

Options for a Made-In-BC Wild Salmon Strategy

**BC Wild Salmon
Advisory Council**

Prepared for the Province of British Columbia
September 2018





The members of the Wild Salmon Advisory Council (listed below) would like to thank the Province of British Columbia for this opportunity to contribute to the development of a Wild Salmon Strategy. From our diverse perspectives we all understand the importance and timeliness of this initiative and applaud the government for demonstrating leadership.

As members of the Advisory Council, we represent many different relationships to the wild salmon of BC. Over the past several months, we have engaged our individual experiences and expertise to discuss and debate ideas, opinions and potential solutions for:

- Restoration and enhancement of wild salmon populations;
- Sustainable fisheries management and stewardship opportunities for communities; and
- New economic development opportunities to assist viable/sustainable community based fisheries.

The results of our deliberations are outlined in this paper. The ideas and opportunities we have agreed to present are intended to support a public discussion about BC's Wild Salmon Strategy, and to inform subsequent government decisions.

The complex task of restoring salmon abundance and bringing the benefits from our fisheries resources back to BC simply cannot be done without a whole-citizen effort. There is no question that wild salmon are iconic for this province. They link us to our history and hold the promise for our future generations. Wild salmon are woven into the culture, histories and economies of the Indigenous Peoples of BC and they help to define our fishing communities.

The members of the Advisory Council¹ are encouraged by the possibilities we have discovered on this journey and hope that, with the help of every British Columbian, wild salmon and the communities that depend upon them will flourish.

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1. Please refer to Appendix 1 for Wild Salmon Advisory Council (WSAC) member biographies.

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Introduction

The management of wild salmon is a significant task, complicated by the unpredictability of ecosystems; the jurisdictional authorities of federal, provincial, Indigenous Peoples², and municipal governments; the interests and needs of ecosystem health, resource users and stakeholders; and the challenges, positions and opinions of our collective past.

The 14 individuals participating as members of the Wild Salmon Advisory Council (WSAC) were appointed by the Province of British Columbia through the Office of the Premier. They were carefully selected to represent a wide diversity of interests and experiences related to wild salmon in BC. Their work is intended to be advisory to the Provincial government in support of the development of a made-in-BC *Wild Salmon Strategy*.

Although perspectives differ amongst Council members, their discussions and debates over the past few months have ultimately led to a common set of conclusions. Perhaps most importantly, the members of the WSAC are of a single-mind about two things:

1. Wild salmon are facing a complex set of ever-intensifying pressures from ecosystem changes and from development. They require strategic and systemic support to secure their survival over the long term. There is urgency in the task at hand.
2. We must find ways to return the value of our fisheries resources to the people of British Columbia, particularly to fishing communities that have always depended on this rich natural resource as a cornerstone of their economies; active fish harvesters who are front-line users and stewards of the resource; and Indigenous Peoples whose histories and futures are interwoven with fisheries in so many ways.

The first phase of the WSAC's collective work, presented here, is the *Wild Salmon Strategy Options Paper*. This report presents the Council members' first and high-level consideration of what might be initiated or supported by the Province in three key subject areas:

- Wild salmon protection, restoration and enhancement – actions that could help ensure a healthy resource into the future;
- Community stewardship, governance and sustainable management – actions that could increase citizen engagement with salmon at the local level and encourage their active participation to inform fisheries issues; and

2. As signatory to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the Federal Government of Canada now uses Indigenous Peoples as the collective noun for First Nations, Inuit and Metis. This paper will follow suit and use the term Indigenous Peoples or Indigenous Peoples of Canada unless referring to the Constitution of Canada where the term aboriginal is still applied.

- Economic opportunities that may help realize greater wellbeing and prosperity from BC's fisheries resources for harvesters, vessel owner-operators, fishing communities and Indigenous Peoples.

The *Options Paper* will inform a public consultation process to be undertaken by the Select Standing Committee on Agriculture, Fish and Food. This paper, together with the results of the public consultation and the Select Standing Committee's recommendations, will come together into a strategic framework, additionally informed by WSAC members, government, stakeholders and Indigenous Peoples.

Some additional and important points to note about the development of this *Options Paper* and the overall work of the Wild Salmon Advisory Council are as follows:

- The WSAC process in no way replaces the Crown's duty to consult and accommodate Canada's Indigenous Peoples, nor does it replace the regular engagement and consultation processes in which the governments of Canada engage with Indigenous Peoples. The WSAC recognizes that the Province has made a strong commitment to reconciliation with Indigenous Peoples, and has strived to reflect this commitment within the *Options Paper*;
- Although the Terms of Reference for this *Options Paper* include exploration of enhancement opportunities, they do not explicitly refer to aquaculture. Therefore, with regards to marine-based salmon aquaculture in BC, the WSAC members have accepted the findings of the Minister of Agriculture's Advisory Council on Finfish Aquaculture³, and urge swift action on its recommendations; and

3. <https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/fisheries-and-aquaculture/minister-of-agriculture-s-advisory-council-on-finfish-aquaculture>



- As this *Options Paper* is being finalized, concerns about the declining population of Southern Resident Killer Whales (SRKWs) is top of mind for governments and the public, and the relationship between killer whale populations and wild salmon populations has many possible points of intersection. The WSAC members share the public's concern and feel that the problems facing SRKWs are symptomatic of the need for a careful and strategic response across the whole of our fragile ecosystem to address the abundance of wild salmon.

Structure of the paper

The *Options Paper* is comprised of two parts. **Part One** provides the context for the call for a made-in-BC *Wild Salmon Strategy*. This first section includes:

- Explanations of the framework used by the WSAC to guide their development of options – a vision statement; a definition of wild salmon; an acknowledgement of complexity of jurisdictions; and an explanation of how the WSAC views the interrelationship between the three goals that comprise their mandate;
- A summary of each of these three goals;
- An overview of the state of salmon in BC;
- Exploration of the relationship that exists between wild salmon and Indigenous Peoples; and
- A summary of BC's wild salmon economy – commercial and recreational harvesting, and processing.

Part Two of the paper provides proposed strategies and opportunities for each of the WSAC's three mandated goals.



The framework used to guide the work of the WSAC

A shared vision for the future

A made-in-BC *Wild Salmon Strategy* will set the stage for a return to a vibrant marine and freshwater ecosystem, and for the local, regional and provincial economies that depend upon it.

- **Support and enable the return of abundant wild salmon stocks** across the province – recognizing their inherent importance for both people and for ecosystem health;
- **Promote economic renewal and reconciliation with BC’s Indigenous Peoples**, including a recognition of their Section 35 Constitutional Right as aboriginal peoples to access fish for food, social and ceremonial (FSC) purposes, their treaty and court affirmed rights to access salmon for economic purposes, and their role in fisheries management;
- **Rebuild a formidable, local fishery economy** with sustainable jobs and prosperous businesses across the seafood spectrum including active fish harvesters – recreational and commercial; seafood processing; and ancillary businesses;
- **Champion community access to, and benefit from, adjacent fisheries resources** to support local employment, food security, and economic development; and
- **Support responsible, sustainable and safe fishing.**

A definition of ‘wild salmon’

There are seven Pacific salmonid species found in BC – sockeye, Chinook, coho, pink, and chum salmon, as well as steelhead and cutthroat trout. For the purpose of this report, the WSAC agreed to use the definition of ‘wild salmon’ developed and used in Canada’s Policy for Conservation of Wild Pacific Salmon (2005)⁴, as per **Figure 1** (*top pg 9*). This policy states that ‘salmon are considered to be wild if they have spent their entire life cycle in the wild and originate from parents that were also produced by natural spawning and continuously lived in the wild’. While this definition has caused some confusion, it was intentionally developed to ensure that salmon had one full generation in the wild to safeguard against potential adverse effects that can result from intensive artificial culture in hatcheries.

Alongside this definition, the *Options Paper* includes a discussion of using enhancement techniques as a tool to support and engender ‘wild’ populations of salmon in the longer term, while also providing fish for Indigenous food, social and ceremonial (FSC) purposes;

4. Fisheries and Oceans Canada (2005), Canada’s Policy for Conservation of Wild Pacific Salmon, Page 1.

for commercial and recreational harvest; and for ecosystem health. These tools may include but not be limited to hatcheries, spawning channels, sea pens, lake fertilization and migration barrier mitigation. In all cases, there is recognition of the need for science-based decision-making and structured monitoring over time to support potential enhancement efforts.

An Acknowledgement of Jurisdiction

The successful management of wild salmon populations is complicated by the fact that they travel through a maze of jurisdictions during their natural lifecycle. The WSAC was careful throughout their deliberations not only to acknowledge these jurisdictions but also to consider their proposed options for a Provincial *Wild Salmon Strategy* with jurisdiction top-of-mind. Looking across the full spectrum of what is possible, the WSAC’s summary comment is that ‘wild salmon need a thoroughly coordinated, intentionally designed and very collaborative system in order to flourish.’ A brief background describing salmon jurisdictions is appended to this *Options Paper* (see [Appendix 2](#)).

A Common Perspective on the WSAC Mandate – Three Interlocking Goals

WSAC members agree that the three goals that comprise their mandate are intrinsically linked, as shown in **Figure 2** (right). Salmon abundance depends on people who care about salmon. Community stewardship engages people to learn about and care about salmon, and to participate in their sustainable management. Fish harvesters and Indigenous Peoples actively engaged in fishing provide jobs and economic opportunity to their towns, villages and neighbourhoods. They rely on salmon abundance to flourish.

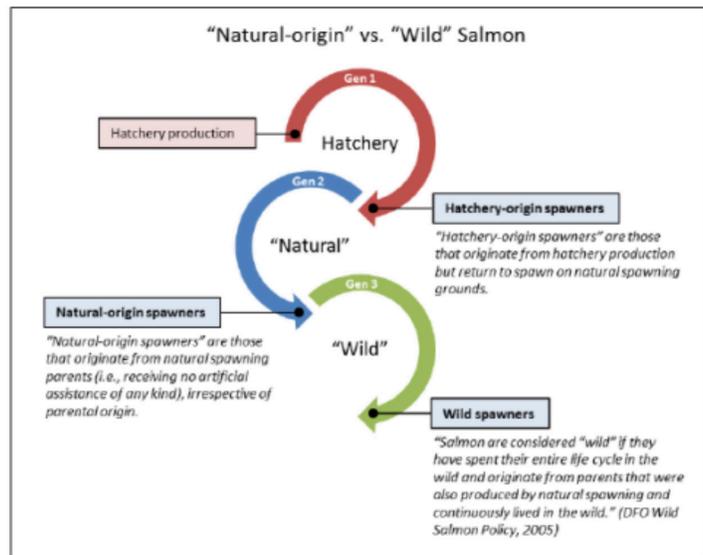


Figure Hat-1. Conceptual illustration of "wild" spawning salmon, as per the definition in Canada's Wild Salmon Policy (DFO, 2005), compared with natural-origin spawners and hatchery-origin spawners.

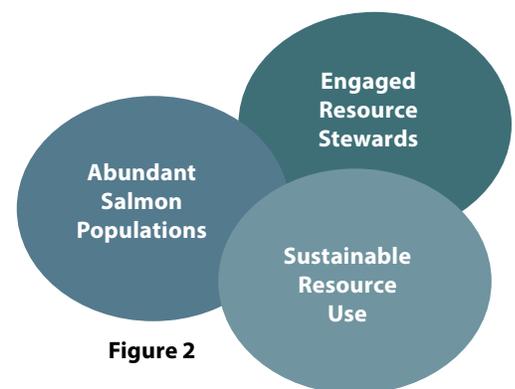


Figure 2

Wild salmon restoration and enhancement

Restoration and enhancement efforts in BC to compensate for the declines in production of wild Pacific salmon are not new. The Province of BC and the federal government have invested extensively in efforts to maintain and increase the production of salmon in the past, yet fisheries have not been sustained, and communities continue to be negatively impacted.

Despite this, tools and strategies that increase the abundance of wild salmon – while carefully managing potential negative effects of interventions, such as genetic implications of hatcheries – are needed. This requires learning from past efforts while acknowledging uncertainties, and in particular the future uncertainties to be encountered as our climate changes. Future efforts should be adaptive; learning should be continuous; and the special local circumstances that accompany each opportunity should be fully recognized and form the basis of action. Multiple levels of engagement are necessary in order to act both locally (community and place) and globally as is consistent with the migration biology of Pacific salmon species. To do this successfully, the international and multi-jurisdictional nature of salmon management needs to be acknowledged, and climate effects monitored carefully and continuously.

Based on experiences to date, there are some things that seem abundantly clear. First, the Province of BC has jurisdiction over many of the habitat arenas that can positively or negatively impact salmon throughout their lifecycle – nearshore marine, freshwater and terrestrial. These provincial jurisdictional authorities include: water quality and quantity; water uses; land uses (development, agriculture, mining, forestry); estuary and nearshore environments; parks and protected areas; highways and culverts; exotic and invasive species; dams; and freshwater lakes and rivers. Wherever possible, protecting critical salmon habitats that have not yet been compromised should be the first line of defense, followed closely by strategic mitigation and restoration efforts to return salmon habitats to the highest possible standard.

We are fortunate in BC to have the experiences gained, since 1977, through the Salmonid Enhancement Program (SEP) to help with this work. SEP has included a highly diversified set of activities ranging from local community engagement to large-scale hatchery programs.

With respect to hatchery production, as shown in **Figure 3** (right), the direct release of Pacific salmon from hatcheries produced across the North Pacific is in excess of five billion juveniles per year.

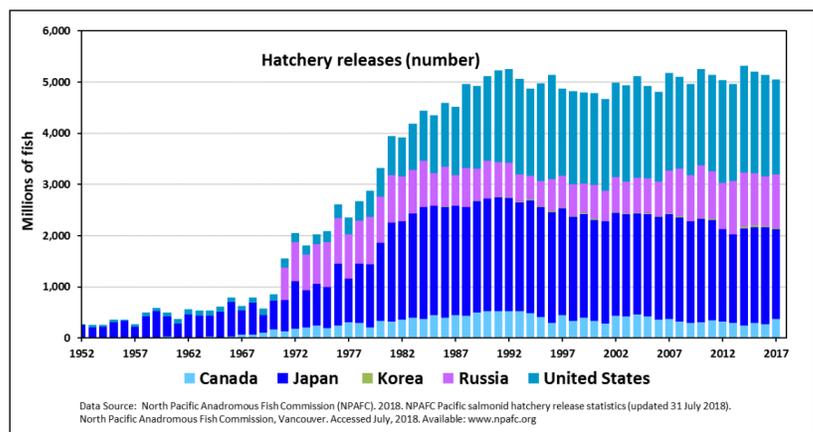


Figure 3

Canada presently releases about 300 million juvenile Pacific salmon annually through the SEP⁵, representing a small portion (~6%) of this total number. Due to its commitment to the conservation and restoration of wild Pacific salmon, Canada has not developed major hatchery production of pink and chum salmon to the same extent as other countries (such as Japan, Alaska, and Russia).

At present, research is inadequate to address the potential competition of salmon on the high seas, including between species and/or between countries of origin. This deserves attention when considering enhancement efforts as part of BC's *Wild Salmon Strategy*.

There has been discussion on the concept of ocean ranching as a means to provide community access to more abundant salmon resources, and for the past 30 years there has been interest in considering strategically and responsibly located ocean ranching facilities. The primary difference between public hatcheries and ocean ranching is ownership and access to the returns from the juveniles produced. For example, hatcheries in Alaska are owned and operated by a mix of state government (public), regional aquaculture associations, and not-for-profit organizations⁶. In BC, underutilized or mothballed major SEP hatcheries, expandable community economic development program (CEDP) facilities, and other existing private hatcheries may provide an opportunity to test out ocean ranching concepts through public-private partnerships or Alaska-style not-for-profit associations.

This said, at present, there is no policy allowing private investment in ocean ranching in BC. If developed, there may be conflict between open public access to returning salmon (that would be mixed with naturally-produced salmon), and access for private investors to sustain production, employment and investment. For ocean ranching to occur there would first need to be an indication of broad public, Indigenous, and industry support, and then the development of a sound and acceptable policy and regulatory framework.

Community stewardship and sustainable management

Both community stewardship and sustainable management are essential to the health of wild salmon populations in BC. It is understood that 'an effective fisheries management regime requires close collaboration with resource users and stakeholders based on shared stewardship'⁷. As such:

- Effective resource management requires open, cooperative participation by communities, industry, Indigenous Peoples, federal and provincial governments, and other stakeholders; and
- Communities play a critical role as local stewards of fish and fish habitat in contributing to the sustainability of the resource.

5. https://npafc.org/wp-content/uploads/NPAFC_Hatchery_Rel_Stat_31July2018_Web.xls

6. <http://www.adfg.alaska.gov/index.cfm?adfg=fishingHatcheries.main>

7. Fisheries and Oceans Canada (2012), Strategic Framework for Fishery Monitoring and Catch Reporting in the Pacific Fisheries.

In BC, community connections to salmon stewardship are important and significant. Participation is organized in various ways – with stewardship groups including Indigenous communities, non-profit conservationists, commercial and recreational fish harvesters, schools, the private sector, individuals, and others – and in many cases, salmon stewardship provides a starting point for diverse groups to find common ground and to build trust.

Within the diversity of these programs, ranging from small-scale local stewardship groups through to watershed level councils, there is significant variation in the level of technical, administrative and financial support required to support effective community participation and program implementation. Largely because of the inconsistency in these supports over the decades, stewardship efforts in many cases have been reduced or discontinued.

New economic opportunities to assist viable/sustainable community based fisheries

Historically, wild salmon have contributed significantly to the economy of British Columbia and helped to support the health and wellbeing of BC's citizens. Commercial and recreational fish harvesters and businesses associated with the fishing sector are an important part of our landscape, particularly in more rural areas. Indigenous Peoples have a priority right after conservation to harvest salmon for food, social and ceremonial (FSC) purposes that is enshrined in the Canadian Constitution. More recent case law and modern treaty-making have helped to establish, in some cases, the additional right to sell fish as part of Indigenous economies.

Key to keeping these sectors and communities viable and vibrant is ensuring that wild salmon flourish. It is also key to consider ways to retain maximum value from harvesting activities at the local level to the greatest extent possible, and to explore how to increase the overall value of this resource for BC.



The state of wild salmon in BC

The challenge in describing the state of wild salmon⁸ is the simple fact that there are over 8,000 combinations of species and streams in BC. Resource managers have never ‘managed’ each of these combinations and have more recently developed the concept of Conservation Units (CUs) under Canada’s Policy for Conservation of Wild Pacific Salmon (2005) that aggregates these combinations into 432 ‘CUs’ for BC.

Most simply stated, the status of wild salmon in BC is difficult to determine with any degree of certainty but there is no doubt that there are challenges ahead. Available data is highly variable by both species and region and there are data gaps in some areas – work is ongoing. This said, it is clear that across all regions, and all species, the overall abundance of wild salmon has declined since the 1950’s. Comparing data for the past decade with the time series 1954-2016, wild salmon productivity in the North and Central Coast has shown declines of 20% to 45%, and in Southern BC declines of 43% for sockeye, and 14% for chum have been evidenced, although pinks have increased by ~24% in this region. Chinook salmon throughout BC have experienced a widespread decrease in productivity, but these rates are highly variable between years and rivers. There is also increasing concern for changes in the biological characteristics of Chinook salmon including earlier ages at maturity, smaller size at age, and reduced fecundity at maturity. Each of these characteristics contributes to reduced productive potential and productivity rates. Steelhead trout varies from critically poor in the interior Fraser River⁹, to recently decreasing stocks in Southern BC (non-Fraser) and Central BC, to stable to positive in Northern BC.

Poor marine survival rates appear to be a significant factor across wild salmon declines. Changing ocean conditions due to climate change and other factors, both natural and manmade, will likely continue to hinder recovery efforts into the future. Local habitat conditions, including poorer water quality and quantity and detrimental land uses, are also taking their toll. Fisheries managers have also expressed concern about the potential wildfire impacts in the Interior to wild salmon populations in the Lower Fraser Basin that are currently unknown.

It must also be noted that investment in scientific study and data quality and quantity with respect to wild salmon management has been significantly reduced over the past several years. This fact has contributed to a lack of confidence when reporting the status of salmon in BC and has fueled hard debates among stakeholders about the reliability of data used to make fisheries management decisions.

In the face of this uncertainty, **Table 1** (*over*) offers a summary of the state of wild salmon in BC¹⁰ based on the best currently available information.

8. The specific reference to state of salmon as opposed to a status assessment is because the latter requires the existence of abundance targets or biological reference points that do not exist for most BC Pacific salmon.

9. Endangered and at imminent risk of extinction (COSEWIC 2018).

10. Data provided by Pacific Salmon Foundation for the development of this Options Paper (2018).

Table 1

Pacific Salmon on BC's North and Central Coast (NCC)
SOCKEYE (-33%) Very Abundant. Returns have declined since mid-1990's.
PINK (-28%) Most abundant species on NCC. In recent years, returns often below long-term averages.
CHUM (-45%) Historically very abundant. Have seen some of the largest declines over 10 years.
CHINOOK (-26%) Historically least abundant species. Recent returns well below long term average.
COHO (-21%) Abundance has declined over time but maintaining relatively consistent numbers.

Pacific Salmon on BC's South Coast (SC)
SOCKEYE (-43%) Typically the most abundant species on SC. Dominated by Fraser River runs. Huge variations in run size each season.
PINK (+ 24%) Second most abundant species on SC. Average abundances above long-term averages. Last two runs (since 2013) reduced.
CHUM (-14%) Abundances below long-term average, but similar to the period from 1950's-70's.
CHINOOK Data deficient. The subject of a 2018 COSEWIC review (not yet reported). Okanagan Chinook listed as endangered (COSEWIC 2017).
COHO Data deficient. Interior Fraser River Coho assessed as threatened (COSEWIC 2016).

Indigenous peoples & wild salmon

Indigenous Peoples in British Columbia are inextricably connected to wild salmon. The bonds, for both coastal and upriver Indigenous communities, are deep and significant. Language, ceremony and song connect the people to the land, fish, animals and plants – reminding them that they are related, and that they must respect and honour one another. In the Indigenous world view, the animals and plants are teachers. They sacrifice themselves for people to survive. They connect the people to their lands and to their histories. They are a source of wonder. The value of wild salmon goes far beyond their economic value. They are sustenance for both body and spirit.

Indigenous Peoples in BC have a constitutionally protected aboriginal right to fish for food, social and ceremonial (FSC) purposes. The 1990 Sparrow Supreme Court of Canada (SCC) decision confirmed this right, upholding the ancestral right of Musqueam member Ronald E. Sparrow to fish¹¹. Further, the SCC confirmed that the aboriginal right to fish for FSC purposes has priority over other uses of the resource, after accounting for the conservation needs of the species. The pre-confederation Douglas Treaties¹² on Vancouver Island also established the right of signatory Nations to be ‘at liberty to hunt over the unoccupied lands and to carry on fisheries as formerly.’ In addition to the aboriginal right to FSC fishing, there are many court and treaty settlements in more recent decades¹³ that have affirmed the right for (some) Indigenous Peoples to sell catch from their Territories – in other words, a recognition of the economic relationship between Indigenous Peoples and salmon and other seafood fisheries.

Today, over 190 Indigenous communities in British Columbia are located adjacent to rivers or in coastal areas with salmon, and fishing interests stand out as a particularly unifying issue. Almost all Indigenous Peoples in BC have active salmon bearing streams in their Territories, from the Fraser and Skeena River watersheds to small coho creeks. The only region of BC where salmon are not found is in the far north-east where the Peace and Liard River watersheds flow to the Arctic through the Mackenzie River. In some Territories, salmon have been extirpated (e.g., the upper Columbia River in BC) or significantly reduced from their historic abundance (e.g., Okanagan Region) via habitat loss, migratory barriers and over-fishing.

Most Indigenous Peoples have a common history of their once significant access to fisheries resources being gradually, and in some cases dramatically, reduced. In some cases the decrease in access has been due to habitat loss, and in some cases it is the result of natural or human-caused species decline. Much of the loss of Indigenous Peoples’ access to fisheries resources, however, can be attributed to government policies, regulations and

11. <https://www.thecanadianencyclopedia.ca/en/article/sparrow-case>

12. <http://www.aadnc-aandc.gc.ca/eng/1100100029052/1100100029053>

13. The Gladstone case effectively recognized a commercial right for the Heiltsuk members to harvest and sell herring spawn on kelp. The 2018 Ahousaht decision ruled that the Ehattesaht, Mowachaht/Muchalaht, Hesquiaht, Ahousaht and Tla-o-qui-aht’s declared right to fish within their fishing territories and to sell that fish was unjustifiably infringed by Canada.

programs that intentionally or indirectly reduced their participation in both food and commercial fisheries.

In the 1990's, successive years of poor salmon returns created a favourable environment for commercial fleet reduction. The phrase "too many fishermen chasing too few fish" became a popular mantra. Though provisions in the fleet reduction programs sought to avoid targeting Indigenous fish harvesters, a disproportionate number of Indigenous fish harvesters were bought out of the fishery. Towards the end of that decade, the Department of Fisheries and Oceans (DFO) Salmon Allocation Policy¹⁴ conferred a priority for Chinook and coho salmon to the recreational fishery, and maintained a priority for sockeye, pink and chum in the commercial salmon fisheries. With a diminishing resource, these decisions further restricted the ability of BC's Indigenous Peoples to participate in the salmon fishery, especially in more remote communities, although some, particularly younger members, have become involved in the sports sector through ownership of both fishing lodges (e.g., Haida) and recreational guiding¹⁵.

A clear objective today of most, if not all, Indigenous Peoples in BC is to increase their access to fisheries for both food and economic purposes, and to be involved in the management of these resources. There is a common expectation that increased access to fisheries can again help feed and economically support Indigenous Peoples and communities. Increased salmon access can be delivered through three complementary routes:

- Increased salmon abundance;
- A reallocation of salmon; and
- A greater degree of integration into BC's commercial and recreational fisheries.

In 2013, following what many see as be a failed modern treaty-making process, including the lack of resolution in most instances around fisheries access, DFO initiated a dialogue between Indigenous fish harvesters and commercial salmon fish harvesters called the Commercial Salmon Allocation Framework (CSAF)¹⁶ to review and update the commercial salmon allocation process in BC. Significant for Indigenous Peoples' salmon fishing interests was some limited ability to develop community-based fisheries using harvest shares associated with commercial salmon licences held by Indigenous harvesters.

Currently, DFO's Salmon Allocation Policy and other DFO policies, regulations and management plans recognize the priority of the food, social and ceremonial right (FSC)

14. Fisheries and Oceans Canada (1999), An Allocation Policy for Pacific Salmon: A New Direction.

15. <http://uuathluk.ca/sport-fishing-guides/>

16. <https://www.fnfisheriescouncil.ca/initiatives/economic-performance/commercial-salmon-allocation-framework/>

after conservation¹⁷. The challenge for management agencies is to put the FSC priority into effect for Indigenous harvesters and Indigenous Peoples' communities that are in many circumstances situated 'upstream', or after, seaward commercial, recreational and Indigenous fisheries occur.

Today, the BC First Nations Fisheries Council (FNFC) works to increase Indigenous Peoples' access to fisheries and their involvement in fisheries management and decision-making. FNFC is organized into thirteen regions¹⁸, each with a rich history of fishing wild salmon for food and trade. Indigenous Peoples' organizations in all 13 regions also operate fisheries programs¹⁹ that manage wild salmon (and other species) in their Territories. Most operate fisheries programs at both the individual community level and in some form of aggregate organization (e.g., Skeena Fisheries Commission, Lower Fraser Fisheries Alliance). Activities of both individual and/or aggregate fisheries programs include: salmon assessment; catch monitoring; hatcheries and low-tech enhancement; habitat restoration; and fisheries management. Most of these activities take place with the support of federal and provincial management agencies. In many regions, Indigenous groups and communities work with other local salmon interests (environmental, recreational, commercial) and government through area-specific advisory bodies (e.g., Nootka Sound Watershed Society) to raise funds and advise government agencies (including Indigenous) on local stewardship activities and harvesting plans.

17. In February 2018, the Federal Minister of Fisheries (then Dominic LeBlanc) announced that DFO would be proceeding with a review and update of the 1999 Salmon Allocation Policy, which confers a priority for Chinook and coho salmon to the recreational fishery. A recent BC Supreme Court ruling determined that this priority is an 'unjustified infringement on the commercial fishing rights of five Nuu-chah-nulth First Nations'. The decision voids the 1999 Salmon Allocation Policy with respect to these five First Nations and calls into question the validity of the existing policy with respect to the priority of the aboriginal fishing rights of other First Nations in BC. Details or timeline for the review have not been provided by the Minister's office or DFO, nor has broad input been sought by DFO on the structure and scope of the review. The potential for a review of the 1999 Salmon Allocation Policy could provide the opportunity for First Nations in BC to seek an allocation policy that would recognize the priority of their aboriginal rights-based fisheries relative to other harvesters.

18. <https://www.fnfisheriescouncil.ca/regions/>

19. Most First Nations fisheries programs are funded by the Federal government through programs administered by Fisheries and Oceans Canada (DFO).

The wild salmon economy in BC

Wild salmon have historically been a cornerstone species for both the commercial and recreational fisheries in BC, and for many ancillary businesses including seafood processing. It is not an overstatement that wild salmon have supported multiple generations of individuals and many local economies in this province. Declining wild salmon abundance due to multiple factors, coupled with fisheries management decisions over the past 30 years, have had a significant impact on salmon-related enterprises and community economies. The following sections describe in more detail today's economic outlook in the commercial and recreational salmon sectors.

The Commercial Salmon Sector

Context

The BC commercial salmon fishery has been an important contributor to the provincial economy, and has supported community and cultural development for generations, and since time immemorial for Indigenous Peoples. Despite significant challenges and changes to the industry over past decades, BC wild salmon fisheries remain important to local and regional economies and are a defining element of the social and cultural fabric of fishing communities and Indigenous communities. The commercial salmon fishery still supports family-owned fishing businesses, fisheries infrastructure, and ancillary services such as shipbuilding and processing. It also provides many less tangible benefits such as the multi-generational transfer of knowledge and fishing skills, access to food, and local stewardship.

The commercial salmon fishery has experienced marked changes over the past three decades. The years from 1985 to 1994 included relatively good fortunes in the salmon business. Then, in 1995, salmon catch levels dipped abruptly due to a host of factors, including:

- Lower salmon abundance, attributed in some combination to ocean conditions, habitat failures, predation and fishing activities;
- Increasingly risk-averse fisheries management. Precautionary management measures meant lower harvest rates and less mixed-stock fishing in the ocean;
- DFO management decisions to reallocate salmon from the commercial sector to recreational and Indigenous Peoples' fisheries, reducing the amount of fish available to the commercial sector; and
- The growth of the aquaculture industry internationally which initially served to depress prices.

The combined result of these changes was a reduction in salmon catch in BC. Now, average annual wild salmon catch levels in the commercial sector are about one quarter of what they were in the 1980's.

As the fishing industry struggled with the consequences of these changes, DFO, from 1996 and well into the 2000's, implemented a series of fleet restructuring policies and programs for the salmon fleet and other fisheries that included:

- Creation of different licences for each fishing area on the coast, which altered the practice of 'following the fish' along the coast in favour of restricting each vessel's activity to a single area;
- Single gear licencing, which required harvesters to choose one gear type;
- Introduction of quota into other fisheries, which required salmon harvesters to purchase quota for other species that had traditionally supplemented salmon incomes in years of lower abundance;
- Permitting the stacking of licenses and quota onto one vessel;
- Permitting the ownership of fisheries quota by non fish harvesters, and the leasing of this quota to active harvesters, thereby increasing the cost of accessing fish to harvest; and;
- Salmon licence buybacks to encourage harvesters to exit the industry.

The combined effect of these policies and programs was a 50% reduction in the number of commercial salmon licenses active on the BC²⁰ coast by 2015, and an 80% decrease in active vessels²¹. The loss of jobs, catch opportunity, and lessened presence of vessels in coastal communities was severely felt.

Current state

Unfortunately, the promise of greater opportunity through fleet downsizing has not been realized. The capital costs for those who remain in the commercial fishery have been driven up exponentially as fish harvesters pay for the additional licences and quota that were part of their licence prior to 1996. Concurrently, salmon harvest rates have been cut in many cases by as much as 50%. Low catch levels, rising costs, marginal price increases for fish harvesters, and increasingly restrictive fish management have all contributed to the loss of fishing enterprise viability for the current generation of harvesters, and drastically reduced the potential for a new generation in the industry.

Interesting and somewhat alarming, while landed volumes of wild seafood from BC stayed more or less stable over 16 years (2000-2015), the total landed value of BC's seafood products declined. This is in contrast to other North American marine provinces and states as shown in **Figure 4** (Pg 20).

20. Data provided by Nelson Brothers Ltd for the development of this Options Paper (2018).

21. Extracted from data provided by DFO in commercial fisheries reports.

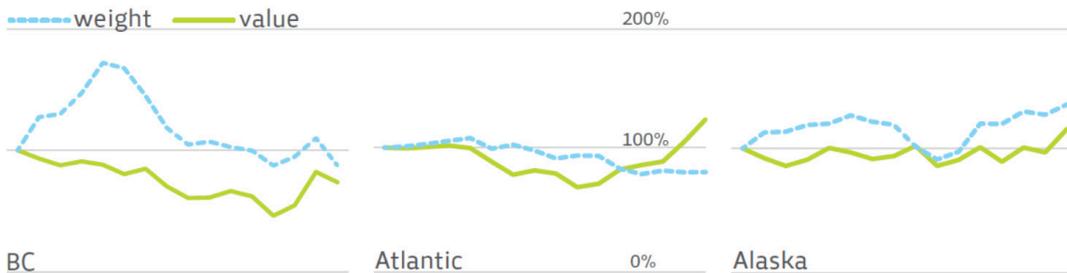


Figure 4: The evolution of landings (in tonnes) and landed value (in 2017\$) in Canada’s Atlantic, British Columbia, and Alaska, between 2000 and 2015, relative to 2000²².

Sustainability

As per **Figure 5 (below)**, both the annual incomes of fish harvesters, and the number of active fishing vessels in BC have declined²³. BC is the only province in Canada where average fish harvester annual incomes declined between 2000 and 2015 – only \$19,100 average in 2015, which is 40% less than reported earnings in Atlantic Canada²⁴.

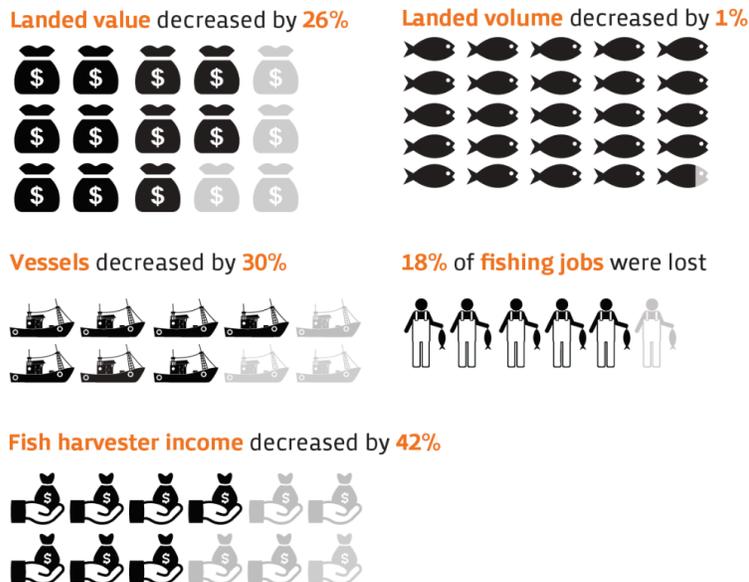


Figure 5

22. Data provided by Ecotrust Canada for the development of this Options Paper (2018).

23. Data provided by Ecotrust Canada for the development of this Options Paper (2018).

24. Canadian Council of Professional Fish Harvesters (2018), Fisheries Seasonality and the Allocation of Labour and Skills – Labour Market Information Study

Low incomes, short seasons and uncertain career prospects have exacerbated the challenge of bringing new entrants into the fishing industry. With an average age now of 56 years in BC, it is conservatively estimated that 40% of the current fishing labour force could retire by 2025, taking with them the knowledge and skills needed to mentor a new generation of harvesters.

Reversing these negative trends requires ingenuity and intention at all levels. Attention to the issue of increasing salmon abundance could be one part of the solution, including careful consideration of ocean ranching as a means to increase access and opportunity for local communities and active fish harvesters. Another part of the solution could be to revisit fisheries policies and regulations, to ensure that the full range of benefits that commercial fish harvesters provide for their communities and local economies forms a foundation for management decisions for the sector.

Active fish harvesters recognize the importance of fishing responsibly because their livelihoods depend on it. There is an opportunity to re-frame policy and regulation to benefit environmental conservation, economic resilience, and social equity of communities that depend on a vibrant commercial fishery. With commitment and creativity, we can regain economic, social and cultural values for communities and active fish harvesters within a sustainable fishery.

BC's Salmon Shore Sector

In the wake of changes in the fishing industry, BC's shore sector also looks considerably different in 2018 than it did three decades ago. In 1980 there were a plethora of processors throughout rural and urban BC. From 1980 onward, generally because of consolidation, many of these companies closed, leaving a smaller number of processors, including a few vertically integrated firms doing everything from dealing with the fleet to selling branded products on the market.

There are now fewer processing facilities in rural communities. For the commercial catch, including salmon, much of the processing capacity has, for efficiency reasons including access to transportation, relocated to urban areas. Infrastructure, once geared to handling peak volumes, has been scaled back. Most facilities handle multiple species and some include the processing of farmed salmon. Smaller companies in the business tend to be more specialized – focusing on unloading, trucking, primary processing, value-added processing, branding, distribution, or sales – and most are also highly regional and not concerned with covering the whole coast.

In 2015, Canadian Fish Company (Canfisco) closed the last major production cannery in BC. This facility, located in Prince Rupert, was at one time the world's largest cannery. Pink salmon, BC's most abundant species, had been the backbone of the canning industry and was the mainstay of the Prince Rupert cannery. Citing the drop in global demand for canned salmon and the decision to move to more fresh and frozen products, the closure of this cannery affected some 750 employees, 70% of whom were Indigenous and most of whom were women. The cannery itself was a result of the consolidation of a long list of

firms, including Nelson Brothers, BC Packers' Port Edward Cannery, New England Fisheries' Oceanside Plant, Atlin Fisheries, Rupert Cold Storage, Ocean Fish's Royal Plant and Cassiar Cannery and BC Packers' Rupert Plant. Pink salmon caught in the area are now shipped elsewhere for processing.

Another component of the processing sector in BC is custom-processing firms, and there are several large facilities that are mostly, but not exclusively, located in the Lower Mainland. Most feature high-capacity cold storages, and many handle other food-types (dairy, poultry, meat, fruit and vegetables). There is sufficient custom-processing capacity in BC that one can be a major player in the business – a buyer and marketer of wild salmon – without owning any processing assets. Some custom processors handle fish for others, but also produce for their own brands and labels.

A major issue for processing facilities is the reliability of salmon runs. Huge variability in run size and species mix puts BC processors at a disadvantage, while they struggle with too much fish or not enough. Alaska, our province's major wild salmon competition, has developed a different salmon management strategy, which includes major hatchery production. In 1974, the Alaska Legislature expanded their hatchery program, authorizing private non-profit corporations to operate salmon hatcheries. Alaska's salmon hatchery program was designed to supplement—not replace—sustainable natural production. As a result, processors operating in Alaska do not face the same challenge with unpredictable commercial fish production.

BC has maintained a diversity of processing types as shown in **Figure 6** (below). This has, at least to some extent, contributed to the overall ongoing viability of the processing sector in spite of fluctuations in product availability.

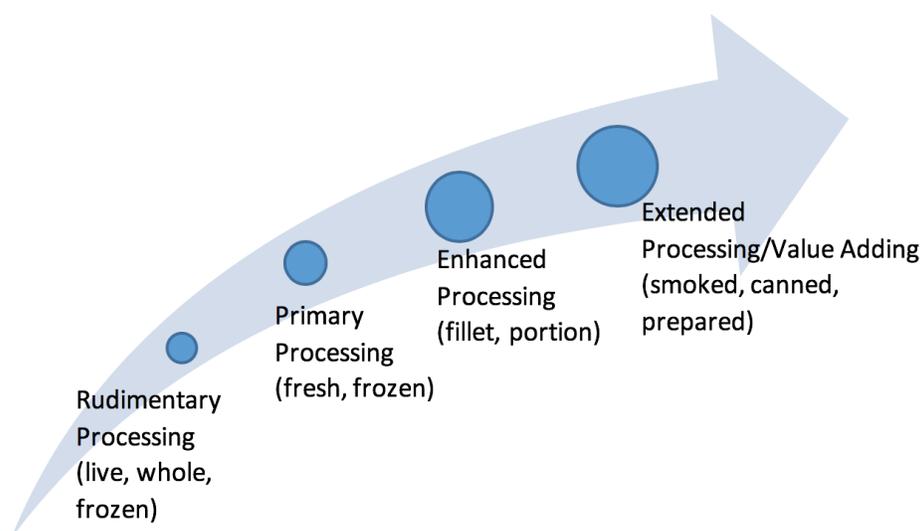


Figure 6

The Recreational Sector

Context

Recreational salmon fishing in BC is widely recognized as one of the premier recreational fisheries on the planet and attracts visitors from all over the world. It is also an important part of the lifestyle, family traditions and recreation for BC residents wherever the opportunity to fish exists. This fishery provides access to common property fishery resources to the Canadian public, and it provides significant economic and social benefits through tourism by both Canadians and international visitors. Approximately 300,000 licence holders participate in tidal recreational fishing opportunities on an annual basis in BC, with salmon, halibut and lingcod being the most highly sought-after species, but also including other groundfish and shellfish species depending on the prevalence of species in areas accessible to anglers. The recreational fishery takes place in all areas of coastal and inland BC and is an integral part of the lifestyle and traditions of its participants, particularly in smaller rural communities.

BC's tidal waters recreational fishery is managed by DFO, and non-tidal salmon fisheries are managed by BC's Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD)²⁵. The tidal waters sector has been offering conservation and management advice to DFO for over 50 years in a collaborative manner through the Sport Fishing Advisory Board (SFAB). Local committees meet twice per year to provide advice to North and South Coast regional committees. These committees then provide advice and representation to a main board, which offers final recommendations to DFO twice per year. All SFAB local meetings are open to the public, and all meeting minutes are in the process of being posted on a public DFO website.

In spite of some management challenges and a lack of certainty and stability in opportunity, participation in the fishery has been consistent over the past decade and has even shown growth in the past five years, as shown in **Figure 7**²⁶ (right).

The recreational fishery can be broken down into Primary and Secondary sectors. The Primary sector is comprised of anglers who do not derive any part of their income from activities associated with recreational fishing. The Secondary sector consists of individuals and businesses who derive part or all of their income providing products or services to the fishery. For the most part, Primary anglers

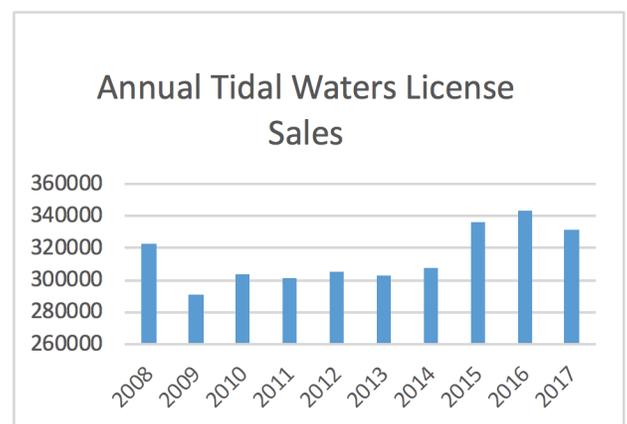


Figure 7

25. FLNRORD is responsible for stewardship of Provincial Crown land and natural resources, and protection of BC's archaeological and heritage resources

26. <https://www-ops2.pac.dfo-mpo.gc.ca/vrnd-rneb/index-eng.cfm?pg=RecRptSelect>

represent the market for the Secondary sector, however many Secondary sector individuals and their families actively participate in the fishery at a Primary level. The two sectors do not compete with each other for access to fish, but rather complement each other. For example, lodges and charters provide access to both visitors and Canadians who don't have boats or possess the knowledge to fish for themselves.

Current state

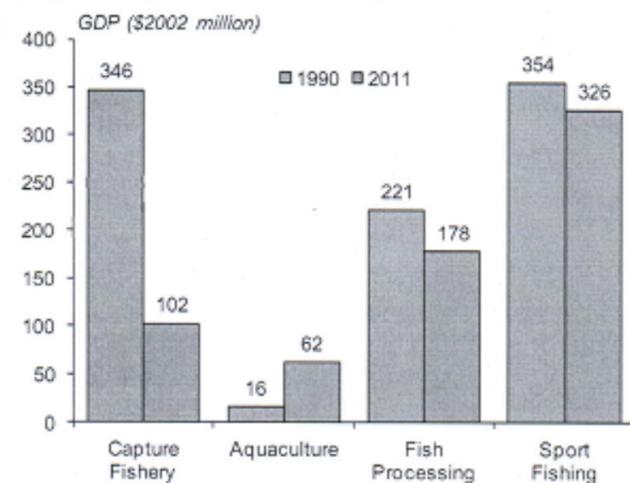
The recreational fishery accounts for nearly half of the GDP of BC's fisheries sector, as per **Figure 8** (below).

The recreational fishery and its associated businesses form part of the broader outdoor recreation and tourism sector offerings in BC. As such, they are a significant contributor to local economies, benefiting both those who provide direct fishing services as well as ancillary services such as accommodations, food and beverage, and transportation.

The most recent statistics available from the BC Fisheries and Aquaculture Sector Report (2012 edition)²⁷ indicate that the recreational fishery in BC generates \$936 million in direct revenues, and creates 8400 full-time and seasonal jobs²⁸ as shown in **Figure 9** (below). Employment, wages and total revenue all increased between 1991 and 2011, and local knowledge suggests that these statistics continue to increase.

It is estimated that the recreational fishery provides 55% of its total job benefits in rural communities outside the major metropolitan areas of Greater Vancouver and Greater Victoria.

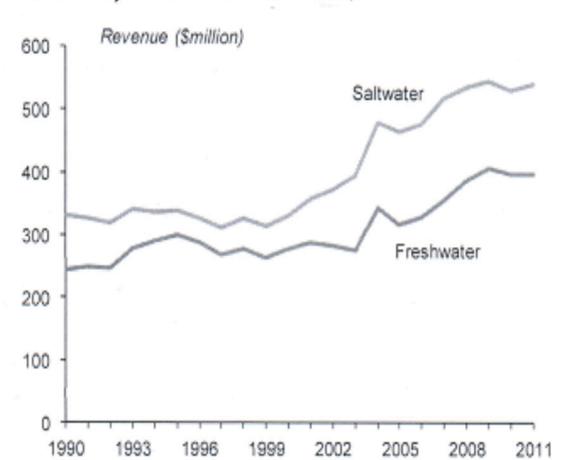
The sport fishery now accounts for nearly half of the sector's total GDP



Data Source: Statistics Canada & BC Stats

Figure 8

Total industry revenues were estimated at \$936 million in 2011



Data Source: BC Stats

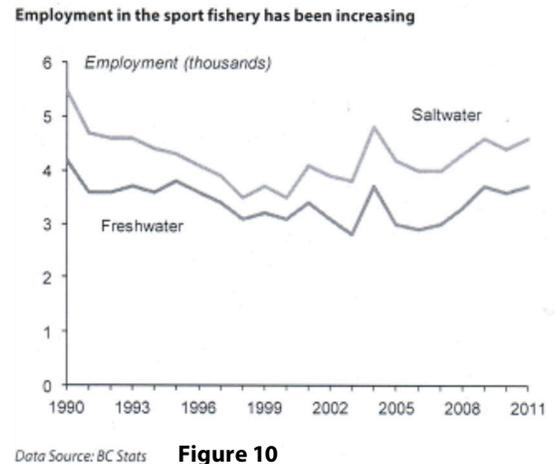
Figure 9

27. <http://www.bcstats.gov.bc.ca/Files/0c4250f8-e4ee-45b9-b1fa-247ae1a98590/BritishColumbiasFisheriesandAquacultureSector2012Edition.pdf>

28. Data provided by Owen Bird for the development of this Options Paper (2018).

In many cases, these jobs and business opportunities have helped small coastal communities transition from “traditional” resource-based activities to the tourism-based economy that is prevalent now. **Figure 10** (below) shows how employment in the sector has changed over time.

To optimize the benefits that flow from the recreational fishery, a greater degree of certainty and stability is important. For business planning purposes, secondary service providers require the ability to market their products during winter months. Resident and visiting anglers, like anyone planning a vacation or an activity, book vacations well in advance. Suppliers require notice in order to create and manage inventory. Each group shares a common interest to understand what the level of certainty is for expectation and opportunity. Salmon management decisions that are made with minimal notice can result in erosion of trust and loss of market share for secondary service providers.



The 1998 Salmon Allocation Policy, implemented in recognition of the value of the fishery to the province, has provided a greater degree of certainty to the fishery since its inception, and the fishery’s value has only increased since 1998. Changes to the priority of access for Chinook and coho after FSC fisheries but before commercial fisheries would inevitably lead to decreased access, increased uncertainty and lack of stability in the fishery. Increasing the abundance of wild salmon would lead to greater certainty and stability in returns, which would then hopefully translate in to greater predictability and longer lead times in management decisions.

The socioeconomic potential of BC’s recreational fishery is driven by two key factors – the opportunity to go fishing and the reasonable expectation of catching a fish. Opportunity is provided through the ability of the public to access fishery resources, while expectation is provided by the abundance and availability of fish. Provided that recreational fisheries maintain access through allocation and sharing arrangements that recognize the importance of the fishery, increasing the abundance of wild salmon in British Columbia would inevitably lead to increases in participation and resultant increases in the considerable social and economic benefits that the fishery provides.

Indigenous Peoples are realizing the benefits that the recreational fishery can provide to their communities by investing in lodges, charter operations and processing facilities. These businesses provide both employment and profit to community members in a sustainable manner that maintains the ability to work on the water, incorporates traditional knowledge and provides an opportunity share that knowledge with others.

In addition to the recreational fishery’s economic contribution, around \$7 million is collected annually from total license revenue for tidal licenses in DFO’s Pacific Region²⁹, including

29. <http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/licence-permis/Stats/99tocurrent-eng.html>

\$1.5 million through the Pacific Salmon Conservation Stamp that is contributed directly to the Pacific Salmon Foundation with the understanding that it will be invested in salmon rehabilitation and enhancement projects. It should be noted that tidal waters recreational fishing licence costs have remained the same since 1996, and opportunity to increase revenues generated from licence sales even to meet inflation could be explored. Currently, federal licence sales do not flow automatically to the region, but to general revenues.

Sustainability

The recreational sector provides socioeconomic benefits while catching a small portion of the total catch of any species in BC. For example, the recreational sector is currently allocated 15% of Canada's total halibut catch and current estimates indicate that, while it may catch up to 25% of Chinook harvested, the sector still only catches about 4% of the total catch of all species of salmon. This is because the recreational fishery adds value to the resource by including the experience of catching a fish as part of its value proposition. While it is still important for anglers to maintain the ability to harvest fish and consume them, the ability to enjoy being on the water and experience the activity of fishing is also highly valued. The success of the recreational fishery is therefore based on opportunity and expectation, not volume of harvest.

The recreational fishing sector has been a major champion of, and contributor to, salmon enhancement projects on the BC coast and inland that are focused on producing more salmon in both the marine and freshwater environments. This activity has created both direct and indirect jobs in the province over time, and the sector continues ongoing volunteer enhancement efforts that reflect a strong desire amongst many in the angling community to ensure the long-term sustainability of the recreational fishery and the significant benefits it provides.

Recreational anglers, guides, lodges and charter operators actively participate in catch monitoring activities such as creel surveys, catch logs and bio-sampling. The introduction of the *FishingBC* app, which is a device-based application developed by the Sport Fishing Institute of BC in conjunction with DFO, has provided additional opportunity for anglers and guides to submit catch information to DFO in real time. Timely and accurate catch data is key to sustainable fishery management and the recreational fishery continues to advance in this area every year.

Conclusions

Wild salmon are an integral part of our ecosystem. They feed the trees, the bears, the whales and the people. They are a beacon of the overall health of our rivers, lakes and ocean. They are a vital part of Indigenous Peoples' culture and the culture of fishing families and communities in both coastal and inland regions. Over many generations, wild salmon have enriched not only the economy of our province but also the lives of so many people and animals who call this province home.

Creating a new made-in-BC Wild Salmon Strategy at this juncture when the threats to our wild salmon populations are so complex, requires an urgent and strategic intervention. In the following section of this paper, the WSAC offers a suite of options for consideration – proposing strategies and opportunities in the three target areas of our mandate: salmon restoration and enhancement; salmon stewardship and sustainable management; and community economic opportunity.

In proposing these options, the WSAC recognizes that the following conditions are necessary for success:

- It is imperative that we learn from past efforts. There have been billions of dollars spent on hundreds of experiments – large and small. The wisdom, experience and best practices from this time spent and these investments made must inform our future course of action.
- Peer-reviewed science, traditional and local knowledge, and ecosystem-based management must inform our approach. We must commit to learning as we progress and recognize the uniqueness of each place and every circumstance.
- We must acknowledge the uncertainties inherent in working with nature. Work to return wild salmon abundance is happening amidst an unpredictable future due to climate change.
- Communities that depend on aquatic resources, and the people who make their living from fishing or from its ancillary services, are at the heart of this initiative. They are committed to the cause, knowledgeable about the issues and dependent upon a good outcome. There are no better allies for this work.
- New forms of collaborative governance that recognize the unique and important role of Indigenous Peoples and that value the advice of stakeholders are a critical component of building long term success.

- Careful and strategic planning, long term investments and effective systems of federal-provincial-Indigenous Peoples management across the lifecycle of salmon should form the backbone of the Wild Salmon Strategy.
- Finally, immediate and strategic actions, guided by experience and science, that will shore up the weakest links, garner the fastest results, and situate BC's wild salmon for the greatest possible future, must begin.

We need a clear vision, public will, effective engagement processes that start at the local level, and intentional collaboration between provincial-federal-Indigenous Peoples.





Options for a Made-In-BC Wild Salmon Strategy

BC Wild Salmon Advisory Council



GOAL 1: Increase the abundance of wild salmon in British Columbia

Despite billions of dollars of public and private investment over the past 30 years to protect, restore, enhance and manage our wild salmon, both the statistics and the stories indicate that many of BC's wild salmon populations continue to weaken at an alarming rate.

In the face of oncoming pressures from both development and climate change, threats continue to grow for this iconic species that has, for generations, been integral to the province's economic, social and cultural fabric. Presented below are opportunities for increasing the abundance of wild salmon in BC.

1.1 STRATEGY

Protect critical salmonid habitats from loss or degradation.

Rationale

Restoring spawning and rearing habitats disturbed by weather events and human activity is often expensive, time consuming and complicated. Implementing actions to increase protection for salmonid habitats before they are disturbed may achieve greater benefits at a much lower cost. With additional and largely unpredictable habitat consequences that may result from climate change, finding ways to actively avoid disturbance is important.

Opportunities

1. Audit existing areas of provincial jurisdiction that intersect with salmon (water quality and quantity; freshwater lakes and rivers; estuaries and near shore habitats; parks and protected areas; industrial water use; land use including forestry and agriculture; etc.) Ensure that all relevant/related legislation, regulation, policies and procedures are strengthened with the aim of actively avoiding the disturbance of critical habitats important to the salmon lifecycle.
2. Implement enhanced, long term monitoring and enforcement efforts to ensure active compliance at the highest level with existing legislation and regulations. These efforts should be considered for marine, freshwater and terrestrial habitats.
3. Work with Indigenous Peoples as core partners in monitoring and enforcement programs. There is expressed interest, talent and training in several Indigenous communities and organizations to play a more significant role in monitoring both fishing activity and marine, freshwater and terrestrial habitats.
4. Where legislation and regulation does not currently exist or is not strong enough to ensure the protection of critical habitats, consider the development of appropriate new legislation, regulation, policies and procedures.
5. Incorporate a system of peer-reviewed science and traditional and local knowledge into decision-making.
6. Consider re-establishing a provincial Ministry of Fisheries to act as a coordinating body for fisheries-related issues including policy development and science.
7. Explore opportunities to work closely with the non-profit sector to enable targeted financial and technical support to community-driven projects focused on wild salmon recovery and long-term monitoring.

1.2 STRATEGY

Invest in the restoration of critical salmonid habitats that have been lost or degraded.

Rationale

Many years of human activity have had, and continue to have, a deleterious effect on habitats critical to healthy salmon populations. These impacts, including the loss of adequate water flows and rising water temperatures, have been well documented. Over the past two decades, energy and investment in salmon habitat restoration has been uneven – but there is good evidence that many restoration initiatives, backed by science and local knowledge, have achieved positive results. The key is to plan and prioritize strategically, invest in projects at different scales, consider opportunities for innovation that link the needs of salmon to the interests of resource and habitat user groups, and commit to a long term, sustained approach

Opportunities

1. Establish a long term strategic plan with clear objectives and a sustainable approach to investment that clearly identifies the limiting factors for salmon populations and uses these as the foundation for designing the most efficient and cost effective remedial actions possible. Short, medium and long term interventions of multiple types and at different scales are required. Prioritizing actions that help to achieve the Province's vision for increased abundance, community stewardship and community economic development should inform the development of the habitat restoration strategy. This is an arena where the Provincial government has jurisdiction.
2. Explore the development of new mechanisms designed to increase coordination between BC Ministries and Departments that hold some responsibility for salmonid habitats.
3. Examine investment in projects aimed at restoring estuaries and coastal inter-tidal zones critical to juvenile salmon, and in projects that restore critical salmon spawning habitats. These valuable production ecosystems in BC are often some of the most disturbed. Estuary restoration is already underway in some systems.
4. Consider greater support to Community Involvement Programs. These smaller, place-based initiatives cover a wide diversity of issues associated with salmon and salmon habitat protection, restoration and enhancement. Public engagement is encouraged, which often brings with it volunteer commitment, funding support and education/awareness.
5. Work closely with license holders and water users, particularly where dams have been installed to regulate water flows, to implement operating systems that work better for salmon. Dams can negatively affect water quantity and temperature, impede migratory access, and affect migration timing.
6. Conduct a review of roadway culverts to assess impacts and develop restoration plans where impacts are evidenced.

1.3 STRATEGY

Increase the production of juvenile salmon under controlled conditions.

Rationale

The risks and rewards of using enhancement methods such as hatcheries, spawning channels, sea rearing pens, and habitat enrichment to increase salmon abundance is much debated amongst scientists, environmentalists, resource users and Indigenous Peoples. Since the inception of the federal-provincial Salmon Enhancement Program (SEP) in 1977, billions of dollars have been invested to develop and deploy techniques in BC with two primary objectives: 1) creating more fish for harvesting, and 2) rebuilding weakened salmon runs. Yet in spite of our investment and vast experience, contradictory opinion and evidence persists – both practical and philosophical. Today, with over five billion hatchery-reared salmon released annually into the North Pacific Ocean, Canada’s annual release of ~300 million juveniles represents around 6-12% of annual global production. However, this raises a suite of issues around the carrying capacity of the ocean, global responsibility, and sovereignty, as well as the possible genetic implications of hatchery-reared fish. For many of BC’s resource users (recreational and commercial harvesters, processors, fishing and Indigenous communities, and ancillary businesses), producing more fish using artificial or supportive technologies could represent securing a future for both salmon and livelihoods. For others concerned about wild salmon and healthy ecosystems, the role of enhancement serves only to mask a significant challenge of our time – the need to take better care of our natural environment.

Opportunities

1. Evaluate options for salmon enhancement, including considering the potential ecological, economic and social/cultural risks and benefits associated with the broad range of production options available. Establish a set of principles against which each option will be evaluated that reflects the vision and intention of the Province’s Wild Salmon Strategy. BC has strong technical and scientific experience that can support a decision-making process. Strive for a range of activities within the context of Canada’s Wild Salmon Policy – short and long term opportunities that are species-specific and that represent a diversity of objectives. Opportunities to be considered may include:
 - The potential to use spawning channels that extend degraded habitats to help to adapt to the effects of climate change;
 - The role of community-based satellite and production hatcheries to support rebuilding local salmon populations;
 - Increasing the use of existing and under-utilized SEP facilities;
 - Stream and larger-lake enrichment;
 - Sea pen releases of enhanced salmon.
2. Examine the feasibility of production facilities operated on a cost recovery basis to support terminal commercial and sport fisheries. The Alaska model of private non-profit, regional production has proven successful and warrants careful study.
3. Explore the potential to revitalize the joint federal-provincial SEP. This would include a formula for the Province’s financial investment in the program over time.
4. Attach to all enhancement initiatives a deliberate and long-term monitoring framework for impact measurement.

1.4 STRATEGY

Consider predator, exotic and invasive species management programs.

Rationale

Many marine predators, particularly pinnipeds, have increased in abundance in recent decades, generating new challenges for balancing human uses with wild salmon recovery goals. Some studies estimate that the biomass of (particularly) Chinook salmon in BC consumed by pinnipeds and killer whales has more than doubled in the past three decades. Thus, wild salmon removals (harvest and consumption) have increased dramatically in spite of catch reduction programs in both the commercial and recreational fisheries. Predator management intended to support wild salmon recovery would create the need for careful management of trade-offs and could result in unintended ecosystem consequences over time. Considerable diligence, including fulsome impact monitoring, would be required. In addition, provincial habitats – terrestrial, freshwater and marine – have been negatively impacted over time by the introduction of exotic and invasive species that are having a deleterious effect on water quality and juvenile salmon survival. Considering actions to reduce these impacts could significantly benefit the lifecycle of wild salmon populations.

Opportunities

1. Consider programs to control the growth of pinniped populations that have been identified as having the potential to limit the rebuilding of wild salmon populations.
2. Consider programs to remove and control exotic and invasive species, including punitive actions designed to deter the introduction of new exotic and invasive species into BC's marine, freshwater and terrestrial ecosystems.

1.5 STRATEGY

Actively engage First Nations in the protection, restoration and enhancement activities associated with wild salmon.

Rationale

Indigenous Peoples of Canada have long recognized their intrinsic relationship to wild salmon, and with it their responsibility for species and ecosystem health. With and without government financial support, Indigenous communities have been leading or participating actively in wild salmon stewardship initiatives and, in many cases, in the management of the resource. It seems important to build on these initiatives already underway wherever possible, and to consider additional opportunities to support Indigenous leadership in the arena of wild salmon protection, restoration and enhancement.

Opportunities

1. Consider working closely with BC's Indigenous communities and organizations to design and conduct marine, freshwater and terrestrial monitoring and enforcement programs, because both catch limits and habitat health are key to abundant wild salmon populations. There are a number of Indigenous-led programs in place in BC, which may offer good models for replication or expansion. DFO currently contracts independent monitoring companies for both commercial and recreational harvests, which may be less expensive and more effective if done by designated and trained Indigenous companies within their Territories.
2. Consider contributing financial and technical resources to support monitoring and enforcement efforts as per past BC government-funded programs (Forest Renewal BC, Fisheries Renewal BC).
3. Many Indigenous communities and organizations run salmon hatcheries and conduct low-tech enhancement activities in their Territories. Consider the opportunity to expand existing facilities and to create new facilities with the objective of enhancing wild salmon production, particularly with related job-creation opportunities.
4. Explore ways to support Indigenous communities, particularly those situated in more remote areas within or nearby salmon watersheds, with programs such as salmon assessment, data collection and run forecasting. DFO staff have acknowledged the fit and cost savings available by utilizing properly trained Indigenous technical staff, and in some watersheds (e.g., the Nass River in Nisga'a Territory) the entire salmon assessment program is now conducted by the local community.



GOAL 2: Support and encourage greater community engagement with wild salmon

In 2011, an Angus Reid Poll reported that ‘wild salmon are as culturally important to British Columbians as the French language is to the people of Quebec’. Fishing communities and Indigenous Peoples in BC have depended on salmon not only for protein and income but also for social, cultural and ceremonial purposes.

The health and wellness of past and future generations is interconnected with the lifecycle of the salmon. Presented below are opportunities for supporting and encouraging community engagement in the stewardship and governance of BC wild salmon and fishery resources.

2.1 STRATEGY

In collaboration with DFO, engage communities more directly and deliberately in the stewardship of their adjacent resources.

Rationale

British Columbians hope that our children and our children's children are able to engage with salmon and through them to learn environmental responsibility and good stewardship. We want to ensure that the role that salmon has played historically and that it continues to play in the prosperity of BC is acknowledged, honored and sustained. We also need the people of BC to recognize and respect the critical place of salmon in the culture, traditions and economic future of Indigenous Peoples and fishing communities. It will require ingenuity and intention to keep people connected to wild salmon not only as a source of food but also as a symbol of home, a mother of culture, and a measure of community and ecosystem health.

Opportunities

1. Initiate the development of a symbolic representation of the importance of wild salmon to British Columbians to be shared often and in many venues as a reminder of salmon's presence amongst us.
2. Invest in the active engagement of the public in the development of the made-in-BC Wild Salmon Strategy. Engage local and traditional knowledge and stakeholders alongside science to establish the strategy's purpose and priorities. Build the strategy with clear pathways for ongoing and localized citizen engagement.
3. Explore models of governance that enable communities and stakeholders to more actively participate in decisions that affect the future of their adjacent resources.
4. Consider revitalizing and investing in educational curriculums and citizen engagement programming designed to connect and encourage fisheries stewardship for school-age children and the public. Salmonids in the Classroom and Adopt a Stream, both offered in BC classrooms for many years in conjunction with DFO, provide good examples of programs that could be expanded or reintroduced.
5. Examine how best to move to resource decision-making, including project prioritization and funding opportunities, at the watershed or regional scale. This could include supporting regional and local organizations that facilitate stakeholder engagement, planning and project implementation.
6. Determine the best way to reinvest a greater portion of revenues from the use of BC's fisheries resources in stewardship activities. Wherever possible create greater links between adjacent resources and community benefits.
7. Increase access for community organizations and local stewardship groups to science, technical resources and local knowledge keepers in support of effective restoration initiatives.

2.2 STRATEGY

Seek ways to advance a positive and collaborative federal-provincial-Indigenous Peoples framework to better support the stewardship and management of BC's marine, freshwater and terrestrial habitats important to wild salmon. This framework must include the active and effective engagement of resource users and fishing communities.

Rationale

The Province of BC is responsible for managing the 'salmon cradle' – the freshwater and estuarial habitats that salmon depend upon in their first year for growth and safe passage to the sea, and in their final river passage to spawn. The federal government is responsible for the health of the ocean environment in which these fish ultimately mature, and for managing salmon harvests including the number of salmon 'escaped' from harvest each season to spawn. Indigenous Peoples have a constitutionally-protected right to harvest salmon for food, social and ceremonial (FSC) purposes, and emergent case law and treaty-making have established some rights to sell fish in recognition of Indigenous economies. These rights, together with the abiding cultural relationship that exists between wild salmon and Indigenous Peoples, demands that Indigenous communities be directly involved with salmon stewardship, management and governance. Resource users and fishing communities are reliant on the resource for their wellbeing – salmon have been a cornerstone of prosperity and possibility in fishing communities for generations. When it comes to the lifecycle of salmon, these three levels of government and those who directly depend upon the resource are deeply entwined. Promoting salmon health and abundance requires designing and investing in collaborative governance frameworks that will allow for the effective and efficient participation of all concerned parties; a commitment to inclusive, informed decision-making; and an investment in structures and opportunities that build trust, confidence, role clarity and common cause. And while this is incredibly important work, the members of the Wild Salmon Advisory Council caution governments not to put structure before function. The top priority and focus must remain on actions to assure salmon abundance.

Opportunities

1. Explore the development of protocols, including new structures, for federal-provincial-Indigenous Peoples cooperation in the management and stewardship of BC's fisheries resources including wild salmon.
2. Examine the opportunity to re-establish a dedicated group to focus on achieving the Province's aspirations regarding wild salmon, including advocating for its vision of creating increased opportunities for fishing communities. A provincial fisheries body could establish protocols to collaborate with DFO and work closely with Indigenous communities and organizations to review and influence federal policies, and to design programs and processes that would support provincial objectives for wild salmon.
3. To the greatest extent possible and by whatever means, work towards enforcing the need for a single vision that reflects the shared interests of Canadians and British Columbians.

2.3 STRATEGY

Create mechanisms to ensure that all active commercial fish harvesters are able to participate in decisions made about BC's fisheries resources.

Rationale

Federal government consultations, including advisory processes to inform policies and regulations for BC's fisheries are generally structured to include fishing licence holders, or representatives appointed by fishing licence holders. Increasingly, as a result of DFO policy decisions for the BC commercial fishing sector, licence holders and active fish harvesters are not synonymous – they are often different people with different interests. Therefore, licence holders alone no longer adequately represent the interests of those who are active within the industry, including vessel skippers and their crews. This structural reality in the commercial fishing sector has directly and negatively impacted the extent to which active commercial fish harvesters can inform or support management decision-making. This condition has been exacerbated by the fact that BC is currently the only jurisdiction in Canada that does not require active commercial fish harvesters to belong to an industry association.

Opportunities

1. Identify and review regulations in Canadian marine provinces such as Nova Scotia's Fish Harvester Organizations Support Act³⁰ and use this information to consider regulations appropriate for the BC context.
2. Consider ways to provide support and funding for the effective enactment of such regulations.

30. <https://nslegislature.ca/sites/default/files/legc/statutes/fish%20harvester%20organizations%20support.pdf>

2.4 STRATEGY

Create collaborative structures of governance that recognize aboriginal rights and respond to Indigenous Peoples' FSC and economic interests with respect to wild salmon management.

Rationale

Indigenous Peoples in Canada have the aboriginal right to fish for food, social and ceremonial (FSC) purposes, protected by Section 35(1) of the Constitution of Canada, and further upheld by the 1990 Sparrow Supreme Court of Canada decision³¹. Emergent case law including Gladstone³²(1996) and Ahousaht (2009 and 2018) have affirmed the rights for some Indigenous Peoples to fish and sell seafood species available within their Territory. These legal precedents, together with the stated intention of both federal and provincial governments to engage in meaningful reconciliation efforts, including the Province of BC's (Draft) Principles to guide their relationship with Indigenous Peoples³³, offer a unique opportunity to consider how a wild salmon strategy can help to advance and support both these legal requirements and the wild salmon objectives that are shared between federal-provincial-Indigenous governments.

Opportunities

1. Review models of collaborative governance (co-management, joint management) currently in place to support resource management in Canada. These models must include processes and structures that recognize and respect federal-provincial-Indigenous authorities and that include processes and structures to enable the active engagement of recreational and commercial fish harvesters and fishing communities in advising the processes of decision-making. Positive lessons from existing working examples can inform the design and implementation of BC's own Wild Salmon Strategy. In addition, the Province should be encouraged to consider advocating strongly for decision-making models across the fishery that reinforce these core principles.
2. Understand and engage with modern treaty discussions and reconciliation discussions currently underway between BC First Nations and the federal government.
3. Support all efforts to implement the recommendations from the Cohen Commission³⁴.
4. Work with First Nations and fisheries stakeholders to influence decisions as Canada and the US engage to renew the Fraser River sockeye and pink chapter of the Pacific Salmon Treaty in 2019, especially to affect changes to Canadian domestic management measures for Fraser River sockeye/pink and treaty terms leading into a renegotiation phase for Chapter Four.

31. R. v. Sparrow, [1990] 1 S.C.R. 1075

32. <https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/1409/index.do>

33. https://news.gov.bc.ca/files/6118_Reconciliation_Ten_Principles_Final_Draft.pdf

34. <http://publications.gc.ca/site/eng/432516/publication.html>



GOAL 3: Protect and enhance the economic, social and cultural benefits that accrue to BC communities from wild salmon and other seafood resources

In North America, the value of wild seafood in the marketplace has been steadily increasing over the past two decades, yet in BC average commercial fishing incomes have declined. Many fishing enterprises and ancillary businesses, both commercial and recreational, that rely on wild salmon and other seafood resources are struggling with viability or have already lost their battle and closed.

Youth interested in a commercial fishing career are discovering that the costs of entry can be prohibitive. Bank loans and guarantees are more difficult to access because of instability in the sector. Fishery-related tourism businesses, which provide thousands of good seasonal incomes and many direct and indirect community benefits in more remote communities, are challenged to remain viable. There is a need to rebuild a strong link between BC's fisheries resources and economic opportunities – particularly for those communities that are adjacent to the resource (coastal and inland) and depend on it for their wellbeing. Below are opportunities for protecting and enhancing the economic, social and cultural benefits that accrue to BC communities from our wild salmon and fisheries resources.

3.1 STRATEGY

Encourage initiatives and champion regulatory changes that will enhance economic opportunity for commercial fish harvesters, vessel owner-operators, their local communities and economies.

Rationale

BC's commercial harvester incomes have declined on average, and the number of licenced commercial fish harvesters has been reduced from 20,000 to 5,000³⁵. Also, due to federal licensing policies in BC, the value of fishing licences and quotas has increased dramatically for many species, making it more difficult for active harvesters to access the resource and to operate economically viable enterprises. Many of the impacts have been borne by independent fish harvesters, youth and fishing communities. If BC is to rebuild the many direct and indirect benefits that have historically accrued from its abundant salmon and seafood resources and ensure that those who harvest and who live adjacent to the resource are the benefactors of these benefits, strategic interventions will be required.

Opportunities

1. Work with Indigenous communities and organizations, fishing communities, active commercial and recreational harvesters and experts and stakeholders to develop a comprehensive vision for BC's fisheries resources – a vision that clearly articulates the interests of British Columbians in the stewardship, management and benefits from their fisheries resources.
2. Engage deliberately and urgently with the Federal Minister of Fisheries and Oceans to advocate for a shared vision for the future of BC's commercial fishery. This could include developing a shared policy and planning framework, and the work could begin with the Federal Standing Committee on Fisheries and Oceans during their upcoming Pacific Region study tour.
3. Work cooperatively with the Government of Canada and Indigenous Peoples to develop policies and principles by which allocation and licensing decisions are made. This should include establishing and/or enhancing mechanisms for regionally-based input into fisheries management decision-making.
4. Identify ways to prioritize resource access to, and benefits from, the fishery for BC's Indigenous Peoples and fishing communities, active fish harvesters, and local fishing enterprises.
5. Evaluate policies, programs, plans and mechanisms developed in other jurisdictions to support growth and renewal in community-based commercial fisheries, including adjacency principles, and policies to protect the independence of fish harvesters. The policy framework in Atlantic Canada that includes owner-operator provisions and fleet separation regulations should be considered.

35. This decline of commercial fishing licences occurred between 1998 and 2018.

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6. Develop strategic options for community-based fisheries aimed at supporting stronger local economies and healthier Indigenous and non-Indigenous fishing communities and harvesters. Options may include: innovative fleet development such as licence banks; the diversification of access; the development of new and underutilized species; and innovative programming including loan funds and community quota.
 7. Work to reduce or eliminate speculative and offshore investment in BC's commercial fishing sector.

3.2 STRATEGY

Support activities that encourage new entrants, particularly next generation Indigenous and non-Indigenous youth, into the commercial and recreational fishing sectors.

Rationale

Canada and BC face demographic challenges with declining populations and aging. These conditions are exacerbated in rural and remote regions. It has often been demonstrated that good jobs help to create greater stability. Jobs support youth retention and sustain the local tax base required for infrastructure and services. Commercial and recreational fishing activity, and their ancillary services including processing, have long been a cornerstone of many local economies and the multiple impacts from the decline in fishing-related opportunity have been well documented. Actively engaging all possible tools in the provincial arsenal to ensure that good fishing jobs return in rural BC is important not only to the survival of our rural demographic, but also to the overall health of our provincial economy. Strategies to encourage young people in particular to consider the fishing sector for their future requires building realistic career prospects including, for instance, the opportunity to become a vessel owner-operator in the commercial industry, a small business entrepreneur in the recreational sector, or a trained technician or fisheries scientist engaged with fisheries management, including restoration, monitoring and enforcement

Opportunities

1. Explore the potential to develop a labour renewal strategy aimed at creating a mobile, diverse and multi-skilled workforce that can engage in commercial fishing and the shore sector as one part of their annual employment pattern and then move more easily into other industries that require like-skills on a less than full time basis (often called occupational pluralism³⁶). A planned program allowing for a seasonal transition between jobs based on skills would provide a workforce incentive.
2. Consider providing incentives to both commercial and recreational fishing enterprises to provide hands-on mentoring and training for youth. A variation of the provincial apprenticeship program might be applicable to this circumstance.
3. Work with fish harvesters to review trades and training programs and make them relevant to the current needs of the fishing industry.
4. Consider the strategic development of a Restoration Economy by creating new skills training and employment opportunities linked to restoration contracts, government and industry procurement. Restoration opportunities could be targeted towards Indigenous Peoples, fishing communities, fish harvesters and vessel owner-operators and, since many of these opportunities are seasonal in nature, they could juxtapose with fishing seasons.
5. Explore innovations for fleet development at the community level such as supportive transfer policies, licence bank models and innovative financing options to encourage new entrants.

36. Canadian Council of Professional Fish Harvesters (2018), Fisheries Seasonality and the Allocation of Labour and Skills – Labour Market Information Study.

3.3 STRATEGY

Support processing and value-added opportunities that help to retain more of the landed value of the resource at the community level.

Rationale

The recreational fishing sector is well supported by a series of small, local processing venues focused on filleting, freezing, smoking, shipping and other related activities. The processing landscape for commercial salmon and seafood harvest has changed considerably. Although wild salmon harvests have been too unpredictable over the last 10 years to attract significant new business investment, future scenarios seem more promising. For example, after bottoming out in 2002, prices for salmon have risen appreciably – and a similar trend has occurred for most wild seafood species internationally. Under current market conditions and with the global outlook for increased value, processors have increasing confidence that opportunity awaits. However, the challenge that remains is on the supply-side of the equation – in order to invest in processing, businesses need to know they will have access to salmon and other seafood. And perhaps more importantly, encouraging the revitalization of a diverse suite of community-based processing opportunities will require addressing not only the resource access questions but also the enabling conditions of financing and market-making for smaller centers/operations.

Opportunities

1. Encourage innovative ways to secure more product for seafood processing businesses. For example, around twelve processing plants located outside of the Lower Mainland, five of which are owned by First Nations, are currently handling salmon as one part of their revenue stream and none of these processors are operating at full capacity due to insecurity on the supply-side. To help increase business viability and encourage new investment, encouraging innovative ways to secure product for seafood processing businesses is key. Examples may include: the development of a community-quota system where communities have secure access to some percentage of annual allowable catch; the development of new landing/processing requirements as per the adjacency principle once applied to wood fibre production taken from local forests; or the adjacency principle as advanced in the Atlantic Fisheries Policy Framework.
2. Explore ways to work with Indigenous Peoples and fishing communities to create more value-added processing opportunities and to build strategic infrastructure supports such as cold storage and landing facilities as needed. The focus should be on capturing as much of the value of BC's fisheries resource as possible (both in terms of financial value and employment value) within the regions where the fish are caught.
3. Explore means to better integrate recreational sector catch into existing and planned processing facilities.

3.4 STRATEGY

Support increased opportunities for fishery-related tourism.

Rationale

The opportunity to fish for recreation and food has long been an important part of life for people in BC. In fact, angling for salmon, especially Chinook and coho, is an icon of the 'west coast lifestyle'. Recreational fishing provides visitors and residents an opportunity to connect with the natural environment. The activity affords both an appreciation of the importance of a healthy ecosystem, and a sense of the importance of working collectively and responsibly to protect our lake, river and marine ecosystems. Today, the recreational fishery contributes close to \$1.3 billion of BC's annual tourism economy³⁷, and a portion of each issued fishing licence, in the form of a salmon conservation stamp, is dedicated to salmon conservation efforts. It is important to note that the recreational fishing sector in BC is multifaceted and involves many participants and stakeholders. Today the sector is comprised of recreational anglers, small business operators, remote lodge owners, charter businesses, single and multiple operators, and any business that may serve the needs of visiting or resident anglers including motels, tackle shops, restaurants, grocers, marine stores and regional airlines. It is important to find ways to support and grow this important sector.

Opportunities

1. Create an improved and updated data set detailing the value of the recreational fishing sector, particularly to small coastal, rural and remote communities. This could be an asset to forward planning and priority setting.
2. Examine ways to enhance marketing and promotions activities to encourage visitors to access smaller communities and the recreational fishing experience.
3. Explore innovative financial support mechanisms and business tools that may encourage small recreational and tourism related businesses in rural and coastal areas.
4. Work with the sector to further develop and implement enhanced catch monitoring and reporting systems. Communication and information sharing between sectors is helpful. Indigenous Peoples may be interested to provide support and to be involved in initiatives of this kind. This may include supporting the recreational fishing sector to augment and amplify the message that catch information is important to support better management and more opportunity to harvest reliably and sustainably.

37. Data provided by Owen Bird for the development of this Options Paper (2018).

3.5 STRATEGY

Increase the overall value accruing to BC's seafood and seafood products in the global marketplace.

Rationale

BC is not a substantial wild salmon producer in the scheme of the North Pacific and with our annual catch reduced from 80,000 metric tons in 1980 to 20,000 metric tons in 2010, our position in the global marketplace has been weakened by larger volume wild salmon producers such as Alaska and by global finfish aquaculture production. More recently however, the price of seafood has been rising internationally and there seems to be an ever-growing appetite for wild, sustainably harvested salmon and seafood products. Signals from the marketplace suggest that seafood is perhaps the hottest category in today's food business. BC needs to redesign our approach to wild capture fisheries in order to capture more of the value in both financial and employment terms that accrue from our wild salmon harvests and, wherever possible, to retain much of this value within fishing communities.

Opportunities

1. Evaluate regulatory changes to enhance the value of BC's fisheries resources and retain more of this value in fishing communities. This should include researching the extent to which the current quota system in BC (which currently allows foreign ownership of BC's seafood resources) is impacting the ability to make decisions with respect to how our seafood resources are priced, processed and sold.
2. Explore ways to support the emergence of businesses and programs that market sustainable BC seafood products including ways to grow an effective international marketing campaign.
3. Explore regulatory reforms related to offshore seafood processing to understand if there are ways to more directly enforce the processing of BC seafood within the province.
4. Inventory underutilized capacity in the processing sector, particularly in rural areas, and find ways to support linking the various pieces of the seafood value chain.
5. Investigate bottlenecks that may exist in smaller communities that prohibit them from engaging in value added processing and seafood marketing, and support systemic changes to unlock these bottlenecks.

Appendix 1

WSAC member biographies

Thomas Alexis

Thomas Alexis is a member of Tl'azt'en Nation of the Carrier Sekani Tribal Council, and belongs to the Frog Clan. He is actively involved in traditional teachings as well as fluent in the Carrier language. He was elected Chief of his community in 2002, and was re-elected for four consecutive terms. Alexis participated in the development of the First Nation Fisheries Action Plan for B.C. First Nations, and was appointed to the First Nation Fisheries Council of B.C. Alexis is a founding board member for the Upper Fraser Fisheries Conservation Alliance that was formed in 2004. He sat on a negotiation team for Fraser Salmon Management Council, which is a mandated organization with 73 member bands from the Fraser watershed, as well as members that encompass Vancouver Island.

Ward Cameron Bond

Ward Bond is co-owner and operator of Island Outfitters, and has been since its inception in 1994. Hunting and fishing are his passion. He served as the local chair for the Sports Fishing Advisory group from 2002 until 2007, as well as the main board, Chinook Working Group, Halibut Allocation Board and chair for the Ground Fish Working Group. He is a member on the board of directors for the Pacific Salmon Foundation.

Ian Douglas Bruce

Ian Bruce began his career as a project advisor and salmon specialist with Canada's Department of Fisheries and Ocean's Salmonid Enhancement Program, thus beginning his 35-plus year journey with salmon, salmon habitat, fish culture, community and First Nations, as a registered professional biologist, project innovator, leader and mentor. In 1997, Bruce returned to the Saanich Peninsula to work for the B.C. Fish and Wildlife Branch before helping found Peninsula Streams Society (PSS) in 2002. PSS successfully engages with students, citizens and government to provide environmental education, stream stewardship and habitat restoration.

Raymond (Ray) Harris

Ray Harris is a member of the Stz'uminus First Nation on Vancouver Island, and previously served for 10 years as the elected Chief of the Stz'uminus First Nation. Harris is an active commercial fisherman on the B.C. coast. He has been instrumental in organizing the Coast Salish Gatherings and the formation of the Coast Salish Council, which focuses on environmental and resource health in the Coast Salish Sea and region. Harris is currently serving his fourth consecutive term as co-chair of the First Nations Summit (FNS).

Michael (Mike) Edward Hicks

Mike Hicks has spent most of his adult life involved in the sport fishing industry. Hicks works with his wife Kathy, operating their bed and breakfast and representing the Juan de Fuca Electoral Area as regional director. He has been a strong advocate for increased habitat protection, habitat rehabilitation and salmon restoration.

James Alexander Lawson

James Lawson is a member of the Heiltsuk First Nation from his father's side, and his mother is Tsimshian. After obtaining his bachelor of science degree, he decided to become a career fisherman to carry on his family legacy. He aims to help in the development of sustainable fisheries management in B.C. through comprehensive ecosystem stewardship.

Dawn Esther Machin

Dawn Machin is a member of the Okanagan Indian Band, part of the Okanagan (Syilx) Nation. She is currently working with her community as a Fisheries Biologist. Previously she was with the then-Canadian Columbia River Inter-Tribal Fisheries Commission. Ms. Machin has been actively involved in her community learning nsyilxcn (the Okanagan language) and has served as a member and co-chair of the Sensisyusten School Board and Sensisyusten Parent Advisory Committee. Prior to that she was a member of the Fisheries Renewal BC. Ms. Machin received her Bachelor of Science from the University of British Columbia.

Adam Olsen MLA

Adam Olsen was first elected as MLA for Saanich North and the Islands in 2017. He is a former two-term Central Saanich councillor and small business owner. Olsen was born and raised on Tsartlip First Nation in Brentwood Bay, and is a member of the Tsartlip First Nation. He served as the chair of Planning and Development and Water and Wastewater, and represented the community on a number of boards and commissions, including solid and liquid waste, Greater Victoria Public Library and the Regional Housing Trust Fund.

Martin Howard Paish

Martin Paish has been both a strong advocate for wild salmon, and a keen salmon angler for his entire adult life. As a 20-plus year member of the B.C. Sport Fishing Advisory Board and director of the Sport Fishing Institute of B.C., Martin has spent countless volunteer hours communicating the value of wild salmon, and the fisheries they support, to government, stakeholders and NGOs.

Douglas (Doug) Routley MLA

Doug Routley is MLA for Nanaimo-North Cowichan. Born in New Westminster, and raised in Duncan, Routley understands the island's unique challenges and opportunities of life in the region, and his experience gives him a grasp of what his constituents care about, and how their needs can be met.

Cailyn April Siider

Cailyn Siider is a fifth-generation commercial fish harvester from Sointula. She and her family are actively involved in commercial prawn, halibut, rockfish, Dungeness crab, roe herring and salmon gillnet, troll, and seine fisheries. Siider believes strongly in the long-term health and sustainability of the British Columbia coast, and the communities that depend on it.

Marilyn May Slett

Marilyn Slett is a member of the Heiltsuk Nation and is serving her 10th year as elected Chief Councillor. Chief Slett has served two consecutive terms as an elected tribal councillor, and is a former executive director of the Heiltsuk Tribal Council. Her regional representation includes current resident of the Coastal First Nations/Great Bear



Initiative, British Columbia Assembly of First Nations Women's Representative on the National Assembly of First Nations Women's Council, and elected to the Board of Directors of the British Columbia Assembly of First Nations.

Tasha Sutcliffe

Tasha Sutcliffe serves as Ecotrust Canada's vice-president, and also as director for the Fisheries and Marine Program, a position she has held since 2007. She brings extensive experience in fisheries, community economic development and business systems. Prior to joining Ecotrust Canada, Sutcliffe spent nine years as the regional director for the Community Fisheries Development Centre in Prince Rupert, where she worked to create community economic alternatives in the face of reduced commercial fishing opportunities.

Joy Kristin Thorkelson

Joy Thorkelson has spent 40 years representing and working for people who rely on fishing for a living. She has worked for healthy fish stocks, policies that support active fish harvesters and policies, to retain and expand processing work in B.C. – especially in B.C.'s rural coastal communities. As a Northern Panel member of the Pacific Salmon Commission, she has given advice regarding U.S. salmon interceptions and negotiations with Alaska. Thorkelson was chair of Fisheries Renewal BC, which funded and devolved project decision-making to regional groups with representatives from local governments, First Nations, resource users, environmentalists and other salmon habitat natural resource users.

Appendix 2

Jurisdictions as they pertain to wild salmon

The successful management of BC's wild salmon resource is complicated by the fact that there are several jurisdictions that intersect with salmon during their lifecycle. Over time, this shared responsibility for salmon and their habitats has resulted in a mosaic of agreements and protocols that to date, have largely failed to clarify roles, improve relationships, or build collaboration.

The WSAC strongly endorses any and all actions to move towards a shared vision and a strong governance framework that prioritizes collaborative governance between federal-provincial-Indigenous Peoples governments and meaningful stakeholder engagement.

Unless these jurisdictions are complementary – values aligned, policies mutually reinforcing, and roles/responsibilities delegated and agreed to – there are multiple opportunities to misstep. This note briefly describes the legal and jurisdictional landscape affecting wild salmon today.

1. The federal *Fisheries Act*³⁸ provides for the management and control of fisheries on the one hand and for the protection of fish habitat (spawning grounds and nursery, rearing, food supply and migration areas) on the other. Provisions with respect to fish habitat are contained in the Act. Control over harvesting appears largely in regulations. In addition to administering the Fisheries Act, the federal government is responsible for administering a number of additional fisheries and environmental statutes that affect BC. In June 2018 amendments to 'modernize' the Fisheries Act, restore 'lost protections' and 'incorporate modern safeguards' to protect fish and fish habitat, passed Third Reading in the House of Commons (Bill C-68). It is expected to receive Royal Assent and become law before the end of the year.

This Bill achieves a number of objectives including:

- Enabling the Minister to enter into management agreements with Indigenous governing bodies, including allowing them to pass their own fisheries laws which could prevail over provisions of the Act;
- Explicitly encouraging the Minister to consider any traditional knowledge provided by Indigenous communities when making fisheries decisions;
- Setting out the purpose of the Act, as 'to provide a framework for the proper management and control of fisheries and the conservation and protection of fish and fish habitat, including by preventing pollution';

38. <http://www.dfo-mpo.gc.ca/Library/272733.pdf>

- Introducing the 'precautionary principle' as a consideration for decision-making;
- Allowing the Minister to order the rebuilding of fish stocks;
- Allowing short-term restrictions on fisheries in case of emergencies
- Prohibiting the capture of whales and dolphins for keeping in captivity (unless injured and in need of aid);
- Creating a new online public registry designed to increase transparency and help prevent cumulative impacts to fish habitats;
- Establishing a new permitting framework and codes of practice for the management of projects impacting fish and fish habitat;
- Creating new fisheries management tools taking into account the protection of fish and ecosystems;
- Strengthening long-term protections of marine refuges for biodiversity;
- Providing the ability to enshrine inshore fisheries policies into regulations, to protect independent inshore licence holders; and
- Modernizing enforcement powers.

As with any legislation, the devil will be in the details – the discretion, regulations, and policies that are yet to be defined. As such, the full ramifications of Bill C-68 are difficult to predict but overall the Bill is situated to restore necessary protections to fish and fish habitat and offer some positive opportunities for Indigenous governments to engage in fisheries management.

2. Indigenous Peoples and wild salmon are inextricably entwined – language, ceremony, culture, stories, teachings, economies. Salmon are respected as brother and as teacher. In 1982, Section 35(1) of the Constitution Act, recognized and affirmed the existing aboriginal (non-treaty) and treaty rights of the Aboriginal Peoples of Canada. These Rights include the right to fish for food, social and ceremonial purposes (FSC). Subsequent Court and Treaty decisions have upheld and affirmed this right, and indicated that the FSC rights of Aboriginal Peoples have priority over other uses of the resource, and are subject only to its reasonable regulation. In addition to FSC rights, Indigenous Peoples of Canada have won a number of Court challenges and entered pre-treaty and treaty agreements to affirm their right to sell fish and seafood from their Territories as a part of their economy.
3. The Province of BC, in addition to delegated authority to manage recreational fishing licences in navigable inland waters, has jurisdiction in a number of areas directly related to the provision of healthy spawning and rearing habitats for salmon, including: water quality and quantity; riparian areas; land use (forestry, agriculture, mining, development); water management (including water licencing); and estuaries. BC's Fish Protection Act was enacted in 1997 and is intended to link a number of pieces of complementary legislation and regulation associated with fish habitat and health. In addition to their



responsibility for the 'salmon cradle', the Province of BC holds jurisdiction over a number of areas that intersect with and reinforce the need to be thoughtful and deliberate about our approach to wild salmon. These include the responsibility for labour, for communities and for processing.

4. Provincial efforts to manage wild salmon in their freshwater environments are currently spread over a number of agencies, which has diminished efficiency and effectiveness. Although several pieces of legislation and regulation exist to protect wild salmon habitats, some key provisions are either not in force or not being acted on. Salmon conservation plans and programs have lapsed and need recommitment. Resource constraints and changing government priorities have resulted in much-reduced direct provincial participation in habitat restoration programs including stewardship initiatives, and uneven participation with the federal government, First Nations and stakeholders in issues related to wild salmon management.