



Fisheries and Oceans Canada | Pacific Region  
2018–2022 IMPLEMENTATION PLAN

# Annual Report 2019-20

## Table of Contents

<b>Executive Summary</b> .....	2
<b>Introduction and Context</b> .....	3
<b>Overall Progress on WSP Implementation</b> .....	8
<b>WSP Activity Highlights</b> .....	10
<b>Update on other Pacific Salmon Initiatives over 2019-20</b> .....	14
<b>The State of Pacific Salmon &amp; Measuring Departmental Performance</b> .....	18
<b>WSP Moving Forward: 2020-21</b> .....	21
<b>Conclusion</b> .....	23
<b>Annex A: Wild Salmon Policy Implementation Resources and Acronyms</b> .....	24
<b>Annex B: WSP Implementation Tracker</b> .....	25

## Executive Summary

On October 11, 2018, the Minister of Fisheries and Oceans and the Coast Guard, released the *Wild Salmon Policy 2018-2022 Implementation Plan* (the Plan). This document outlines 9 overarching approaches and 48 actions the Department is committed to undertaking and leading on over this five year period in order to implement *Canada's Policy for Conservation of Wild Pacific Salmon* – also known as the Wild Salmon Policy (WSP). In the spirit of 'what gets measured, gets done', and in line with the Government of Canada's commitment to openness and transparency, the Plan includes DFO's commitment to performance review, including annual public reporting on the status and progress of key actions. While annual review of work plans and post-season operations happens as a normal course of business, the public reporting on the status of activities in the Plan keeps partners and the public informed of progress in a timely manner, provides early warning of challenges that need to be addressed, and reflects on lessons learned.



Over 2019-20, the Department has completed or made progress on all the overarching approaches and a number of key activities in the Plan that advance monitoring of wild salmon stocks, habitat and ecosystem assessment and monitoring, integrated strategic planning, program delivery, and continued collaboration with the Province of BC, First Nations, and other stakeholders.

	Overarching Approaches	Activities with a Target Completion Date	Ongoing Activities
<b>Number of Activities</b>	9	26	22
<b>Number On-Track or Completed 2019-20</b>	9 (100%)	16 (62%)	20 (91%)
<b>Number Delayed or Facing Challenges 2019-20</b>	0 (0%)	10 (38%)	2 (9%)

This Annual Report **highlights an overview of progress on activities, performance indicators, and provides the status** of each activity, including information to provide context and mitigation strategies for activities that are delayed and/or facing challenging.

## Introduction and Context

---

### Background

Wild Pacific salmon are an iconic part of the life and culture of west coast Canada. They hold tremendous value for natural ecosystems, cultural and spiritual practices, recreational enjoyment and jobs along the coast and inland watersheds of the Pacific Region. Pacific salmon are keystone species in marine, freshwater, and terrestrial ecosystems. Many species of fauna and flora – from Resident Killer Whales to black bears to Douglas Fir – depend on migrating Pacific salmon for their survival and well-being. Salmon are also inextricably linked to Indigenous communities in British Columbia (BC) and Yukon, not only as a traditional food source, but also as a vital component of nutritional, spiritual, cultural, social and economic well-being. Finally, wild Pacific salmon support commercial and recreational fisheries that are a foundational part of the socio-economic fabric of the Pacific region. The business stemming from fishing activities – including fish processing, fish guiding, tackle shops, hotels, ecotourism, and restaurants, to name a few – ripple through the economy, creating additional jobs and income.

When it was released in fall 2018, the Plan<sup>1</sup> outlined the overarching approaches and activities the Department of Fisheries and Oceans Canada (DFO) was committed to undertaking over the next five years, including how it is using DFO's scientific and management expertise to meet its responsibilities for the conservation of wild Pacific salmon. This work builds on thirteen years of work already undertaken by the Department and focuses on developing common guidance and standardized methods. Pacific salmon management is inherently complex with the impacts of climate change and other external factors adding new challenges.

In 2019-20, the COVID-19 pandemic has impacted Canadians in an unprecedented manner. The economic and social disruptions triggered by COVID-19 has affected fisheries management and conservation efforts at local, national, and global scales. The Department has adapted quickly to continue delivering critical services and operations. COVID-19 has also shifted the way Indigenous peoples, industry, environmental groups, and stakeholders are able to engage with DFO, though the Department continues to engage to the fullest extent possible employing new tools and approaches. As part of the Government of Canada's COVID-19 response plan, DFO has continued to focus efforts on maintaining essential services while advancing measures to minimize COVID-19 transmission.

The Government of Canada recognizes the importance of protecting Pacific salmon for all Canadians and is committed to taking effective action on this goal by adapting to new operational realities caused by COVID-19, implementing key legislative and regulatory changes, and working collaboratively with international, provincial and territorial, Indigenous, and local government partners.



Photo: DFO · Sockeye Salmon (*Oncorhynchus nerka*)

---

<sup>1</sup> <https://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/ip-pmo/index-eng.html>

## *Impacts from Climate and Environmental Changes*

Pacific salmon are responding to climate change in their marine and freshwater habitats. The Northeast Pacific Ocean is warming and recent marine heatwaves such as ‘The Blob’, a large mass of relatively warm water in the North East Pacific Ocean, are affecting food webs that Pacific salmon rely on. BC and the Yukon’s freshwater habitats are also warming and experiencing more extreme periods of rain and drought. The effects of climate change in freshwater are compounded by natural and human-caused landscape changes such as forest fires, human development, logging and agriculture. Although there can be exceptions, general salmon trends are emerging and include declining Chinook abundances throughout their range, declines in Sockeye and Coho particularly in southern Canadian latitudes, with Pink and Chum generally doing better.

Last year’s 2019 Pacific salmon returns were particularly poor for many salmon species and populations. Fraser Sockeye returns were the lowest on record. The climate effects on Fraser salmon were exacerbated by a natural landslide on the Fraser River near Big Bar, which was discovered in June 2019. The landslide blocked upstream passage of migrating adult Pacific salmon to their spawning grounds, and will impact future salmon returns. Historically, the Fraser River is one of the largest Pacific salmon producing system in the world. Work is ongoing to mitigate the effects of the landslide on salmon migration through a joint Federal-Provincial-First Nations response. Much progress has occurred and work will continue throughout 2020. DFO recognizes the continued need to collaborate with partners and stakeholders to manage Pacific salmon’s complex lifecycle considering these ongoing and evolving environmental challenges.

## *International Context*

The Pacific Salmon Treaty (PST) is the principal agreement that commits Canada and the United States (U.S.) to cooperate bilaterally on matters pertaining to the conservation, management and international allocation of Pacific salmon. The Treaty commits the Parties to cooperate on science, stock assessment, salmon enhancement, and to develop specific conservation and harvest sharing arrangements for specific salmon stocks and fisheries. These conservation and harvest sharing arrangements are outlined in several “fishing chapters” in Annex IV of the Treaty, which are organized by geographic area and/or salmon species, and are periodically renegotiated by the Parties (typically on a 10-year cycle).



Photo: PSC · Reagan and Mulroney exchanged documents on March 18, 1985 in Quebec at the “Shamrock Summit” to bring the treaty into force

Chapter 4, which addresses the management of Fraser River Sockeye and Pink salmon, expired on December 31, 2019. The Department supported the negotiations to renew this important chapter and Canadian-U.S. negotiators reached agreement-in-principle on proposed amendments in February 2019. Both governments agreed to the

provisional application of the amendments as of January 1, 2020 while the ratification process is completed. The new amendments are expected to come into force in 2020 and will remain in place for 9 years.

Consultations were held with First Nations and stakeholders leading up to, and throughout, these negotiations. Moving forward, the Department continues to schedule consultation sessions and meetings, as needed, to identify, discuss, and help mitigate potential concerns regarding the agreement.

### *Importance of Collaboration*

Healthy Pacific salmon populations today and in the future depend on work being done by many important regulators, First Nations, communities and organizations. Accordingly, federal, provincial/territorial, local, and Indigenous partnerships are essential components of an integrated approach to Pacific salmon management and conservation. The jurisdictional framework for Pacific salmon includes separate legislated authorities for habitat management, integrated resource management, and land protection, as well as local management plans and zoning. Given this complex landscape, the Department works with different partners depending on the implicated authorities and the spatial scale of the activity being undertaken.



Photo: Margarita Schwartzel · Sockeye Salmon (*Oncorhynchus nerka*)

DFO's work with partners on Pacific salmon and salmon habitat is guided by the Government of Canada's commitment to a renewed, nation-to-nation relationship with Indigenous peoples, and by several key policies including, among others, the Precautionary Approach and the Wild Salmon Policy. The principles of the Wild Salmon Policy – focusing on conservation, working with First Nations, making decisions that ensure sustainable use, and making decisions in an open and transparent process – guide the work the Department undertakes. The Plan focuses on a myriad of activities across the Department and the implementation of activities are often decentralized with accountabilities across multiple branches, programs and teams in the Department. This can present challenges as people look to the Department for guidance at a local level. In an effort to address this challenge, the Department continues to seek improvements in supporting staff at all levels and geographic areas to effectively engage with partners on Wild Salmon Policy related activities, while guidance tools are being developed.

While this report showcases progress on actions that the Department is taking or leading, DFO recognizes that partners across BC and Yukon are actively contributing themselves towards the Wild Salmon Policy goal to maintain and restore wild salmon populations. The Government of Canada recognized the interest from partners across BC, Yukon, and the rest of Canada to better protect fish and fish habitat through the modernization of the *Fisheries Act*.

## Modernized Fisheries Act

On February 6, 2018, the Government of Canada introduced proposed amendments to restore lost protections and incorporate modern safeguards into the *Fisheries Act*. On June 21, 2019 the modernized *Fisheries Act* (FA) received royal assent and became law. The FA was developed following extensive consultations. The Department heard from Indigenous peoples, provincial and territorial governments, industry, stakeholders, and the public from across the country, who asked for strong, fair and clear legislation that protects Canada's environment, oceans and water bodies. It was recognized that a healthy and sustainable fishing sector is of vital importance to Canada's economy. Moving forward, there are two key aspects resulting from the modernized FA: the introduction of fish stock provisions for prescribed major fish stocks, and the creation of the Fish and Fish Habitat Protection Program (FFHPP).

### New Fish Stocks Provisions

The Department is working towards implementing regulations that support the FA's authority to prescribe fish stocks and their rebuilding plans. The FA contains fish stocks provisions, which establish binding commitments to implement measures for maintaining major fish stocks prescribed in regulation at levels necessary to promote sustainability. Additionally, for major stocks prescribed in regulation that are or become depleted, the provisions provide authority for the development and implementation of rebuilding plans. Work is ongoing to operationalize the authority of the FA through regulations.



Photo: Eiko Jones · Chum Salmon (*Oncorhynchus keta*)

Over 2020, the Department is expected to publish proposed regulations for new fish stock provisions and rebuilding plans in the *Canada Gazette, Part I*, for public comment. The proposed regulations are anticipated to promote the sustainability of prescribed Pacific salmon stocks and their habitat. The Department had consulted on the regulatory proposal during 2018-19, which included proposed amendments to the *Fishery (General) Regulations*: prescribing a group of major stocks (Batch 1) that will be subject to the new Fish Stocks provisions under the *Fisheries Act*, and; setting out the required contents and timelines for developing rebuilding plans that are required under the *Fisheries Act*.

The proposed Batch 1 list of stocks includes a mix of stocks currently in the healthy zone as described in DFO's 2009 *A Fishery Decision-Making Framework Incorporating the Precautionary Approach* (PA Policy), as well as stocks for which DFO has already committed to develop and implement rebuilding plans for. Three Pacific salmon stocks proposed for consultation in December 2018 in Batch 1 are: West Coast Vancouver Island (WCVI) Chinook, Okanagan Chinook, and Southern inside Coho.

The required contents of the proposed rebuilding plans are based on DFO's existing rebuilding policies, as described in the PA Policy and the 2013 *Guidance for the development of rebuilding plans under the Precautionary Approach Framework: Growing stocks out of the critical zone*. In addition, the FA legislation requires rebuilding plans be put in place within 24 months after the Minister has prescribed the stock in regulations if the stock is already below its Limit Reference Point (LRP), or within 24 months of the stock declining to or below the LRP.

## Fish and Fish Habitat Protection Program

The Fish and Fish Habitat Protection Program (FFHPP) is a new program created to implement key elements of the new FA. FFHPP administers and ensures compliance for development projects taking place in and around fish habitat; the program's authority is derived under the fish and fish habitat protection provisions of the FA and relevant provisions of the *Species at Risk Act*.

FFHPP focuses on four areas: regulatory review and advice, integrated planning, engagement and partnering, and Indigenous engagement.

Integrated planning puts a focus on proactive activities covering a variety of initiatives aimed at identifying opportunities to work collaboratively with others to protect, conserve, and restore fish and fish habitat. Regulatory activities include conducting regulatory reviews and monitoring for projects in and near water for compliance with the *Fisheries Act* and the *Species at Risk Act* (SARA) and coordinating departmental advice into Impact Assessments (EAs) for projects under going federal impact assessments. Engagement and partnering activities involve collaboration with Indigenous groups as well as provincial, territorial, and municipal / local governments on areas of shared interest to protect, conserve, and restore fish and fish habitat, and to deliver capacity funding through grants and contribution programming.



Photo: DFO · Pink Salmon (*Oncorhynchus gorbuscha*)



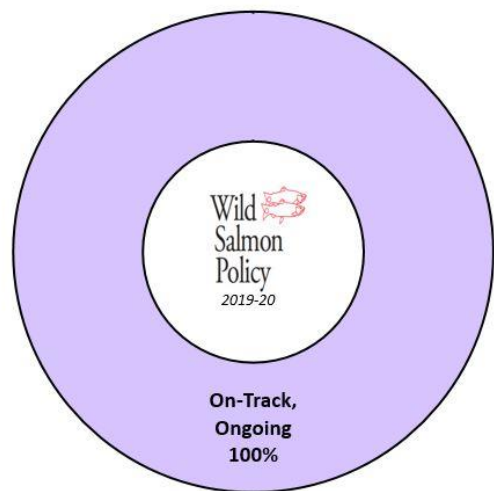
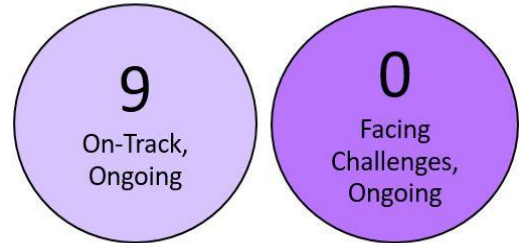
## Overall Progress on WSP Implementation

Over the last year, a lot of work has been done to the activities outlined in the five-year WSP Implementation Plan. There has been a lot of success, as well as some new and ongoing challenges. Overall, 100% of the overarching approaches and 75% of the activities are either completed or on-track for 2019-20. This represents a continued effort by the Department, and signals DFO's ongoing commitment to meeting the goal of the WSP to restore and maintain healthy and diverse salmon populations and their habitat.

For the 26 activities with a defined target completion date (the blue chart below), 62% are completed or on-track to be completed by their target date, with 38% delayed. For the 22 activities that will be ongoing (the purple chart below), 91% are on-track and are being routinely delivered as planned. Only 9% of ongoing activities are facing delivery challenges.

For detailed information on the overarching approaches and progress on individual WSP activities, including additional context and mitigation strategies, please see the Annex B at the end of this report.

### 9 Overarching Approaches



#### ACTIVITIES WITH A TARGET COMPLETION DATE

<b>Completed</b>	The activity has been completed in full by the targeted completion date.
<b>On-Track</b>	Progress has been made on the activity, and it is on-track to be fully completed by the targeted completion date.
<b>Delayed</b>	The activity is delayed but mitigation strategies are in place to complete the activity.

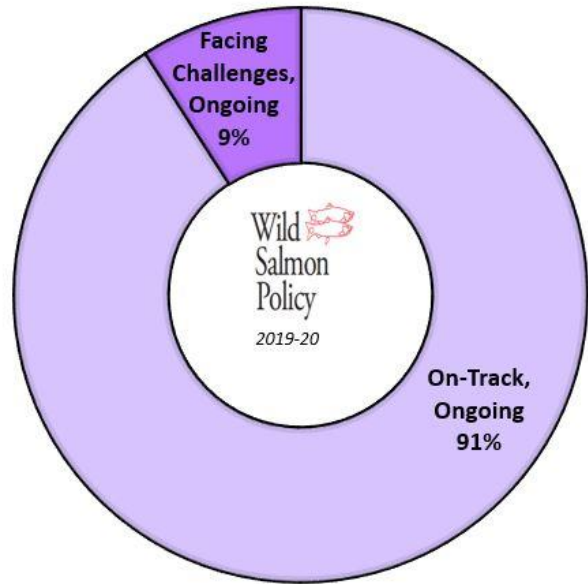
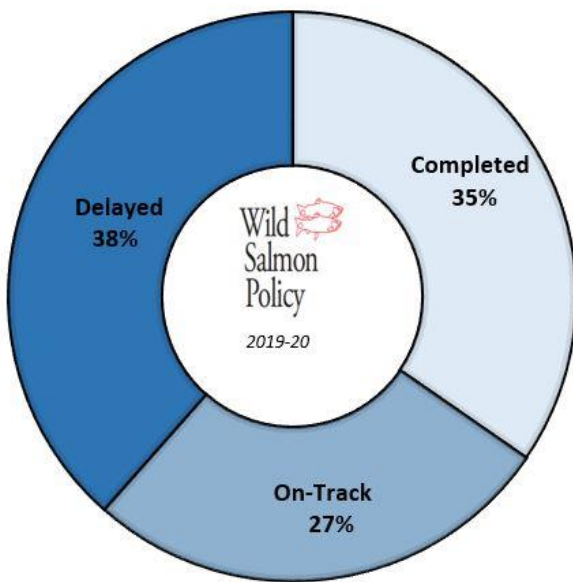
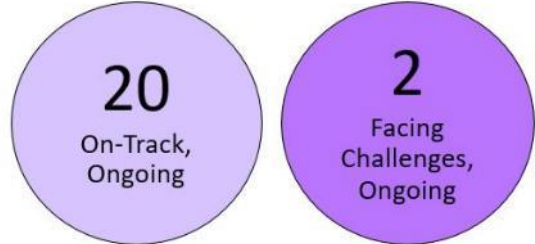
#### ONGOING ACTIVITIES

<b>On-Track, Ongoing</b>	Progress has been made this year and is "on-track" to be delivered on an ongoing basis.
<b>Facing Challenges, Ongoing</b>	The activity is encountering delivery challenges, and mitigation strategies are in place with the goal of moving this activity to "On-Track, Ongoing".

# 48 ACTIVITIES

26 with a TARGET COMPLETION DATE

22 ONGOING



## WSP Activity Highlights

---

While the Annex at the end of this report outlines the status of each activity, including many ongoing activities that have made progress this year, this section provides specific snapshots of WSP implementation for:

- activities targeted for completion in 2018-19, which had not been completed at the time of the 2018-19 Annual Report publication;
- activities targeted for completion in 2019-20; and,
- one activity completed ahead of its target completion date.

### 2018-19 Activity highlights



**Activity ID 16: Publish report on Risk Assessment Method for Salmon (RAMS) to assess potential for disturbance events or regimes in freshwater & marine ecosystems to control CU status and trend patterns**

**Delayed:** The Risk Assessment Method for Salmon RAMS methodology is in the final stages of editing and revision. It is anticipated that additional resources will be allocated to support its publication in 2020. Despite the delay, key work related to this activity has been completed including six papers published by DFO since 2015, containing data used in RAMS development and to inform key workshops.

**Activity ID 29: Map CUs, freshwater and marine ecosystems, Fishery Management Units, and Outlook Units to clarify connections and nesting**

**Delayed:** Work to map and link CUs and stock management units (SMU) is currently underway. Also now linked and part of *Fisheries Act* implementation, work is being done to streamline CU maps and define stock management units (SMUs). Further, FFHPP is looking into options to define and link ecosystems aggregates for planning purposes. In the immediate term, a new staff position has been created to support this work, by contributing to the mapping of CUs and assisting with clarifying connections between units.

### 2019-20 Activity Highlights

While Annex B at the end of this report outlines the status of each activity, including many ongoing activities that have made progress this year, this section provides snapshots on WSP implementation for the 8 activities targeted for completion this fiscal year (April 2019 - March 2020), as well as an additional activity that has been completed in advance of its targeted completion year, and new initiatives announced.

## Progress on Plan Activities with a Target Completion Date by March 31, 2020

### **Activity ID 6: Apply and refine an approach for identifying and prioritizing CUs or groups of CUs for biological status assessments**

**Delayed:** Work is underway on several fronts for status assessments including documentation and development of management and assessment frameworks focused on stock management units (groups of CUs) that comprise both data-rich and data limited frameworks, and the development of methodology to determine limit reference points in data limited situations. This work will be useful for groups of CUs with limited individual CU information and synoptic CU assessments. The Department is currently working to compile broader information to move forward.

### **Activity ID 17: Publish report(s) on results from initial application(s) of RAMS from one or more workshops (e.g. Cowichan Chinook, Barkley Sockeye)**

**Delayed:** The RAMS Cowichan Workshop Report is nearing completion. DFO Science staff are currently working with the report's lead author to finalize the report, with a goal to publish the report later in 2020, in tandem with the RAMS method report noted in Activity 16.

### **Activity ID 23: Develop options and recommended actions through the Salish Sea Marine Survival Project to address human threats and biological limiting factors affecting survival of Chinook and Coho in the Salish Sea**

**Delayed:** This activity is delayed as the timing of multi-lateral meetings between DFO, U.S. officials, First Nations, and stakeholders to synthesize the results of the Salish Sea Marine Survival Project did not provide sufficient time to complete the activities' objectives. However, in 2019, synthesizing the various research projects was identified as key priority; a synthesis meeting to finalize the writing of the final papers took place in December 2019 and January 2020. The key topics for synthesis papers were identified and the synthesis papers are currently in preparation with submission for publication expected in 2020. The synthesis papers will support completing this activity's objectives.



Photo: Janine Malikian · Sockeye Salmon (*Oncorhynchus nerka*)

Over the project's five years of operation there has been over 30 papers and reports published on various components of the research program including topics on ocean conditions, zooplankton, predators and changes in salmon populations over the past decades. Moving forward, the juvenile salmon information provided through this project supports part of DFO-Science's core annual juvenile salmon monitoring program. The information provided by the 5-year study will assist in targeting monitoring activities to address key bottlenecks or mortality periods of the juvenile

salmon in their marine environment at a species or stock level.

**Activity ID 34: Document SEP program activity by CU (enhancement, community involvement, habitat restoration)**

**Delayed:** All hatchery enhancement is documented in a regional database by CU. Work has been advanced to document community involvement and habitat restoration activities by watershed because they often benefit multiple species across CUs; however, challenges remain to identify a sustainable and consistent long-term system to manage community involvement and habitat restoration information. The Salmonid Enhancement Program (SEP) has dedicated staff and hired support from consultants towards this effort but this work is delayed due to a variety of competing operational priorities limiting SEP's capacity for this activity.

**Activity ID 35: Continue to implement transparent planning process for hatchery production taking into account the WSP objectives of wild salmon conservation and sustainable fisheries**

**Completed:** The Salmonid Enhancement Program's (SEP) integrated production planning process has been integrated into the department's broader annual Integrated Fisheries Management Plan (IFMP) consultation process. Annual IFMP consultations are led by Fisheries Management; SEP's hatchery production is now included in this consultation. This process is further described in the document "[SEP production planning : a framework](#)".

**Activity ID 37: Continue to co-lead the genomic research for the Strategic Salmon Health Initiative**

**Completed:** DFO is continuing to co-lead the Strategic Salmon Health Initiative with significant work completed over 2019-20, including nine primary [articles](#) published in 2019. Overall, the program has amassed over 30 peer reviewed publications to date. The program will continue work through the end of 2020 to develop a synthesis paper hallmarking the key findings of the program, and a workshop will be held to rank pathogenic potential of all of the agents studied to identify which understudied agents should be followed up with disease challenge studies.



Photo: DFO· Sockeye Salmon (*Oncorhynchus nerka*)

Genomics research to date has led to the 1) discovery of over a dozen newly characterized viruses in salmon, 2) identification of infectious agents and genomic signatures associated with migratory survival of juvenile and adult salmon, 3) determination that temperature is a major driver of infection in wild salmon, and 4) identification of infectious agents associated with new or emerging diseases on salmon farms. A new salmon Fit-Chip technology was developed within the program to provide a holistic measure of the cumulative and synergistic interactions between stress and disease impacting salmon survival. This tool can identify the presence of multiple types of environmental stressors, disease states, as well as smolt readiness for hatchery applications.

Moving forward, model results exploring eight to ten years of infectious agent data will be published for Chinook, Sockeye and Coho salmon. These models identify infectious agents associated with each species, as well as associations between infection and environmental variables. The results are also further resolving pathogenic potential of new or understudied agents.

### Activity ID 39: Review requirements for salmon farms to ensure risks to wild salmon are minimized

**Completed:** The Framework for Aquaculture Risk Management (FARM) was finalized in October 2019 and the Framework on the Transfer of Live Fish, which provides guidance on disease management in response to the 'Namgis/Morton Court decision, was finalized in October 2019. DFO is continuing work related to this activity and have revised license conditions pertaining to sea lice with provisions for enhanced enforceability; the changes were issued on March 1, 2020. Moving forward, there is increased consideration for wild salmon/farmed interactions through the ongoing Introductions and Transfers Committee (ITC) process.

### Activity ID 44: Continue to implement transparent decision-making framework for hatchery production in fishery planning processes that takes into account WSP objectives, balancing of risks of genetic effects, and the socio-economic benefits of increased stock abundance



Photo: DFO - Near Chilliwack Hatchery Fraser Valley

**Completed:** The Salmonid Enhancement Program's (SEP) integrated production planning process has been integrated into the IFMP consultation process. Annual IFMP consultations are led by Fisheries Management and continue to be undertaken, and SEP's hatchery production is included in these consultations. This process is described in the document "[SEP production planning : a framework](#)". The framework considers WSP objectives and balances the genetic risks of enhancement on wild Pacific salmon populations with the socio-economic benefit of increased stock abundance. It is also now used in conjunction with A Biological Risk Management Framework for Enhancing Salmon in the

Pacific Region and other supporting guidance material to guide DFO-SEP enhancement decisions.

Additionally, DFO's Science branch's advice "[Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations](#)" on the genetic implications of enhanced salmon on wild Chinook populations was received and moving forward work will shortly be underway to develop genetic guidelines and assess current impacts (Activity 45). This work will also be consulted as part of future IFMPs.

### Progress on Activity Completed before its Target Completion Year

#### Activity ID 43: Develop explicit biological goals for hatchery-influence on populations

**Completed:** While this activity is not targeted for completion until June 1, 2020, it has been completed and delivered in advance, during fiscal year 2019-20. The Salmonid Enhancement Program, supported by DFO's Science branch, contributed to publishing the CSAS paper "[Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations](#)". This paper contains biological goals for hatchery or hatchery-influenced Chinook salmon populations. Moving forward, work is underway for the development of genetic management guidelines to translate this CSAS input into DFO operations.

## Update on other Pacific Salmon Initiatives over 2019-20

---

The past year has again been an eventful year for Pacific salmon. Climate change is affecting Pacific salmon's marine and freshwater habitat, many populations are declining, and in the Spring of 2019 a major landslide was discovered near Big Bar, blocking upper Fraser salmon and steelhead migration. The Department is continually evaluating current approaches and considering innovative ways to advance the protection of wild Pacific salmon.

### *Southern BC Chinook Planning Committee*

In April 2019, as part of the 2019 Chinook management measures announcement, the Minister announced the development of a targeted engagement process with First Nations, the Province of BC, and stakeholders to provide advice and recommendations on approaches to address the broad range of issues facing Chinook stocks. In response to this announcement, the Department initiated the Southern BC Chinook Planning Committee to provide advice and recommendations on specific actions to address issues facing Southern BC Chinook stocks.

Over 2019-20, the Committee met on several occasions to discuss planning priorities, scope of work, and roles and responsibilities that will best assist longer term planning. These discussions have confirmed broad multi-party support for working towards long-term approaches to support goals for Southern BC Chinook; however, further ongoing discussion is required to clarify the scope of the work and the Committee's terms of reference.

### *Fraser Salmon Management Council*

In July 2019, the Minister of Fisheries and Oceans Canada and the president of the newly created Fraser Salmon Management Council (FSMC) signed the Fraser Salmon Management Agreement. The agreement was ratified by more than 80% of the FSMC's 76 Signatory Nations. FSMC membership includes First Nations along the migratory route of Fraser salmon, including the Upper, Middle and Lower Fraser and Marine Approach (Vancouver Island) areas. The landmark agreement signals a significant change and opportunity for meaningful and innovative reconciliation work between DFO and Indigenous communities. The agreement provides a process for DFO and Indigenous communities to collaboratively manage Fraser salmon fisheries, by establishing a collaborative governance structure, increasing the direct participation of Indigenous peoples in fisheries management, and establishing principles to guide discussions on shared DFO and Indigenous priorities.



### *BC Salmon Restoration and Innovation Fund Update*

The BC Salmon Restoration and Innovation Fund (BCSRIF) was launched on March 15, 2019. BCSRIF is a cost-shared federal/provincial program which seeks to invest \$142.85 million over five years to support BC's fish and seafood sector and ensure the sustainability of wild Pacific salmon and other BC fish stocks. The federal government provides 70% of the funding and 30% comes from the Province of BC. Funding is available for projects under three pillars: innovation, infrastructure, and science partnerships.

As of March 31, 2020, 23 projects were announced representing approximately \$53 million. Several BCSRIF funded projects were designed to directly benefit wild Pacific salmon. Examples include the following:

- The University of British Columbia will lead a science partnership project to conduct research on improving the sustainability of marine recreational Pacific salmon capture and release fisheries.
- The Nature Trust of BC will undertake monitoring and research to assess estuary resilience to sea level rise and other climate impacts across the coast of BC, followed by restoration projects to restore core natural estuarine processes.
- The PSF will conduct a science-based review of hatcheries in the Pacific Region to evaluate performance and the effectiveness of current genetic and genomic tools with the goal to optimize salmon production in BC.

Funding priorities are collaboratively developed and approved by DFO and the Province of BC annually, to reflect key areas of each party's interests and support current government priorities.

### *Supporting Science through Pacific Salmon Treaty Implementation*

On September 6, 2019, the Minister of Fisheries and Oceans Canada and the Canadian Coast Guard announced \$15 million in additional annual funding to support wild Pacific salmon research and management, as part of PST implementation. The funding supports three specific activities to assist Pacific salmon research and management including: stock assessment; coded-wire tagging (CWT) and recovery; and catch monitoring and reporting.



Photo: Eiko Jones · Female Chinook Salmon (*Oncorhynchus tshawytscha*)

The three activities focus on improving our understanding of climate change, harvest, and other factor's impacting wild Pacific salmon stocks. Additional stock assessment activities are intended to achieve high resolution information on the abundance, distribution, productivity, and health of salmon stocks. This work is expected to lead to improved fishery access and effective science-based conservation. Further, enhanced coded-wire tagging and recovery programs are expected to provide better estimates of harvest impacts and help determine salmon survival, fishery interception and exploitation, and distribution parameters of indicator stocks. Lastly, improved catch monitoring and reporting, including catch sampling and analytical support, are anticipated to provide better estimates of salmon harvest.

These investments support commitments made by the Minister of Fisheries, Oceans and the Canadian Coast Guard to use scientific evidence and traditional Indigenous knowledge when making decisions affecting fish stocks and ecosystem management, and contributes to meeting obligations under the renewed Treaty. These investments will also ensure the Department is working closely with First Nations and other stakeholders to better manage Pacific salmon fisheries and improve our understanding of trends in salmon stocks to ensure the conservation and sustainability of Pacific salmon.



## Response to the Big Bar Land Slide

A significant landslide was reported in June 2019 on a remote stretch of the Fraser River near Big Bar, north of Lillooet, BC, which obstructed the return of some Fraser River salmon to spawning grounds in the upper Fraser River watershed for the 2019-20 season. Over summer 2019, DFO worked in collaboration with Indigenous partners and the Province of British Columbia on the emergency response at the Big Bar landslide. The collaborative efforts to clear the blockage will continue through 2020. As of March 31, 2020, the Department has spent approximately \$25.4 million to date to improve fish passage.

On December 31, 2019, DFO announced that the engineering company Peter Kiewit Sons ULC was awarded a \$17.6 million contract to undertake extensive winter rock remediation work at the landslide site before river levels begin to rise in the spring. The work includes blasting and removing rock at the site of the landslide to improve passage for Pacific salmon and steelhead stocks during the May through November migration season. Additionally, planning for other fish transport methods, to be used during the 2020 Fraser salmon migration season, was initiated including methods to assist passage of salmon above the slide site. Emergency conservation enhancement planning was also launched.



Photo: Margarita Schwartzel · Big Bar, DFO and BC Wildlife  
Fish Capture and Transfer Operation – August 2019

Winter work started in mid-January and included blasting a series of large boulders, widening the channel and removing in-river rock to help reduce the effects of the slide. Moving forward, immediate spring 2020 work will include building a “nature-like” fishway on the west side of the landslide, construction of a concrete fish ladder, and installing a pneumatic fish pump system (the Whoosh Passage Portal™) to move salmon past the barrier. These measures and infrastructure are intended to support fish passage at various flow rates.

## Salmon Allocation Policy Review

This past year, the Department embarked on a collaborative process with First Nations and stakeholders to review and update the 1999 Pacific Salmon Allocation Policy (SAP). This process of updating the SAP is being conducted in a manner that respects Canada’s Nation-to-Nation relationship with Indigenous peoples and engages stakeholders.

The existing Policy sets out a series of principles for allocating salmon in BC among the three harvest groups (First Nations food, social and ceremonial; commercial; and recreational) and within the commercial fishery among gear types (gillnet, seine and troll). This policy guides the prioritization of annual domestic allocations of salmon harvested in B.C. and the Yukon, along with legal obligations to First Nations under the Constitution and treaties, and Canada’s international obligations under the PST.



Photo: DFO · fishing vessel

Since the SAP was first adopted twenty years ago, there have been significant changes to fisheries management policy and Aboriginal rights. For example, presently treaties and reconciliation agreements are being signed and implemented. There have also been increased conservation requirements for stocks of concern, as salmon returns have increasingly become more uncertain. In the recent BC Supreme Court Ahousaht decision, the SAP principle of priority of allocation to the recreational fishery for Chinook and Coho over the rights-based fishery of five Nuu-chah-nulth Nations (Ahousaht, Ehattesaht/Chinekint, Hesquiaht, Mowachaht/ Muchalaht, and Tla-o-qui-aht) was found to be an unjustified infringement of their Aboriginal rights.

The Department has initiated a phased approach to develop an updated Salmon Allocation Policy for BC involving a high degree of collaboration with First Nations, the recreational and commercial fishing sectors. Anticipated phases include: (1) collaborative development of a Terms of Reference for process and scope of policy review; (2) information gathering, sharing of perspectives through broad engagement and conducting analysis to support the development of options; (3) collaborative development and consideration of options to best meet objectives and interests; and (4) collaborative development of recommendations.

The review process is currently in Phase 1, the collaborative development of a draft terms of reference for the review. An independent facilitator has been hired to support this collaborative process and there is a website for information on the review process (<https://www.pac.dfo-mpo.gc.ca/consultation/smon/sap-prs/index-eng.html>). In June 2019, an initial letter regarding the review was sent to the five Nuu-chah-nulth Nations (Ahousaht, Ehattesaht/Chinekint, Hesquiaht, Mowachaht/ Muchalaht, and Tla-o-qui-aht), all other B.C. First Nations, the First Nations Fisheries Council (FNFC), the Sport Fishing Advisory Board (SFAB), the Commercial Salmon Advisory Board (CSAB) and the Province of British Columbia.

Engagement since the June 2019 letter has included meetings between the independent facilitator, the Department, the five Nuu-chah-nulth Nations (Ahousaht, Ehattesaht/Chinekint, Hesquiaht, Mowachaht/ Muchalaht, and Tla-o-qui-aht), a working group assembled by the First Nations Fisheries Council with participants from Indigenous aggregate organizations, other interested First Nations, CSAB and SFAB. These discussions have informed the development of an initial draft of the terms of reference. A key next step will be broad consultations with all BC First Nations and interested stakeholders on the draft terms of reference later in 2020.

A concurrent process to review the Salmon Allocation Policy in the Yukon is also underway.

## The State of Pacific Salmon & Measuring Departmental Performance

In order to understand if the activities committed to in the Plan were leading to improved conditions for salmon populations and their habitats, DFO committed to reporting on key performance indicators within the Plan’s annual reports. Quantitative performance indicators are intended to complement qualitative and narrative data, as well as the work being conducted in various science forums. The combined data can provide a more holistic picture of what the Department has achieved, areas requiring improvement, and the way forward.

### State of Pacific salmon over 2019-20

In 2019, DFO published the State of the Salmon report. This report integrated scientific information on Pacific salmon, with freshwater and marine ecosystem trends. The intent of this initiative was to link overall salmon trends to climate and habitat changes, and to provide early insight into the vulnerability of these populations to changing environmental conditions.

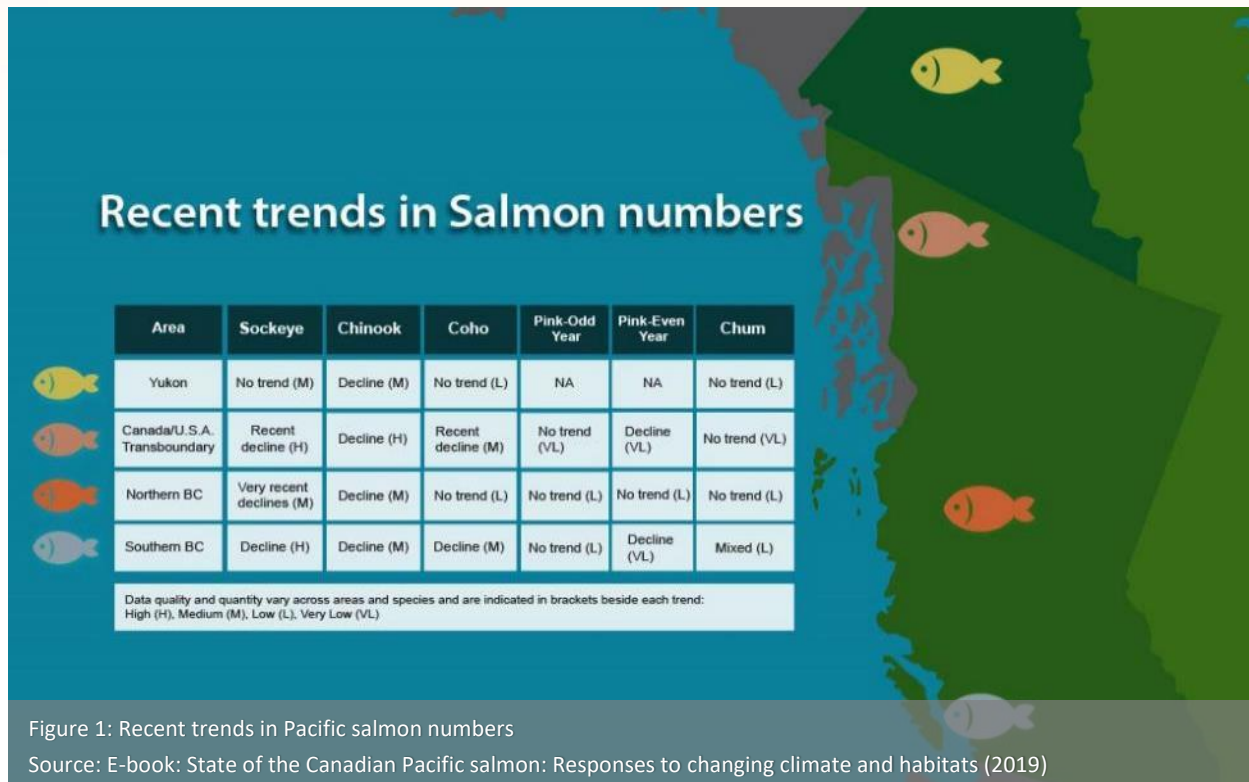


Figure 1: Recent trends in Pacific salmon numbers

Source: E-book: State of the Canadian Pacific salmon: Responses to changing climate and habitats (2019)

Some general patterns in Canadian Pacific salmon abundances are emerging, concurrent with climate and habitat changes. Chinook numbers are declining throughout their BC and Yukon range, and Sockeye and Coho numbers are declining, most notably at southern latitudes. Salmon that spend less time in freshwater, like river-type Sockeye, ocean-type Chinook, odd year Pink, and Chum are generally not exhibiting declines. There are exceptions to all these trends. Finally, catch numbers for Pacific Salmon have generally declined since the early 1990s.

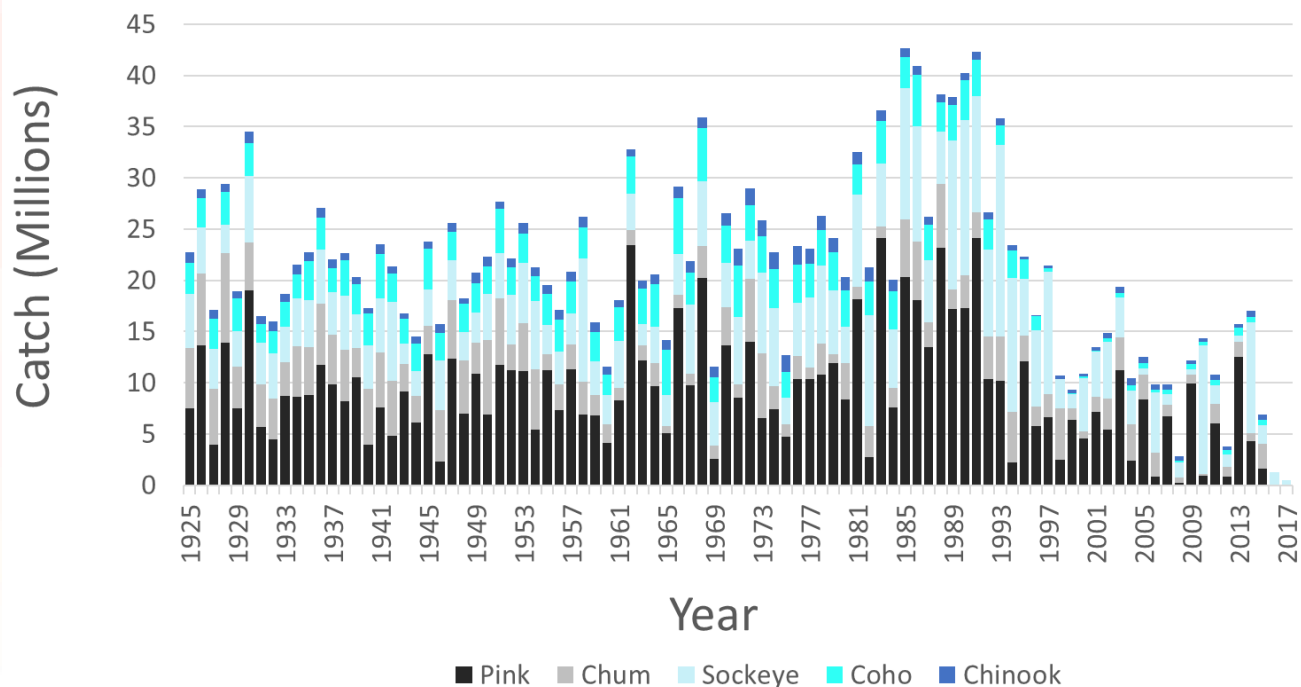


Figure 2: Commercial catch of Canadian Pink, Chum, Sockeye, Coho and Chinook Salmon (Grant et al. 2019c; NPAFC statistics: <https://npafc.org/statistics/> ). Average catch from 1925-1993 was 30 million, and from 1994-2017 was 15 million.

### Key Performance Indicators

As part of DFO’s suite of programs contributing to wild salmon conservation, the Department has already identified and reports on a number of performance indicators on an ongoing basis. These indicators support a greater understanding of the Department’s overall efforts on assessment and monitoring, as well as integrated strategic planning to support the restoration and maintenance of healthy salmon populations and their habitats. This information is included in the key performance indicator table below. DFO will continue to refine these key performance indicators, and develop new indicators as required to better articulate progress.

Performance Indicators & Current Data		Data Source
<b>9.1%</b>	of salmon CUs (in CSAS assessments) have WSP biological benchmarks and CU status assessment results <sup>2</sup> <ul style="list-style-type: none"> <li>Of the salmon CUs that have WSP biological benchmarks and CU status assessment results, <b>45.2%</b> are in the WSP cautious (amber) and healthy (green) zones<sup>3</sup></li> </ul>	Fisheries Management

<sup>2</sup> 42 out of 462 CUs. 22 Sockeye, 5 Coho, 15 Chinook, not including Data Deficient or TBD.

<sup>3</sup> 19 of 42 CUs assessed. 11 Sockeye, 5 Coho, 3 Chinook, not including Data Deficient, TBD or red/amber classifications. See Annex A for links to CSAS Report.

Performance Indicators & Current Data		Data Source
<b>27</b>	salmon MUs have harvest control rules outlined in salmon IFMPs <sup>4</sup>	Fisheries Management
<b>Currently unavailable<sup>5</sup></b>	of salmon CU's have at least one annual Escapement Estimate within the last five years available in the central database (NuSEDS) <sup>6</sup>	Science (NuSEDS)
<b>90%</b>	of enhanced salmon directly support DFO objectives for harvest, stock assessment and conservation (salmon production from major facilities) (as of March 2020)	Salmonid Enhancement Program
<b>76%</b>	of enhanced salmon directly support DFO objectives for harvest, stock assessment and conservation (salmon production through community facilities under the contribution program) (as of March 2020)	Salmonid Enhancement Program
<b>97.3%</b>	of salmon aquaculture farms in Pacific Region had no reported <i>Fisheries Act</i> violations in 2019-20 <sup>7</sup>	Aquaculture Program

<sup>4</sup> 11 Sockeye, 7 Chum, 1 Pink, 6 Chinook and 2 Coho. Currently there are 53 MUs identified in Yukon, Transboundary, Northern and Southern BC IFMPs.

<sup>5</sup> Data required to calculate this indicator is currently incomplete due to COVID-19 impacts on departmental operations.

<sup>6</sup> There are multiple populations for most CUs, so an annual CU estimate does not mean that the CU is “completely” or “adequately” estimated. Some missing data may be due to unavoidable time delays in entering CU estimates into NuSEDS. NuSEDS estimates only include CU definitions that are currently in use and not in “retired” status.

<sup>7</sup> C&P conducts thorough investigations on reported *Fisheries Act* violations and their associated regulations. Not all reported violations will result in charges. For the purposes of this document, the performance indicator is based on reported violations only, and not the result of the investigation.

## WSP Moving Forward: 2020-21

2020-21 will be another exciting year, as many activities due for completion in 2020-21 build on current achievements. The activities below are a snapshot of the work that the Department will undertake. By continuing to deliver on these activities, the Department will be well-placed to support the sustainability of wild Pacific salmon to 2022, and for generations to come.

### Look Ahead to Activities Targeted for Completion in 2020-21



#### Assessment

Next year's activities under this theme are largely focused on assessment of habitat status and inclusion of ecosystem values and monitoring strategies.

Assessment Activities	
Activity ID 11	Work with PSF to document salmon habitat characteristics.
Activity ID 12	Use information from Activity ID # 11 regarding habitat status indicators to inform freshwater elements of a risk assessment framework in order to explain status and trend patterns exhibited by a CU or groups of CUs (e.g. WCVI Chinook).
Activity ID 18	Use results from Activity ID 17 to identify potential actions and address key threats and limiting factors in any rebuilding plans for subject CUs (e.g. WCVI Chinook).
Activity ID 21	Report on indicator utility to compare the role(s) of major freshwater and marine ecosystem drivers in controlling status and trend patterns exhibited by data rich CUs and associated CU aggregates originating from two or more major biogeoclimatic zones in Canada's Pacific Region.

#### Maintaining and Rebuilding Stocks

The WSP recognizes that restoring and maintaining healthy and diverse salmon populations and habitats requires a coordinated focus on planning for these stocks – from fisheries management decisions, enhancement actions, to habitat considerations. Next year's activities under this theme focus on strategic planning work for rebuilding chinook populations and developing explicit biological goals to understand hatchery Pacific salmon's influence on wild Pacific salmon populations. With the WSP guiding the delivery of these activities, the Department will continue to integrate and align work across sectors to deliver on these activities and work towards the overall goal of maintaining and restoring wild Pacific salmon populations.

Maintaining and Rebuilding Stocks Activities	
Activity ID 31	Develop a WCVI Chinook rebuilding plan.
Activity ID 43	Develop explicit biological goals for hatchery-influence on populations <b>(Completed)</b> .

### Accountability



On June 21, 2019 the new *Fisheries Act* received royal assent and became law. The new provisions and stronger protections will better support the sustainability of Canada’s marine resources for future generations. The modernized *Fisheries Act* contains safeguards to reflect the evolving nature of fish and habitat management. The amendments will precipitate regulatory, policy, and program changes which could impact salmon and salmon habitat management. The Department will be considering the potential addition of activities to the Implementation Plan, to reflect key changes to the *Fisheries Act*.

Accountability	
Activity ID 48	Coordinate the addition of activities into the WSP Implementation Plan based on renewed <i>Fisheries Act</i> .

Meeting the goal of the Wild Salmon Policy is complex and the broader themes of *Assessment, Maintaining and Rebuilding Stocks*, and *Accountability* demonstrate that individual strategies are not autonomous. Successful integration of work under all themes is necessary to ensure its success. In addition to delivering on the targeted date activities listed above, DFO will continue to meet the nine overarching approaches and twenty-two ongoing activities.

## Conclusion

---

The second year implementation of the Plan has seen both successes and some challenges, and steps have been put in place to continue the momentum. From co-leading the genomic research for the Strategic Salmon Health Initiative, to working collaboratively with the Province of BC, First Nations, and other stakeholders through key initiatives such as BCSRIF, DFO is continuing to move forward with our commitment to protect wild salmon populations, alongside key partners. This work, along with the efforts by so many others in BC and Yukon, are important steps toward reaching the evergreen goal of restoring and maintaining diverse salmon populations for the benefit of the people and ecosystems of Canada in perpetuity. At the same time, ongoing environmental and climate change issues, plus unforeseen challenges, such as the Big Bar land slide and the COVID-19 pandemic, are contributing to the broader landscape within which salmon restoration and protection efforts are taking place. This requires us all to constantly be learning, reflecting and adapting our ongoing work, in order to restore and maintain healthy and diverse Pacific salmon populations and their habitat.

Moreover, the Department continues to recognize that the goal of the WSP cannot be achieved by DFO alone, and new and ongoing initiatives over the last year will help groups with an interest in wild Pacific salmon continue to undertake work to help Canada meet the goal.



Photo: Eiko Jones · Sockeye Salmon (*Oncorhynchus nerka*)



## Annex A: Wild Salmon Policy Implementation Resources and Acronyms

---

### Resources

- **Wild Salmon Policy:** <https://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/policy-politique/index-eng.html>
- **Wild Salmon Policy 2018-2022 Implementation Plan:** <https://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/ip-pmo/index-eng.html>
- **Wild Salmon Policy Implementation Plan Highlights, 2005-2017:** <https://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/wspi-ppi-eng.html>
- **International Year of the Salmon:** <https://npafc.org/iys/>
- **Government of Canada Open Data Portal:** <https://open.canada.ca/en/open-data>
- **Canada Nature Fund for Aquatic Species at Risk:** <https://www.canada.ca/en/fisheries-oceans/news/2019/02/the-government-of-canada-takes-action-to-protect-aquatic-species-at-risk.html>
- **Framework for reviewing and approving revisions to CU descriptions:** [http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2019/2019\\_015-eng.html](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2019/2019_015-eng.html)
- **Modernized Fisheries Act:** <http://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/index-eng.html>
- **Canadian Science Advisory Secretariat:** <http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm>
- **CSAS Science Advisory Reports:**
  - **Fraser River Sockeye:** <http://www.dfo-mpo.gc.ca/Library/349836.pdf>
  - **Southern BC Chinook:** <https://waves-vagues.dfo-mpo.gc.ca/Library/40595419.pdf>
  - **Interior Fraser River Coho:** <https://waves-vagues.dfo-mpo.gc.ca/Library/364851.pdf>
- **State of the Salmon report:** <https://waves-vagues.dfo-mpo.gc.ca/Library/40807071.pdf>

### Select Abbreviations

- **BCSRIF:** BC Salmon Restoration and Innovation Fund
- **CSAS:** Canadian Science Advisory Secretariat
- **CU:** Conservation Unit
- **DFO:** Department of Fisheries and Oceans / Fisheries and Oceans Canada
- **FA:** *Fisheries Act*
- **FFHPP:** Fish and Fish Habitat Protection Program
- **FSMC:** Fraser Salmon Management Council
- **RAMS:** Risk Assessment Method for Salmon
- **SAP:** Salmon Allocation Policy
- **SARA:** Species At Risk Act
- **WCVI:** West Coast Vancouver Island
- **NuSEDS:** New Salmon Escapement Database Systems
- **PSF:** Pacific Salmon Foundation
- **PST:** Pacific Salmon Treaty
- **WSP:** Wild Salmon Policy
- **The Plan:** *Wild Salmon Policy 2018-2022 Implementation Plan*

## Annex B: WSP Implementation Tracker

This is the detailed companion document that outlines specific activity status and key work to date. Additionally, the below table will outline any challenges faced by activities and explains any mitigation strategy in place to restore activities that are 'delayed' or 'facing challenges' back to 'on-track' status.

ACTIVITIES WITH A TARGET COMPLETION DATE	
<b>Completed</b>	The activity has been completed in full by the targeted completion date.
<b>On-Track</b>	Progress has been made on the activity, and it is on-track to be fully completed by the targeted completion date.
<b>Delayed</b>	The activity is delayed but mitigation strategies are in place to complete the activity.

ONGOING ACTIVITIES	
<b>On-Track, Ongoing</b>	Progress has been made this year, and is "on-track" to be delivered on an ongoing basis.
<b>Facing Challenges, Ongoing</b>	The activity is encountering delivery challenges, and mitigation strategies are in place with the goal of moving this activity to "On-Track, Ongoing".

### Overall Approaches

ID	Overall Approach	Current Status
<b>Approach ID</b>	<b>A description of the overall approach, as published in the WSPIP</b>	<b>See legend above.</b>
A	Engage BC and Yukon First Nations, partners, and stakeholders at the local level to leverage IKS and local expertise to gain understanding of habitat status and other factors limiting production	On-Track, Ongoing
B	Support First Nations' salmon governance processes and capacity aimed at facilitating collaboration	On-Track, Ongoing
C	Consider WSP guiding principles and objectives in ongoing management and program activities, both internally and with partners	On-Track, Ongoing
D	Consider WSP guiding principles and objectives in annual and multi-year planning processes	On-Track, Ongoing
E	Adapt and update best practices based on lessons learned	On-Track, Ongoing
F	Continue integrated planning discussions through various mechanisms, including local roundtables	On-Track, Ongoing
G	Consider WSP activities in the <i>Species at Risk Act</i> (SARA) listing process for any wild salmon species	On-Track, Ongoing
H	Work on an integrated approach to wild salmon with the Province of BC	On-Track, Ongoing
I	Continue engagement with Yukon First Nation Governments and the Yukon Salmon Sub-Committee to further salmon work in Yukon	On-Track, Ongoing

Activity Tracker

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
Activity number (1-48)	Which action step in the WSPIP does this activity map to	A description of the activity being undertaken, as published in the WSPIP	What sector/branch is leading the delivery of this activity	When is this activity targeted for completion	See legend above.	A summary of key work undertaken to date, any challenges being faced and any mitigation strategy in place to reduce these challenges to ensure activity is restored to on-track status
1	1.1 - Identify CUs	Maintain an authoritative database of CU descriptions, including biological and geographical attributes, and make it available to the public via the Government of Canada's Open Data portal	Science - StAR	31-Mar-19	Completed	All current Conservation Unit (CU) descriptions are posted on the Open Government Data Portal. Should new CUs be described, database will be updated as the information becomes available. Open Governmental Data Portal: <a href="https://open.canada.ca/data/en/dataset?keywords=Conservation+Units">https://open.canada.ca/data/en/dataset?keywords=Conservation+Units</a> . Note: A recent review of CUs determined that some CUs were actually data management categories, resulting in a smaller number of CUs overall. For example, "deprecated" and "deleted" categories are not CUs; "bins" are not necessarily CUs but rather a category to hold sites that for some reason are not assigned to a CU, however there may be situations where they refer to CUs. For further explanation of CU data management categories see link in Activity 2.
2	1.1	Develop a framework for reviewing and approving revisions to CU descriptions	Science-StAR	31-Mar-20	Completed	This activity has been completed and delivered in full. The CU revision framework has undergone a full Canadian Scientific Advisory Secretariat (CSAS) review. The published document is available here: <a href="http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2019/2019_015-eng.html">http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2019/2019_015-eng.html</a>

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
3	1.2 - Develop criteria to assess CUs and identify benchmarks for biological status	Modify existing metrics or develop new metrics to address CUs that cannot be assessed with existing status assessment tools and subject modifications to CSAS review process	Science-StAR	Ongoing, as required	On-Track, Ongoing	This activity remains on-track. Last year the Southern BC Chum status assessments methods were evaluated through the CSAS review process as seen <a href="#">here</a> . Currently, work with academic partners, to identify lake-specific carrying capacities based on landscape variables for data-limited Sockeye salmon CUs, is ongoing with a manuscript accepted for publication in the journal Limnology and Oceanography.
4	1.2	Document new methods for status assessments of CUs or groups of CUs and conduct peer review through the Canadian Scientific Advisory Secretariat (CSAS)	Science-StAR	Ongoing, as required	On-Track, Ongoing	Work continues to build on last year's development of new benchmarks for Fraser River Sockeye CUs that exhibit cyclic population dynamics. Currently, work is ongoing with the Pacific Salmon Foundation (PSF) to evaluate common assumptions in run-reconstruction and their impact on status assessments for data-limited CUs. A draft manuscript has been submitted for publication in the Canadian Journal for Fisheries and Aquatic Sciences. Although run-reconstruction is not a new method, this work provides value as it evaluates the rigor of current methods and identifies conditions under which assessments are not robust.
5	1.2	Develop a strategy to improve documentation of standards for data, methods, and reporting of monitoring programs	Science-ESD, StAR	31-Mar-22	On-Track	The Department has hired new staff to begin work to develop a strategy to improve documentation standards for data, methods, and reporting on monitoring programs. The work started in 2019-20 as part of the Pacific Salmon Treaty (PST) implementation and is in the early stages.
6	1.3 - Monitor and assess status of CUs	Apply and refine an approach for identifying and prioritizing CUs or groups of CUs for biological status assessments	Science-StAR Fisheries Management-SMCS	31-Mar-20	Delayed	Work is underway on several fronts for status assessments including documentation and development of management and assessment frameworks focused on stock management units (groups of CUs) that comprise both data-rich and data limited frameworks, and the development of methodology to determine limit reference points in data limited situations. This work will be useful for groups of CUs with limited individual CU information and synoptic CU assessments. The Department is currently working to compile broader information to move forward.
7	1.3	Continue to monitor CUs on a priority basis, using indicator, intensive, and extensive monitoring approaches	Science-StAR, ESD	Ongoing	On-Track, Ongoing	Ongoing monitoring programs are conducted annually throughout the Pacific region and foundational data is collected for a variety of stock assessment purposes. New PST funding (2019) has been invested in improving both intensive and extensive escapement monitoring programs.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
8	1.3	Update NuSEDS database of spawner abundances linked to CUs and publish via the Open Data portal	Science-StAR	Annually, March 31	On-Track, Ongoing	Spawner abundance estimates are updated routinely to the Open Government <a href="#">Data Portal</a> . Stewardship of the Open Data Portal is ongoing as data becomes available. Data was last updated on September 5, 2019.
9	1.3	Integrate research on the abundance, health, and condition of Fraser Sockeye during their migration in the marine environment from the mouth of the Fraser River through Johnstone Strait	Science-ESD, StAR, ADGT	31-Mar-22	Delayed	Ongoing research is underway through a number of initiatives including the Strategic Salmon Health Initiative, Strait of Georgia work, juvenile surveys, Mission rotary screw trap and <i>Species At Risk Act</i> (SARA) recovery potential assessments. Work has been initiated in completing reports on abundance and condition of Fraser River Sockeye and other Pacific salmon during their early marine residence. Eight reports are expected to be submitted by June 2020 with additional reports to follow. However, capacity to analyze and integrate data across various initiatives remains an ongoing issue. Increased capacity that support data acquisition, analysis, and management is an ongoing priority.
10	1.3	Work with PSF to enable better data transfer, availability and delivery	Science-StAR	Ongoing	On-Track, Ongoing	The salmon population data committee was formed to facilitate improved data sharing and transfer with the PSF. Data has been transferred with ongoing joint technical meetings to improve interpretation of results and any additional data that may be transferred.
11	2.1 - Document habitat characteristics	Work with PSF to document salmon habitat characteristics	Science-ESD, StAR	31-Mar-21	On-Track	Data collection and documentation of habitat characteristics will occur through the committee identified in Activity 10. The majority of habitat data currently assembled provides static 'snapshot' of status. Potential exists to integrate new technological capacity to develop dynamic indicators. The Department is exploring options to form a habitat working group with the PSF to parallel the existing salmon population data committee in Activity 10 to work towards dynamic indicators.
12	2.1	Use information from Activity ID # 11 regarding habitat status indicators to inform freshwater elements of a risk assessment framework in order to explain status and trend patterns exhibited by a CU or groups of CUs (e.g. WCVI Chinook)	Science-ESD, StAR	31-Mar-21	Delayed	A DFO-PSF working group has been formed to verify identification of wild salmon CUs and the utility of data sets to provide CU status and trend indicators. Activities by this group have not progressed sufficiently to support DFO-PSF collaborative work on habitat status and trend indicators. Recruitment of new freshwater science positions may help support this activity. Despite the challenges, work has been completed. Five papers have been published between 2015 to 2018 that develop meaningful habitat status indicators focused on flow, thermal, and nutrient regimes that provide conditions favorable for the sustainability of salmon CUs at various life stages (eggs/alevins, rearing fry, migrating adults) in rivers and lakes. Integration of results from several Risk Assessment Model for Salmon (RAMS) workshops are ongoing.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
13	2.1	Use results from Activity ID # 12 to identify potential actions and address key threats and limiting factors in an integrated management rebuilding plan for subject CUs	Fisheries Management-RMPD Science-ESD, StAR	31-Mar-22	Delayed	Although this activity is dependent on Activities 11, 12, and 18, there is progress in developing management frameworks, and the format and content of rebuilding plans, as a result of Bill C-68 related Fisheries Management Framework Initiative (FMFI) working group activities. Specifically, work is underway through the implementation of the modernized <i>Fisheries Act</i> to develop the governance structure and process to support the development of rebuilding plans and the initiation of recovery actions for stock management units and associated CUs.
14	2.2 - Select indicators and develop benchmarks for habitat assessment	Assemble data, conduct analysis and publish one or more reports to identify a core set of environmental indicators	Science-ESD, StAR	Ongoing	On-Track, Ongoing	The State of the Salmon program produces a general environmental section in the Salmon Outlook that provides information to inform salmon survival for the upcoming return year; this includes several metrics in freshwater and marine ecosystems. Next steps may include developing a broader suite of indicators and to quantitatively test their relationships to various salmon population trends. For Fraser Sockeye salmon, as seen in the following report ( <a href="https://waves-vagues.dfo-mpo.gc.ca/Library/40819103.pdf">https://waves-vagues.dfo-mpo.gc.ca/Library/40819103.pdf</a> ), more detailed work is conducted on linking environmental and habitat conditions in freshwater and marine ecosystems. The report provides an update on survival that Fraser Sockeye experienced up to the upcoming year's return. The process is qualitative and can be expanded to other salmon stocks pending additional resources and priorities. Annual presentations to inform survival for the upcoming return year are provided by the State of the Salmon Program to the Fraser Panel of the PST treaty process, the Salmon Working Group, Indigenous groups, and stakeholders.
15	Additional strategy work	Apply WSP objectives to all current and future Ecosystems Management Branch work that may affect wild Pacific salmon habitat	Ecosystem Management-FPP	Ongoing	On-Track, Ongoing	The new Fish and Fish Habitat Protection Program (FFHPP) is bringing significant new capacity to Pacific Region for fish habitat issues. This program will reorganize their operations on a watershed basis to increase connectivity between habitat regulatory activities and the status and context in a watershed. This will support the development of greater watershed-based expertise in our habitat program and will support stronger coordination within DFO and with supporting partners. The FFHPP is also investing in new staff and resources to support integrated planning. This will enable DFO to engage in strategic planning and partnerships to conserve, restore and protect fish and fish habitat and to monitor and report on results.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
16	3.1 Identify indicators to monitor status of freshwater ecosystems	Publish report on Risk Assessment Method for Salmon (RAMS) to assess potential for disturbance events or regimes in freshwater & marine ecosystems to control CU status and trend patterns	Science – ESD	31-Mar-19	Delayed	The Risk Assessment Method for Salmon RAMS methodology is in final stages of editing / revision. Competing priorities have delayed the publication of the report. It is anticipated that additional resources will be directed to this activity to support publication in 2020. Despite the delay, work related to this activity has been ongoing with six papers published by DFO since 2015 containing contents used in RAMS development and to inform workshops.
17	3.2 Integrate climate and ocean information into annual salmon management processes	Publish report(s) on results from initial application(s) of RAMS from one or more workshops (e.g. Cowichan Chinook, Barkley Sockeye)	Science-ESD	31-Mar-20	Delayed	The RAMS Cowichan Workshop Report is nearing completion. DFO Science staff are currently working with the report's lead author to finalize the report, with a goal to publish the report in 2020 in tandem with the RAMS method report noted in Activity 16.
18	3.1, 3.2	Use results from Activity ID 17 to identify potential actions and address key threats and limiting factors in any rebuilding plans for subject CUs (e.g. WCVI Chinook)	Fisheries Management-RMPD Science-ESD, StAR	31-Mar-21	On-Track	The planning process is underway with reviews of risks to salmon in selected watersheds (Activity 17) along the West Coast of Vancouver Island (WCVI) is on track to produce report by spring 2021.
19	3.1	State of the Salmon (SoS) Program to assess status and trends of salmon and associated environmental conditions in freshwater and marine ecosystems	Science-ESD, StAR, OSD	Ongoing	On-Track, Ongoing	Two interactive data visualization tools have been developed to track Pacific salmon trends and their status and compare trends among CUs. A static data visualization template has also been produced to support internal DFO reporting at the Stock Management Unit level. The priority to date has focused on salmon trend information. Collating information on environmental variables is a next step moving forward. DFO presents State of the Salmon trends at various stakeholder, internal, First Nation events. DFO continues to work towards enhanced internal integration to better identify key stock information and improve salmon data management practices.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
20	3.1, 3.2	Assemble environmental data (e.g. climate indices, ocean circulation indices, freshwater temperature, discharge, nutrient loads, primary production etc.) to assess potential for interactions among climate, ecosystems and habitat state to control status and trend patterns exhibited by priority CUs (e.g. southern Chinook and Sockeye) in representative biogeoclimatic zones (e.g. Fraser, West Coast Vancouver Island)	Science-ESD, OSD, StAR	Ongoing	On-Track, Ongoing	The State of the Salmon program produces a general environmental section in the Salmon Outlook that provides information to inform salmon survival for the upcoming return year; this includes several metrics in freshwater and marine ecosystems. Next steps may include developing a broader suite of indicators and to quantitatively test their relationships to various salmon population trends. For Fraser Sockeye salmon, as seen in the following report ( <a href="https://waves-vagues.dfo-mpo.gc.ca/Library/40819103.pdf">https://waves-vagues.dfo-mpo.gc.ca/Library/40819103.pdf</a> ), more detailed work is conducted on linking environmental and habitat conditions in freshwater and marine ecosystems. The report provides an update on survival that Fraser Sockeye experienced up to the upcoming year's return. The process is qualitative and can be expanded to other salmon stocks pending additional resources and priorities. Annual presentations to inform survival for the upcoming return year are provided by the State of the Salmon Program to the Fraser Panel of the PST treaty process, the Salmon Working Group, Indigenous groups, and stakeholders.
21	3.1, 3.2	Report on indicator utility to compare the role(s) of major freshwater and marine ecosystem drivers in controlling status and trend patterns exhibited by data rich CUs and associated CU aggregates originating from two or more major biogeoclimatic zones in Canada's Pacific Region	Science-ESD, StAR	31-Mar-21	Delayed	Environmental variables are being explored in various forecasting processes in the Pacific Region. Currently, the Department qualitatively compares environmental and habitat conditions for Fraser Sockeye and prepares a salmon outlook as part of the State of the Salmon program. The State of the Salmon program is working towards the final phase in the development of the program's reporting structure. However, significant work remains to organize on-going work that occurs across DFO Area and core Science staff, as well as integrate other Department programs such as FFHPP. The Department is currently conducting internal strategic planning to enhance cross branch / area alignment and coordination.
22	3.2	Provide salmon and environmental time series information (e.g. coast-wide Sockeye indicators) to State of the Ocean meeting	Science-ESD, StAR	Ongoing	Facing Challenges, Ongoing	Annual State of the Oceans presentations include: 1) presentation on State of the Salmon and their ecosystems; this collates trends largely qualitatively across salmon and freshwater and marine ecosystems; and 2) BC/Yukon Sockeye indicator stock time series. An ongoing challenge is having up-to-date and readily available data for most salmon populations outside of Sockeye. Concerning data availability, SACC will take the lead, supported by the Science Data Management Unit and Area Stock Assessment staff, to prioritize data management and timely availability of data in formats suitable to track trends. This goes beyond NuSEDS and requires necessary site selection, gap filling, etc. to identify escapement, return, and productivity time series information.



Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
23	3.2	Develop options and recommended actions through the Salish Sea Marine Survival Project to address human threats and biological limiting factors affecting survival of Chinook and Coho in the Salish Sea	Science-ESD, StAR	1-Dec-19	Delayed	This activity is delayed due to papers synthesizing the Salish Sea Marine Survival Project's findings are ongoing with anticipated completion in 2020. Over the five years of the project there has been over 30 <a href="#">papers and reports</a> published on various components of the research program from ocean condition, zooplankton, predators and changes in salmon populations over the past decades. Synthesizing the various research projects was identified as key priority in 2019. Meetings to synthesize the research projects were conducted between participants in December, 2019 and January 2020. The development of key topics for synthesis papers have been identified. The papers are currently in preparation with submission for publication expected in 2020. Moving forward, the juvenile salmon information provided to this project supports part of Science- ESD's core annual juvenile salmon monitoring program. The additional information provided by the 5 year study will assist in focusing targeting monitoring activities to address key bottlenecks or mortality periods of the juvenile salmon in their marine environment at a species or stock level.
24	Additional strategy work	Support ongoing national and provincial initiatives and increase interagency communication on cumulative effects assessment and management issues pertaining to shared aquatic ecosystem values	Policy and Economics - Policy	31-Mar-19	Completed	DFO is continuing engagement with the BC government on habitat issues, and to national colleagues on rebuilding plan discussions. The public interest in understanding cumulative effects for SARA listings, rebuilding plans and Chinook measures remains very high.
25	4.1 Implement an interim process for management of priority CUs	Include information on CU status considerations in IFMPs	Fisheries Management-SMCS Science-StAR	Ongoing	On-Track, Ongoing	All information available on completed status evaluations and integrated biological status designations are included in Integrated Fisheries Management Plans (IFMPs). This includes 15 of the 35 Southern BC Chinook CUs, 5 Interior Fraser River Coho CUs, and all Fraser River Sockeye Salmon CUs. Additionally, results are available from a review of a habitat-based approach to determine benchmarks for Strait of Georgia and Lower Fraser River Coho CUs. Progress on this activity will be linked to the completion of WSP integrated biological status assessments; as assessments are completed, information will be included in relevant IFMP sections.
26	4.1	Publish guidance outlining how DFO responds to Red CUs	Fisheries Management-SMCS, Science-ESD, StAR	31-Mar-22	On-Track	A draft guidance document has been reviewed by an internal DFO working group and is now being considered for inclusion in the implementation process of the modernized <i>Fisheries Act</i> ; the modernized act includes required rebuilding plans for major stocks that fall below a Limit Reference Point (LRP). Nationally, work is being done to support implementation of the <i>Fisheries Act</i> amendments. DFO is working to ensure guidance for responding to red CU's will be aligned with SARA, the WSP, and the modernized <i>Fisheries Act</i> .

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
27	4.1	Improve incorporation of existing available habitat and ecosystem status information into IFMPs	Fisheries Management-SMCS	Ongoing	Facing Challenges, Ongoing	IFMPs incorporate information on ecosystem and habitat status where information is available. However, a rigorous review and incorporation of available information in IFMPs has not been completed. A number of internal and external programs such as the Salmon Program (DFO Science) and Pacific Salmon Explorer (PST) exist that compile information on salmon ecosystem and habitat status information. Efforts will continue to be made to build linkages with these programs and incorporate available information into salmon IFMPs where possible. Beginning in 2019, a broad overview environmental section with information on the freshwater and marine ecosystems compiled through DFO's State of the Salmon Program was added to the salmon IFMPs. This year, this section was expanded to discuss the impact of recent environmental trends on salmon productivity in 2020.
28	4.1	Complete recovery assessments and identify rebuilding options for any COSEWIC assessed salmon species/stocks	Fisheries Management-SMCS	Ongoing	On-Track, Ongoing	Recovery Potential Assessment (RPA) and Science Advisory Reports were published for Okanagan Chinook and Interior Fraser Coho. RPAs for Southern BC Chinook (12 Endangered and Threatened DUs) and Fraser Sockeye (9 Endangered and Threatened DUs) are in progress and expected to be complete for CSAS review in early 2020/21. Identification of rebuilding options is underway for Sakinaw Sockeye, Okanagan Chinook, and Interior Fraser Coho and have been initiated for Fraser Sockeye and Southern BC Chinook. DFO recognizes that there is significant and sustained public interest in RPAs, SARA listings, recovery measures and rebuilding plans.
29	4.2 Design & implement a fully integrated strategic planning process for salmon conservation	Map CUs, freshwater and marine ecosystems, Fishery Management Units, and Outlook Units to clarify connections and nesting	Science – StAR	31-Mar-19	Delayed	Work to map and link CUs and stock management units (SMU) is currently underway. As part of <i>Fisheries Act</i> implementation, work is being done to streamline CU maps and define SMUs. Further, the FFHPP program is looking into options to define and link ecosystems aggregates for planning purposes. In the immediate term, a new staff position has been created to order data and put contracts in place to develop spatial layers. This work will contribute to the mapping of CUs and assist with clarifying connections between units.
30	4.2	Develop fishery reference points and associated decision rules that consider biological and other factors for harvest management, as priority and capacity permits	Fisheries Management-SMCS Science-StAR	Ongoing	On-Track, Ongoing	Fishery reference points and associated decision rules for fishery management units are documented in annual salmon IFMPs. Development of new, or changes to existing fishery reference points / decision rules, are considered for priority fishery management units and consulted on as part of the salmon IFMP development process. In 2018, consultations on revised abundance based stock status reference points, and exploitation rate caps for Interior Fraser River Coho, were completed and documented in the 2019/20 Southern BC salmon IFMP. Further work is underway to develop new tools to implement the fish stock provisions in the modernized <i>Fisheries Act</i> , including development of LRPs for major fish stocks. This information will be incorporated into IFMPs as work is completed.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
31	4.2	Develop a WCVI Chinook rebuilding plan	Science-StAR	2020	On-Track	This rebuilding plan is a pilot under the modernized <i>Fisheries Act</i> rebuilding regulations and is being developed in consultation with local First Nations and roundtable meetings. Studies and reviews continue at integrated round tables in 7 areas (Kyuquot, Nootka, Clayoquot, Barkley, Alberni, Nitinat, San Juan). In each area work includes identification of the most likely and most significant bottlenecks to salmon production in freshwater and estuarine habitats. The results from each area will be reviewed on a geographic scale encompassing the entire WCVI area and consensus developed on necessary actions.
32	4.2	Upon SARA listing of any Pacific Salmon Designatable Units (DUs), initiate recovery planning processes	Ecosystem Management-SARA	Ongoing	On-Track, Ongoing	No salmon DUs were listed under SARA in 2019-20, therefore no SARA recovery planning processes were initiated.
33	Additional strategy work	Advance Pacific North Coast Integrated Management Area (PNCIMA) implementation, building upon PNCIMA plan in an Ecosystem-Based Management framework	Ecosystem Management-Oceans	Ongoing	On-Track, Ongoing	The Reconciliation Framework Agreement (RFA) for Bioregional Oceans Management and Protection between Canada and 14 Pacific North Coast First Nations was announced on June 21, 2018. Canada and RFA nations have agreed to add BC as a party to the RFA for matters under Schedule A. Throughout fall 2019, Canada and BC have increased engagement with non-RFA partnering First Nations including offers of capacity funding. The development of a Marine Protected Area (MPA) Network for the Northern Shelf Bioregion is ongoing. Governing partners, stakeholders and non-partnering First Nations' review of the draft network scenario concluded on January 31, 2020. Internal work within DFO and the BC Government has also been undertaken to prepare for socio-economic analysis of a revised network scenario, which will be developed in consideration of input received by partners and stakeholders.
34	Additional strategy work	Document SEP program activity by CU (enhancement, community involvement, habitat restoration)	Ecosystem Management-SEP	Jun-19	Delayed	All hatchery enhancement is documented in a regional database by CU. Work has been advanced to document community involvement and habitat restoration activities by watershed because they often benefit multiple species across CUs; however, challenges remain in identifying a sustainable and consistent long term system to manage community involvement and habitat restoration information. The Salmonid Enhancement Program (SEP) has dedicated staff and hired support from consultants towards this effort but this work is delayed due to a variety of competing operational priorities limiting SEP's capacity for this activity.
35	Additional strategy work	Continue to implement transparent planning process for hatchery production taking into account the WSP objectives of wild salmon conservation and sustainable fisheries	Ecosystem Management-SEP	1-Jul-19	Completed	This activity is complete. The Salmonid Enhancement Program's (SEP) integrated production planning process has been implemented into the IFMP consultation process. Annual IFMP consultations are led by Fisheries Management and continue to be undertaken. SEP's hatchery production is included in this consultation. This process is described in the document <a href="#">SEP production planning : a framework</a> .

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
36	Additional strategy work	Investigate new research tools to diagnose and study disease and other conditions affecting wild salmon	Science-ADGT	Ongoing	On-Track, Ongoing	New tools and approaches to diagnose and study disease and other conditions affecting wild Pacific salmon are an ongoing research activity. Examples include: novel molecular tools to identify salmon in a viral disease state, advanced genomic techniques to support the development of diagnostic tests for pathogens, advanced genomic techniques to support the development of vaccines, investigation into the effects of pathogens on hosts, investigation into co-infection effects, examination of the impact of environmental factors on infection, tools to predict presence of specific stressors and stage of smolt readiness. The Department is committed to continue to develop science based tools to diagnose conditions affecting wild Pacific salmon.
37	Additional strategy work	Continue to co-lead the genomic research for the Strategic Salmon Health Initiative	Science-ADGT	Dec-19	Completed	<p>This activity is complete as DFO has continued to co-lead the Strategic Salmon Health Initiative with significant work completed over 2019-20 with the publication of nine primary <a href="#">articles</a> . Additionally, the program has amassed over 30 peer reviewed publications to date. However, the program will continue work through the end of 2020 to develop a synthesis paper hallmarking the key findings of the program, and a workshop will be held to rank pathogenic potential of all of the agents studied to identify which understudied agents should be followed up with disease challenge studies.</p> <p>Genomics research to date has led to the 1) discovery of over a dozen newly characterized viruses in salmon, 2) identification of infectious agents and genomic signatures associated with migratory survival of juvenile and adult salmon, 3) determined that temperature is a major driver of infection in wild salmon, and 4) identified infectious agents associated with new or emerging diseases on salmon farms.</p> <p>A new salmon Fit-Chip technology was developed within the program to provide a holistic measure of the cumulative and synergistic interactions between stress and disease impacting salmon survival. Moving forward, model results exploring eight to ten years of infectious agent data will be published for Chinook, Sockeye and Coho salmon.</p>

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
38	Additional strategy work	Complete scientific research and a risk assessment process with respect to risk of net-pen salmon farms in the Discovery Islands area to migrating Fraser River Sockeye Salmon	Science-ADGT	Ongoing	On-Track, Ongoing	DFO Pacific region science staff routinely provide science advice and participate in risk assessments. In January 2019, a risk assessment of the Piscine Orthoreovirus (PVR) on Fraser River Sockeye in the Discovery Islands was completed. In December 2019, an assessment of the risk to Fraser River Sockeye, from bacteria transferred from Atlantic salmon farms causing erosive lesions, was completed. An assessment of the risk to Fraser River Sockeye salmon due to Viral Hemorrhagic Septicemia Virus is in planning stage with an anticipated start in Spring 2020.
39	Additional strategy work	Review requirements for salmon farms to ensure risks to wild salmon are minimized	Fisheries Management- Aquaculture Science-ADGT	30-Sep-19	Completed	This activity is complete. The Framework for Aquaculture Risk Management (FARM) was finalized in October 2019 and the Framework on the Transfer of Live Fish, which provides guidance on disease management in response to the 'Namgis/Morton Court decision, was finalized in October 2019. DFO is continuing work related to this activity and have revised license conditions pertaining to sea lice with provisions for enhanced enforceability; the changes were issued on March 1, 2020. Finally, through the ongoing Introductions and Transfers Committee (ITC) process there is increased consideration for wild salmon/farmed interactions. The process is almost complete.
40	Additional strategy work	Ensure mandatory reporting related to the Aquaculture Activities Regulation	Fisheries Management- Aquaculture	Ongoing	On-Track, Ongoing	The Aquaculture Activities Regulation was implemented in 2015 and requires all DFO regional offices to participate in the collection and tracking of national aquaculture annual reports. Engagement with industry around mandatory reporting is ongoing. Drug and pesticide use data are publically reported on by National Headquarters. Benthic data are publically reported regionally. Work continues to ensure accurate and consistent reporting for the Pacific Region. Data on drug and pesticide is <a href="#">here</a> , and benthic data is <a href="#">here</a> .
41	5.1 - Assess the status of CUs and populations	Assess the value of annual lake stock assessments and monitoring programs for fall fry populations in the Fraser Basin with the goal of increasing work from two to four lakes annually	Science - ESD	31-Mar-19	Completed	DFO staff have planned and are currently implementing the expansion of field work to include four fry productivity lake assessments in any given year as part of a larger rotational scheme that targets dominant Sockeye years. Additional scientific work to explain the results of surveys is being considered on an ongoing basis.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
42	5.2 - Plan and conduct annual fisheries	Work towards implementation of Fisheries Monitoring and Catch Reporting Framework to incorporate risk-based standards and monitoring of harvester-funded programs	Fisheries Management-SMCS	Ongoing	On-Track, Ongoing	Final drafts of high-priority commercial Pacific salmon risk assessments will be incorporated in the 2020-21 Pacific Salmon IFMP. Work to incorporate risk-based standards and monitoring of harvester-funded programs will continue under the newly finalized National Fishery Monitoring Policy, which will eventually supersede the Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific fisheries.
43	5.4 - Plan and implement annual enhancement activities	Develop explicit biological goals for hatchery-influence on populations	Ecosystem Management-SEP	1-Jun-20	Completed	The Salmonid Enhancement Program, supported by DFO's Science Branch, contributed to publishing the CSAS paper " <a href="#">Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations</a> ". This paper contains biological goals for hatchery or hatchery-influenced Chinook salmon populations; therefore, this activity is complete. Development of genetic management guidelines to translate CSAS input into DFO operations is underway.
44	5.4	Continue to implement transparent decision making framework for hatchery production in fishery planning processes that takes into account WSP objectives, balancing of risks of genetic effects, and the socio-economic benefits of increased stock abundance	Ecosystem Management-SEP	Jul-19	Completed	SEP's integrated production planning process has been implemented into the IFMP consultation process. Annual IFMP consultations are led by Fisheries Management and continue to be undertaken. SEP's hatchery production is included in this consultation. This process is described in the document " <a href="#">SEP production planning : a framework</a> " (DFO 2012, updated 2018). The Framework is now used in conjunction with <a href="#">A Biological Risk Management Framework for Enhancing Salmon in the Pacific Region</a> (DFO 2013) and other supporting guidance material to guide DFO-SEP enhancement decisions.  Additionally, DFO's Science Branches' <a href="#">advice</a> received on the genetic implications of enhanced salmon on wild Chinook populations. Work is underway to develop genetic guidelines and assess current impacts (Activity 45); this work will also be consulted in future IFMPs.
45	5.4	Implement annual enhancement programs that utilize emerging science on hatchery-wild interactions	Ecosystem Management-SEP	Ongoing	On-Track, Ongoing	DFO and SEP employ current science to manage hatchery-wild interactions. Recent CSAS <a href="#">advice</a> provides a framework for further management metrics and goals. Development of genetic management guidelines to translate CSAS input into DFO operations are underway.
46	6.2 - Conduct regular reviews of the success of the WSP	Coordinate annual WSP implementation reporting, and publish annual report on the DFO website	Policy and Economics-Policy	Annually, April 30	On-Track, Ongoing	Internal coordination around activity tracking, reporting metrics and WSP status will continue on an ongoing annual basis. Annual Reports will continue be produced, published and made publically available on the DFO website.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
47	6.2	Coordinate 5-year reporting and publish 5-year review report on the DFO website	Policy and Economics-Policy	30-Apr-22	On-Track	Preliminary work surrounding reporting metrics is in early stage development. Further work is expected to occur closer to completion date.
48	Additional strategy work	Coordinate the addition of activities into the WSP Implementation Plan based on renewed <i>Fisheries Act</i>	Policy and Economics-Policy	2020	On-Track	On June 21, 2019 the modernized <i>Fisheries Act</i> received royal assent and became law. To implement the new Act, the Department has created the new FFHPP Program. As well, a key aspect of the changes to the <i>Fisheries Act</i> is the introduction of fish stock provisions which establish binding commitments to implement measures for maintaining major fish stocks. Work has started on this activity, with further progress expected later in the year.