8 pink escapements were about average compared to recent years. The catch in 2015 is expected to be incidental to the chum fishery.

Chum brood year escapements were average to above average. The chum fry release from the hatchery in Bella Coola for 2011 was near target. Historic average survival rates would suggest a potential harvest (combined hatchery and wild) of 300,000.

7.11. Area 9 – Rivers Inlet Sockeye Decision Guidelines

7.11.1. Background

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.

7.11.2. Constraints

- 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.

7.11.3. Decision Guidelines

- DFO is working with the local First Nations, the First Nations Central Coast Salmon Coordinating Committee and local advisors to develop fisheries in this area.
- Fishing opportunities for Rivers Inlet sockeye are evaluated pre-season based on brood year stock status and indications of marine survival rates.
- Commercial and recreational fisheries are very unlikely until there is a trend towards higher ocean survival and significant improvements in escapement.

7.11.4 Issues

- Sockeye returns to Rivers Inlet have been very modest for many years. The ability to assess returns in-season is limited. A trend towards higher productivity and better escapements needs to be established prior to commercial fisheries being re-established.

7.11.5 Prospects

- The total Rivers Inlet sockeye return for 2015 is forecasted to be below the range of desired escapement levels.
- No commercial or recreational fisheries are expected in 2015. Fishing opportunities for food, social, and ceremonial purposes will be determined in consultation with the Central Coast First Nations advisory body with their technical support.

7.12. Area 10 – Long Lake Sockeye and Nekite Chum Decision Guidelines

7.12.1. Background

Over the last 20 years sockeye returns to Long Lake have generally been poor, resulting in only two commercial fisheries since 1996. In recent years, returns have shown signs of improving, resulting in the two previously mentioned fishery opportunities. Nekite chum returns have been very modest for several years now and the ability to forecast returns is limited.

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. Constraints:

- 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.

7.12.2. Decision Guidelines

- Opportunities for Long Lake sockeye directed fisheries are evaluated in-season based on Docee Fence fish counts.
- In-season escapement information will be used to evaluate fishing opportunities for Nekite chum salmon.

7.12.3. Issues

The Long Lake sockeye stock remains a stock of concern because of the long period of generally low productivity. Nekite chum in recent years have experienced a period of low productivity.

7.12.5 Prospects

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 sport fishing opportunities will be based on that information. Nekite chum salmon escapements will be monitored in-season but no fishery is expected.

7.13. Northern Troll Decision Guidelines

7.13.1. Background

In 1999, and again in 2008, Canada and the US agreed to implement an abundance-based coast-wide chinook management regime, under which chinook fishery regimes are classified as aggregate abundance-based management regimes (AABM) or individual stock-based management regimes (ISBM). In northern B.C., troll fisheries in Management Areas 1 to 5 and Haida Gwaii sport fisheries (Areas 1 and 2) are managed under an AABM regime. All other fisheries in the north and central coast are managed under an ISBM regime. The northern B.C. (and South-East Alaska) AABM allowable catch is constrained by a specified formula agreed to

by the two countries. The AABM fishery is managed annually according to an allocation calculated from this formula.

The coho harvest in western Dixon Entrance and around Haida Gwaii is from a wide variety of stocks, mostly from northern coastal mainland streams. Management adjustments may be made based on assessments of coho abundance in-season.

7.13.2. Constraints

- Chinook will be managed in-season to meet the chinook annex of the PST.
- The troll fishery is also limited to by a domestic harvest rate ceiling of 3.2% of WCVI chinook.
- Areas with known high abundance of undersized chinook will remain closed.
- Dockside monitoring will be mandatory in ITQ fisheries.
- A salmon head recovery program to recover fish with coded wire tags will be conducted.
- Coho will continue to be managed conservatively with adjustments based on in-season assessments.
- Barbless hooks and operating revival boxes are required for all fisheries.
- There will be non-retention of steelhead
- The fishery will be managed to avoid Fraser River sockeye migrating through north coast waters by prohibiting sockeye retention west of 133 degrees West Longitude. Additional measures may be implemented in-season.
- The main producers of sockeye in the north and central coast are the Skeena and Nass Rivers, and trollers at times intercept a small amount of these fish in Dixon Entrance as a by-catch to their directed fisheries on coho, pink, and chinook.
- Additional measures may be implemented in recognition of weak salmon stocks.
- In Chapter 5: Coho Salmon in the Pacific Salmon Treaty refers to Attachment B for the Management of Northern Boundary Coho, Canada agrees to close its troll fishery in Areas 1, 3, 4 and 5 and adjacent offshore areas if CPUE minimum triggers are not met in Alaska District Area 6 troll fishery. Please see http://www.psc.org/pubs/Treaty/Treaty.pdf for more information. Parties may agree on the employment of selective fishing techniques in their troll fisheries to access other species or stocks pursuant to relevant Annex IV provisions.

7.13.3. Decision Guidelines

Sockeye

The main producers of sockeye in the north and central coast are the Skeena and Nass Rivers, and trollers at times intercept a small amount of these fish in Dixon Entrance as a by-catch to 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.

Coho

Coho abundance will be assessed in-season, management adjustments made based on indications of lower or higher abundance.

Coho trolling will open in the northern half of Dixon Entrance on July 1, then in the southern half on July 10.

The coho troll fishery may open in Area 3 depending on coho abundance. DFO will work closely with the Nisga'a to monitor coho run strength.

Initially central coast areas will be closed to troll opportunities, but this may be adjusted in-season depending on coho abundance.

Pink

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.

If abundances permit, a troll pink fishery in Area 3 may be conducted. This fishery would be managed to minimise by-catch of chum and gear conflicts with net fleets.

Chum

Northern BC chum stocks have been depressed and have experienced low returns for the past decade, and are expected to be weak in the coming season. There will be non-retention of chum in effect all year to protect northern BC chum stocks.

Chinook

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) is 160,400. The preliminary Area F troll allowable catch will be 117,400 and the Haida Gwaii recreational expected catch is 43,000 (numbers are preliminary as of May 2015).

Given the poor outlook for Fraser River Spring 5-2 and Summer 5-2 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 Spring 5_2 and Summer 5_2 chinook returns. Troll fisheries will remain closed for the first three weeks of June due to weak stock concerns for Spring 5_2 and Summer 5_2 chinook. Please refer to Southern BC Salmon IFMP Section 5.1.4 for more information.

The fishery is scheduled to open June 21st in 2015 under zone 1 management for Fraser River Spring 5-2 and Summer 5-2 chinook. The opening date may move as early as June 15th if the status of returns of Fraser River Spring 5-2 and Summer 5-2 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 an August closure 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.

In-season Decisions

Harvest opportunities may be adjusted on short notice based on the in-season assessments of stock abundance and fishery impacts.

Pink salmon opportunities are anticipated to remain available throughout the coho and chinook fishery.

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 2003-2013, in-season DNA analysis of the stock composition of the catch and the pre-season WCVI forecast was used to manage to this objective. Since 2008 the pre-season WCVI forecasts have been below the post-season WCVI return to Canada estimate resulting in substantial foregone catch in most years. 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 previous year's 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 2015 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 being closed during August when WCVI are known to be more prevalent. The Department will continue to collect and analyse 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 expected use of chinook by the Haida Gwaii recreational Chinook fishery is 43,000 pieces (preliminary number). The recreational chinook catch 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. 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.

7.13.4. Issues

Chum is expected to be weak in most mainland and Haida Gwaii systems. There will be non-retention of chum in all areas.

7.13.5. Prospects

The PSC CTC pre-season forecast of the chinook Abundance Index (AI) for NBC is 1.23 which sets the AABM TAC at 160,400 pieces. This is a significant decrease from the 2014 post-season

revised AI of 1.68 and AABM TAC of 245,099. No formal forecasts are provided for other species.

8. 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.[16] 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).

Also referred to as "co-management," 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) brings 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.

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 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).

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

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 identify 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 economic 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 officially consults with the Marine Conservation Caucus, an umbrella group representing eight core environment groups.

9. COMPLIANCE PLAN

9.1. Compliance Management Objectives

Conservation and Protection Program Description

The Conservation and Protection (C&P) program promotes and maintains compliance with legislation, regulations and management measures implemented to achieve the conservation and sustainable use of Canada's aquatic resources, and the protection of species at risk, fish habitat and oceans.

The program is delivered through a balanced regulatory management and enforcement approach including:

- promotion of compliance through education and shared stewardship;
- monitoring, control and surveillance activities; and
- Management of major cases /special investigations in relation to complex compliance issues.

In carrying out activities associated with the management of Pacific salmon as outlined in this management plan, C&P will utilize principle-based approaches and practices which are consistent with the National Compliance Framework and the DFO Compliance Model.

Regional Compliance Program Delivery

For the salmon fisheries in the Pacific Region, C&P will be utilizing a broad scope and blend of tools and approaches to manage compliance towards achieving conservation and sustainability objectives, including:

- Maintain and develop relationships with First Nations communities, recreational groups and commercial interests through dialogue, education and shared stewardship.
- Intelligence-led investigations may specifically target repeat and more serious offenders for increased effectiveness of enforcement effort. Illegal sales of salmon will continue to be a regional priority.
- Prioritize enforcement efforts on those measures directed towards conservation objectives.
- Fish habitat protection will continue to be a part of fishery officer efforts coordinated regionally by the Fisheries Protection Program.
- Utilize 'Integrated Risk Management' to ensure fishery officer efforts are focused and directed at problems of highest risk.
- Continue to have fishery officer presence through patrols by vehicle, vessel and aircraft to detect and deter violators.
- Monitor and support at-sea observers and dockside monitors when possible to ensure accurate catch monitoring and reporting.
- Support traceability initiatives within the salmon fishery to enhance accountability. Monitor and verify catches and offloads of salmon to ensure accurate and timely catch reporting and accounting, including coverage of Dual Fishing opportunities.
- Priorities and direct compliance efforts where there is a risk to salmon stocks of concern.
- Use of enhanced surveillance techniques, and new available technology as well as covert surveillance techniques as a means to detect violations and gather evidence in fisheries of concern.
- Patrols during open timed fisheries to increase intelligence gathering, build relationships with stakeholders and ensure compliance to licence conditions.
- Inspect fish processors, cold storage facilities, restaurants and retail outlets for compliant product.
- Maintain a violation reporting 24-hour hotline to facilitate the reporting of violations.
- Continue to promote 'Restorative Justice' principles in all fisheries.

Consultation

Conservation and Protection works closely within the Fisheries Management sector and Fisheries Protection Program to ensure that fishery management plans are enforceable and implemented in a controlled, fair, and professional manner and that habitat is protected. C&P has a multi-faceted role as educator, referee, mediator and law enforcer.

Conservation and Protection participates in consultations within the fishing community and general public. Education, information and shared stewardship are a foundation of C&P efforts. C&P participates in all levels of the advisory process. The importance of local field level fishery officer input to these programs has proven invaluable and will continue.

C&P will continue meeting at the local level with individual First Nations, through the fishery officer First Nation Liaison Program and with First Nation's planning committee meetings that involve many First Nations' groups at one time.

C&P officers participate in local fishery management 'roundtables' and sport fishery recreational advisory committees in their respective areas and participate at Sport Fishery Advisory Board meetings.

Fishery officers are viewed as the public face of the department. During their day-to-day activities, the fishing community and general public provide comment and input that is promptly communicated to C&P managers, fisheries managers and habitat management staff. This public feedback is critical in identifying issues of concern and providing accurate feedback on emerging issues.

Compliance Strategy

In 2015, specific objectives for the salmon fishery will be to focus compliance management efforts on:

- Support development and implementation of the Strategic Framework for Fishery Monitoring and Catch Reporting in Pacific Fisheries.
- Monitoring in-river and in marine approach waters using intelligence to target priority fisheries and compliance issues.
- Work with stakeholders to improve regulatory compliance.

Salmon fishery compliance continues to be a priority for C&P in 2015. There are, however, other competing priorities such as supporting the fisheries Protection Program in protecting habitat, the Canadian Shellfish Sanitation Program, and the protection of Species at Risk. These priorities often occur during the same periods as the salmon fisheries.

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 ensures that resources are allocated appropriately. Resource utilization is dependent on availability of program funding.

10. PERFORMANCE/EVALUATION CRITERIA

This section is intended to outline measurable indicators to determine whether or not those management issues outlined in IFMP Section 4 are being addressed and those objectives outlined in IFMP Section 5 are being achieved. 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; Wild Salmon Policy 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. 2014 season) are provided in appendix 4.

APPENDIX 1: 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

Integrated Harvest Planning Committee - North Coast Subcommittee Members

Recreational (Three) Members	
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Alternates	
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Rupert Gale	ruperta@telus.net
Commercial (Four) Members – The commercial representatives of the IHPC may change as a result of the Area Harvest Committee elections held in the spring of 2015. The most current membership list can 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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Province (ex-officio)	
Vacant	

Integrated Harvest Planning Committee - South Coast Subcommittee Members

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Commercial (Six) Members - The commercial representatives of the IHPC may change as a result of the Area Harvest Committee elections held in the spring of 2015. The most current membership list can 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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Vacant	
Vacant **First Nations (Four) Members**	
Vacant	
Vacant	
Vacant	
Vacant	
Alternate	
Vacant	
Province (ex-officio) (One) Member	
Vacant	

APPENDIX 2: FISHING VESSEL SAFETY

2.1 Overview – Fishing Vessel Safety

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, prevent vessel damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), WorkSafe BC, 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 B.C., WorkSafe BC 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 safely making the passage. Critical factors for a safe voyage include the seaworthiness of the vessel, vessel stability, having the required safety 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
- Fish Safe – Safe on the Wheel Course
- Fish Safe – Safest Catch Program
- First Aid
- Radio Operators Course
- Fishing Masters Certificates
- 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 Quik

For further information see: www.tc.gc.ca/eng/marinesafety/menu.htm
www.fishsafebc.com
www.worksafebc.com

2.2 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.

2.2.1 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 will 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 vessel capsizings. 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* and M12W0062 *Pacific Siren*.

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 or the local Transport Canada Marine Safety office.

In 2013, Fish Safe developed a code of best practises 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 Gina McKay at Fish Safe for a copy of the program materials they developed to address safety and vessel stability in these fisheries. Gina McKay – Phone: 604-261-9700; Email: fishsafe@fishsafebc.com

2.2.2 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.

2.2.3 Cold Water Immersion

Drowning is the number one cause of death in B.C.'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. 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 WorkSafe BC website at www.worksafebc.com).

2.2.4 Other Issues

2.2.4.1 Weather

Vessel owners and masters are reminded of the importance of paying close attention to current weather treads 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

2.2.4.2 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 20 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/e0003845

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: www.pacific.ccg-gcc.gc.ca

2.2.4.3 Collision Regulations

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

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

Exceptions include:

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

More detailed information on VTS can be obtained by calling (604) 775-8862 or from the Coast Guard website: http://www.ccg-gcc.gc.ca/e0003901

2.2.4.4 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.

2.3 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 is available to all fishermen who want to improve their understanding of stability and find practical application to their vessel's operation. The 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 Gina McKay, Project Coordinator John Krgovich, Program Assistant, Connor Radil, and 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 WorkSafe BC to improve the fishing injury claims process. For further information, contact:

Gina McKay	Phone: 604-261-9700
Program Manager	Cell: 604-339-3969
Fish Safe	Fax: 604-275-7140
#2, 11771 Horseshoe Way	Email: fishsafe@fishsafebc.com
Richmond, BC V7A 4V4	www.fishsafebc.com

2.4 WorkSafe BC

Commercial fishing is legislated by the requirements for diving, fishing and other marine operations found in Part 24 of the Occupational Health and Safety Regulation (OHSR). Many general hazard sections of the OHSR also apply. 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 investigation issues. Part 3 of the Workers Compensation Act (WCA) 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 WorkSafe BC website: www.worksafebc.com

For further information, contact an Occupational Safety Officer:

Shane Neifer - Terrace	(250) 615-6640
Bruce Logan - Lower Mainland	(604) 244-6477
Wayne Tracey - Lower Mainland	(604) 232-1960
Pat Olsen - Courtenay	(250) 334-8777
Mark Lunny - Courtenay	(250) 334-8732

or the Manager of Interest for Fishing, Mike Ross (250) 881-3419.

For information on projects related to commercial fishing contact Ellen Hanson (604) 233-4008 or Toll Free 1-888-621-7233 ext. 4008 or by email: Ellen.Hanson@worksafebc.com.

2.5 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 2012, the TSB released the results of a three-year investigation into fishing safety in Canada. This report identifies 10 key factors and makes several suggestions to address the problems that persist throughout the industry. In 2013 the TSB released investigation reports on two prawn fishing vessels; the Jessie G and the Pacific Siren. In 2014 the TSB released the investigation report on the collision between fishing vessel Viking Storm and US fishing vessel Maverick.

For more information about the TSB, visit our website at www.tsb.gc.ca. For information about the TSB's investigation into fishing safety, or to view a brief video, visit http://www.tsb.gc.ca/eng/medias-media/videos/marine/m09z0001/index.asp.

To view 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 - 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. TSB 1808 Form

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: ROCKFISH CONSERVATION AREAS

A total of 164 Rockfish Conservation Areas (RCAs) have been implemented coast wide to protect inshore rockfish species (which include yelloweye, quillback, copper, china and tiger).

Descriptions including maps of the RCAs can be found online at:
http://www.pac.dfo-mpo.gc.ca/fm-gp/maps-cartes/rca-acs/index-eng.htm
or check with your local Fisheries and Oceans Canada office for more information.

Permitted Fishing Activity in Rockfish Conservation Areas

The following fishing activities **will be permitted** in RCAs:

RECREATIONAL	COMMERCIAL
Invertebrates by hand picking or dive	Invertebrates by hand picking or dive
Crab by trap	Crab by trap
Prawn by trap	Prawn by trap
Smelt by gill net	Scallops by trawl
	Salmon by seine or gill net
	Herring by gill net, seine and spawn-on-kelp
	Sardine by gill net, seine and trap
	Smelt by gill net
	Euphausid (krill) by mid-water trawl
	Opal Squid by seine
	Groundfish by mid-water trawl

Recreational and commercial fishing activities not listed in the tables above are not permitted.

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.

APPENDIX 4: POST-SEASON REVIEW 2014

4.1 Conservation/Sustainability Objectives

NOTE: The objectives shown in bold below is the wording from the 2014/15 Integrated Fisheries Management Plan.

4.1.1 Rivers and Smith Inlet Sockeye

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

The objective for Smith Inlet sockeye remains to rebuild these stocks to escapements of over 100,000 adults before considering commercial or sport fishing opportunities. Docee Fence counts will be instrumental in determining when the escapement goal is attained.

4.1.2 Skeena River Sockeye

The objective for Skeena River sockeye is to maintain sustainable stocks that will meet WSP objectives and support FSC, commercial and recreational harvests.

The preliminary post-season estimate of the Skeena Sockeye total return for 2014 was 3.11 million (2.86 million total return to Canada). The preliminary post-season estimate of escapement past the Tyee test fishery was 2.32 million and the in-season estimate at Tyee was 2.16 million.

The 2014 Skeena sockeye directed commercial fisheries harvested 508,011 sockeye. Recreational daily limits for sockeye were originally set at 2 per day but increased to 4 per day in marine Areas 3, 4 and 5 and in the Skeena River. Recreational daily limits for sockeye in Babine River were set at 2 per day and in Babine Lake were set at 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 2014 is 120,054. In addition, 95,771 sockeye were harvested in Skeena River First Nation Inland Demonstration Fisheries and a further 484,761 sockeye were harvested in the Babine Lake ESSR fishery.

4.1.3 Coho

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 2014 was well above recent year averages in the north coast and near average in the central coast. Coho retention was permitted, based on in-season abundance indices, in commercial net fisheries in Areas 3, 4 and 6 in 2014. The Area F troll fishery harvested approximately 180,000 coho in portions of Areas 1 to 5 and associated offshore areas.

4.1.4 North Coast Chum

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 2014. There were no commercial net fisheries that targeted wild chum from Areas 3 to 6 in 2014. 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. Chum otoliths collected from this portion of the fishery have been analysed for hatchery thermal marks to confirm the high proportion of hatchery fish.

4.1.5 North Coast Chinook

The objective for West Coast of Vancouver Island (WCVI) chinook is to manage Canadian ocean fisheries to an exploitation rate of 10%. The Canadian ocean fisheries measured in the exploitation rate objective for WCVI chinook includes Northern BC Troll, Haida Gwaii Sport, WCVI Troll and WCVI Sport fisheries. The objective for the Northern Troll fishery is to manage in accordance with the allocation policy, and to limit the harvest rate on WCVI chinook to a maximum of 3.2% of the return to Canada.

The 2014 forecast of WCVI chinook returning to Canada was 221,600. The total Area F Troll chinook catch in 2014 was 172,001 pieces which contained 6,562 WCVI chinook estimated from DNA analysis of the catch. The post-season reconstructed WCVI return to Canada in 2014 was estimated at 182,517 chinook salmon. The harvest rate on the return to Canada was 3.6 % measured using DNA. The post season exploitation rate on WCVI chinook by the NBC troll fishery was 2.7% measured using CWT's.

Since 2001, the exploitation rate by the Northern troll fishery has averaged 2.6%. Exploitation in other non-terminal Canadian ocean fisheries was 23.3% in 2014 and has averaged 12% since 2001. Total United States exploitation (in Southeast Alaska troll, net and sport fisheries) on these populations was 27.6% in 2014; the average since 2001 has been 18.5%.

4.1.6 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. A fishing mortality rate of less than 2.0 percent (all Pacific Region fisheries) will be required to achieve this objective.

To ensure stock rebuilding over time, Rockfish Conservation Areas, (RCA's, no fishing zones for gear that impact on rockfish), have been implemented within the Strait of Georgia and in all outside waters including Haida Gwaii. 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.

4.2 First Nation 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 "An Allocation Policy for Pacific Salmon."

Skeena River First Nations FSC harvests were average due to average returns of Skeena sockeye in 2014. Some Coastal First Nations have expressed concerns over issues with FSC access to sockeye during commercial fisheries. DFO is currently working with these First Nations on harvesting conditions that will allow for consistent FSC access to sockeye and other species of salmon throughout the commercial season.

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.

4.3 Recreational and Commercial Objectives

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

Recreational salmon opportunities were maintained for all species of salmon. Commercial opportunities were provided for Nass and Skeena First Nations inland demonstration fisheries while ensuring sustainability in accordance with the Wild Salmon Policy. Demonstration fisheries were successfully implemented for the Nisga'a and Gitanyow First Nations on the Nass River, and for the Gitxsan and Lake Babine First Nations on the Skeena River.

4.4 International Objectives

The objective is 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, pink, 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

4.5 Domestic Allocation Objectives

The objective is to manage fisheries in a manner that is consistent with *An Allocation Policy for Pacific Salmon* and the 2014 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.

The pre-season commercial salmon allocation plan for 2014 resulted in projected coast-wide salmon shares as follows: 40% seine; gill net 39% and 21% troll. A final analysis in 2014 has not been completed at this time.

4.6 Enhancement Objectives

The Salmonid Enhancement Program (SEP) enhances chinook, chum, coho, pink and sockeye salmon at the population level throughout the Pacific Region by responding to local, regional and international production objectives that aim to recover or rebuild populations or provide targeted harvest opportunities.

Refer to the link below for information regarding 2013 brood (i.e. 2014 releases, and numbers on hand for 2015 release) enhancement production:
http://www.pac.dfo-mpo.gc.ca/sep-pmvs/ifmp-pgip-eng.html

4.7 Compliance Management Objectives

Inspections are carried out on vessels, buying stations, processors, transporters, cold storage facilities and brokers. The results of the inspections and the effort consumed are recorded in a database. This information is reviewed to evaluate where compliance objectives have been met and if the compliance strategies were effective. Narrative information is also collected and shared. Compliance rates are calculated for each area and fishery but it must be recognized that these are subjective. Using the information collected in-season and during post-season activities, priorities are revalidated and adjustments made as necessary.

APPENDIX 5: NORTHERN B.C. / SKEENA RIVER FIRST NATIONS FISHING PLAN

5.1 Catch Monitoring and Reporting Initiative

The Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (see Section 1.6.4) is being applied in First Nation FSC fisheries across the region including First Nation FSC fisheries. 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 Nation Band offices.

5.1.1 First Nation Electronic Reporting System

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 and expected completion date is early 2016.

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

5.1.2 Chinook and Coho Coded Wire Tag (CWT) Sampling – Salmon Head Recovery Program

CWT target sample rates are established by the Department to meet bilateral Pacific Salmon Treaty standards. In 2015, 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. In 2015 where needed, the Department will:

1. Sample the entire catch and collect all heads that contain CWTs from 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 individual submissions of chinook or coho heads to catch monitors or to First Nations Salmon Head Depots. Sample rates are 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. All hatchery-marked Chinook and Coho do not 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, one label may be placed in a sealed bag with multiple heads.

3. Provision of catch information (# 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 a federal government contractor or by Department employees. Catch information will be provided to individuals and First Nations when CWT dissection results are available.

In 2015, DFO will be focusing efforts on CWT sampling on:

1. Improvements to communication of the requirement to collect CWT samples
2. Improvements to integration of CWT sampling in First Nations catch monitoring programs
3. Expansion and improvements to servicing requirements of First Nations Salmon Head Depots, as needed
4. Improvements in efficiency and timeliness of communications to anglers about their catch using email communications.

For additional information or locations of First Nations Salmon Head Depots,
PHONE: Salmon Head Recovery Program 1-866-483-9994 (toll-free)

5.2 Specific Conservation Measures

When a conservation concern has been identified for an individual stock that is harvested by First Nations, then consultation is undertaken to adapt the fishing plan to provide the necessary protection to the weak stock.

5.3 Communal Licence Harvest 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 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.

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 license 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 the north and central coast of B.C. are outlined in Table 5-1 below. Actual opportunities and catches will be dependent on, among other factors, in-season assessments of actual stock strength and 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 5-1. 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

5.4 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. 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 economic opportunities for First Nations are on-going with First Nations and stakeholders. For 2015, 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 food, social and ceremonial fisheries, under similar rules as the commercial fishery and fish harvested will be off-set with licences voluntarily relinquished from the commercial fishery.

5.5 Inland Demonstration Fisheries

See Nass River Sockeye Inland Demonstration Fishery, section 7.4.3, and Skeena River Sockeye Inland Demonstration Fishery Management Plan, section 7.5.3.

5.6 Treaty Fisheries

Nisga'a Fisheries

The Nisga'a 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 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 Minister, 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 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 Final Agreement (NFA), 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 (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 2015 are:

a) Nass Sockeye: The Total Run size probability point estimate from a pre-season sibling-regression model is 727,000 (50%) with a range in point estimates between 653,000 (75%) and 810,000 (25%). Assuming a 23% Alaskan exploitation rate (based on the average of run reconstructed odd-years from 2000 to 2013 = ~165,000 Nass Sockeye), the 50% probability point estimate for the Total Return to Canada (TRTC) of Nass Sockeye is **562,000** with a range of point estimates from **504,000 (75% probability) to 626,000 (25% probability)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**100,000**), the Nisga'a allocation ranges between **86,000** and **110,000**. The mean TRTC estimate (**562,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (~**98,000**). The actual allocation target for Nass Sockeye may be larger (up to **119,000**), depending on run strength, to account for the current cumulative underage (**~14,000**) of Nass Sockeye accrued from 2000 to 2014 and an adjustment of species composition conversion to Sockeye equivalents (~7,000) to account for a portion of the cumulative underage of Nass Area Chum (15,000 of 30,000 accrued) as per the NFA (Schedule C) and agreed to by the Joint Fisheries Management Committee (JFMC). The cumulative underage and adjustment for species composition conversion would only be targeted in a productive return year as assessed during the season;

b) 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 **800,000** with a range of point estimates from **480,000 (75% probability estimate) to 1,300,000 (25% probability estimate)**. Based on the pre-season TRTC forecasts and the minimum escapement goal (**150,000**), the Nisga'a allocation ranges between **40,000** and **172,000**. The mean TRTC estimate (**800,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (~**90,000**) of Nass Pink. There are no cumulative underage or overage accrued from 2000 to 2014 for consideration of in-season allocations of Nass Pink for 2015;

c) 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 29,000 (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 **6,000**. The mean TRTC estimate (**24,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (~**5,000**). The actual allocation target, depending on run strength, may be larger (up to ~**13,000**), to account for the current cumulative underage (**~8,000**) accrued from 2000 to 2014. The cumulative underages would only be targeted in a productive return year as assessed during the season;

d) Nass Coho: The TRTC 50% probability point estimate from a 5-year average pre-season forecast method is **261,000** with a range of point estimates from **158,000 (75% probability estimate) to 431,000 (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 **12,600** and **19,200 (maximum limit)**. The mean TRTC estimate (**261,000**) will be used for calculating the initial target for the in-season Nisga'a allocation (**19,200**). The actual allocation target may be larger (up to ~28,000), depending on run strength, to account for the current cumulative underage (**~9,000**) accrued from 2000 to 2014. The cumulative underage would only be targeted in a productive return year as assessed during the season; and

e) Nass Chum: The TRTC 50% probability point estimate from a 5-year average pre-season forecast method is **15,000** with a range of point estimates from **11,000 (75% probability estimate) to 20,000 (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 (<500) will be incidental by-catch harvest only. The mean TRTC estimate (**15,000**) will be used for calculating the initial target for the in-season Nisga'a allocation **(<500**). Due to the poor returns of Nass Area Chum since 2007, opportunities to reduce the cumulative underage of Nass Area Chum accrued from 2000 to 2014 (30,000) have not been possible under past return run strengths and forecasted into the future. Therefore, the JFMC have proposed for a portion of the cumulative underage of Nass Area Chum (15,000 of 30,000) to be converted to Sockeye equivalents (~7,000) as per NFA Schedule C to reduce the cumulative underage of Nass Area Chum that accrued from 2000 to 2014.

APPENDIX 6: NORTHERN B.C. / SKEENA RIVER RECREATIONAL FISHING PLANS

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.*

Detailed information on tidal and freshwater salmon sport fishing regulations are found online (bcsportfishingguide.ca).

To sign up to have recreational fishery notices sent directly to your email, please visit our website (bcsportfishingguide.ca), 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/rec-vision-eng.pdf

6.1 Catch Monitoring and Reporting Initiative

The SFAB has been working with DFO on initiatives to strengthen fishing monitoring and catch reporting in the recreational fishery for a number of years and has developed a plan to meet the objectives of the Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries (see section 1.6.4).

Recreational harvesters may be requested by a Fishery Officer or designated DFO representative, such as a creel interviewer, to provide important catch and effort information or biological samples either on the water or at the dock. Catch and Effort information is used to estimate recreational harvest of finfish in marine waters and salmon in fresh waters throughout BC. A recreational mail survey is also conducted nationally by DFO every 5 years to collect recreational fishing information. The Department has also been conducting a monthly Internet Recreational Effort and Catch (iRec) survey since July 2012 with the aim of eventually using it to provide monthly estimates of effort and catch from all methods of recreational fishing, including angling, trapping, beach collecting and diving for all sport caught species. Because the iRec survey is a new method, it is undergoing a scientific review in 2015 through the Canadian Science Advisory Secretariat (CSAS) prior to the results being incorporated and released publically.

Information on the internet recreational survey is available at: http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/irec/index-eng.html

Since 2013, recreational harvesters have been required, as a condition of the Tidal Waters Sport Fishing Licence, to 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.

In addition to the monthly iREC survey, a separate online survey conducted annually requests catch records of 20,000 licence holders. These licence holders were asked to provide the catch records as written on their licences for halibut in 2014 and for chinook, lingcod and halibut in 2015. Information on the Annual Recreational Catch (iARC) survey is available at: http://www.dfo-mpo.gc.ca/fm-gp/rec/irec/iarc-eng.html.

6.1.1 Chinook and Coho Wire Tag (CWT) Sampling – Recreational Fisheries Salmon Head Recovery Program

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, all hatchery-marked chinook and coho do not 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, one label may be placed in a sealed bag with multiple heads.
- Provision of catch information (# 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. In 2015, 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. Catch information 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.

In 2015, DFO will be modernizing its approach to CWT sampling in recreational fisheries, focusing on:

1. Improvements to communication of the ongoing requirement to collect CWT samples,

2. Improvements to servicing requirements at Salmon Head Depots, and

3. Improvements in efficiency and timeliness of communications to anglers about their catch using email communications.

The Department-delivered prize draw will not be continuing in 2015.

For additional information or locations of Salmon Head Depots:
PHONE: Salmon Head Recovery Program 1-866-483-9994 (toll-free)
SEARCH: DFO Salmon Head Recovery

6.1.2 Recreational Electronic Logbooks

The development of an improved catch monitoring regime will continue to be a priority in the management of recreational fisheries. The Department of Fisheries and Oceans is working with the Sport Fishing Advisory Board to develop catch monitoring standards and logbook systems for the recreational fishery.

Since 2007, the Department has been working with the Sport Fishing Institute of B.C., 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. Available free of charge to the Recreational community are 3 components to the Rec E-Log:

1) On-water or Mobile Component – This component can be installed on any smartphone device (Blackberry, Android, etc.). Catch and other fishing information are captured by GPS location at sea, by individual fish. Data can be sent from the device or exported to the Lodge Component.
2) Dockside Component – Captures catch and other fishing information at the dock as fishers and guides return from fishing.
3) 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 entered with a GPS location. Data from this component can be easily sent to the Department.

In 2015 the Department will continue to collaborate with the Sport Fishing Institute and the local Sport Fishing Advisory Boards to develop an electronic solution for fishery monitoring and catch reporting.

APPENDIX 7: NORTHERN B.C. / SKEENA RIVER COMMERCIAL FISHING PLAN

7.1 Catch Monitoring and Reporting Initiative

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 pilot programs were developed to address deficiencies that have been identified with the minimum requirements. These pilot programs will continue in 2015 with revisions to update the 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 pilots at this time are listed below. Competitive (full-fleet) fisheries will be expected to implement pilot catch monitoring programs in the following areas:

In the North Coast in 2015, pilot catch monitoring programs will continue to be in place for gill net fisheries in Areas 3 to 5 and for seines in Areas 3 and 6. The intention of these pilot programs is to provide more accurate and timely in-season landed catch information to managers through the electronic reporting of catch information. In addition, at-sea observers will be deployed in these fisheries at times to provide independent monitoring of at-sea releases.

7.2 Mandatory Coded Wire Tag (CWT) Sampling

Sampling for CWTs is a mandatory catch monitoring requirement for commercial chinook and coho retention fisheries that intercept CWT indicator stocks. In 2015, Fisheries and Oceans Canada will sample the entire catch and collect all heads that are contain a CWT from randomly selected vessels at fish landing stations using designated observers (federally-contracted Mark Recovery Program (MRP) CWT samplers).

CWT target sample rates are established by DFO to meet bilateral Pacific Salmon Treaty standards for statistically significant data. In 2015, the minimum required sample rate will be 20% of the estimated catch for troll and mixed stock net fisheries and 15% of the estimated catch for terminal net fisheries. 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.

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 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.

Retention of Freezer Troll Chinook and Coho Heads: These requirements apply to all Area F troll licences, unless the license is listed in a fisheries notice that identifies the Area F troll licenses that are exempted from retaining salmon heads during the 2015 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.

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 from the following locations:

(i) Commissionaire, 2nd floor reception, 200-401 Burrard St., Vancouver

(ii) Commissionaire, main entrance, 3190 Hammond Bay Rd., Nanaimo

(iii) Front counter, main entrance, 150-1260 Shoppers Row, Campbell River

(iv) Front counter, main entrance, 4706 Tebo Ave., Port Alberni

(v) Front counter, main entrance, 8585 Wollason Rd., Port Hardy

(vi) Front counter, 417 2nd Ave W, Prince Rupert

(vii) Front counter, 137 Bay St., Queen Charlotte City

(viii) Front counter, 12551 No. 1 Road, Steveston; and

(ix) Front counter, 4250 Commerce Circle, Victoria

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.

For complete head retention requirements, trollers freezing their catch should refer to their conditions of license.

7.3 Implementation

Due to the 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 harvest abundant salmon stocks while minimizing the incidental harvest and by-catch of those stocks that are at less than abundant levels.

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.

In 2015, DFO will continue 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-especes/salmon-saumon/pol/index-eng.html.

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.

7.4 Commercial Salmon Allocation Implementation Plan

This section describes the commercial salmon allocation implementation plan. Approved updates based on recommendations received are included in this plan. An overview of the process to update the CSAF as well as further detail on recommendations approved and items for further discussion are outlined in Appendix 8 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 Area A-H 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 Nation 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 production areas have been approved to clarify sharing arrangements associated with the Pacific Salmon Treaty for troll harvests of AABM chinook and AB line pink fisheries.

SOCKEYE

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% gillnet
[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
[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%

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 develops. 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** >>

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** >>

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 to 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 D (e.g. Conuma Bay fishery); potential 5% to E if future surplus at Nitinat; otherwise default to D)

[j]winter troll fishery

7.5 Test Fishing

DFO uses a range of methodologies to determine in-season stock abundance and composition. Historically, test fisheries have played an essential role in collecting the data necessary to set user TACs and to ensure that conservation objectives are met. 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 list of salmon projects proceeding in 2015 are the same as those in 2014. For Northern B.C., a change from 2014 is that the Pacific Salmon Commission Secretariat will no longer be administering the Skeena gillnet all species test fishery. This test fishery will be administered via collaborative agreement with the North Coast Skeena First Nations Stewardship Society.

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

7.6 Licence Application and Issuance

The 2015/16 salmon licensing period encompasses April 1, 2015 to March 31, 2016. Licence renewal and payment of fees is mandatory on an annual basis prior to the expiry date of each fishery, in order to maintain the eligibility to be issued the licence in the future. Please note the licence eligibility will cease if it is not renewed annually. Please see p. 14 for details of the new online licensing system.

Prior to annual licence issue, vessel owners must ensure that:

a) Any Ministerial conditions placed on the licence eligibility have been met;
b) Any conditions of the previous year's licence have been met, such as:
   i. Submission of all harvest logs or a nil report for 2012 (for further information contact the Salmon Catch Monitoring Unit at 250-756-7279 or 250-756-8385); and

ii. Submission of all fish slips for 2013 (for further information contact the Regional Data Unit at 604-666-2716).

For further licensing information see:
http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/index-eng.html

7.6.1 Fisher Identification Number (FIN)

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

7.7 Mandatory Log-Book and In-season Catch Reporting Program

7.7.1 Commercial Harvest Logs and Electronic Logbooks (E-Logs)

There is a mandatory log-book and in-season reporting program for catch information for all commercial fisheries. Commercial salmon harvesters shall maintain a harvest log of all harvest operations. Harvest logs are a record of fishing activities and are required to be kept under commercial conditions of licence and applies to both hard copy (paper) versions and electronic (E-Log) versions unless otherwise specified. To facilitate reporting of information, harvesters may enlist the services of an approved third party service provider or as an alternative, make arrangements to participate in the Department's Electronic Logbook (E-log) program. Participants in the E-Log program will not be required to also have a log book.

DFO is now advancing an initiative to expand the current commercial e-log initiative to a national program. The vision of the project is to develop and implement, over a phased multi-year approach, a national integrated electronic catch and effort system designed to enable ongoing solutions for the fishing industry to meet their evolving data capture and traceability needs. Under a national e-log system, DFO will no longer fund regional specific software programming. DFO will develop specific standards for e-log software in partnership with the Canadian General Standards Board (CGSB) along with and a certification process to ensure that all e-logs software meets these standards. Harvesters can continue to use their e-logs as long as no software changes are required to meet licence conditions. If software changes are required to meet licence conditions, harvesters can select to use paper logbooks or arrange to pay for any associated costs for software updates with a service provider.

7.8 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 will be 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.

7.9 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

7.10 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:

1. Nets may be hung without a weed line (corkline to web distance 0 to 45 cm) to a maximum of 60 meshes deep.
2. 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 0.8 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).
3. Between July 13 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.

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.

7.11 Retention of Lingcod by Salmon Troll

To help meet the conservation and sustainability objectives under groundfish integration, an individual quota (IQ) system has been established for the Lingcod fishery. Initial allocation of quota was based on catch history from 1996 to 2003 as this time period coincided with the Dockside Monitoring Program. For those who have fished Lingcod in conjunction with salmon during the qualifying years, fish slips were used to determine catch.

Implementation of a commercial groundfish integrated fishery has management implications 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 their catch.

Requirements include the following [less than 500 lbs (round weight) of lingcod per trip]:

- Vessel must have sufficient IVQ;
- Transportation requirement – All lingcod must be transported by the licensed vessel either directly to land or to a fish pen;
- Hail in and Hail out requirements through the designated service provider;
- Specific locations and times at which landing of fish is permitted; and
- 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. Please consult the Groundfish Integrated Fisheries Management Plan for more information.

Pilot Bocaccio Rebuilding Measures in Salmon Troll

Based on updated science information, the Department is pursuing bocaccio catch reductions from 2012 catch levels of approximately 137 tonnes (inclusive of trawl, groundfish hook and line, salmon troll, and recreational sectors) to 75 tonnes over the three year period of 2013/14 to 2015/16, in order to support stock rebuilding. The bocaccio mortality cap for the salmon troll fishery is 4.7 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 at: http://www.pac.dfo-mpo.gc.ca/fm-gp/mplans/2014/ground-fond/ground-fond-2014-a9-eng.pdf

7.12 Selective Fishing/Conservation Measures

In 2015, the Department will work with the 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.

Skeena River August Gill Net Fisheries

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 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 judgement 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.

The commercial gill net fleet is reminded that the success of this selective fishery is critical to their future access to Skeena sockeye. In-season decisions on further fishing days will be directly dependant on compliance to the above restrictions.

7.13 Catch Monitoring Standards

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.

For 2015, the following will be implemented in fisheries identified for catch monitoring pilots (Area A Seine: PFMA 3 and 6; 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
- 20% independent verification of landed catch through a designated service provider
- Deployment of at-sea observers

Additional details on the catch monitoring pilots are being finalized and will be communicated via Fisheries Notices, and the 2015 Conditions of Licence.

7.14 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 improves product quality, increases value to the fleet and have better catch monitoring and compliance with catch limits.

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.

Demonstration projects are being planned for implementation in 2015. These include

- Area 4 seine sockeye individual transferable quota (ITQ) please see Section 7.5.3,
- Area F chinook (ITQ) please see Section 7.13
- Nass inland demonstration fishery, please see section 7.4.3, and the
- Skeena inland demonstration fishery, please see section 7.5.3.

7.15 Interim Guidelines for Temporary Commercial Salmon Share Transfers

The Department plans to apply the following operational guidelines for assessing requests for the temporary transfer of commercial salmon shares for 2015. Transfers of commercial salmon fleet allocations within the regular commercial fishing areas fleet (licence areas A through H) will continue to be guided by *An Allocation Policy for Pacific Salmon 1999* (Allocation Policy). However, see Appendix 8 for proposed changes to the Commercial Salmon Allocation Framework.

The following types of commercial salmon share "transfers" are addressed by this guidance:

- Transfer of salmon shares between any of the following groups:
  - Marine Demonstration Fishery participants
  - In-river Demonstration Fishery participants
  - First Nations with communal licences allowing sale; and/or
  - First Nations with Harvest Agreements for salmon

When there is a formal arrangement (agreed to by DFO) between the original share-holders and the recipient. Requests have involved transfer from downstream to upstream locations, and vice versa. See section B below for more information on eligibility.

- Transfers of uncaught commercial Total Allowable Catch (TAC) allocations from regular commercial fleets to First Nations who have in in-river Demonstration Fisheries, communal licences allowing sale that year, or a Harvest Agreement for salmon, or vice versa, where there is no arrangement between the original allocation holders and the recipient. In these cases, DFO would make a decision on whether to allow a requesting group to access some or all of the uncaught TAC.

DFO recognizes that approaches for utilization of uncaught commercial TAC are an area of significant discussion in the context of the Commercial Salmon Allocation Framework development process, and that there are differing views on how to address such requests.

Requests for temporary transfers of commercial salmon shares involving watershed areas upstream of regular commercial fishing areas 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 Involving In-river Areas:

1) Result in improvement of management control and/or conservation performance in the fishery (both for target and bycatch 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) Consistent with *An Allocation Policy for Pacific Salmon (1999)* in areas where the allocation policy applies, including respecting recreational priorities as identified in the policy.

7) Respect the Common property nature of the fisheries resource: access to the resource does not imply ownership of the resource or any portion of the resource.

8) Support opportunities to utilize Canadian commercial total allowable catch while respecting conservation requirements.

9) Commercial fishery arrangements for First Nation and regular commercial fisheries will be managed under common and transparent rules. For example, commercial category "F" licences will be managed in accordance with the same rules as the regular commercial fishing fleet which they are part of.

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 In-River Transfers:

- 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.
- 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.
- Only First Nation entities who are signatories to arrangements providing a defined percentage commercial share of salmon TAC for the given year (i.e. Economic Opportunity agreement, Harvest Agreement and/or Demonstration Fishery access) and regular commercial licence holders with a defined percentage share of TAC (i.e. via a commercial marine Demonstration Fishery) can participate in a share transfer arrangement.
- In most cases, transfers will be based on a percentage share of the available commercial TAC. Alternate TAC-based approaches for calculating transfer shares may be considered as indicated in this management plan or with approval from the RDG.
- For share transfers between regular 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. Proposed transfers arrangements from commercial fisheries and/or shareholders (whether individual or fleet-wide) will take into account Area Harvest Committee involvement and support in their development.
- DFO will not be responsible for leading or facilitating the negotiation of transfer arrangements between parties.

- 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).
- If after spawning escapement objectives are met, and despite best efforts, it becomes apparent that an existing commercial shareholder is 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 in-river First Nations already holding a clearly defined percentage share of the Canadian commercial total allowable catch, on a case by case basis.
- Transfers of commercial salmon allocations must consider shares of all stocks that will be harvested in the recipient area.
    - 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 transferred to the Kamloops Lake inland demo fishery will be only for the proportion of Thompson chinook encountered in the marine commercial troll fishery).
    - 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 co-migrating stocks 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).
    - 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.
- 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.
- 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.
- Proposals for transfer arrangement must include contingencies for situations where shares are exceeded. Parties not complying with agreed-to arrangements could face enforcement actions.

- 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.
- 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.

7.16 North Coast Net - Net Fishing Times

All north and central coast net fisheries, with only a few exceptions, will normally be restricted to daylight hours (no longer than 16 hours per day; progressively shorter as the daylight hours get shorter).

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 each fishery.

All dates are anticipatory only. Subareas open and hours of fishing will be announced in fishery notices prior to openings.

7.17 Seine Fisheries

All seine fisheries unless otherwise authorized will be conducted with mandatory brailing and sorting of the catch. Specific restrictions such as the specifications of revival tanks are found in the Conditions of Licence. Fishers are urged to read these conditions carefully to ensure that their vessel and fishing techniques are in accordance with their licence. When moving between areas with different non-retention and non-possession rules, seiners must offload prior to fishing in the area they are moving to.

7.18 Anticipated Net Opening Dates

Area 1
No gill net or seine fisheries will be directed on passing stocks.

Odd year return pinks are very weak. Therefore terminal net openings are not expected in 2015.

Mid-September to October: Possible terminal fisheries directed on identified surpluses of local chum stocks.

Area 2E & 2W
No gill net or seine fisheries will be directed on passing stocks.

Odd year return pinks are very weak. Therefore, terminal net openings are not expected in 2015.

Mid-September to October: Possible terminal fisheries directed on identified surpluses of local chum stocks.

Area 3
June 9: First anticipated gill net fishery, but may vary depending on run size. Maximum mesh size 137 mm (5.39 in). This fishery will assess the returning Nass River sockeye run.

July 6: 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 abundant.

Area 4 & 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. Targeted gill net fisheries for Skeena chinook are planned with advisors from the Area C Harvest committee. Openings for chinook in 2015 will occur between the second week of June to June30th.

Area 6
Gill net openings will be dependent upon in-season assessments of hatchery chum returns to the Kitimat River.

July 13: First anticipated seine opening; areas open will be determined in-season. Minimum bunt mesh size 70 mm. Catch rates in this fishery will be used to indicate returning abundances of pink salmon to Area 6.

Area 7

July 27: First anticipated gillnet 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 to 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 Channel 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 8
June 01: 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 in).

June 29: Anticipated chum gill net opening in the Bella Coola gillnet area and Fisher Channel/Fitz Hugh Sound. Minimum mesh size 158 mm (6.22 in).

July 13: First anticipated seine opening in Fisher Channel/Fitz Hugh Sound. Minimum bunt mesh size 70 mm (2.76 in).

July 11 to August 15: Weedlines are in effect in upper 8-5 (Fisher Ch) and 8-8 (Upper Dean Ch).

Area 9
No anticipated openings.

Area 10
No anticipated openings, but dependent on in-season assessment.

7.19 Northern Troll

All dates are anticipatory only. Subareas open and hours of fishing will be announced in fishery notices prior to openings.

Chinook:
Please note: all chinook must be validated within 5 days of a chinook closure.

The troll fishery is limited in 2015 to 117,400 chinook. This equates to 493 chinook for each of the approximately 238 Area F trollers based on an ITQ of 1/238 (i.e. 0.420%). 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 5-2 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 an August closure 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 ITQ licences which equates to 1.261% of the TAC or 1,480 chinook in 2015. 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.

Sockeye:

Retention of sockeye salmon will be permitted as a by-catch.

July 1 – AB Line fishery. Open to retention of sockeye as by-catch in the targeted coho fishery within subareas 101-4, 101-5, 101-8, 101-9 and those portions of Subarea 101-3 north of 54 degrees 24 minutes north latitude and east of 133 degrees west longitude.

July 10 – Open to retention of sockeye as by-catch in the targeted coho fishery within:

The retention area is similar to the coho fishery area listed below except sockeye is closed west of Haida Gwaii such as those portions of Subareas 101-3 and 101-6, west of 133 degrees west longitude to avoid Fraser Sockeye migrating south.

Pink:
Retention of pink salmon will be permitted in conjunction with troll openings targeting other species as follows:
June 21 - Targeted Chinook ITQ opening.

July 10 – Targeted coho fishery opening. See coho section for details.
If abundances permit, a troll pink fishery in Area 3 could be conducted.

Coho:
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 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.

Retention of freezer troll salmon heads

Chinook and coho
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 2014 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 has led to the requirement that 50% of the Area F troll fleet retain salmon heads. This head retention rate was required to ensure that Canada met its obligation to sample a minimum of 20% of the troll catch for the presence of CWT's as outlined in the Pacific Salmon Treaty.

In recent years, salmon head recovery by the Area F troll fleet has improved allowing for a reduction in the number for vessels that retain salmon heads. In 2013, approximately two thirds (66%) of the Area F troll fleet was exempted from bringing in chinook and coho heads.

For 2015, the exemption rate will be between 67% and 75%, both because improved compliance continued in 2014. As in past seasons, licences that were insufficiently diligent in carrying out their obligation to bring in all chinook and coho heads in a satisfactory condition will not be exempted in 2015.

Chum
Chum retention will not be permitted in 2015.

APPENDIX 8: UPDATES TO THE COMMERCIAL SALMON ALLOCATION FRAMEWORK

Introduction and Purpose

The purpose of this appendix is to make you aware of updates to the commercial salmon allocation framework (CSAF) that will be in place starting in 2015. An overview of the process to update the CSAF, as well as further detail on the recommendations approved by the Department and items for further discussion are described below.

For details on approved shares by fleet, species and fishery production area and associated principles and guidelines for harvest, please refer to the Commercial Salmon Allocation Implementation Plan in Appendix 7 (Section 7.4).

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 interested First Nations and commercial interests 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 IFMP and further feedback on these were sought in the fishery planning process. A summary of the recommendations to change the CSAF and next steps are outlined in this appendix. Additional background and detail on proposed recommendations to update the CSAF suggested by the SCC and CSAB are available through the following links.

- For background information including the Terms of Reference on the CSAF work see: http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html.
- Summaries of each phase of this work, including submissions from the SCC and CSAB on proposed updates can be found at the following links:
    - Phase 1 report (http://www.dfo-mpo.gc.ca/Library/353131.pdf)
    - Phase 2 report (http://www.dfo-mpo.gc.ca/Library/354370.pdf)
    - Phase 3 report (*under development; when completed this report will be available at* - http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html)
    - SCC and CSAB recommendations: http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html

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).

Prior to 2015, the CSAF was an arrangement that shared the total value of the annual commercial salmon harvest to achieve a coast-wide ratio of 40% seine (Areas A and B); 38% gillnet (Areas C, D and E); and 22% troll (Areas F, G, and H). Each of the 5 salmon species was converted into their value relative to sockeye (sockeye equivalents). The total value of all salmon species expected to be harvested each year (after making allowances for constraints, such as conservation of co-migrating populations) was determined and then divided among the A-H fleets. The intent was to achieve as close to the coast-wide gear shares (40:38:22) as possible.

Commercial salmon licences voluntarily relinquished for transfer to First Nations through DFO programs (such as PICFI or ATP) and transferred to First Nations have been and will continue to be permitted to be fished in existing Area A-H commercial fisheries. In addition, some of these commercial licences are held in the DFO inventory and used to provide economic access in First Nations fisheries.

The Department began the update process to address concerns from the CSAB and First Nations that the current CSAF was deficient: It's annual requirement for adjusting allocations was thought to be destabilizing; the coast-wide gear shares arrangement did not reflect the locally based approach to fisheries management; and it was seen by a number of harvesters as providing a disincentive to add value to catches.

DFO role in the 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 was 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 must be consistent with this direction.

What changes to the CSAF have been approved?

For simplicity, the updates to the CSAF that have been proposed by the SCC and the CSAB and considered by the Department are organized into three categories:

1) Stabilizing commercial shares; 2) Flexibility to harvest shares; and 3) Additional elements for future discussion.

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 Appendix 7, Section 7.4;
- 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 in that commercial licence area (i.e. Areas A to H); and
- A central, common tracking system will be 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 current 22 fishery production areas, three new areas have been added 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.

Further considerations on *Stabilizing Commercial Shares*

In addition to the three additional production areas which have been 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 areas has not been approved at this time, 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.

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 will form the basis for the incremental testing of flexibilities to harvest shares that may be piloted starting in 2016 pending development of a revised collaborative advisory process and a Departmental evaluation framework (these are described in more detail under "future considerations on flexibilities" below):

- Greater flexibility, such as fishing location and methods, should be provided to harvest the shares; however, 'o*ne 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 *Interim Guidelines for Temporary Commercial Salmon Share Transfers, Appendix 7, Section 7.18*);
- 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.

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, pending the development of a revised collaborative 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 prior to the Department supporting implementation of any proposed flexibilities. This will 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 work with the existing CSAB and SCC to determine next steps.

Evaluation Framework

Further work is required to define principles and operational guidelines to ensure appropriate implementation of proposed harvesting flexibilities. Prior to implementation of any proposals, the Department has noted its intention to prepare an evaluation framework for assessing requests

for additional fishery flexibility and providing the objectives and criteria that would be used to consider any requests for harvest flexibilities brought forward. DFO intends to seek input from the CSAB and SCC in preparing the evaluation framework.

3. Additional Elements for Discussion:

In addition to commercial allocation arrangements within Appendix 7, Section 7.4 of the IFMP and those listed above in 2. *Flexibility to Harvest Shares*, there are a number of additional elements in the SCC and CSAB proposals where differences remained. 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 which can be reviewed at: http://www.pac.dfo-mpo.gc.ca/consultation/smon/saf-crrs/index-eng.html

Further considerations on *additional elements*:

Two areas have been highlighted in the SCC and CSAB proposals where there was no agreement concerning the proposed changes. The SCC has proposed that the current DFO practice for treating unharvested commercial allocations (catch not caught by a more seaward or downstream fishery) should continue. Specifically, unharvested 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 on when arrangements are required for the transfer of unharvested allocations, and whether or not there should be compensation to the fleet with the unharvested 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.

In addition, there are some proposed changes that are principally matters best handled between DFO and the relevant group. 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. These matters will require further discussion with the Department.

Finally, there are several areas, such as commercial licencing rules, in-season transfer rules, and 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 subject to the approved updates to the CSAF.

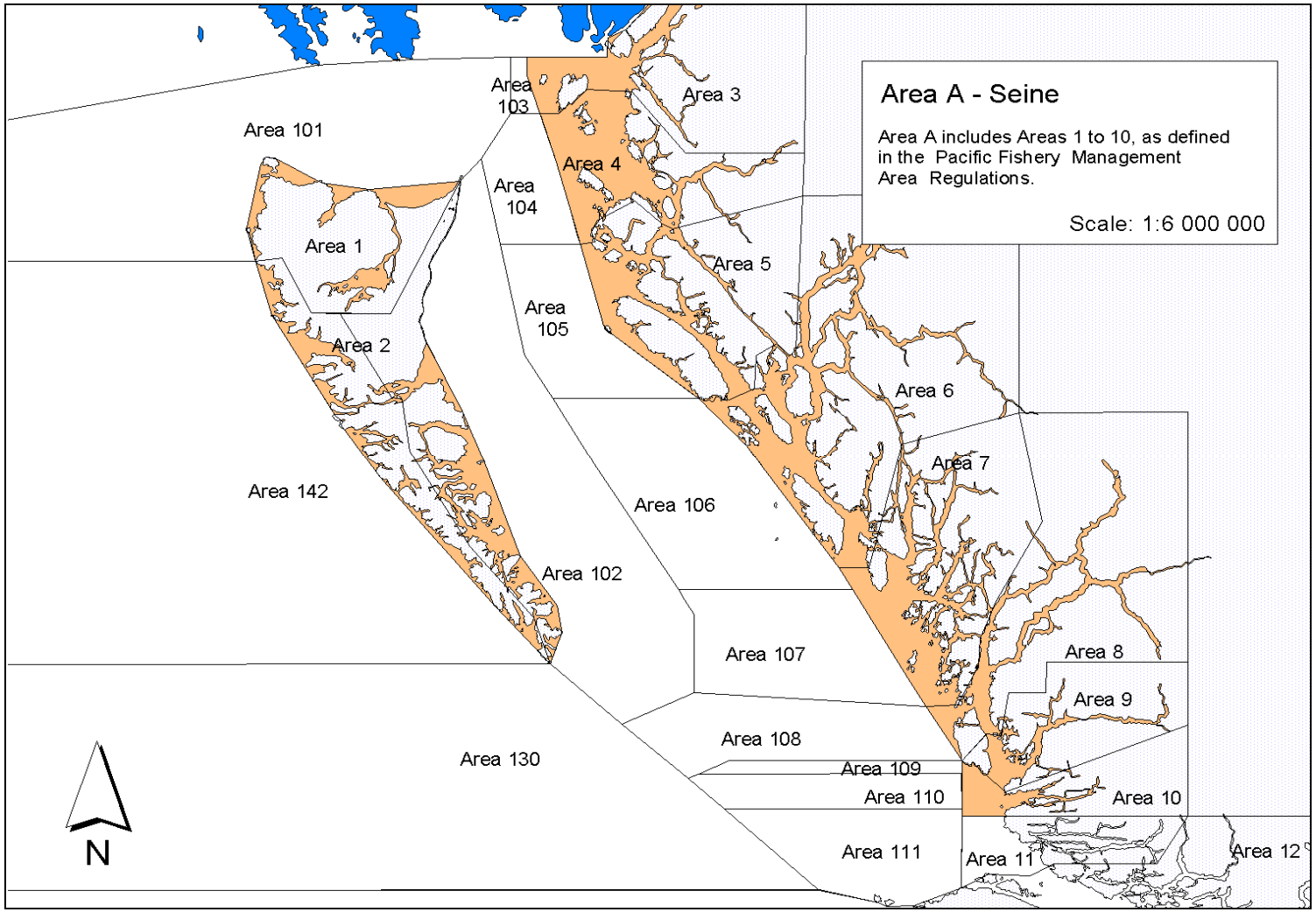
APPENDIX 9: COMMERCIAL SALMON LICENCE AREAS

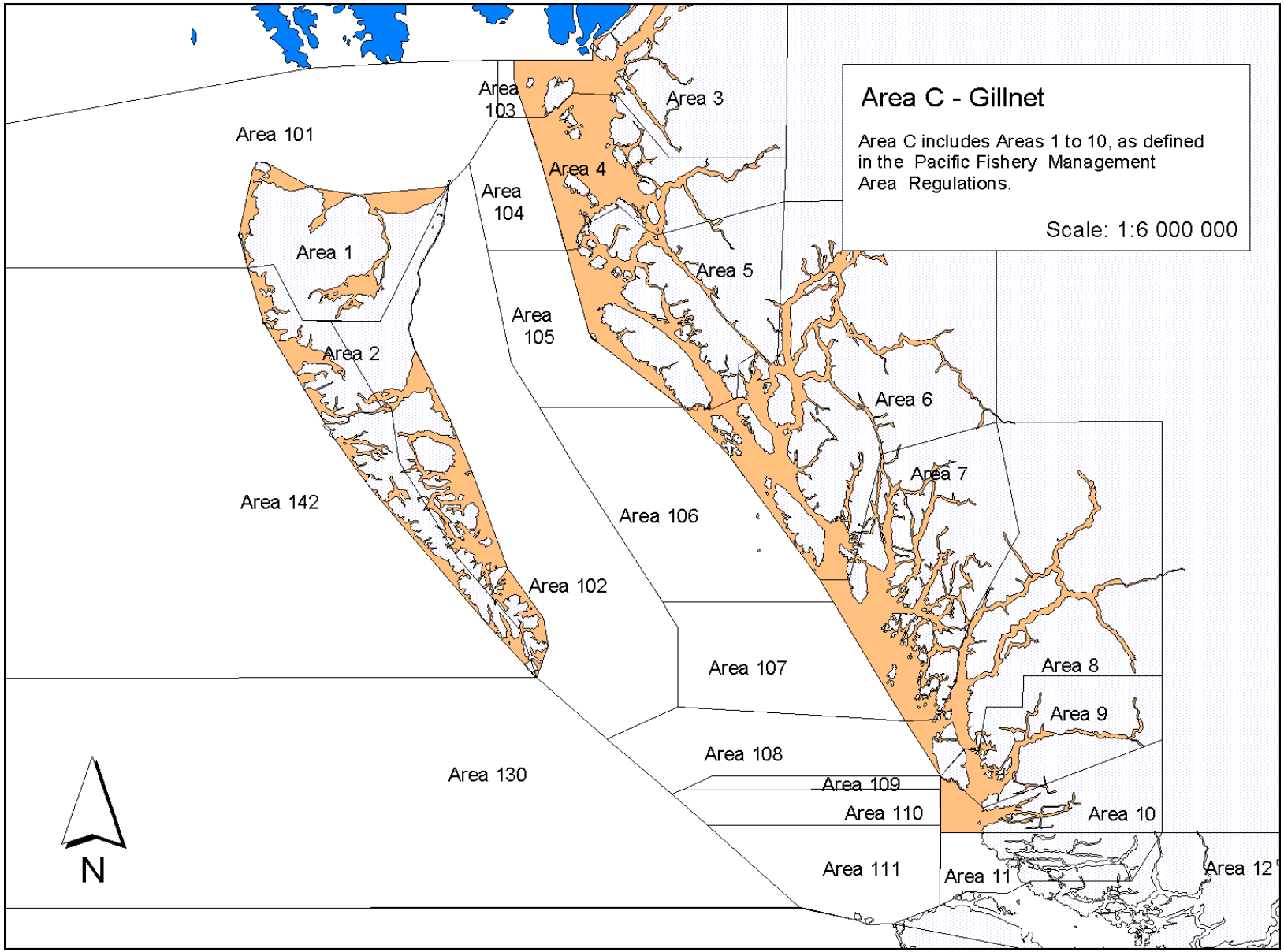
Pacific Salmon Fishing Area	Gear	Corresponding Pacific Fisheries Management Areas (PFMA)
Salmon Area A	Seine	Areas 1 to 10, Subarea 101-7
Salmon Area B	Seine	Areas 11 to 29 and 121
Salmon Area C	Gill net	Areas 1 to 10, Subarea 101-7
Salmon Area D	Gill net	Areas 11 to 15 and 23 – 27
Salmon Area E	Gill 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

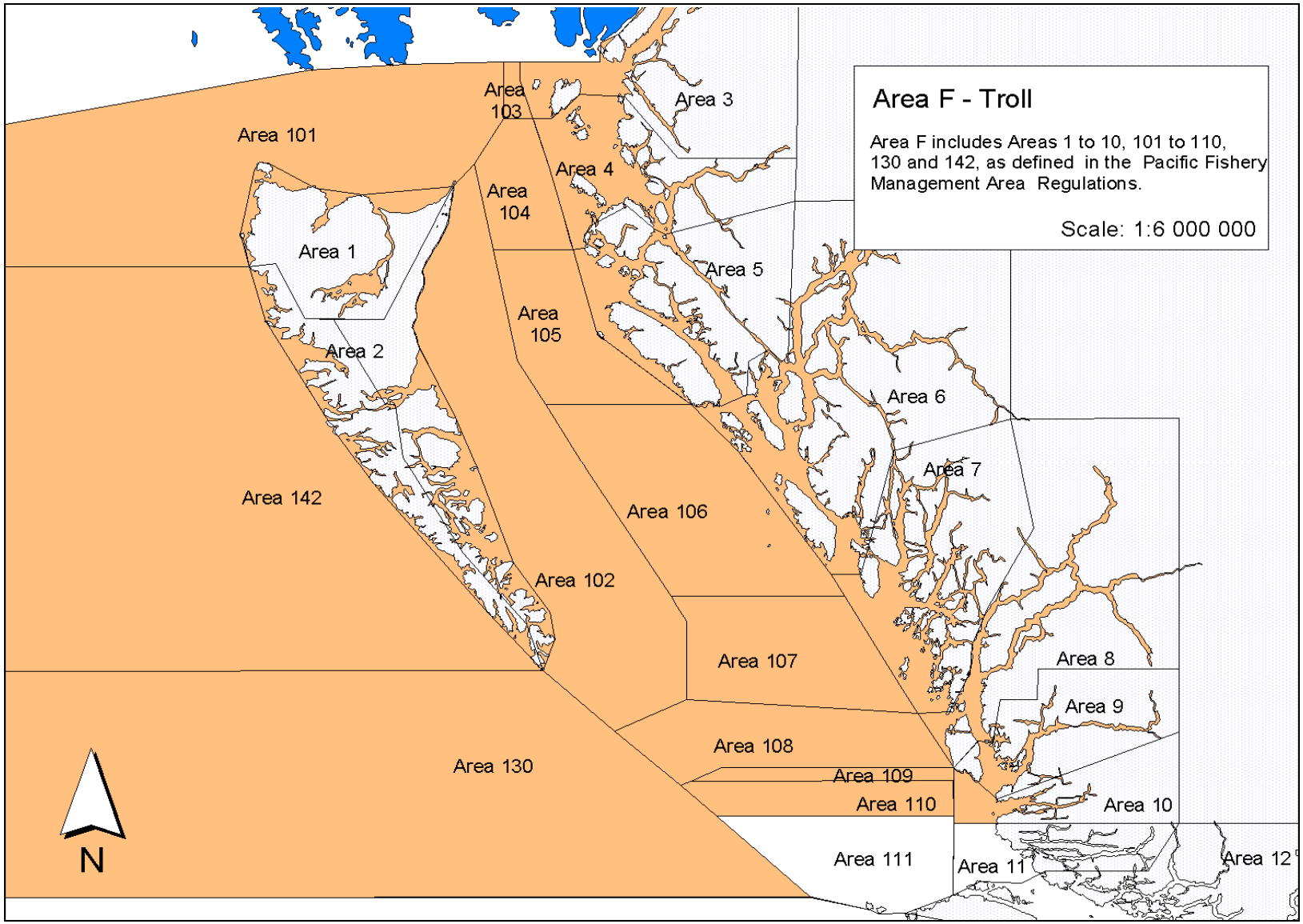
For North Coast PFMA's please see Figure 1-1 of this IFMP

For a map of North Coast licence areas, please see Appendix 10.

APPENDIX 10: MAPS OF COMMERCIAL SALMON LICENCE AREAS



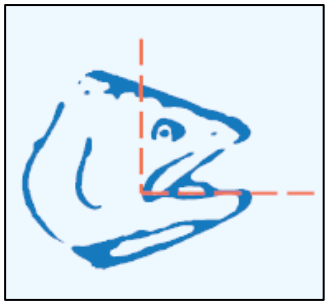

Area C - Gillnet
Area C includes Areas 1 to 10, as defined in the Pacific Fishery Management Area Regulations.
Scale: 1:6 000 000
Area 101
Area 103
Area 3
Area 4
Area 104
Area 1
Area 5
Area 105
Area 2
Area 6
Area 7
Area 142
Area 106
Area 102
Area 107
Area 8
Area 9
Area 108
Area 130
Area 109
Area 110
Area 10
Area 111
Area 11
Area 12
N


Area F - Troll
Area F includes Areas 1 to 10, 101 to 110, 130 and 142, as defined in the Pacific Fishery Management Area Regulations.
Scale: 1:6 000 000
Area 101
Area 103
Area 3
Area 4
Area 104
Area 1
Area 5
Area 105
Area 2
Area 6
Area 7
Area 142
Area 106
Area 102
Area 107
Area 8
Area 9
Area 108
Area 130
Area 109
Area 110
Area 10
Area 111
Area 11
Area 12
N

APPENDIX 11: CHINOOK AND COHO HEAD RECOVERY

THESE REQUIREMENTS APPLY TO ALL AREA F TROLL LICENCES, EXCEPT THOSE WHOSE LICENCE HOLDER HAS RECEIVED A LETTER FROM THE DFO NORTH COAST AREA CHIEF OF RESOURCE MANAGEMENT EXEMPTING THEM FROM THE HEAD RETENTION REQUIREMENTS IN PART 1, SECTION 3 OF THEIR CONDITIONS OF LICENCE.

Head Retention: Troll vessel masters that are freezing their catch at sea must retain all heads from all chinook and coho kept. 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. The figure to the right indicates the minimum portion of each head that must be retained.



Head Storage: Heads must be stored using special purpose bags and labels available free of charge from the Department. These bags and labels can be obtained from the following locations:

a) Commissionaire, 2nd floor reception,, 200-401 Burrard St., Vancouver
b) Commissionaire, main entrance, 3190 Hammond Bay Rd., Nanaimo
c) Front counter, main entrance, 150-1260 Shoppers Row, Campbell River
d) Front counter, main entrance, 4706 Tebo Ave., Port Alberni
e) Front counter, main entrance, 8585 Wollason Rd., Port Hardy
f) Front counter, 417-2nd Ave W, Prince Rupert
g) Front counter, 137 Bay St., Queen Charlotte City
h) Front counter, 12551 No. 1 Rd., Steveston; and
i) Front counter, 4250 Commerce Circle, Victoria

Each bag must contain only the heads from a single week of fishing (where weeks run from Sunday to Saturday).

Finally, heads must be kept frozen until delivery.

Head delivery: The vessel master shall ensure that all bags containing heads are offloaded at the first designated fish landing station at which chinook and/or coho catch is offloaded. All bags must be securely closed, and labeled with vessel name and VRN., the first and last day of fishing on which the heads contained in the bag were caught, and the Management Area(s) in which those salmon were caught. Contact JO Thomas & Assoc. for sampling and collection details: phone toll-free 1-800-663-3344. Please call one day in advance of offload.

For complete head retention requirements, trollers freezing their catch should refer to their Conditions of Licence.

APPENDIX 12: 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] FN: *######*

Date Day	Date Mon	Mgmt. Area	Zone or Subarea ☒	Hours fished	Catch frozen or iced?	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*			*3*	*0*	*0*
Trip ID #:	*FOS-12345*					Rel.	*0*	*0*	*0*	*0*	*3*	*3*	*5*	*0*	*8 Yellowtail, 3 Canary, 6 Silvergrey*	*4 L, 2 D*
Comments:	*8 Hake released, lots of seals around*														DCR Confirmation #[7]	*FOS-12346*
15	*Jul*	*4*	*5*	*8½*	(F) or (I)	Kept	*42*	*0*	*8*	*0*	*0*			*0*	*0*	*0*
Trip ID #:	*FOS-12345*					Rel.	*0*	*0*	*0*	*0*	*2*	*5*	*1*	*0*	*3 Yelloweye, 6 unknown rockfish*	*0*
Comments:															DCR Confirmation #[7]	*FOS-12346*
16	*Jul*	*5*	*1*	*10*	F or (I)	Kept	*12*	*0*	*0*	*0*	*0*			*0*	*0*	*0*
Trip ID #:	*FOS-12345*					Rel.	*0*	*0*	*0*	*0*	*0*	*1*	*2*	*0*	*2 Chilipepper, 2 unknown rockfish*	*0*
Comments:															DCR Confirmation #[7]	*FOS-12349*
18	*Jul*	*5*	*1*	*6*	F or (I)	Kept	*0*	*0*	*0*	*0*	*8*			*0*	*0*	*0*
Trip ID #:	*FOS-12398*					Rel.	*0*	*6*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*1L*
Comments:	*1 Coho dead, 5 released in good condition*														DCR Confirmation #[7]	*FOS-12402*
18	*Jul*	*5*	*3*	*5½*	F or (I)	Kept	*0*	*0*	*0*	*0*	*12*			*0*	*0*	*0*
Trip ID #:	*FOS-12398*					Rel.	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2D*
Comments:															DCR Confirmation #[7]	*FOS-12402*
19	*Jul*	*5*	*3*	*11*	F or (I)	Kept	*0*	*0*	*0*	*0*	*7*			*0*	*0*	*0*
Trip ID #:	*FOS-12398*					Rel.	*0*	*1*	*0*	*0*	*0*	*1*	*3*	*0*	*3 Canary*	*0*
Comments:															DCR Confirmation #[7]	*FOS-12491*

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 Confirmation** # is the confirmation number received upon completion of the Daily Catch Report.

2015

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 Day	Date Mon	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
14	*Aug*	*3*	*3-3, 3-2*	*8*	*5*	Kept	*42*	*0*	*431*	*0*	*0*	*0*	*0*	*6*	*0*	Yes
Trip ID #:			***FOS-12281***			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*	*4-5*	*5½*	*2*	Kept	*38*	*0*	*850*	*0*	*0*	*0*	*0*	*0*	*0*	Yes
Trip ID #:			***FOS-12281***			Rel.	*0*	*0*	*0*	*2*	*1*	*0*	*1*	*0*	***4 D, 1 L, 1 salmon shark***	No
Comments:			***1 harbour seal released, steelhead revived in tank, then released in good condition***										DCR Confirmation #: [6]		***FOS-12358***	
19	*Aug*	*4*	*4-5*	*9*	*4*	Kept	*53*	*0*	*560*	*0*	*0*	*0*	*0*	*0*	*0*	Yes
Trip ID #:			***FOS-12403***			Rel.	*0*	*2*	*0*	*17*	*4*	*12*	*0*	*0*	*0*	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 First date Day	First date Month	Last date Day	Last date Mont	# Days fished	Date offloaded Day	Date offloaded Month	Sockeye ☐ Pieces ☒ Lbs ☐ Kgs	Coho ☐ Pcs ☐ Lbs ☐ Kgs	Pink ☐ Pieces ☒ Lbs ☐ Kgs	Chum ☐ Pieces ☐ Lbs ☐ Kgs	Chinook ☐ Pieces ☐ Lbs ☐ Kgs	(Other) ☐ Pcs ☒ Lbs ☐ Kgs	Complete if catch pooled with that of another vessel: Received from	Offloaded to:	Vessel
14	*Aug*	*15*	*Aug*	*2*	*15*	*Aug*	*471*	*0*	*3958*	*0*	*0*	*42*	☐	☐	Name:
Business and port offloaded to: ***Canfisco, Pr. Rupert***								Fish slip # ***79768***			OCR Confirmation #: [6] ***FOS-12380***				VRN (CFV#):
19	*Aug*	*19*	*Aug*	*1*	*20*	*Aug*	*310*	*0*	*1692*	*0*	*0*	*0*	☐	☑	Name: ***Home Run II***
Business and port offloaded to:								Fish slip # ***79801***			OCR Confirmation #: [6] ***FOS-12482***				VRN (CFV#): ***12347***

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.

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SALMON GILLNET Logbook I.D. # **G** ***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*** 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***

Date Da	Date Mon	Mgmt. Area	Sub-area(s)	Hours fished	# of sets	Kept or Released	Sockeye	Coho	Pink	Chum	Chinook	Steel-head	Atlantic	Dogfish	Sturg-eon	[5] Other Fish	[6] Non-fish
4	*Aug*	*12*	*12-4*	*5.5*	*5*	Kept	*4*	*0*	*23*	*127*	*0*	*0*	*0*	*0*		*0*	Yes
Trip ID #:		*FOS-12480*				Rel.	*0*	*9*	*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*	Yes
Trip ID #:		*FOS-12480*				Rel.	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*2*	*0*	*2M, 1 salmon shark*	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*	Yes
Trip ID #:		*FOS-12480*				Rel.	*0*	*0*	*0*	*0*	*0*	*1*	*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*	*8*	Kept	*163*	*0*	*328*	*0*	*0*	*0*	*0*	*0*		*0*	Yes
Trip ID #:		*FOS-12773*				Rel.	*0*	*0*	*0*	*0*	*3*	*1*	*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*	Yes
Trip ID #:		*FOS-12773*				Rel.	*0*	*2*	*0*	*0*	*1*	*1*	*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 Twist, '*M*' for Multi Strand or '*C*' for Combination.
2. Enter number of strands if net is 'Alaska Twist' 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.

2015

SALMON GILLNET Logbook I.D. # **G** **Report Catch to: 1-(888) 387-0007** Record all catch in pieces **Page #**

Vessel Name: VRN (CFV#): Vessel Master Name: FIN:

Offload Catch Records[1]

ates Fished				#	ate and Time			Sockeye	Coho	Pink	Chum	Chinook	Other Fish[2]
First date		Last date		Days	offloaded								
Day	Month	Day	Month	fished	Time(24hr)	Day	Month						
14	Aug	15	Aug	2	18:30	15	Aug	185	0	4	0	0	2 L
Business and port, or name and VRN of Packer offloaded to (or specify personal use): Home Run II, VRN: 12347									Fish slip or sales slip #: 79768		OCR Confirmation #: [3] FOS-12380		
14	Aug	15	Aug	2	18:30	15	Aug	10	0	0	0	0	
Business and port, or name and VRN of Packer offloaded to (or specify personal use): personal use									Fish slip or sales slip #: 79769		OCR Confirmation #: [3] FOS-12381		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		
Business and port, or name and VRN of Packer offloaded to (or specify personal use):									Fish slip or sales slip #:		OCR Confirmation #: [3]		

1. Report all offload catch records including report for take home fish (All fish caught are to be accounted for in these reports).
2. **Other Fish**: M= Mackerel, L= Lingcod, H= Halibut, D= Dogfish, R=Rockfish. Give full name for other species.
3. **OCR Confirmation #** is the Offload Catch confirmation number. A seperate OCR number should be generated for each offload location.

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APPENDIX 13: GLOSSARY

A more comprehensive glossary is available online at:

http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/gloss-eng.htm

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
COHO ABM	Coho Abundance Based Management
COSEWIC	Committee for the Status of Endangered Wildlife in Canada
CPUE	Catch per unit effort
CSAB	Commercial Salmon Advisory Board
CSAP	The Centre for Scientific Advice Pacific
CSAS	The Canadian Science Advisory Secretariat
CSAF	Commercial Salmon Allocation Framework
CWT	Coded wire tag
DIDSON	Dual Frequency Identification Sonar
ER	Exploitation Rate
ESSR	Excess Salmon to Spawning Requirements
FNFC	First Nations Fishery Council
FRP	Fraser River Panel
FSC	Food, social and ceremonial
IHPC	Integrated Harvest Planning Committee
ISBM	Individual Stock Based Management
ITQ	Individual Transfer Quota
LAER	Low Abundance Exploitation Rate
LGS	Lower Georgia Strait
LRP	Lower Reference Point
MCC	Marine Conservation Caucus
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
MVI	Mid Vancouver Island
NOLS	National Online Licensing System
PICFI	Pacific Integrated Commercial Fisheries Initiative
PFMA	Pacific Fisheries Management Area
PSARC	Pacific Scientific Advice Review Committee
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
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)

APPENDIX 14: 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 1). 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:

- 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 19 to July 25 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 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

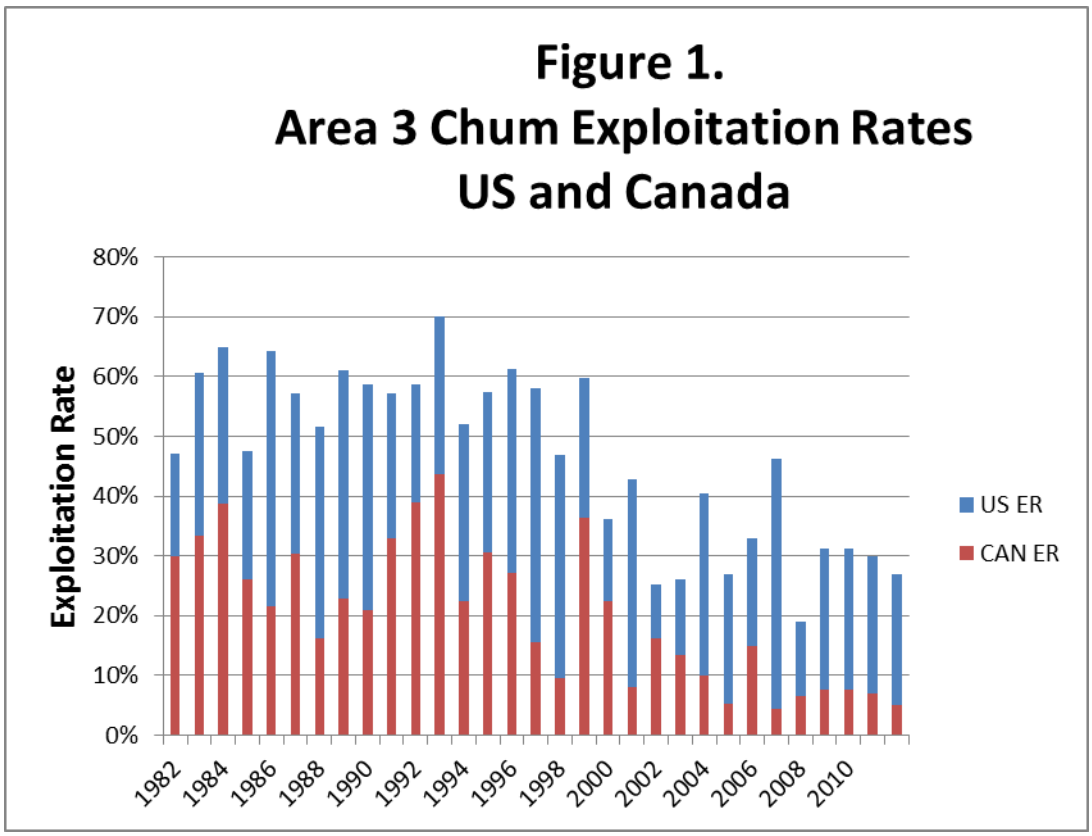
Nisga'a Joint Technical Committee and recent DFO assessments indicate recent aggregate status in the yellow zone since 2007. The Portland Canal – Observatory CU is severely depressed and in the red zone. Chum stocks are not rebuilding even though exploitation rates have been significantly reduced since 2000. This appears to be the result of reduced productivity over the same period.

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 1). 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 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).



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.
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.	2012 reconstruction completed in January 2014 by the Pacific Salmon Commission's Northern

Key Activities	**Status**
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.	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.
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.
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.

References

English, K.K., T. Mochizuki and D, Robichaud. 2012. Review of North and Central Coast Salmon Indicator Streams and Estimating Escapement, Catch and Run Size for each Salmon Conservation Unit. Report for Pacific Salmon Foundation and Fisheries and Oceans, Canada. 78 p.

English, K.K. 2013. Extended Time-series of Catch and Escapement Estimates for Skeena Sockeye, Pink, Chum, Coho and Chinook Salmon Conservation Units. Report for Pacific Salmon Foundation. 19 p.

Gaboury, Marc and Robert Bocking. 2007. Assessment of Enhancement Opportunities for Wild Chum Stocks in Canadian Statistical Area 3. Prepared by LGL Limited, for the Pacific Salmon Commission Northern Fund.

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 15: 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 1). 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.

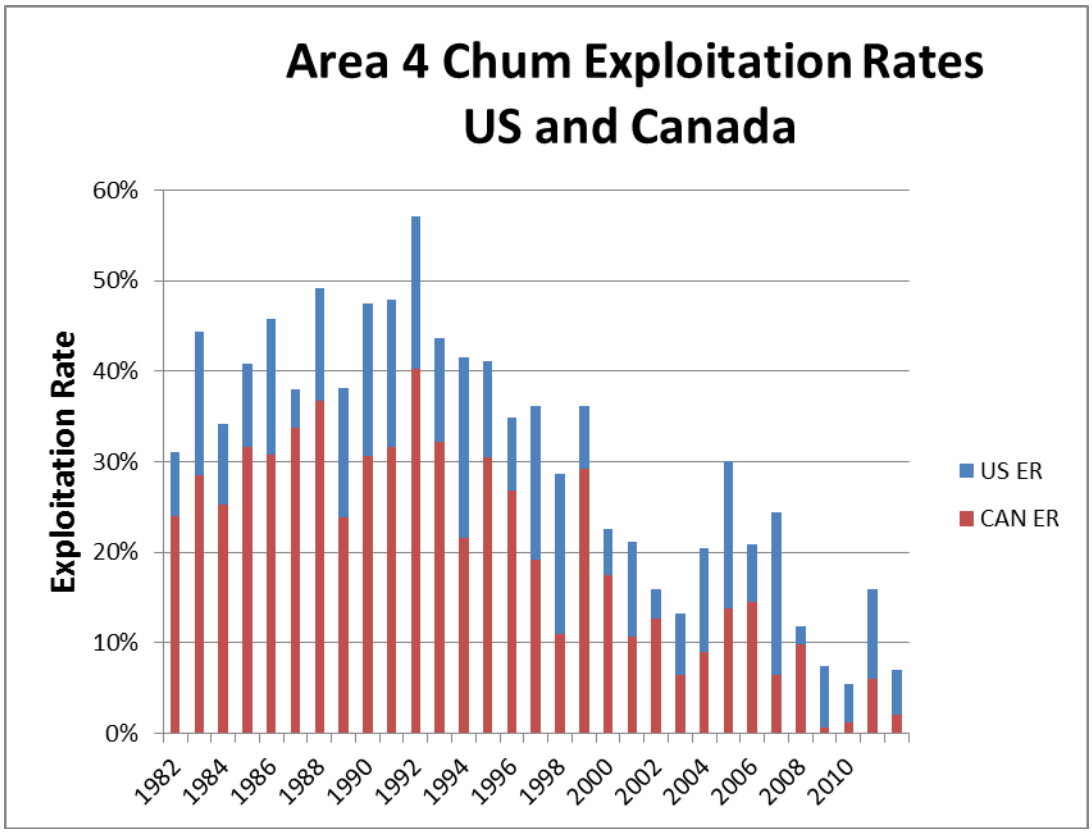
Status

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 1). 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.



Skeena Chum Rebuilding Plan Activities

Key Activities	**Status**
Complete reconstructed time series of escapement, catch and run size for Skeena chum.	Completed as described in English et al 2012, and updated English 2013.
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.

Key Activities	**Status**
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.

References

English, K.K., T. Mochizuki and D, Robichaud. 2012. Review of North and Central Coast Salmon Indicator Streams and Estimating Escapement, Catch and Run Size for each Salmon Conservation Unit. Report for Pacific Salmon Foundation and Fisheries and Oceans, Canada. 78 p.

English, K.K. 2013. Extended Time-series of Catch and Escapement Estimates for Skeena Sockeye, Pink, Chum, Coho and Chinook Salmon Conservation Units. Report for Pacific Salmon Foundation. 19 p.

Korman, J, and K. English. 2013. Benchmark Analysis for Pacific Salmon Conservation Units in the Skeena Watershed. Submitted to the Pacific Salmon Foundation.

Peacock. D. and B. Spilsted. 2010. Skeena River Chum (Oncorhynchus keta) stock status. Canadian Science Advisory Secretariat Draft Report 2010/059.

Price, M.H.H.., Gayeski, N., and J. A. Stanford. 2013. Abundance of Skeena River chum salmon during the early rise of commercial fishing. Transactions of the American Fisheries Society 142:4, 989-1004.