



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

Annual Report 2020-21

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Executive Summary

On October 11, 2018, the Minister of Fisheries and Oceans and the Canadian Coast Guard released the *Wild Salmon Policy 2018-2022 Implementation Plan* (the Plan). This document outlines nine overarching approaches and 48 activities the Department of Fisheries and Oceans (DFO) is committed to undertaking over a 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. This is DFO’s third annual report and builds upon the annual reports published in 2019 and 2020.¹

In 2021, DFO published an Addendum to the Plan, which includes newly identified Activities 49 to 54. The Addendum is a result of the commitment DFO made under Activity 48 of the Plan to “coordinate the addition of new activities into the WSP Implementation Plan based on the renewed *Fisheries Act*”. This is intended to ensure the Plan reflects the work currently underway as part of the implementation of the modernized *Fisheries Act*, which received Royal Assent in 2019.

Over 2020-21 the Department continued to make progress on 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, as well as continued collaboration with First Nations, the Province of British Columbia, Yukon Territory and stakeholders.

	Overarching Approaches	Activities with a Target Completion Date	Ongoing Activities
Number of Activities	9	32	22
Number On-Track or Completed 2020-21	9	21	21
Number Delayed or Facing Challenges 2020-21	0	11	1

This Annual Report **highlights the Department’s 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.

¹ <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/index-eng.html>

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 a keystone species in marine, freshwater, and terrestrial ecosystems. Many species of fauna and flora – from 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 spiritual, cultural, social and economic well-being.



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

The protection of wild Pacific salmon stocks is a key priority for DFO, particularly given the complex challenges facing the species. Many Pacific salmon populations are suffering losses at every life stage due to a combination of factors including climate change and warming waters; habitat degradation, changes in land and water use, and pollutants; acute one-time events (toxic spills and landslides); and illegal, unreported, and unregulated international fishing pressures. Currently, 39 different Pacific salmon populations are under consideration for listing under the *Species At Risk Act* (SARA) and more are pending assessment by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

When it was released in 2005, the Wild Salmon Policy marked a major turning point in the management of Pacific salmon by articulating a conservation ethic to preserve genetic diversity as well as salmon abundance. The ultimate goal of the WSP is to: "...restore and maintain healthy and diverse salmon populations and their habitats for the benefit and enjoyment of the people of Canada in perpetuity." To meet this goal, the WSP identified six strategies, including Strategy 6 which committed DFO to ongoing review of the implementation and success of the Policy. The Implementation Plan² outlines nine overarching approaches and 48 specific activities DFO would undertake over a five-year period to advance the long-term goal and objectives of the WSP. It also grouped the strategies into three interrelated themes: assessment; maintaining and rebuilding stocks; and accountability.

In 2021, DFO published an Addendum to the Plan³ which introduced six new activities derived from new programming under the renewed *Fisheries Act*. Informed by extensive consultations with the public, industry, environmental groups and Indigenous peoples, the renewed *Fisheries Act* improves the protection of fisheries and the aquatic ecosystems that sustain them. In order to ensure alignment with the renewed Act, the Plan contains

² <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/ip-pmo/index-eng.html>

³ <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/ip-pmo/addendum-eng.html>

a commitment, captured in Activity 48, to “coordinate the addition of activities into the WSP Implementation Plan based on the renewed *Fisheries Act*.”

As the Plan moves towards the end of its five-year period in 2022, DFO continues to focus on the protection and conservation of wild Pacific salmon stocks. The January 2021 supplementary mandate letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard highlighted a commitment to work in close collaboration with relevant ministers, as well as with First Nations, provincial and territorial authorities, fishing and stewardship organizations and implicated communities across the Pacific Region to bring forward a Pacific Salmon Strategy. *Budget 2021: A Recovery Plan for Jobs, Growth, and Resilience* identified \$647.1 million over five years (plus \$98.9M in amortization) for initiatives aimed at protecting and conserving Pacific salmon stocks. DFO has begun work regionally and nationally on the Pacific Salmon Strategy Initiative (PSSI), and is committed to working with First Nations, provincial and territorial authorities, and key salmon stakeholders to improve our understanding of trends in salmon stocks, identify and pursue opportunities for collaborative action to protect and conserve salmon habitats, and support the sustainability of Canada’s salmon populations.

Impacts from Climate and Environmental Changes

Climate change has emerged as the key driver of salmon population trends, affecting the freshwater and marine ecosystems that salmon use throughout their lives. Prolonged marine heatwaves are reducing the quality of food for salmon near the base of their food webs. Summer river temperatures are more frequently too warm for salmon. Although these climate related effects will generally increase over time, impacts will vary by salmon population based on the unique ecosystems, fisheries, and other factors salmon experience cumulatively over their lives. Factors such as habitat changes, fisheries, disease, and pollutants can act alone or cumulatively to affect salmon population trends and are all embedded within this climate change context.

COVID-19

Throughout 2020-2021, the COVID-19 pandemic continued to impact 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. In 2020, the Department adapted quickly to continue delivering critical services and operations while working to minimize transmission. With respect to the Plan, a number of activities were delayed due to COVID-19. For example, teams were unable to undertake field work and consultation became challenging as communities, as well as DFO, had to shift resources to address COVID-19 related priorities.

International Context

The Pacific Salmon Treaty (PST) is the principle 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).

On May 3, 2019, the Parties implemented a new 10-year agreement for a number of these fishing chapters, which are now in force through 2028. Chapter 4, which addresses the management of Fraser River Sockeye and Pink salmon, expired on December 31, 2019 and Canadian-U.S. negotiators reached agreement-in-principle on proposed amendments in February 2019. The new amendments officially came into force in February 2021 and will also remain in place until 2028. Consultations were held with First Nations and stakeholders leading up to, and throughout, these negotiations. The Department also continues to schedule consultation sessions and meetings, as needed, to identify, discuss, and help mitigate potential concerns regarding the agreement.



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

To support Canada in meeting new obligations under the Treaty, in September 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. Funding focuses on improving our understanding of climate change, harvest, and other factors impacting wild Pacific salmon stocks through specific activities, including stock assessment; coded-wire tagging (CWT) and recovery; and catch monitoring and reporting. These investments also ensure that the Department is working closely with First Nations and stakeholders to manage Pacific salmon fisheries and improve our understanding of trends in salmon stocks for the conservation and sustainability of Pacific salmon. In this regard, new grants and contribution funding has led to approximately 64 agreements being signed with First Nations, from 2019 to 2021, to support their role in implementing the Treaty.

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.

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 the Precautionary Approach to Fishery Decision-Making 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.

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.

Modernized Fisheries Act

Under the *Fisheries Act*, DFO is responsible for managing Canadian fisheries resources and for managing, conserving, and protecting Canadian fish and fish habitat. 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, Bill C-68, *An Act to amend the Fisheries Act and other Acts in consequence* received Royal Assent. The amendments were 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 *Fisheries Act*: (1) the introduction of Fish Stocks Provisions for prescribed major fish stocks; and (2) the transformation of the Fisheries Protection Program into the Fish and Fish Habitat Protection Program (FFHPP) with an enhanced mandate and resourcing.



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

New Fish Stocks Provisions

The amendments established binding commitments on the Minister of Fisheries and Oceans to:

- Implement measures to maintain major fish stocks at levels needed to promote sustainability, and
- Develop and implement plans for stocks that have declined to or below their limit reference point (LRP) – the stock level below which productivity is sufficiently impaired to cause serious harm.

These provisions only apply to stocks prescribed in regulation. On January 2, 2021, the Department pre-published regulations amending the Fishery (General) Regulations under the *Fisheries Act*. The proposed regulations would prescribe 30 fish stocks, including three Pacific salmon stocks: West Coast Vancouver Island (WCVI) Chinook, Okanagan Chinook and Interior Fraser Coho. Other major stocks will continue to be prescribed in future years.

The *Fisheries Act* requires rebuilding plans be put in place within 24 months after the Minister has prescribed the stock in regulation if the stock is already below its LRP, or within 24 months of the stock declining to or below its LRP.

Fish and Fish Habitat Protection Program

The former Fisheries Protection Program was transformed into the Fish and Fish Habitat Protection Program (FFHPP) to implement key elements of the modernized *Fisheries Act*. The FFHPP works to conserve, protect and restore fish and fish habitat, and aquatic ecosystems for Canadians, now and in the future. It does this by focusing

on four primary work areas: (1) regulatory reviews and advice; (2) integrated planning; (3) engagement and partnerships; and (4) Indigenous engagement.

The FFHPP is responsible for administering the fish and fish habitat protection provisions of the *Fisheries Act* and certain provisions of the *Species at Risk Act* (SARA), and ensuring compliance with these provisions. The FFHPP's regulatory activities include conducting regulatory reviews of proposed development activities, compliance monitoring of projects in and near water, and coordinating departmental advice into Impact Assessments (IAs) for projects undergoing federal impact assessments. The FFHPP's Integrated Planning Division enables proactive planning, management, and coordination with Indigenous groups, partners, and stakeholders, and provides information to support more informed decisions for fish and fish habitat in freshwater and coastal ecosystems. The Engagement and Partnerships Unit engages with Canadians on policy, program and regulatory changes while working with partners and stakeholders to implement changes to the *Fisheries Act*. The Indigenous Engagement Unit continues to advance Indigenous reconciliation by providing guidance to staff and supporting a respectful approach to fulfilling the Crown's duty to consult, including through consideration of Indigenous knowledge.

Much of the FFHPPs work involves 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.

2021 Addendum to the WSP Implementation Plan

In order to ensure to alignment between the modernized *Fisheries Act* and the Plan, Activity 48 commits DFO to coordinating the addition of activities into the Plan based on the renewed *Fisheries Act*. DFO identified six new activities and published the Addendum to the Plan in 2021. The new activities are listed below.

Activity ID 49 – DFO Pacific Science to provide advice on methodology to estimate LRPs for salmon Stock Management Units (SMUs) comprised of one or more Conservation Units (CUs)

LRPs are a necessary pre-requisite for prescribing stocks under the Fish Stocks provisions. This activity includes identifying a method for defining LRPs for SMUs, which consist of an aggregate of CUs exposed to similar fisheries and other life history factors. SMUs are the scale at which the Fish Stocks provisions will be applied to Pacific salmon.

Activity ID 50 - Apply the national Policy Guidelines for Writing Rebuilding Plans per the Fish Stocks Provisions and the Precautionary Approach Policy to Pacific salmon in a manner consistent with the Wild Salmon Policy

National guidance on Fish Stocks provisions are being developed from the perspective of one stock-one rebuilding plan. DFO Pacific's Science branch will transfer this guidance to SMUs of Pacific salmon and provide guidance on the scale of planning for harvest, hatcheries and habitat (e.g., watershed, ecosystem, etc.).

Activity ID 51 - Coordinate implementation of Fish Stocks provisions for Pacific salmon

DFO Pacific's Fisheries Management Branch will coordinate and develop plans to implement requirements of the Fish Stocks provisions for Pacific salmon stocks that are prescribed in regulations. The activity includes identification of SMUs for prescription under the Fish Stocks provisions and work-planning to support regulatory requirements (including rebuilding plans) for prescribed stocks.

Activity ID 52 – Study Coho salmon habitat use, productivity and response to land use change in the North Thompson watershed

Coho salmon in the North Thompson River are part of the Interior Fraser Coho population, which is assessed as ‘threatened’ by COSEWIC. However, there remain substantial unknowns regarding their early life history in freshwater. This work includes a series of investigations to identify areas of high habitat use, discern levels of habitat productivity, and examine how habitats are being impacted by land use activities.

Activity ID 53 – Engage with external partners and stakeholders on Cumulative Effects, Habitat Offsetting and Banking, Prescribed Works and Waters Regulations, Fisheries Act Registry, Codes of Practice and Engagement Framework

DFO’s FFHPP is seeking input from Indigenous peoples, governments and regulators, the regulated community and conservation groups to modernize and develop new policies, frameworks, instruments and guidance to further implement the fish and fish habitat protection provisions of the modernized *Fisheries Act*. In particular, FFHPP is undertaking engagement on the following:

- Codes of Practice: outline best practices for avoiding harmful impacts to fish and fish habitat. Section 34.2 of the *Fisheries Act* allows the Minister to establish Standards and Codes of Practice.
- Habitat Offsetting and Banking: offsetting is an action a proponent can take to counterbalance negative effects of their project on fish and fish habitat. Offsetting is used only after measures to avoid and mitigate any unresolved effects have been exhausted. Habitat banking allows a proponent to create conservation projects in a particular area to offset anticipated adverse impacts to fish and fish habitat. In an ongoing effort to improve the conservation and protection of fish and fish habitat, DFO is proposing to modernize its offsetting and habitat banking policies.
- Prescribed Works and Waters Regulation: The proposed prescribed works and waters regulation would provide an additional tool for DFO to manage potential impacts to fish and fish habitat in Canada. This regulation could establish, or “prescribe”, conditions for certain types of routine projects or projects in certain kinds of minor waterbodies. Subsection 34.4(4) of the *Fisheries Act* provides the authority for DFO to develop this regulation.
- Cumulative Effects: Occurs where the impact of multiple pressures overlap, and a system does not have adequate time to recover. In so doing, cumulative effects can create a larger impact than that of any of the individual pressures—which might otherwise be considered negligible. DFO is developing a Policy Framework for the Consideration of Cumulative Effects to provide guidance to staff on interpreting legislative obligations and to provide clarity to partners and stakeholders on how cumulative effects will be considered by the Department in regulatory decision-making. The renewed *Fisheries Act* obligates DFO to consider the cumulative effects of regulatory decisions as they relate to fish and fish habitat.
- *Fisheries Act* Registry: DFO is working towards establishing a full *Fisheries Act* Registry portal to provide more information and tools to better support the Government’s goals around transparency, access, and accountability. The renewed *Fisheries Act* also includes a commitment to report to Canadians.

Activity ID 54 – Review and update the WSP Implementation Plan to ensure consistency of definitions with the renewed Fisheries Act

The Department will review the Plan to identify any inconsistencies in definitions between the Plan and the *Fisheries Act*. The scope of this activity is limited and will not include a fulsome review of the Plan.

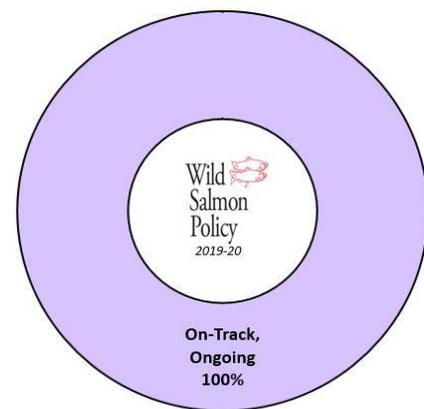
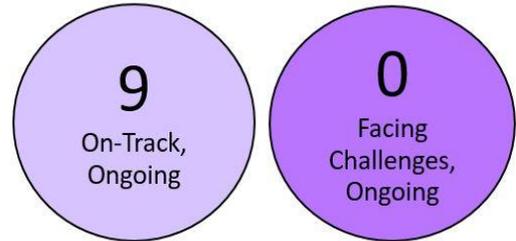
Overall Progress on WSP Implementation

Over 2020-2021, the Department continued to make progress on the activities outlined in the five-year Plan. However, some activities continued to face delays from previous years as a result of unanticipated challenges. Overall, 100% of the overarching approaches and 78% of the activities are either completed or on-track. 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 32 activities with a target completion date (the blue chart below), 21 are now either complete or on-track to be completed by their target date, and 11 are delayed. For the 22 ongoing activities (the purple chart below), 21 are on-track and are being routinely delivered as planned, with only one 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	
Completed	The activity has been completed in full by the target completion date.
On-Track	Progress has been made on the activity, and it is on-track to be fully completed by the target completion date.
Delayed	The activity is delayed but mitigation strategies are in place to complete the activity.

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

54 ACTIVITIES

32 with a TARGET COMPLETION DATE

22 ONGOING

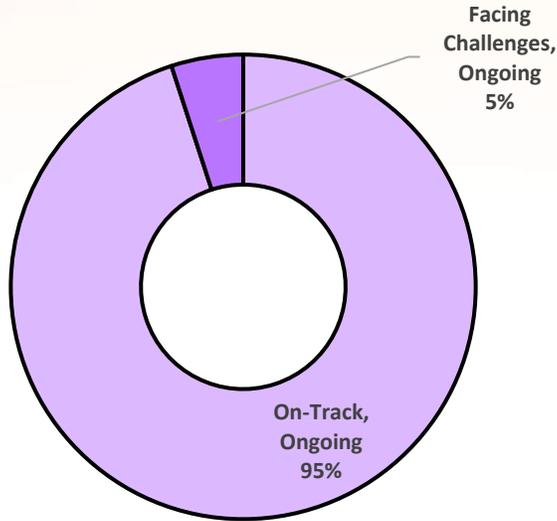
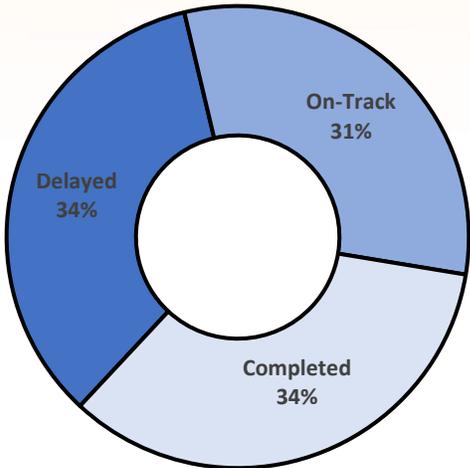
11
Completed

10
On-Track

11
Delayed

21
On-Track,
Ongoing

1
Facing
Challenges,
Ongoing



WSP Implementation Plan Activity Highlights

While Annex B outlines the status of all activities, this section provides specific snapshots of WSP implementation for:

- Activities targeted for completion in 2018-19 and 2019-20 which were delayed at the time of previous Annual Reports; and
- Activities targeted for completion in 2020-21.

Theme 1 Assessment

The activities under this theme relate to the assessment and monitoring of Pacific salmon, its habitats and ecosystems. Assessment work is considered the foundation of successful management and is a critical first step in integrated planning.



Photo: Rory Hill · Coho Salmon (*Oncorhynchus kisutch*)

2018-19 and 2019-20 Activity Highlights

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

Target Completion Date: March 31, 2020

Delayed: Stock Management Units (SMUs) (groups of CUs) were identified for implementation of the Fish Stocks Provisions of the revised *Fisheries Act* to enable a coordinated approach for program delivery and to reduce duplication and manage workload. The 69 SMUs will be used to group CUs for planning purposes, including the prioritization of CUs for biological status assessments. There is now a better understanding of the work required to complete 'biological status assessments'.

The development, review and acceptance of a risk-based tool that applies to SMUs for the purpose of prioritizing status assessments and the appropriate forum for this purpose has proven challenging due to the fact that this activity may require significant and ongoing coordination amongst sectors. One issue still to be resolved is the extent to which applying a prioritization tool is a collaborative process that engages stakeholders and the appropriate forum for doing so. Previous risk-based prioritization work for Management Units (MUs) may be helpful in informing prioritization efforts and existing tools could be refined for Wild Salmon Policy status assessments as well. Status assessments may require a tiered approach based on the intended use of the assessment in order to permit cost-effective prioritization efforts with available resources. It should be possible, in a relatively short period, to apply risk criteria/tools to SMUs using the Salmon Assessment Coordinating Committee for an initial internal review. Broader First Nation and stakeholder engagement will require a workshop approach.

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

Target Completion Date: March 31, 2019

Delayed: Three draft documents have been completed and are under revision to be available as an integrated set. The documents are:

1. RAMS origins/development and relevance to Wild Salmon Policy
2. RAMS application and results for Cowichan Chinook
3. General Guidebook for RAMS applications

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)

Target Completion Date: March 31, 2020

Delayed: Draft reports have been completed, but finalization of reports has been delayed due to COVID-19 restrictions and the impacts on completing consultations with local groups.

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

Target Completion Date: December 1, 2019

Completed: The Salish Sea Synthesis committee published the full synthesis and summary final reports in 2021. They are available here: [Research Findings - Salish Sea Marine Survival Project](#).

2020-21 Activity Highlights

Activity ID 11: Work with the Pacific Salmon Foundation (PSF) to document salmon habitat characteristics (in freshwater); and

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)

Target Completion Date: March 31, 2021

Delayed: During the 2020-21 fiscal year, progress on these activities was delayed due to COVID-19 and the emergence of unexpected priorities. However, the Central West Coast Forest Society (CWFS) is reviewing local habitat indicators and comparing them to coarser scale regional indicators available in the Pacific Salmon Explorer as the basis for WCVI salmon CU risk assessments. There is an opportunity to collaborate with CWFS and West Coast Aquatic groups on future risk assessments. Additional effort can be invested from South Coast Area and Core Science to coordinate these activities through local area roundtables and a RAMS process.



Photo: DFO · Near Chilliwack Hatchery Fraser Valley

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)

Target Completion Date: March 31, 2021

Delayed: Cowichan work is summarized in a report entitled "[Cowichan Watershed and Chinook Health Initiative](#)." Implementation of key factors, especially water/flow are being addressed by local government and Cowichan Tribes. This work was also incorporated into Southern BC Chinook Initiative. Progress has been delayed due to COVID-19 related restrictions.

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.

Target Completion Date: March 31, 2021

Delayed: The major report indicated by this activity has been delayed. The reporting is part of the annual business cycle of the State of the Salmon program. Information on the major drivers that impact the status and trend patterns of salmon CUs is provided in the annual State of the Salmon Reports and the State of the Pacific Ocean Reports.

Theme 2 Maintaining and Rebuilding Stocks

The Maintaining and Rebuilding Stocks theme details work regarding progressive and integrative planning and annual program delivery, including how information from assessment activities can be used to manage, maintain and rebuild stocks and habitats.

2018-19 and 2019-20 Activity Highlights

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

Target completion date: March 31, 2019

Delayed: Work is underway and CU maps have been updated, but some verification work remains, and Yukon CUs need to be added. The production of SMU maps, which aggregate CUs has been initiated and is expected to proceed quickly. Mapping Fishery Management Units will be the final step after some conceptual work to address the scale of these maps. Completion is expected in winter 2021.

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

Target completion date: June 2019

Delayed: All hatchery enhancement is documented in a regional database by CU. In 2020-21, the Salmonid Enhancement Program (SEP) worked with other DFO teams to develop and populate the Pacific Restoration Tracker. This tracker maps restoration projects and activities supported by DFO's transfer payment programs. For ease and clarity (i.e. visual representation) restoration projects and activities are mapped by watershed rather than CU. Additional work is required to complete the documentation of community involvement

activities. As SEP activities are ongoing and adaptive, we see this documentation activity as an integral and ongoing contribution to WSP implementation.

2020-21 Activity Highlights

Activity ID 31: Develop a WCVI Chinook rebuilding plan

Target completion date: December 31, 2020

Delayed: Ten risk assessment workshops have been completed and work is underway to address key knowledge gaps identified during these sessions. A joint DFO-Nuu-Chah-Nulth steering committee was established to guide development of the rebuilding plan and a marine risk assessment workshop is planned for fall 2021.

As a result of COVID-19, field activities and the risk assessment workshops were delayed. In addition, there is a need to align the SARA listing process with the Rebuilding Plan process due to COSEWIC's assessment of WCVI Chinook as 'threatened'. Completion is expected by March 31, 2022.

Theme 3 Accountability

The Accountability theme commits DFO to completing activities and reporting publicly on progress to ensure that activities and governance structures in the Plan are operationalized and effective. This reflection will enable DFO to adjust activities to better meet the WSP goal over time.

2020-21 Activity Highlights

Activity ID 48: Coordinate the addition of activities in the WSP Implementation Plan based on the renewed *Fisheries Act*

Target completion date: March 31, 2021

Completed: On June 21, 2019, the modernized *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 Department has published an Addendum to the Plan which identifies six new activities all targeted for completion by March 31, 2022. The proposed activities were developed through dialogue with Indigenous groups and stakeholders including the Salmon Coordinating Committee under the First Nations' Fisheries Council.

Update on other Pacific Salmon Initiatives over 2020-2021

Climate change and other stressors are contributing to concerning trends among Pacific salmon populations and the ecosystems they rely on throughout their lives. Further, the Big Bar Landslide continues to pose challenges for upper Fraser salmon and steelhead migration. Unfortunately, sustained harvest reductions over the past 30 years have not reversed declining trends.

Pacific Salmon Strategy Initiative

DFO recognizes that a bold and targeted response with concrete actions is required to effectively address the steeply declining trends in many Pacific salmon populations, and rebuild the species where possible.

Budget 2021 announced a historic \$647.1 million over five years (plus \$98.9 million in amortization) for the PSSI which will advance targeted actions through four key pillars:

1. **Conservation and Stewardship:** improved habitat monitoring and assessment, and integrated ecosystem planning and restoration with partners.
2. **Salmon Enhancement:** new hatchery facilities and enhanced scientific expertise to support salmon conservation where most needed to support stocks, and targeted fishing opportunities.
3. **Harvest Transformation:** transformation of salmon fisheries to improve stability and resilience in the harvest sector.
4. **Integration and Collaboration:** collaboration with Indigenous, provincial, territorial and international governments.



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

The PSSI builds on and supports the years of engagement, consultations, and work that Indigenous communities, commercial and recreational fishers, grassroots organizations, scientists and others have contributed to protect and recover Pacific salmon. The four pillars provide a holistic framework and are supported by five horizontal principles: **Indigenous Reconciliation; Innovative Solutions; Prioritization; Enhanced Transparency, Data and Trust; and Partnerships and Collaboration.**

As part of the PSSI, on June 29, 2021 the Minister of Fisheries, Oceans and Canadian Coast Guard announced significant commercial salmon closures for the 2021 season. These conservation-driven management decisions provide strong protections for the most fragile stocks of concern across the Pacific region and form an important part of the harvest transformation pillar. Engagement and consultations with affected First Nations and harvesters on the approach for long-term closures, as well as mitigation measures for those affected by the closures, is anticipated to begin in 2021.

The PSSI will be advanced in collaboration with First Nations, provincial and territorial governments, harvesting groups, stakeholders, communities, and others who depend on Pacific salmon and who have been calling for transformative long-term action. Early engagement has already begun with a focus on how First Nations, partners, and stakeholders want to be engaged. As more details of the Initiative are released, further engagement on implementation and enhanced collaborative processes will commence.

The PSSI is a long-term initiative that recognizes that Pacific salmon populations take time to recover. The PSSI will have a combination of short, medium and long-term milestones to ensure we are making meaningful progress in protecting and rebuilding Pacific salmon and salmon habitat in the Pacific region. Since Pacific salmon recovery depends on many factors, it is important to understand that collective efforts to rebuild Pacific salmon stocks will take time to fully show results, as long as 10-15 years. The Department has undertaken initial work on PSSI milestones and targets for the next five years, with further refinement occurring as the implementation details are determined in collaboration with First Nations and other partners.

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 that supports the protection and restoration of wild Pacific salmon and other B.C. fish stocks, as well as projects to ensure the fish and seafood sector in B.C. is positioned for long-term environmental and economic sustainability. When the program was originally launched, total funding amounted to \$142.85 million over five years. The federal government provides 70% of the funding and 30% comes from the Province of B.C. Budget 2021 proposed doubling the federal funding to BCSRIF with an additional \$100 million in funding.

Funding priorities are collaboratively developed and approved by DFO and the Province of B.C. annually to reflect key areas of each party's interests and support current government priorities. Examples of projects include:

- The **Pacific Climate Impacts Consortium** (University of Victoria) is conducting research to improve our understanding of potential threats posed to Pacific salmonids and their habitats posed by climate change and developing risk assessment tools to support adaptive regional management approaches.
- The **Pacific Salmon Foundation** and partners are developing a monitoring and evaluation framework to determine survival bottlenecks in freshwater and marine environments for hatchery and wild Chinook, Coho and Steelhead. Research, monitoring, and evaluation activities will help to maximize the performance of hatchery and wild stocks; and the installation of new infrastructure will support adaptive management of hatchery programs to meet harvest, conservation, and sustainability objectives.
- The **Nature Trust of BC** is partnering with local First Nations, environmental organizations and academic institutions to implement the "Enhancing Estuary Resilience: An Innovative Approach to Sustaining Fish and Fish Habitat in a Changing Climate". This project involves monitoring and research to assess estuary resilience to sea level rise and other climate impacts across the coast of BC using the Marsh Resiliency to Sea Level Rise (MARS) tool, followed by restoration projects to restore core natural estuarine processes.

COVID-19 has had an impact on BCSRIF-funded projects. However, many recipients have developed innovative strategies to mitigate COVID-19 challenges and project delays. For example, planned in-person meetings have been held virtually and local staff have been hired to conduct activities where access to some BC communities has been restricted, providing a valuable source of employment during the COVID-19 health crisis. BCSRIF will continue to work with clients to find innovative ways to adapt to emerging challenges facing the sector.

Response to the Big Bar Landslide

On June 23, 2019, a significant landslide was reported in a remote stretch of the Fraser River near Big Bar, north of Lillooet, BC, in the area of the traditional territories of the Secwepemc and St'at'imc Nations. The landslide created a barrier which prevented migrating Pacific Fraser salmon from reaching their 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 BC to respond to the slide. The collaborative efforts to clear the blockage have continued through 2021 and the government-to-government collaboration remains an integral part of ongoing efforts.



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

On December 31, 2019, DFO announced that the engineering company Peter Kiewit Sons ULC (Kiewit) 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 included 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.

On December 9, 2020, DFO announced that Kiewit was awarded a \$176.3 million contract to design and construct a permanent fishway at the slide. This contract also included protecting the site from extensive rock fall hazards, improving access routes and assisting DFO with interim measures to move fish during the spring and summer of 2021. However, due to changing site conditions and extreme weather which impacted the safe and timely implementation of the fishway, DFO has suspended further construction, and the contract with Kiewit was terminated following the completion of summer site operations and Kiewit's demobilization. The tripartite remediation team (Indigenous, federal and provincial representatives) is undertaking an analysis to review options and alternatives to establish a long-term solution to safely restore natural fish passage through the area.

Salmon Allocation Policy Review

The Department is currently undertaking 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 is intended to respect Canada's Nation-to-Nation relationship with Indigenous peoples and engage stakeholders.

The SAP sets out a series of principles for allocating salmon in BC among three harvest groups (First Nations food, social and ceremonial; commercial; and recreational). Since it was first developed, there have been significant changes to fisheries management, policy, and Indigenous rights, including the 2018 BC Supreme

Court Ahousaht decision, which found the SAP principle of priority of allocation to the recreational fishery for Chinook and Coho over the right-based economic fishery of five Nuu-chah-nulth Nations (Ahousaht, Ehattesaht/Chinekint, Hesquiaht, Mowachaht/ Muchalaht, and Tla-o-qui-aht) to be an unjustified infringement of their Aboriginal rights.

In response, then Minister of Fisheries and Oceans and the Canadian Coast Guard, the Honourable Dominic LeBlanc, directed DFO to review the SAP and committed that “we will work in collaboration with Indigenous groups and all stakeholders to renew and co-develop this policy.”

In 2019, the Department initiated a phased approach to develop an updated SAP involving a high degree of collaboration with First Nations, the recreational and commercial fishing sectors. The phases for the Review include: (1) collaborative development of a Terms of Reference outlining process and scope of the 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 policy options to best meet objectives and interests; and (4) collaborative development of policy recommendations. As of spring 2021, DFO was completing Phase 1 of the review process and finalizing the Terms of Reference (ToR) outlining the scope and process for the review.

In 2019 and 2020, an independent facilitation team led multiple meetings with a working group of Indigenous aggregate fisheries organizations assembled by the First Nations Fisheries Council (to provide recommendations on the SAP review process and draft ToR), the five Nuu-chah-nulth Nations involved in the Ahousaht decision, the Commercial Salmon Advisory Board, the Sport Fishing Advisory Board and DFO. The draft Terms of Reference developed by the facilitation team based on these discussions were the focus of broad consultations with First Nations and stakeholder organizations in late 2020 and early 2021. Significant input was received from First Nations and stakeholder organizations, contributing to the finalization of the ToR.

The current focus is on seeking ministerial approval of the final Terms of Reference before shifting to focus on Phase 2 - gathering information and conducting analysis to inform the development of policy options.

An updated Policy will provide harvesters with increased predictability and transparency, which will support more resilient and sustainable Pacific salmon fisheries. Overall, the review will be aligned with other initiatives and will be an important element of the PSSI as it advances a transparent approach to managing salmon in the Pacific Region.

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.

State of Pacific salmon

There are five species of wild Pacific salmon managed by DFO: Sockeye (*Oncorhynchus nerka*), Pink (*Oncorhynchus gorbuscha*), Chinook (*Oncorhynchus tshawytscha*), Coho (*Oncorhynchus kisutch*) and Chum (*Oncorhynchus keta*). These species are anadromous, meaning they spend the first part of their lives in freshwater as eggs and juveniles, and the latter part of their lives in the Pacific Ocean before they return to freshwater to spawn as adults.

Pacific salmon species and populations exhibit considerable biological variation. Many Sockeye and Chinook populations, and all Coho populations, rear in freshwater for one to two years as juveniles, before migrating to the ocean. Other Sockeye and Chinook populations, and all Chum and Pink populations, migrate to the ocean shortly after hatching and emergence, with only a limited freshwater juvenile stage. Salmon are adapted to the particular freshwater and marine conditions they experience throughout their life cycles. Population traits can vary such as the age they return to spawn, their distribution in freshwater and the ocean, and the timing of their migrations.

Some general trends in Canadian Pacific salmon abundances are emerging. These were identified in DFO’s 2019 *State of Canadian Pacific Salmon* report. 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 doing better. Though in the last two years Chum have also started to return in poorer numbers in British Columbia. More information is presented in Figure 1.

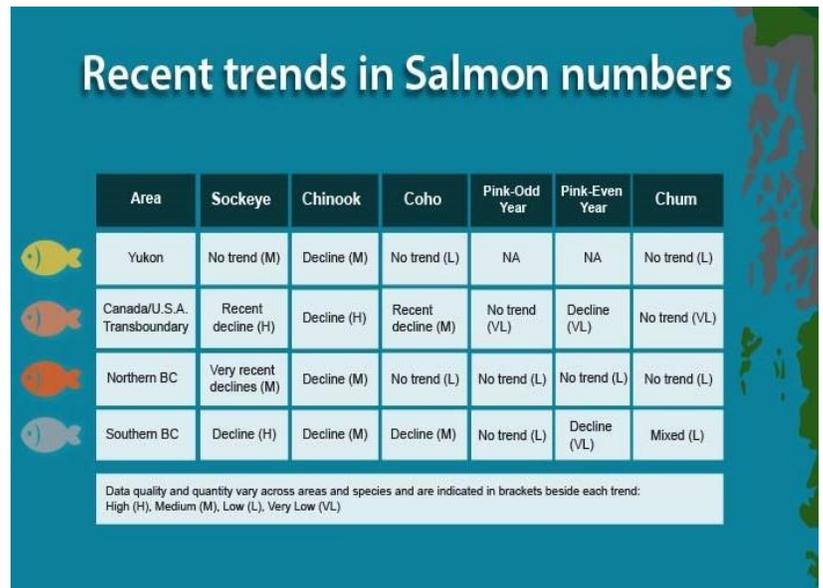


Figure 1: Recent Trends in Pacific salmon numbers

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

Key Performance Indicators

As part of DFO’s suite of programs contributing to wild salmon conservation, the Department regularly 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
9.1%	% of salmon CUs (in Canadian Science Advisory Secretariat assessments) that have WSP biological benchmarks and CU status assessment results ⁴ <ul style="list-style-type: none"> Of the salmon CUs that have WSP biological benchmarks and CU status assessment results, 45.2% are in the WSP cautious (amber) and healthy (green) zones⁵ 	Science
29	Number of salmon SMUs that have harvest control rules outlined in salmon Integrated Fisheries Management Plans (IFMPs) ⁶	Fisheries Management
65%⁷	% of salmon CUs have at least one annual Escapement Estimate within the last five years available in the central database (NuSEDS) ⁸	Science (NuSEDS)
94%	% of enhanced salmon directly support DFO objectives for harvest, stock assessment and conservation (salmon production from major facilities) (as of March 2021)	Salmonid Enhancement Program
78%	% 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 2021)	Salmonid Enhancement Program
96.4%	% of salmon aquaculture facilities in Pacific Region that had no reported high risk <i>Fisheries Act</i> violations in 2020-21 ⁹	Aquaculture Program

⁴ 42 out of 462 CUs. 22 Sockeye, 5 Coho, 15 Chinook, not including Data Deficient or TBD.

⁵ 19 of 42 CUs assessed. 11 Sockeye, 5 Coho, 3 Chinook, not including Data Deficient, TBD or red/amber classifications.

⁶ For 2020-21, harvest control rule status is reported for the 69 Stock Management Units (SMUs) as opposed to the 53 fishery-based Management Units (MUs) in previous reports. The major difference in reporting scale is for Chinook salmon where SMUs (20 in total) are defined at an aggregate CU scale while most MUs (10 in total) are defined on a largely mixed stock fishery scale. Additional SMUs were created when MUs were disaggregated into geographic components (e.g. for Nass and Skeena Pink and Chum). Of the 69 SMUs, 29 have harvest control rules (including removal references and abundance-based management reference points) as outlined in IFMPs – 11 Sockeye, 10 Chinook, 1 Pink, 5 Chum and 2 Coho. An additional 23 SMUs have management approaches that respond to stock status in a precautionary manner but do not have fully developed reference points or harvest control rules documented in the IFMP including – 8 Chinook, 7 Pink, 6 Coho and 2 Chum. For the remaining 17 SMUs, harvest control rules are not outlined in IFMPs but fisheries targeting these stocks are based on fixed exploitation not adjusted in season, limited stock abundance information or are subject to long term closures.

⁷ Some 2020 data has yet to be received and entered into NuSEDS, but the most complete recent time period is 2016-2020.

⁸ 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.

⁹ C&P conducts thorough investigations on high risk *Fisheries Act* violations and their associated regulations. High risk occurrences are identified through industry reporting and audits performed by DFO Aquaculture Fishery Officers and Fishery Guardians. Fishery Officers are tasked to investigate high risk occurrences which may not result in charges. For the purposes of this document, the performance indicator is based on reported high risk violations only, and not the result of the investigation. High risk is defined as activities that could impact fish or fish habitat.

WSP Moving Forward: 2021-22

In 2021-22, the Department continues to work towards completion of many activities. The activities below are a snapshot of the work that the Department will undertake over the course of the year, in addition to continuing work on activities that have been delayed or are ongoing. The 2020-21 work includes new activities (49 to 54) recently published in the Addendum to the Plan, which have been captured in the relevant themes below. As 2022 is the last year of the Plan, DFO will also be undertaking a five-year review.



Photo: Eiko Jones · Coho Salmon (*Oncorhynchus kisutch*)

Look Ahead to Activities Targeted for Completion in 2021-22

Assessment Activities	
Activity ID 5	Develop a strategy to improve documentation of standards for data, methods, and reporting of monitoring programs.
Activity ID 9	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.
Activity ID 13	Use results from Activity ID 12 to identify potential actions that can address key threats and limiting factors in an integrated management rebuilding plan for subject CUs.
Activity ID 49	DFO Pacific Science to provide advice on methodology to estimate Limit Reference Points for Salmon Stock Management Units comprised of one or more conservation units
Activity ID 52	Study Coho salmon habitat use, productivity and response to land use change in the North Thompson watershed

Maintaining and Rebuilding Stocks Activities	
Activity ID 26	Publish guidance outlining how DFO responds to Red CUs
Activity ID 50	Translate the National Guidance on Rebuilding Plans for application to Pacific Salmon in a manner consistent with the WSP
Activity ID 51	Coordinate implementation of Fish Stocks provisions for prescribed stocks of Pacific salmon
Activity ID 53	Engage with external partners and stakeholders on Cumulative Effects, Habitat Offsetting and Banking, Prescribed Works and Waters Regulations, <i>Fisheries Act</i> Registry, Codes of Practice and Engagement Framework

Accountability Activities	
Activity ID 47	Coordinate 5-year reporting and publish 5-year review report on the DFO website
Activity ID 54	Review and update the WSP Implementation Plan to ensure consistency of definitions with the renewed Fisheries Act

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 22 ongoing activities.

Conclusion

DFO is continuing to move forward with our commitment to protect wild salmon populations, alongside key partners. The work that DFO has undertaken to implement the WSP makes it well-positioned to support the modernized *Fisheries Act* and also sets a solid foundation for the PSSI moving forward. 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 landslide 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.



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

Annex A: Wild Salmon Policy Implementation Resources and Acronyms

Resources

- **Wild Salmon Policy:** [Wild Salmon Policy 2018 to 2022 Implementation Plan | Pacific Region | Fisheries and Oceans Canada \(dfo-mpo.gc.ca\)](#)
- **Wild Salmon Policy 2018-2022 Implementation Plan:** [Canada's Policy for Conservation of Wild Pacific Salmon | Pacific Region | Fisheries and Oceans Canada \(dfo-mpo.gc.ca\)](#)
- **Wild Salmon Policy Implementation Plan Highlights, 2005-2017:** [Wild Salmon Policy implementation plan highlights, 2005 to 2017 | Pacific Region | Fisheries and Oceans Canada \(dfo-mpo.gc.ca\)](#)
- **Wild Salmon Policy Implementation Plan Annual Reports:** [Wild Salmon Policy Implementation Plan annual reports | Pacific Region | Fisheries and Oceans Canada \(dfo-mpo.gc.ca\)](#)
- **International Year of the Salmon:** [IYS – NPAFC](#)
- **Government of Canada Open Data Portal:** [Open Data | Open Government, Government of Canada](#)
- **Species at Risk Act:** [Species at Risk Act \(justice.gc.ca\)](#)
- **Framework for reviewing and approving revisions to Wild Salmon Policy conservation units:** [Research Document 2019/015 \(dfo-mpo.gc.ca\)](#)
- **Modernized Fisheries Act:** [A modernized Fisheries Act for Canada \(dfo-mpo.gc.ca\)](#)
- **Canadian Science Advisory Secretariat:** [Canadian Science Advisory Secretariat \(CSAS\) \(dfo-mpo.gc.ca\)](#)
- **CSAS Science Advisory Reports:**
 - **Fraser River Sockeye:** [Science Advisory Report 2018/017 \(dfo-mpo.gc.ca\)](#)
 - **Southern BC Chinook:** [Integrated Biological Status of Southern British Columbia Chinook Salmon \(*Oncorhynchus tshawytscha*\) Under the Wild Salmon Policy \(dfo-mpo.gc.ca\)](#)
 - **Interior Fraser River Coho:** [Wild salmon policy biological status assessment for conservation units of interior Fraser River Coho Salmon \(*Oncorhynchus kisutch*\) \(dfo-mpo.gc.ca\)](#)
- **State of the Salmon report:** [State of Canadian Pacific salmon : responses to changing climate and habitats \(dfo-mpo.gc.ca\)](#)
- **Salish Sea Marine Survival Project – Research Findings:** [Research Findings - Salish Sea Marine Survival Project](#)
- **NuSEDS – New Salmon Escapement Database System:** [NuSEDS-New Salmon Escapement Database System - Open Government Portal \(canada.ca\)](#)

Select Abbreviations

- **ADGT:** Aquatic Diagnostics, Genomics and Technology
- **BCSRIF:** BC Salmon Restoration and Innovation Fund
- **COSEWIC:** Committee on the Status of Endangered Wildlife in Canada
- **CSAS:** Canadian Science Advisory Secretariat
- **CU:** Conservation Unit
- **CWT:** Coded Wire Tag
- **DU:** Designatable Unit
- **DFO:** Fisheries and Oceans Canada
- **ESD:** Ecosystem Science Division

- **FFHPP:** Fish and Fish Habitat Protection Program
- **IA:** Impact Assessment
- **IFMP:** Integrated Fisheries Management Plan
- **IKS:** Indigenous Knowledge Systems
- **LRP:** Limit Reference Point
- **MPA:** Marine Protected Area
- **MU:** Management Unit
- **NuSEDS:** New Salmon Escapement Database Systems
- **OSD:** Ocean Science Division
- **PNCIMA:** Pacific North Coast Integrated Management Area
- **PSF:** Pacific Salmon Foundation
- **PSSI:** Pacific Salmon Strategy Initiative
- **PST:** Pacific Salmon Treaty
- **RAMS:** Risk Assessment Method for Salmon
- **RMPD:** Resource Management Program Delivery
- **RPA:** Recovery Potential Assessment
- **SAP:** Salmon Allocation Policy
- **SARA:** Species At Risk Act
- **SEP:** Salmonid Enhancement Program
- **SMCS:** Salmon Management and Client Services
- **SMU:** Stock Management Unit
- **SSHI:** Strategic Salmon Health Initiative
- **StAR:** Stock Assessment and Research
- **WCVI:** West Coast Vancouver Island
- **WSP:** Wild Salmon Policy

Annex B: WSP Implementation Plan 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	
Completed	The activity has been completed in full by the target completion date.
On-Track	Progress has been made on the activity, and it is on-track to be fully completed by the target completion date.
Delayed	The activity is delayed but mitigation strategies are in place to complete the activity.

ONGOING ACTIVITIES	
On-Track, Ongoing	Progress has been made this year and is "on-track" to be delivered on an ongoing basis.
Facing Challenges, Ongoing	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
Approach ID	A description of the overall approach, as published in the WSP Implementation Plan	See legend above.
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, the database will be updated as the information becomes available. Open Government Data Portal: Open Government Portal (canada.ca)
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: Research Document 2019/015 (dfo-mpo.gc.ca)
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	Research on using habitat characteristics to inform carrying capacity for data-limited sockeye lake systems was published in 2020 and is available here: Landscape and biophysical controls of lake productivity to inform evaluation of sockeye salmon (Oncorhynchus nerka) populations in data-limited regions - Atlas - 2020 - Limnology and Oceanography - Wiley Online Library . Other approaches will be developed as needed.
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	Three projects were initiated in 2020 for new methods development: (1) a review of the data and development of benchmarks for Nass and Skeena sockeye to meet both Wild Salmon Policy and Pacific Salmon Treaty objectives; (2) initiation of a project to develop biological benchmarks for Rivers Inlet sockeye to inform First Nation Treaty allocations and meet Wild Salmon Policy objectives; and (3) research to reconstruct Canadian-origin Yukon Chinook abundances at the CU level and develop provisional benchmarks (Wild Salmon Policy), and an aggregate escapement goal to meet Pacific Salmon Treaty objectives.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
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	Development of a Pacific salmon data strategy and project management tools were initiated in 2020. This work includes the development of data standards, standardized data collection methods and tracking of resource allocations, accountabilities and deliverables for monitoring programs (DMApp).
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	<p>SMUs (groups of CUs) were identified for implementation of the Fish Stocks Provisions of the revised <i>Fisheries Act</i> to enable a coordinated approach for program delivery and to reduce duplication and manage workload. The 69 SMUs will be used to group CUs for planning purposes, including the prioritization of CUs for biological status assessments. There is now a better understanding of the work required to complete 'biological status assessments'.</p> <p>The development, review and acceptance of a risk-based tool that applies to SMUs for the purpose of prioritizing status assessments and the appropriate forum for this purpose has proven challenging due to the fact that this activity may require significant and ongoing coordination amongst sectors. One issue still to be resolved is the extent to which applying a prioritization tool is a collaborative process that engages stakeholders and the appropriate forum for doing so. Previous risk-based prioritization work for Management Units (MUs) may be helpful in informing prioritization efforts and existing tools could be refined for Wild Salmon Policy status assessments as well. Status assessments may require a tiered approach based on the intended use of the assessment in order to permit cost-effective prioritization efforts with available resources. It should be possible, in a relatively short period, to apply risk criteria/tools to SMUs using the Salmon Assessment Coordinating Committee for an initial internal review. Broader First Nation and stakeholder engagement will require a workshop approach.</p>
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	Salmon stocks and CUs are monitored annually. Monitoring plans vary by Area and year, depending on the mix of stocks and expected return levels. The breadth and depth of these programs has improved with the implementation of new PST and associated resources in 2020. Tools to organize and track these programs in terms of resources and deliverables are under development through Activity #5.
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	Data are received and entered into NuSEDS throughout the year. The NuSEDS data view on the Open Data portal is refreshed annually and was refreshed in December 2020. The database can be found here: NuSEDS-New Salmon Escapement Database System - Open Government Portal (canada.ca)

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
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	On-Track	Synthesis of data from various science surveys is ongoing which will provide information on the abundance, health, and condition of Fraser Sockeye during their seaward migration in the Strait of Georgia.
10	1.3	Work with PSF to enable better data transfer, availability and delivery	Science-StAR	Ongoing	On-Track, Ongoing	A DFO-PSF working group was established to support the Pacific Salmon Explorer tool and discussions are ongoing in relation to data availability and delivery to meet the objectives of PSF. This activity also relates to the DFO Pacific salmon data management strategy, which is under development, and is expected to improve DFO salmon data products and their accessibility.
11	2.1 - Document habitat characteristics	Work with PSF to document salmon habitat characteristics	Science-ESD, StAR	31-Mar-21	Delayed	COVID-19 has resulted in competing and unexpected priorities which impacted progress on this activity.
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	During the 2020-21 fiscal year, progress was delayed due to COVID-19 and the emergence of unexpected priorities. However, the Central Westcoast Forest Society (CWFS) is reviewing local habitat indicators and comparing them to coarser scale regional indicators available in the Pacific Salmon Explorer as the basis for WCVI salmon CU risk assessments. There is an opportunity to collaborate with CWFS and West Coast Aquatic groups on these assessments. Additional effort can be invested from South Coast Area and Core Science to coordinate these activities through local area round tables and a RAMS process.
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	This work is ongoing as rebuilding plans are required but the work is largely falling under updated Fish Stocks provisions of the revised <i>Fisheries Act</i> . National guidance on rebuilding plan elements and roles and responsibilities are being finalized. Application of rebuilding plans will occur at the SMU level for planning purposes.
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	Core environmental indicators are identified in several annual reports including the annual State of Pacific Ocean Report, the State of the Salmon Reports and publications, and the Salmon Outlook reports on environmental conditions which inform upcoming year's salmon returns.

Activity ID	Action Step	Activity Description	Lead	Target Date	Current Status	Additional Comments
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- FFHPP	Ongoing	On-Track, Ongoing	Recently added capacity in the Fish and Fish Habitat Protection Program (FFHPP) has significantly increased regulatory activities in the Pacific Region to help protect and conserve fish and fish habitat. This includes increased regulatory reviews, increased follow-up on occurrences, and improved monitoring of works, undertakings or activities with the potential to affect fish and fish habitat. FFHPP's Integrated Planning Unit is actively working to: identify, gather and analyze fish and fish habitat data; develop tools to map and report on the state of fish and fish habitat; provide technical advice and expertise to support habitat and watershed-based planning processes; and create policies and frameworks to support the development of effective restoration and offsetting projects as well as the establishment of Ecologically Significant Areas (ESAs). Much of this work occurs in partnership with others, including the Province of BC, Yukon Territory, First Nations, and environmental non-government organizations. By collaborating with others to develop and implement frameworks, tools and guidance, FFHPP is working proactively to restore, protect, and conserve fish and fish habitat.
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	Three draft documents have been completed and are under revision to be available as an integrated set. These are: <ol style="list-style-type: none"> 1. RAMS origins/development and relevance to WSP; 2. RAMS application and results for Cowichan Chinook; and 3. General Guidebook for RAMS applications.
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	Draft reports are completed, but finalization of reports has been delayed due to COVID restrictions and impacts on completing consultations with local groups.
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	Delayed	Cowichan work is summarized in a report entitled "Cowichan Watershed and Chinook Health Initiative" found here: Cowichan Watershed Health and Chinook Initiative (pacfish.ca) . Implementation of key factors, especially water / flow are being addressed by local government and Cowichan Tribes. This work was also incorporated into Southern BC Chinook initiative. Progress has been delayed due to COVID related restrictions.

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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	The SoS Program has assessed the status and trends of salmon and associated environmental conditions and has published annual reports. Further, the SoS Program also contributes updates to the annual State of the Pacific Ocean reports and the Salmon Outlook reports.
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 SoS program has assessed the status and trends of salmon and associated environmental conditions and has published annual reports. Further, the SoS program contributes updates to the annual State of the Pacific Ocean reports and the Salmon Outlook reports.
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	The major report indicated by this activity has been delayed. Information on the major drivers that impact the status and trend patterns of salmon CUs is provided in the annual State of the Salmon Reports and the State of the Pacific Ocean Reports. The reporting is part of the annual business cycle of the SoS program.
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	On-track, Ongoing	Multiple contributions are provided to the State of the Pacific Ocean meeting annually and are subsequently documented in the annual State of the Pacific Ocean reports. These contributions are part of the annual business cycle of the SoS program.
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	Completed	The Salish Sea Synthesis committee published the full synthesis and summary final reports in 2021. They are available here: Research Findings - Salish Sea Marine Survival Project .

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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 B.C. government on habitat issues, and with national colleagues on rebuilding plan discussions.
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, integrated biological status designations and COSEWIC assessments are included in IFMPs. This includes 29 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	DFO is working towards implementation of the modernized <i>Fisheries Act</i> which will require implementation of the Precautionary Approach components and rebuilding plans for major stocks that are prescribed under regulation and fall below a defined Limit Reference Point. Nationally, work is being done to develop guidance to support implementation of the <i>Fisheries Act</i> provisions. For Pacific Salmon, internal work is being done to consider implementation of these provisions to ensure they are aligned with policy guidance to address Red CUs under the WSP and at-risk Designatable Units (DUs) identified by COSEWIC that will be considered in the SARA listing process. National guidance for implementation of the Fish Stocks Provisions is anticipated to be available in the coming year and work is ongoing to support application of this guidance for salmon and alignment with the WSP guidance for Red CUs.
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 exist that compile information on salmon ecosystem and habitat status information. Efforts will be made to build linkages with these programs and incorporate available information into Salmon IFMP's where possible. Examples include: <ul style="list-style-type: none"> State of the Salmon Program (DFO Science) – Beginning in 2019, a broad overview environmental section with information on the freshwater and

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						<p>marine ecosystems compiled through the State of the Salmon Program was added to the Salmon IFMP's. In some cases, more detailed work on ecosystems and habitats related to various salmon stocks may be available through this program and effort will be made to consider how this information can be incorporated into IFMPs.</p> <ul style="list-style-type: none"> • Fish and Fish Habitat Protection Program (FFHPP) (DFO Ecosystem Management) – FFHPP is re-engaging on integrated strategic planning as part of an overall integrated salmon management approach. • Pacific Salmon Explorer (Pacific Salmon Foundation) – This tool provides the public with timely information on the current status of salmon Conservation Units and pressures on their habitats for the North and Central Coast of BC. Work is underway with local partners to expand this tool to the Nass River, South Coast, Fraser River, and Vancouver Island. • British Columbia Drought Response Plan (Province of B.C. and Agri-Food Canada) – This plan aims to improve communications and coordination of actions surrounding droughts and to reduce the impacts on people and aquatic ecosystems in times of water scarcity. <p>Overall, this project is being approached iteratively as information becomes available. More work is required to plan a strategic approach to expand information in the IFMP and also scope the material that should be included to support management processes. Cross-program coordination and integration may be developed through the Strategic Salmon Director's Committee. Some work could be coordinated through the State of the Salmon Program, with input from Fisheries Management.</p>
28	4.1	Complete recovery assessments and identify rebuilding options for any COSEWIC assessed salmon species/stocks	Fisheries Management- SMCS, Science- CSAS	Ongoing	On-Track, Ongoing	<p>A Canadian Science Advisory Secretariat (CSAS) Recovery Potential Assessment (RPA) Science Advisory process was completed for the Cultus Lake Sockeye salmon Designatable Unit (DU) in October 2019 with the CSAS Science Advisory Report published in 2020. For the other nine DUs of Fraser River Sockeye assessed, the RPA was separated into two parts. Part 1, completed in October 2019 reviewed RPA elements 12, 13, 15, 19-21 (i.e., quantitative analysis of recovery targets, probability of achieving recovery targets, and mitigation effects) and summarized how these elements would contribute to element 22 (i.e., allowable harm). The CSAS Science Advisory Report for Part 1 of the RPA was published in 2020, with the CSAS Research Document published in 2021. Part 2 of the RPA which assessed elements 1-11, 14, 16-18 was completed in March 2021, with the Science Advisory Report (SAR) scheduled for publication in late 2021 and the Research Document scheduled for publication in early 2022.</p> <p>The CSAS RPA for eleven DUs of Fraser River Chinook was also separated into two parts. Part 1 of the Fraser River Chinook RPA assessed elements 1-11 took place in</p>

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						<p>December 2019 and resulted in the publication of a CSAS Science Advisory Report in 2020. Part 2 of the RPA (elements 12-22) was completed in March 2021 and resulted in the publication of a CSAS Science Advisory Report in the summer of 2021.</p> <p>CSAS led RPAs are currently in the planning phase for two DUs of Chinook salmon (DU 19 & 20 enhanced populations) found on the east coast of Vancouver Island and for two DUs of Chinook salmon (DU 24 and 25 enhanced populations) found on the West Coast of Vancouver Island. These two processes are currently scheduled for completion in early fiscal 2022/23.</p> <p>RPAs are also being planned for a second group of 7 Southern BC Chinook DUs (DU 1, 6, 13, 15, 20, 24, 25) listed as either Endangered (4) or Threatened (3) in 2021/22, with an expected CSAS meeting taking place in early to mid-2022/23.</p> <p>Identification of rebuilding options is underway for Sakinaw Sockeye, Okanagan Chinook, Interior Fraser Coho, Fraser Sockeye (including Cultus Lake Sockeye), and Fraser River Chinook. DFO recognizes that there is significant and sustained public interest in RPAs, SARA listings and rebuilding plans.</p>
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 is underway and CU maps have been updated, but some verification work remains and Yukon CUs need to be added. The production of SMU maps, which aggregate CUs has been initiated and is expected to proceed quickly. Mapping Fishery Management Units will be the final step after some conceptual work to address the scale of these maps. Completion is expected by winter 2022.
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	<p>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.</p> <p>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 Stocks 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.</p> <p>A CSAS peer review process is scheduled for February 2022 to provide Science advice on guidance for LRPs under the Fish Stocks Provisions. The process is being led by the national CSAS office in Ottawa with support from Pacific Region. The CSAS Science Advisory Report and Research Document arising from this meeting would be published in late 2022.</p>

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31	4.2	Develop a WCVI Chinook rebuilding plan	Science-StAR	2020	Delayed	Ten risk assessment workshops have been completed and work is underway to address key knowledge gaps identified during these workshops. A joint DFO-Nuu-Chah-Nulth steering committee was established to guide development of the rebuilding plan and a marine risk assessment workshop is planned for fall 2021. As a result of COVID-19, field activities and the risk assessment workshops were delayed. In addition, there is a need to align the SARA listing process with the Rebuilding Plan process due to COSEWIC's assessment of WCVI Chinook as 'threatened'. Completion is expected by March 31, 2022.
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 2020-21, 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	As of January 2021, the following milestones have been delivered: <ul style="list-style-type: none"> • Completion of intensive stakeholder and DFO technical review of first draft Marine Protected Area (MPA) network scenario (Apr 2020) • Completion of review input compilation and assessment (Oct 2020) • Development and confirmation of collaborative implementation of co-governance structure under Oceans Reconciliation Framework Agreement (Nov 2020) • Development and confirmation of scope and timeline of planning process deliverables (Nov 2020) • Initiation of MPA Network design scenario revisions in consideration of review input (Jan 2021)
34	Additional strategy work	Document SEP program activity by CU (enhancement, community involvement, habitat restoration)	Fisheries Management-SEP	Jun-19	Delayed	All hatchery enhancement is documented in a regional database by CU. In 2020-21, SEP worked with other DFO teams to develop and populate the Pacific Restoration Tracker. This tracker maps restoration projects and activities supported by DFO's transfer payment programs. For ease and clarity (i.e. visual representation) restoration projects and activities are mapped by watershed rather than CU. Additional work is required to complete the documentation of community involvement activities. As SEP activities are ongoing and adaptive, we see this documentation activity as an integral and ongoing contribution to WSP implementation.

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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	Fisheries Management-SEP	1-Jul-19	Completed	This activity is complete. Integrated production planning process for SEP production has been implemented into the IFMP consultation process. Annual IFMP consultations led by Fisheries Management have been and continue to be undertaken. DFO-SEP hatchery production is included in this consultation. This process is described in the document: " SEP Production Planning: A Framework " (DFO 2012, updated 2018).
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 are an ongoing research activity. Examples include: 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, advanced genomic sequencing to determine origin of pathogens.
37	Additional strategy work	Continue to co-lead the genomic research for the Strategic Salmon Health Initiative	Science-ADGT	Dec-19	Completed	The genomics research (Phase 2) of the SSHI is now complete. Overall, the SSHI resolved several agents associated with annual variations in survival and relative weight of Sockeye, Chinook and Coho salmon. Modeled pathogen impacts can be as strong as temperature, a well-accepted factor associated with salmon declines. Two of the six most consistently impactful pathogens are associated with exposure to salmon farms.
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	CSAS-led risk assessments were completed to provide DFO science advice on nine pathogens from aquaculture operations in the Discovery Islands area known to cause disease were completed and the results available publicly online .
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	The first iteration of the Framework for Aquaculture Risk Management (FARM) was published on DFO's website in June 2019. However, changes were incorporated as a result of comments from Indigenous group, and various interest groups and stakeholders: the External Science Advisory Committee, provinces and territories, industry, environmental organizations and the general public. The revised framework is expected to be published on DFO's website by October 2021. Revised sea lice conditions for the Finfish Aquaculture License with provisions for enhanced enforceability were developed and issued on February 28, 2020. As well, wild salmon/farmed interaction considerations have been strengthened through the Introductions and Transfers Committee by developing and implementing new tools to assess this aspect in transfer decisions (as of June 2020).

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40	Additional strategy work	Ensure mandatory reporting related to the Aquaculture Activities Regulation	Fisheries Management-Aquaculture	Ongoing	On-Track, Ongoing	For 2020-2021, reporting status is as follows: 1) Benthic data – reported at end of the production cycle. This information is up to date in Pacific region, however official AAR requirement is to provide information by April 1st, 2021. 2) AAR Annual Report – 2020 reporting due by April 1st and is in progress. 3) Drug and Pesticide Report – reported quarterly for marine finfish. All license holders are compliant. Fresh water land based sector not due to provide their submissions until April 1st. This information is forthcoming. 4) Pesticide Use Notifications – required within 72 hours of each deposit event – currently in compliance for 2020.
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	Four lakes are now assessed annually.
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	Following multi-sectoral consultations, DFO released the national Fishery Monitoring Policy in 2019 , replacing the regional Strategic Framework for Fisheries Monitoring and Catch Reporting in the Pacific Fisheries (2012). To ensure consistent national application of the Fishery Monitoring Policy, further guidance is provided through the Introduction to the Procedural Steps of Implementing the Fishery Monitoring Policy . Considering the development and finalization of the national Fishery Monitoring Policy, high-priority commercial fisheries evaluated under the Strategic Framework will be reassessed under the national policy. Future fishery assessments will be completed under the national Fishery Monitoring Policy.
43	5.4 - Plan and implement annual enhancement activities	Develop explicit biological goals for hatchery-influence on populations	Fisheries Management-SEP	1-Jun-20	Completed	The Salmonid Enhancement Program (SEP), supported by DFO's Science Branch, contributed to publishing the CSAS paper " Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations " (Withler, et al 2018). This paper contains biological goals for hatchery or hatchery-influenced Chinook salmon populations, and so this activity is complete. Development of genetic management guidelines to translate CSAS input into DFO operations is underway.

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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	Fisheries Management-SEP	Jul-19	Completed	This activity is complete. Update of DFO's planning framework (SEP Production Planning: A Framework (DFO 2012, updated 2018)) is done. It is now used in conjunction with A Biological Risk Management Framework for Enhancing Salmon in the Pacific Region (DFO 2013) and other supporting guidance material to guide DFO-SEP enhancement decisions.
45	5.4	Implement annual enhancement programs that utilize emerging science on hatchery-wild interactions	Fisheries Management-SEP	Ongoing	On-Track, Ongoing	DFO's annual enhancement production planning is implemented using publicly available frameworks and guidelines incorporating current and emerging science. These frameworks and guidelines are updated periodically to reflect changes in this type of information. DFO has also implemented the use of hatchery genetic management guidelines established through CSAS. (Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations).
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 and reporting metrics is an ongoing activity.
47	6.2	Coordinate 5-year reporting and publish 5-year review report on the DFO website	Policy and Economics-Policy	April 30, 2022	On-Track	Preliminary work surrounding reporting metrics is in early stage development.
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	Completed	This activity is complete with the publication of the Addendum to the WSP Implementation Plan, which identifies six new activities (see activities 49-54 below).
49	Additional strategy work	DFO Pacific Science to provide advice on methodology to estimate Limit Reference Points for Salmon Stock Management Units comprised of one or more CUs	Science, StAR	31-Mar-22	On-Track	A Canadian Science Advisory Secretariat (CSAS) peer review process is scheduled for early 2022 to provide Science advice for Guidelines for Defining Limit Reference Points for Salmon Stock Management Units. Once confirmed, timelines of the CSAS peer review meeting and Science advise publications will be available on the CSAS Science Advisory Schedule .
50	Additional strategy work	Translate the National Guidance on Rebuilding Plans for application to Pacific Salmon in a manner consistent with the WSP	Science	31-Mar-22	On-Track	National guidance on rebuilding plans is in draft form with no finalization or publication dates known at present. Cross-branch/sector discussions on translating draft guidance to Pacific salmon are underway and expected to be completed by the March 31, 2022.

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51	Additional strategy work	Coordinate implementation of Fish Stocks provisions for prescribed stocks of Pacific salmon	Fisheries Management	31-Mar-22	On-Track	DFO has proposed three stocks to be prescribed in the Fishery (General) Regulations under the Fish Stocks provisions: WCVI Chinook, Okanagan Chinook and Interior Fraser Coho. Work has begun on rebuilding plans for these stocks and will take into consideration new requirements under the amended <i>Fisheries Act</i> and proposed regulatory amendments as well as the <i>Species At Risk Act</i> and the Wild Salmon Policy.
52	Additional strategy work	Study Coho salmon habitat use, productivity and response to land use change in the North Thompson watershed	Science	31-Mar-22	On-Track	Coho salmon habitat use, productivity and responses to land use are ongoing research activities. A large-scale field program was initiated 2019 to address knowledge gaps in these research areas and the third field season is underway. Multiple components of this work are ongoing with an initial study investigating Coho salmon habitat responses to land use on-track as the first product.
53	Additional strategy work	Engagement with external partners and stakeholders on Cumulative Effects, Habitat Offsetting and Banking, Prescribed Works and Waters Regulations, <i>Fisheries Act</i> Registry, Codes of Practice and Engagement Framework	Ecosystem Management	30-Sep-21	On-Track	This work is underway, and additional information on engagement to-date can be found here: Home (talkfishhabitat.ca)
54	Additional strategy work	Review and update the WSP Implementation Plan to ensure consistency of definitions with the renewed <i>Fisheries Act</i>	Policy and Economic Analysis	31-Mar-22	On-Track	The Branch has begun work on this activity and anticipates that it will be complete by March 31, 2022.