

Jan. 2,24 First Nations and Chinook Salmon Recovery and Rebuilding in the Fraser River Watershed



Prepared for:
Fraser Salmon Management Council
Chinook Recovery and Rebuilding Initiative (CRRRI)

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Introduction

This report was prepared on behalf of the Chinook Recovery and Rebuilding Initiative [CRR](#) of the [Fraser Salmon Management Council](#) . The focus for the report is: 1) technical needs gap assessment with respect to current capacity based on quantitative and qualitative analyses of data gathered from the Fraser and Approach First Nations communities; 2) contextualization of the data especially where it may concern TEK; 3) provide a snapshot of present methods and standards for assessing chinook recovery potential.

Many Chinook populations are failing between SE Alaska through California and there are ongoing attempts to recover and rebuild them. Within the Fraser River, following is the status of Designatable Units of Southern BC Chinook.

COSEWIC Status of Southern BC Chinook Salmon

Designatable Unit	COSEWIC Status
Lower Fraser, Ocean, Fall population	Threatened
Lower Fraser, Stream, Spring population	Special concern
Lower Fraser, Stream, Summer (Upper Pitt) population	Endangered
Lower Fraser, Stream, Summer population	Threatened
Middle Fraser, Stream, Spring population	Endangered
Middle Fraser, Stream, Fall population	Endangered
Middle Fraser, Stream, Spring (MFR+GStr) population	Threatened
Middle Fraser, Stream, Summer population	Threatened
Upper Fraser, Stream, Spring population	Endangered
South Thompson, Ocean, Summer population	Not at risk
South Thompson, Stream, Summer 1.2 population	Endangered
North Thompson, Stream, Spring population	Endangered
North Thompson, Stream, Summer population	Endangered
East Vancouver Island, Stream, Spring population	Endangered
Southern Mainland, Ocean, Summer population	Data deficient
Southern Mainland, Stream, Summer population	Data deficient

Chinook are not declining uniformly and a large Chinook population returned to the Cowichan River in 2023 (Figure x) the largest return in 30 years. This encouraging trend suggests that under the right conditions, depleted Chinook can recover to historic levels of abundance.

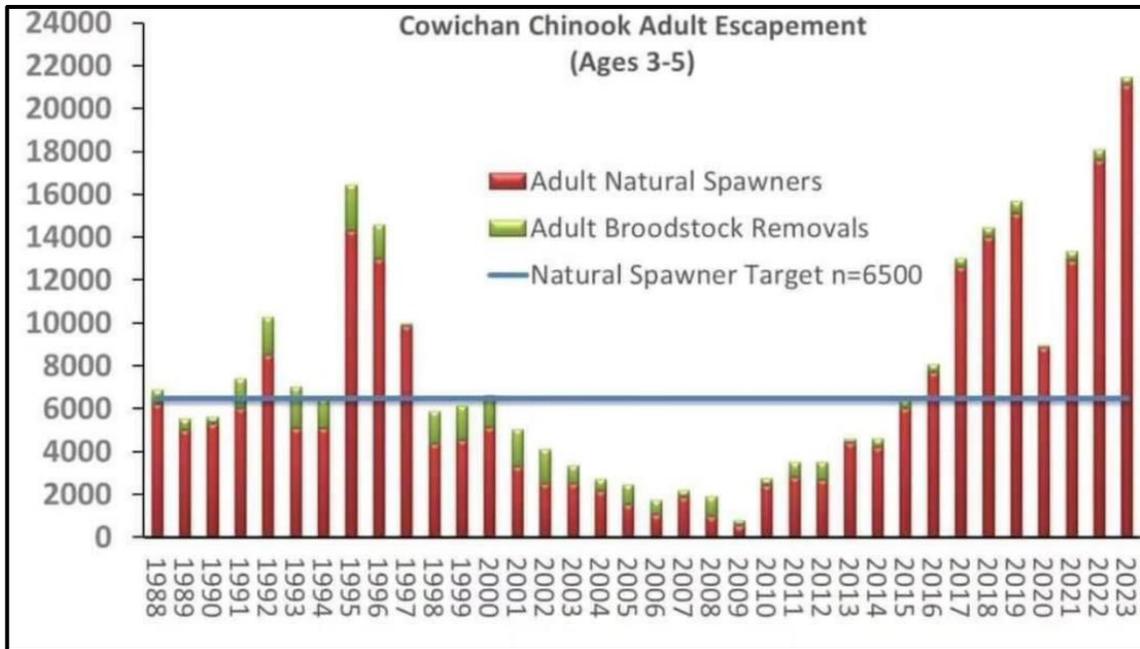


Figure x. Cowichan Chinook escapements between 1988 – 2023. Map of Cowichan Watershed shown below.



The Cowichan Chinook recovery reflects the collaborative efforts of many players in the Cowichan including a huge [watershed restoration effort in the Cowichan](#) that informed the recovery of the Chinook population. This included the preparation of a [Visioning Document](#), an effective partnership between [Cowichan Tribes](#) and Fisheries and Oceans Canada and development of a “made in Cowichan” solution. Other partners included the [Cowichan Valley Regional District \(CVRD\)](#), the [Cowichan Watershed Board \(CWB\)](#) and the [Cowichan Stewardship Roundtable](#) which have been key players in the implementation of this Initiative.

The recovery initiative developed 4 watershed goals, reflecting 4 attributes of watershed health: hydrology, physical habitat, biological communities and water quality. The goals shaped how the initiative described, planned, managed and monitored efforts towards achieving the vision of watershed health. Among other activities, the restoration effort (Table x) included:

Table x. A recovery and rebuilding framework for Cowichan River Chinook.

1. The Cowichan
2. Vision of the Cowichan Watershed
3. Watershed Health Goals
4. Framework for Assessing Watershed Health
5. Chinook as a Key Indicator
6. Status of Watershed Attributes and State Indicators
7. Status of Cowichan River Chinook
8. Critical Limiting Factors
9. Action Plan for Rebuilding Cowichan Chinook
 - i. Freshwater Habitat Health Actions
 - ii. Predation Management Actions
 - iii. Fisheries Management Actions
 - iv. Hatchery Supplementation Actions
 - v. Research and Monitoring Actions
 - vi. Education and Outreach Actions
10. Implementation

The Cowichan experience demonstrates that a depressed Chinook population can rebuild if the institutional supports, technical expertise, funding, systematic approaches and co-ordinated First Nations engagement combine to define a common goal to recover and rebuild the Chinook population.

Chinook Traditional Ecological Knowledge – St’at’imc Nation Case Study

This section of the report responds to the FSMC’s desire to incorporate Traditional Ecological Knowledge (TEK) into Fraser Chinook management and harvesting practices. The evaluation provides a snapshot for the St’at’imc Nation and describes St’at’imc Knowledge that was both publicly available and familiar to the analyst¹. While all Fraser First Nations rely upon TEK, it would be likely unwieldy to address the breadth and practices of TEK throughout the watershed, therefore a case study approach was adopted.

Key features of First Nations resource use have been studied in the Fraser River by Kew and Griggs (1991)². These include:

- commitment to place and an enduring association with a homeland encompassed by the Traditional Territory;
- local control and shared responsibility for resource stewardship, with decentralization of decision-making to the local level;
- regulated access and an identified community of users with a shared ethic of resource use;
- resilience to cope with fluctuating levels of supply;
- long term perspective on resource use which builds an understanding of feedback mechanisms within the ecosystem;
- mutual dependency between resources and humans which is reinforced within a complex ethical framework by strong linkages between humans, animals and the spirit world.

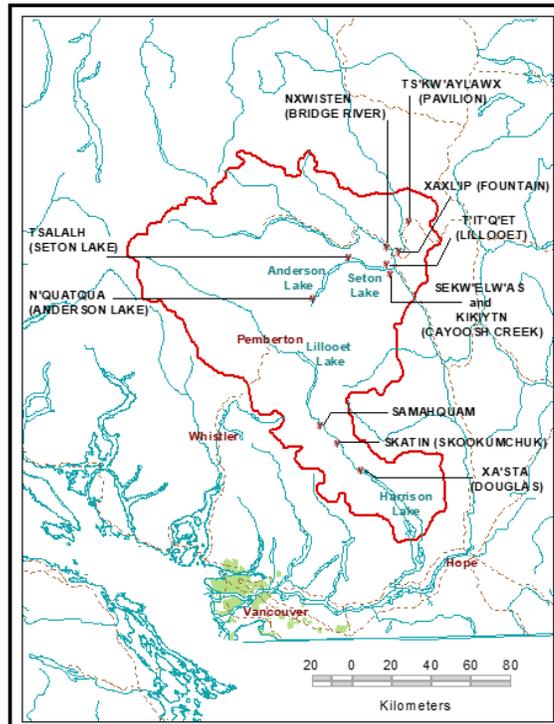
All of these attributes are relevant for indigenous salmon fisheries in the Fraser River and need to be reflected in present-day fisheries co-management and decision-making policies.

¹ Ownership of TEK generally rests with Indigenous communities and community elders and it is crucial to recognize the proprietary nature of the information so it can be effectively protected.

² Kew, M and J. Griggs. 1991. Native Indians of the Fraser Basin: Towards a Model of Sustainable Resource Use. *In* Perspectives on Sustainable Development in Water Management: Towards Agreement in the Fraser Basin. A. Dorcey [ed.] UBC Westwater Research Centre.

Both St'át'imc and scientific ways of knowing are important approaches for understanding the ecosystem. SK can be viewed in the context of wider spiritual and cultural beliefs. In effect, SK can provide the big picture in St'át'imc Territory, while science can provide the magnifying glass.

St'at'imc Traditional Territory is shown below.



St'át'imc values include living in harmony with all living things. St'át'imc have thrived over the millennia by evolving an ecosystem ethic that has both spiritual and biophysical dimensions. Principle 5 of the St'át'imc Land and Resource Authority Preliminary Draft Land Use Plan³ reflects this worldview:

The St'át'imc agree that all land and resource based activities within the territory will protect the land, water, air, mineral, fishery, wildlife, plant, and cultural heritage resources for all generations (including but not limited to land features, stories and legends) and all living things that rely upon the environment. This principle focuses on:

- *what to leave, not on what to take;*
- *respect for the ecological limits of various ecosystems to human disturbance;*

³ [SLRA](#)

- *maintenance, protection, and where necessary, restoration of biological diversity and ecological integrity; including genetic, species, and community diversity.*

Water, lakes, rivers and the fish contained within are sacred for the St'át'imc. The St'át'imc fishery provides sustenance, spiritual well-being, and formerly served as the basis for a thriving economy. Salmon and other fish resources historically represented the most important St'át'imc food item and sts'wan (wind-dried salmon) as well as salmon oil provided crucial winter food supplies. Both sockeye and chinook are actively harvested and continue to provide an essential St'át'imc food source.

It is no co-incidence that St'át'imc communities are strategically located in close proximity to the Fraser River and its abundant salmon resources. St'át'imc communities have always been directly involved in fishing and historically, preserved salmon served as the main component of winter food supplies when other food sources were scarce. Previous estimates suggest that 60% of the traditional St'át'imc diet was fish⁴.

Formerly, the productivity of the salmon fishery put St'át'imc people at the hub of an extensive trade network extending from coastal areas of Sechelt, Sliammon and Stolo, to the forests of the Shuswap⁵. According to Kennedy and Bouchard⁴, dried salmon and salmon oil were exchanged for goods such as dentalium shells, dried seafoods, coastal woods, berries, and even slaves who were brought by coastal tribes. Dressed skins of deer, elk, caribou and buffalo were traded from the east. Historically, Hudson's Bay Company posts in the interior also relied on the St'át'imc for winter supplies of dried fish. It was reported⁶ that 15 – 20 dried Chinook could be traded for a horse.

⁴ Rod Louie, Tsalalh Development Corporation

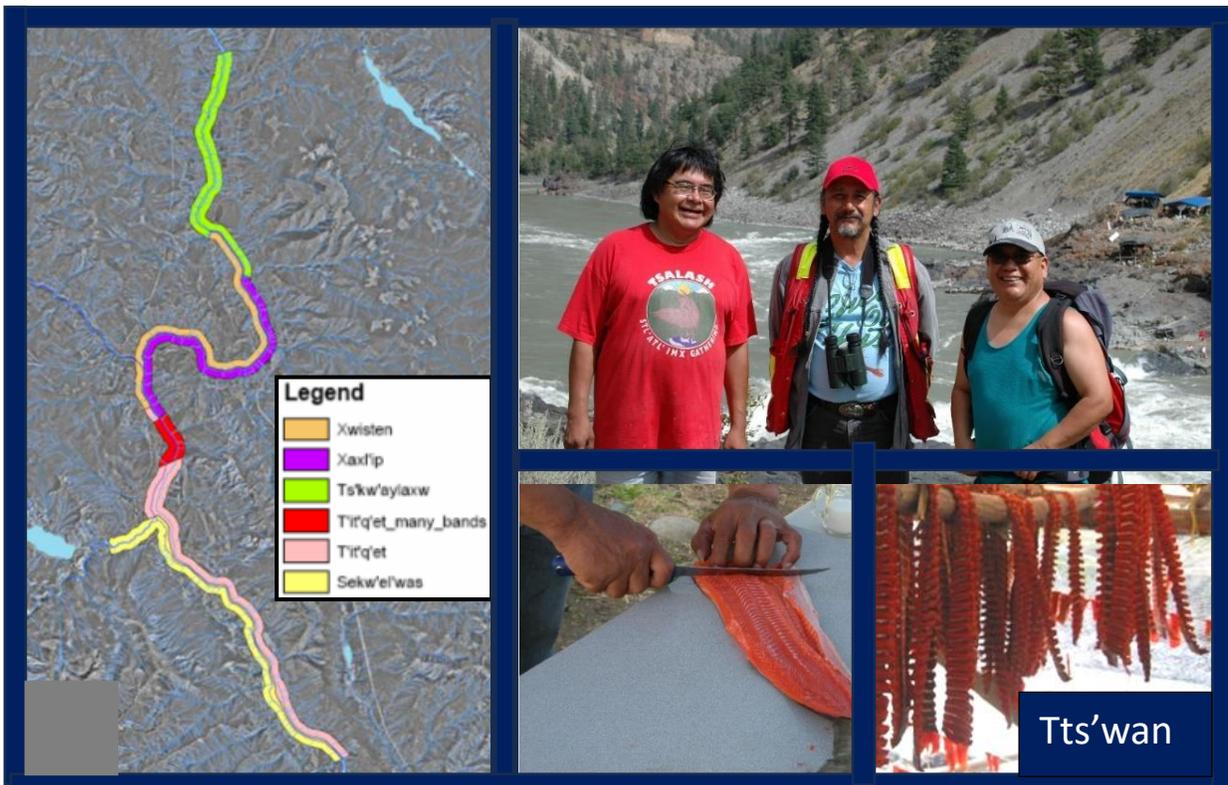
⁵ Kennedy, I.D. and R. Bouchard. 1992. *Stlatlimx* (Fraser River Lillooet) Fishing. P. 266-354. In B. Hayden [ed.] A Complex Culture of the British Columbia Plateau. Traditional *St'at'imx* Resource Use. UBC Press.

⁶ Romanoff, S. 1992. Fraser Lillooet Salmon Fishing. Kennedy, I.D. and R. Bouchard. 1992. *Stlatlimx* (Fraser River Lillooet) Fishing. P. 222-265. In B. Hayden [ed.] A Complex Culture of the British Columbia Plateau. Traditional *St'at'imx* Resource Use. UBC Press.

One of the most important fishing locations in St'át'imc Territory is Sxetl, meaning "drop-off" in reference to the 3.5 m vertical change in river height between high water and low water where the river flows through a narrow channel beside the Bridge River.



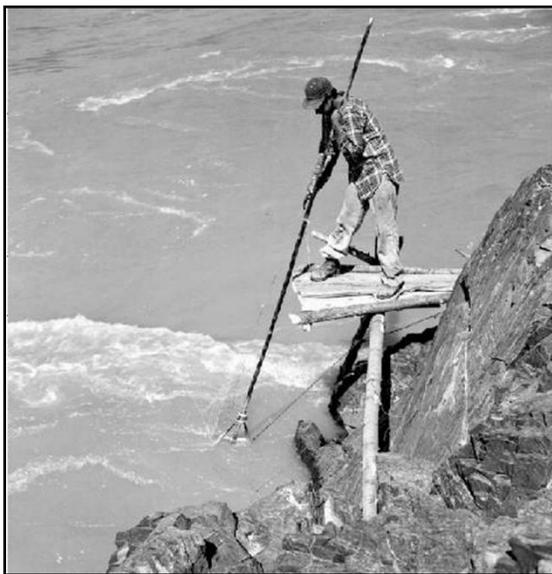
The St'át'imc Chinook fishery is largely self-regulating and there are six St'át'imc communities (colour shaded on the map below) that have authority to fish and regulate fishing.



Kennedy and Bouchard (1986) describe three socially defined fishing sites in St'at'imc Territory:

1. individually-owned rocks suitable for catching the early run of spring salmon;
2. the less abundant rocks along various sections of the river that were associated with residence groups; and,
3. the sites that were most productive, like those at Sxetl, that were open to all St'at'imc and also (formerly) to some outsiders.

Individually-owned sites were prestigious, hereditary property, as they allowed access to spring salmon at a time when few other fresh foods were available. The owners camped near their fishing sites and built scaffolds, as shown below:



They did not restrict others from using their equipment; to fish, all someone needed do was sit down behind the fisherman-owner and wait to be passed the net. The St'at'imc term to describe waiting for your turn to fish is *alkwk*.

Salmon are the focus of numerous St'at'imc songs, dances and legends and salmon serve as a staple item at ceremonies and other important events. Traditionally, First Salmon ceremonies occurred in April-May following the start of the Chinook run and in

early July when Early Stuart sockeye were migrating upstream. These fish are considered to be a form of medicine and are provided preferentially to Elders.

Traditionally, the St'át'imc fishery targeted high numbers of Chinook salmon as well as sockeye, and during the early 1900's, it was reported that Sam Mitchell's family (Xaxlip) alone dried 500 - 600 fish annually⁷. In recent years, Chinook catches for the entire Nation have varied between 500 – 1500 annually. Chinook captured in the St'át'imc fishery include those from a diverse array of Fraser chinook stocks that originate upstream of Sxetl (Figure x).



Photo courtesy of Secwepemc Fisheries Commission

⁷ Kennedy, I.D. and R. Bouchard. 1992. *Stlatlimx* (Fraser River Lillooet) Fishing. P. 266-354. In B. Hayden [ed.] A Complex Culture of the British Columbia Plateau. Traditional *St'at'imx* Resourec Use. UBC Press.

A vision for fisheries has been adopted from a statement developed by the St'át'imc Land and Resource Authority⁸:

Our vision is of a continuing and renewed relationship between St'át'imc people (úcwalmicw) and the land (tmicw) which:

- *respects St'át'imc cultural traditions, using the ways (nt'ákmen) and laws (nxék7men) of our people as passed down through the generations;*
- *respects nature by keeping the health of the water, air, plants, animals and the land before all else;*
- *is under St'át'imc authority, where our people decide collectively how the land and resources of the St'át'imc territory will be managed; and,*
- *serves the St'át'imc communities and recognizes that resources continue to provide sustenance in old and new ways to all our people.*

St'át'imc have collaborative management agreements with BC Hydro and Canada covering aquatic resource management. Collaborative management⁹ may provide a relevant framework for the different parties to work together effectively. Collaborative management can be defined as:

A partnership agreement in which participants share the responsibility and authority for fisheries management. A formal agreement would specify the respective rights, shared decision-making powers and obligations of the parties regarding fisheries management and allocation in the Traditional Territory.

Principles of collaborative management include:

- Recognition of existing rights, agreements and obligations;
- Cooperative, transparent and informed decision-making;
- Capacity building to enhance the abilities of the parties to participate;
- Management processes that are adaptive to allow for change over time;
- Multi-party decision-making based on traditional and local knowledge as well as the best available scientific data; and,
- Accountability to communities and others having an interest in the fishery.

⁸ [SLRA](#)

⁹ Also called co-management and joint management.

Under the collaborative management principles defined above decision-making is multi-party based on traditional and local knowledge as well as the best available scientific data. In reality there is no, or only minor, decision-making based on TEK, and all fisheries decisions are guided by the *Fisheries Act*.

To date TEK hasn't played a major role in current salmon fisheries management other than by providing context and high-level advice. Moving forward, there is a need to operationalize the integration of Western Science fisheries management and TEK. Numerous academics have attempted this integration without much success due to the need to "compare apples and oranges" within an arbitrary framework. It may be more informative to keep the 2 knowledge streams separate so that one can inform the other and vice versa rather than attempt to merge the two information streams.

Recommendation #1 from the Cohen Inquiry recognizes the ultimate decision-making authority of the Fisheries Minister and recommends:

"in relation to Fraser River sockeye, the Department of Fisheries and Oceans should follow the principle that the minister is the ultimate authority in decisions about conservation, fisheries management (subject to the Pacific Salmon Treaty), and, within areas of federal jurisdiction, fish habitat. DFO should consistently reflect this principle in all its agreements and processes with First Nations and stakeholders."

It appears that effective collaborative management may offer the best opportunity for First Nation engagement in the Fraser Chinook fishery.



Snapshot of Methods and Standards for Assessing Chinook Recovery Potential

Salmon Enhancement

In 1974, [Larkin](#) prepared an article that reaffirmed the biological, economic and social justification of improving the freshwater survival of salmon through a variety of “enhancement” measures and recommended the formation of an agency with “the single responsibility of salmon enhancement”. He considered that from a biological point of view, salmon enhancement is feasible and there was potential in the ocean for growing more salmon; many historic runs could be rebuilt and there were many opportunities for colonizing watersheds that were currently inaccessible to salmon. It was recognized that harvesting of increased stocks of salmon could pose risks for natural stocks that are relatively unproductive.

Larkin concluded that the types of enhancement activity that would be most likely to be successful were those that interfered least with the natural life history. Examples included removal of obstructions, regulation of stream flow, and construction of artificial spawning channels, simple measures that involved less research information and less risk than rearing hatcheries. Further, regardless of priorities it would be essential to a successful program that there be a commitment to continuity.

Larkin assumed that the high historical abundance of salmon indicated that there was sufficient ocean carrying capacity for higher production and that the main productivity bottleneck occurred during freshwater in “natural” conditions. After a few years of planning, the Salmonid Enhancement Program (SEP) was initiated in 1977 with the long-term goal of doubling salmon catches in British Columbia. The SEP consisted of an ambitious program of hatcheries, spawning channels, obstruction removal, lake enrichment, and other enhancement techniques.

Existing salmon hatcheries (Figure 6) include Major Hatcheries, Community Development Hatcheries and Public Involvement Program Hatcheries. The map also shows the major spawning channels at Fulton, Pinkut, Nadina, Horsefly, and Weaver Creek.

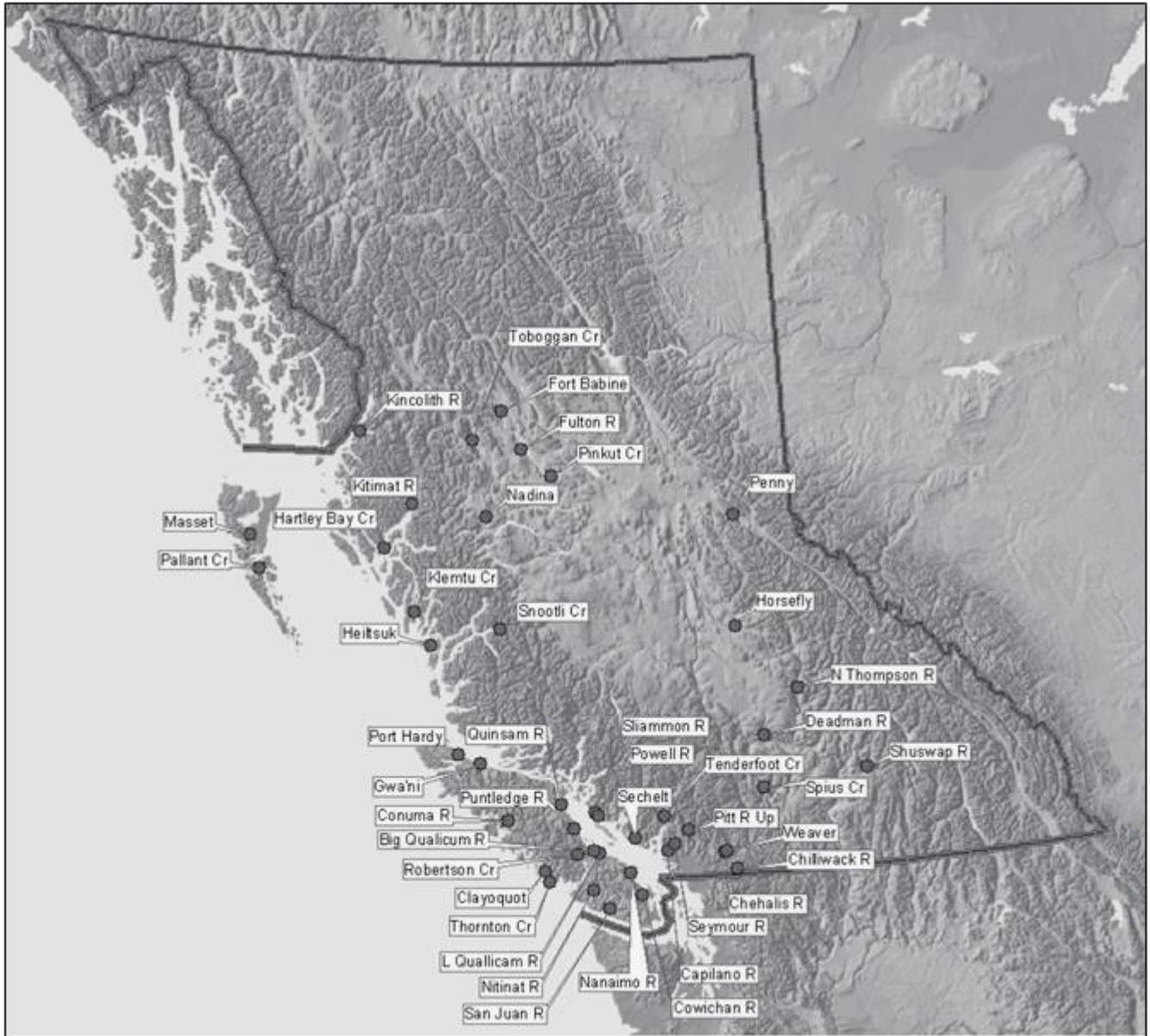


Figure 6. Map of BC showing the location of enhancement facilities.

A description of [Pacific Salmon Hatcheries in British Columbia](#)¹¹ indicates that hatcheries have been a major strategy of DFO to increase the freshwater survival of selected wild, native stocks of coho, Chinook and chum salmon both to address conservation concerns and to provide fishing opportunities. Salmonid Enhancement Program tagging studies have shown that marine survivals of hatchery salmon stocks have been extremely variable, despite fairly consistent smolt release strategies. The approach taken by SEP was to fully integrate hatchery and naturally produced components of wild stocks of Pacific salmon, in conjunction with improvements in habitat and harvest management, to maximize long-term stock viability.

The main goals of the SEP have changed since its inception, with less emphasis on fish production for harvest and more emphasis on conservation and the integration of enhancement, habitat, and harvest activities. Current goals include:

- Restore depleted stocks to higher levels of abundance (by increasing freshwater survival directly using hatcheries and spawning channels or indirectly through habitat improvement);
- Mitigate for major habitat losses;
- Provide for harvest opportunities (especially for terminal or selective fisheries); and,
- Re-establish extirpated stocks (by introduction of fish from similar stocks into abandoned, and presumably underutilized, habitat).

[Hilborn and Winton](#) (1993)¹² evaluated SEP to determine its effectiveness and its ability to learn from experience. The original goal of SEP was to produce up to 86,000 metric tons (t) of salmon per year by operating hatcheries, spawning channels and lake enrichment. The program fell short of this goal and by the early 1990`s SEP produced about 12,400 t of salmon per year. While SEP devoted considerable effort to evaluate individual facilities, it did not evaluate overall program success and direction. Due to natural variation in salmon survival, after 15 years it was difficult to determine which enhancement technologies were successful and whether there was an effect on total salmon numbers. The authors concluded that no enhancement technology has been proven, 15 yr is insufficient to determine which technologies to explore, and that programs like SEP must rely on outside evaluation of overall program success and program guidance. The development and operations of hatcheries in BC needs to be undertaken cautiously. In the U.S. more fish are produced in hatcheries than in natural habitats creating conservation issues and potential genetic alterations in wild stocks.

Effectiveness of Chinook Hatcheries

General

<https://www.propublica.org/article/salmon-hatcheries-government-climate-change>

[\\$2 Billion Spent on Salmon Enhancement](#)

[Hatchery Reform Science](#)

[Science of Salmon Hatcheries](#)

[Long Live the Kings](#)

[Do Pacific Salmon Hatcheries Work for their Intended Purpose?](#)

[Shifting Baselines](#)

[Saving Wild Salmon](#)

[Societal Values and the Proper Role of Restoration Ecologists](#)

[Wild Salmon Restoration: Is it worth it?](#)

[The Hatchery Crutch: How We Got Here](#)

[Salmon 2100: The Future of Wild Pacific Salmon](#)

[Saving Wild Salmon - A 165 Year Policy Conundrum](#)

[Salmon Strongholds](#)

[Size Trends among North Pacific Salmon](#)

[Policy Options to Reverse the Decline of Wild Pacific Salmon](#)

[Pacific Northwest Salmon: Forecasting Their Status in 2100](#)

[Urgent Action on Climate Change Needed to Rebuild Fish Stocks](#)

[The Hatchery Crutch](#)

[Too Many Pinks in the Pacific](#)

[Hail Mary Hatcheries](#)

[Tribal Hatcheries and the Road to Restoration](#)

[Restoring Pacific Northwest Salmon](#)

[Wild Pacific Salmon: a Threatened Legacy](#)

[Recovery or continued resuscitation? A clinical diagnosis of Colorado River sub-basin recovery programs](#)

[The Failure of Wild Salmon Management: Need for a Place-Based Conceptual Foundation](#)

[The use of stock rebuilding programmes in the precautionary management of salmon stocks](#)

[Recovery Planning Handbook](#)

[Principles for Linking Fish Habitat to Fisheries Management and Conservation](#)

[Planning Pacific Salmon and Steelhead Reintroductions Aimed at Long-Term Viability and Recovery](#)

[Improving the Scientific Basis for Management by Separating Conservation and Management Decisions](#)

[Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States](#)

British Columbia

[Harrison Salmon Stronghold Strategic Plan](#)

[Nootka Sound Salmon Park](#)

[Canada-British Columbia Marine Protected Area Network Strategy](#)

[Salmon Hatchery Controversy](#)

[Five North Pacific Regional Salmon Fisheries](#)

[Resilient Salmon, Resilient Fisheries for British Columbia, Canada](#)

[Play it Again Sam: An Essay on Salmon Enhancement](#)

[Canada and Province of BC Make a Significant Investment in Salmon Research and Restoration Projects](#)

[Government of Canada Working to Rebuild Pacific Salmon Populations](#)

[The Status of Pacific Salmon Hatcheries in Canada](#)

[Learning to Enhance Salmon Production: Lessons from the Salmonid Enhancement Program](#)

[To Help Recover B.C.'s Pacific Salmon, we Need to Rethink Hatcheries](#)

[Use of a Shipping Container as a Small-scale Hatchery](#)

[DFO Inadequately Rebuilding B.C. Salmon Stocks: Oceana Canada Audit](#)

[Chinook Recovery and Rebuilding Initiative](#)

[Wild Works Best](#)

[Okanagan Nation Alliance Hatchery](#)

[Prioritizing Conservation Actions for Pacific Salmon in Canada - Priority Threat Management](#)

[Priority Threat Management for biodiversity conservation: A handbook](#)

[Feasibility of Outplanting Sockeye Salmon to Hanging Lakes in Central and Northern BC](#)

[Salmon Enhancement Scoping in Northern BC](#)

[Salmonid Enhancement | Pacific Region | Fisheries and Oceans Canada](#)

[Effects of Global Warming on Fraser Salmon](#)

[New Coalition Formed to Save BC Salmon from Extinction](#)

[Restoring Salmon Habitat to Help BC Flood Problems](#)

[Salmon Restoration in Canadian Columbia River](#)

[WCVI Chinook Marine Risk Assessment](#)

[State of the Canadian Pacific salmon: Responses to changing climate and habitats](#)

[Recovery Potential Assessment for Okanagan Chinook](#)

[Scientific Information in Support of Recovery Potential Analysis for Okanagan Chinook](#)

[Science Guideline to Rebuilding Plans for Canadian Fish Stocks](#)

[Priority Threat Management across Terrestrial and Freshwater Realms](#)

[Prioritizing recovery funding to maximize conservation of endangered species](#)

[Prioritizing conservation actions for Pacific salmon in Canada](#)

[Predicting the optimal amount of time spent learning before designating protected habitat for threatened species](#)

[Identifying a pathway towards recovery for depleted wild Pacific salmon populations in a large watershed under multiple stressors](#)

[Guidance for the Development of Recovery Plans under the Precautionary Approach Framework: Growing Stocks out of the Critical Zone](#)

[Priority Threat Management BC Central Coast: Prioritizing Strategies for Pacific Salmon Recovery and Persistence](#)

[Applying the Salmon Stronghold Concept in Canada](#)

[An introduction to decision science for conservation](#)

[A quantitative tool for evaluating rebuilding plans for Pacific salmon](#)

[Yukon River Chinook Stock Restoration](#)

[Made in BC Wild Salmon Strategy](#)

[RPA for Fraser Chinook Part 1](#)

[RPA for Fraser Chinook Part 2](#)

[RPA for Okanagan Chinook](#)

[RPA for Interior Fraser Steelhead](#)

[Revised protocol for conducting RPAs in Canada](#)

[RPA for Fraser sockeye Part 1](#)

[RPA for Fraser sockeye Part 2](#)

[Nicola RAMS methodology](#)

[Nicola RAMS methodology 2](#)
[Nicola Watershed RAMS Final Report 2022](#)
[RAMS process overview WCVI](#)
[WCVI Chinook Marine Risk Assessment](#)

California

[Salmon Habitat Restoration Priorities in California Watersheds](#)
[Reintroduced Salmon Return to California Rivers in a Critical Step Towards Recovery](#)
[Dams Be Damned: California Rebuilds the Salmon Habitat It Destroyed](#)
[Protecting California's Salmon](#)
[Sacramento River Fall Chinook](#)
[Sacramento Valley Salmon Recovery Program](#)
[California Salmon are Crashing](#)
[California, Oregon and Tribes Advance the Most Ambitious Salmon Restoration Effort in History](#)
[2023 Outlook for California's Ocean Salmon stocks](#)

Oregon

[Wild Salmon Centre](#)
[History of Salmon Recovery in Oregon](#)
[Restoring Habitat to Recover Coho Salmon on the Oregon Coast](#)
[Rebuilding Salmon and Steelhead in the Columbia River Basin](#)
[Rebuilding: NOAA issues new salmon, steelhead efforts](#)
[New science shows that hatcheries rebuild abundant salmon populations](#)
[Oregon Coast salmon recovery is within our reach](#)
[Oregon Coast Coho: A Bright Spot for Salmon Recovery](#)
[Final ESA Recovery Plan for Oregon Coho](#)
[Failure to Incorporate Science into Fishery Management and Recovery Programs: Lessons from the Columbia River](#)
[Role of the Estuary in the Recovery of Columbia River Basin Salmon and Steelhead: An Evaluation of Selected Factors on Population Viability](#)
[Rebuilding Interior Columbia Basin Salmon and Steelhead](#)

Washington

[Factors Limiting Progress in Salmon Recovery in Puget Sound](#)
[Outline for Salmon Recovery Programs](#)
[Salmon Habitat Limiting Factors in Washington State](#)
[Rebuilding Interior Columbia Basin Salmon and Steelhead](#)
[Goals to Restore Thriving Salmon and Steelhead to the Columbia River Basin](#)
[Puget Sound salmon habitat restoration](#)
[Upper Columbia Salmon Restoration](#)
[WA Fish Barrier Removal Salmon Habitat Restoration](#)
[Washington's Efforts to Recover Salmon](#)
[Columbia River Salmon Restoration](#)
[Salmon Habitat Plan: Making Our Watershed Fit for a King](#)

Alaska

[Overview of Salmon Stock Enhancement in SE Alaska and Compatibility with Maintenance of Hatchery and Wild Stocks](#)

[Alaska Salmon Enhancement: A Successful Program for Hatchery and Wild Stocks](#)

[Salmon Fisheries Management in Alaska](#)

[Are Prince William Sound Hatcheries a Fool's Bargain?](#)

[Salmon Hatchery Management Planning](#)

[Alaska Salmon Hatcheries](#)

[Management Implications and Planning for Effective Salmon Enhancement in Mixed Wild and Enhanced Fisheries](#)

[Ocean Ranching Salmon Hatcheries](#)

[Alaska SEP Cost-Benefit](#)

[Bristol Bay Sockeye](#)

[Fraser River Sockeye Fisheries Management and Comparison with Bristol Bay Sockeye Fisheries](#)

[Bristol Bay Sockeye Thriving While Other Runs Struggle](#)

[The Commercial Salmon Fishery in Alaska](#)

Japan

[Japanese Salmon Culture](#)

[Japan and Russia Reach Fishing Deal](#)

[Saving Japan's Wild Salmon Population](#)

[An Overview of Salmon Enhancement](#)

[Japanese Chum Salmon Enhancement](#)

[Japan's Salmon Culture Program](#)

[Hatchery Program on Hokkaido Island](#)

[Chum Salmon Enhancement](#)

[Wild and Hatchery Pink Salmon](#)

[Japanese Hatchery Chum](#)

[Japanese Wild Salmon Research](#)

[Is Hatchery Stocking Useful? Lessons from Japan](#)

[Masu Salmon in Hokkaido](#)

[Wild and Hatchery Pink Salmon](#)

Appendix: Aboriginal Aquatic Resource and Oceans Management (AAROM) Bodies in British Columbia

Where are AAROMs located?

There are 33 AAROMs working in watershed areas across the country.

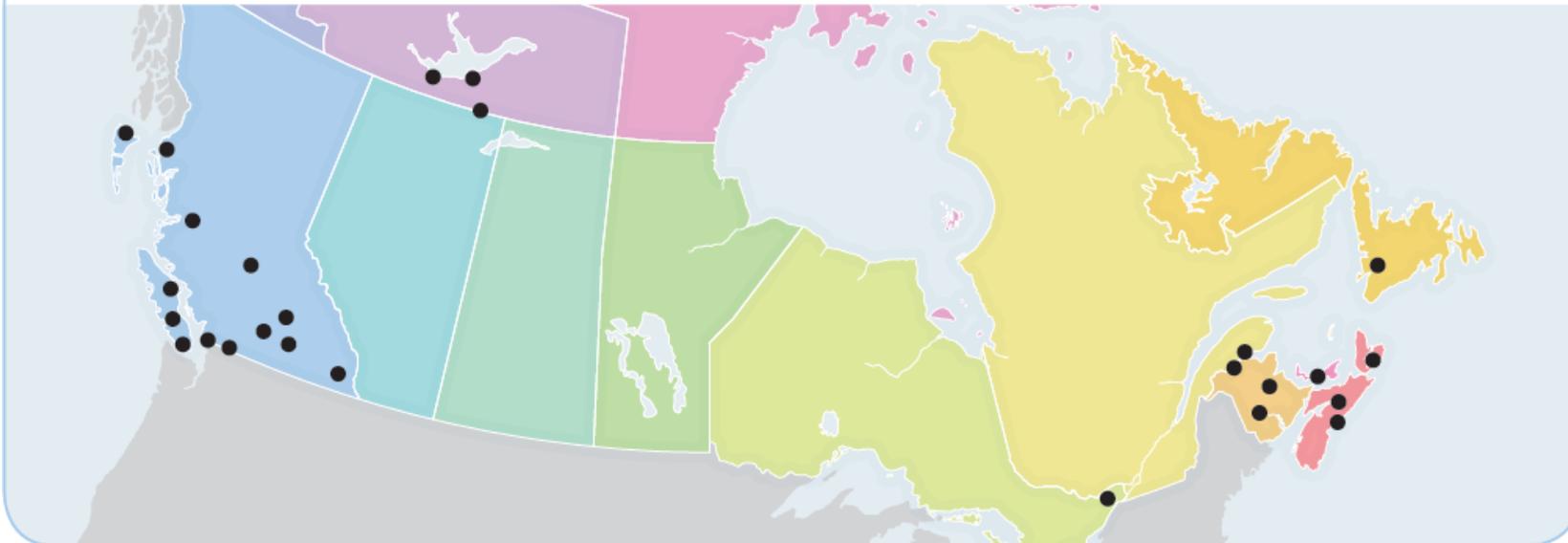
15 in
British
Columbia

1 in the
Yukon

3 in the
Northwest
Territories

2 national
organizations

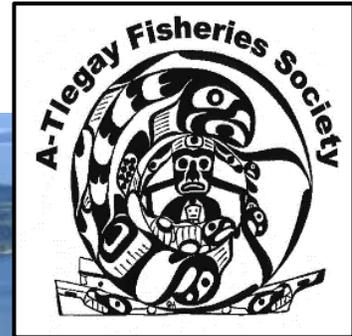
12 in
Atlantic Canada/
southern Quebec



The AAROM program supports Indigenous groups as they develop, grow and maintain aquatic resource and oceans management departments that can provide fisheries, habitat, science, and oceans related services along a watershed and/or support participation in advisory and co-management processes and decision-making tied to aquatic resources and oceans management. AAROM seeks to directly support such collaboration and increase scientific, technical and advisory capacity within Indigenous aggregate organizations to help facilitate the move towards greater co-management of aquatic resources and the ocean environment.

AAROM is unique among federal Indigenous programs in that it provides core and relatively secure funding for non-treaty based science and technical activities

A'tlegay Fisheries Society



A-Tlegay's office is in Campbell River, BC on the territory of the Wei Wai Kum First Nation. The Society is also funded by Fisheries & Oceans Canada through the Aboriginal Fisheries Strategy (AFS) and PICFI programs and also has other projects with BC Hydro and other government agencies.

Founded in 1999, A-Tlegay was the result of collaboration of the five member nations; We Wai Kai, Wei Wai Kum, K'omoks, Tlowitsis and Kwiakah Nations.

A'tlegay's Purpose

- Assist and facilitate our Member First Nations in the preservation and exercise of their aboriginal fishing rights throughout their territories.
- To regulate and administer those responsibilities incurred in the management of all marine resources and foreshores within the territories of its Member First Nations.

- To assist its Member First Nations to enhance and protect all marine resources of their territories for the future benefit and livelihood of their citizens;
- Under the direction of its Member Nations make representations to governments and organizations on behalf of the Society and Member First Nations with respect to all marine resources.
- Administers a number of training, education and mentorship programs to our members, including; first aid, boat operations among others.

Key Activities

Assist and facilitate our Member First Nations in the preservation and exercise of their aboriginal fishing rights throughout their territories;

- To regulate and administer those responsibilities incurred in the management of all marine resources and foreshores within the territories of its Member First Nations;
- To assist its Member First Nations to enhance and protect all marine resources of their territories for the future benefit and livelihood of their citizens; and
- Under the direction of its Member Nations make representations to governments and organizations on behalf of the Society and Member First Nations with respect to all marine resources.

Central Coast Indigenous Resource Alliance



About us

First Nations culture and well-being are intricately linked to the health of our environment. For over 10,000 years we sustainably managed our territorial resources, ensuring that the trees, fish and water in our territories provided for today's needs without compromising the health of the resources for future generations. Over the last 100 years we have watched as a sector-by-sector approach to resource management has depleted resources on the land and in the ocean. The Central Coast Indigenous Resource Alliance works to return the Central Coast Nations to the healthy communities and sustainable resource management practices of our past by ensuring First Nations interests and traditional practices and knowledge are balanced with the best western science.

Vision

Fostering a strong working relationship with our Nations and through a common voice, ensuring our ecosystems return to a healthy balance, while respecting our cultures, advancing our peoples' well-being, and enhancing our economies.

CCIRA provides ongoing support for community and area implementation initiatives. Project direction comes from strategic planning documents, such as marine and land use plans that have been developed through comprehensive community planning processes. Implementation priorities have been chosen by the Nations and direct work activities of CCIRA and community staff. CCIRA seeks to improve project outcomes by:

- providing technical and coordination support to community stewardship staff;
- leveraging Nations' collective voice; and,
- coordinating project funding and implementation.



Key Activities

- Marine governance and planning
- Marine conservation
- Shipping and marine response

- EBM and compliance monitoring
- Marine science
- Fisheries Management
- Communications and Outreach

Internal Capacity (AAROM)

- President
- Program Director
- Administrator
- Fisheries Coordinator
- Fisheries Technician
- Science Coordinator
- GIS Coordinator
- Communications Coordinator

Other

- Shipping Coordinator
- Marine Planner
- Marine Implementation Coordinator
- Indigenous Laws Coordinator
- Marine Technical Support

Partnerships

- DFO Science
- DFO Fisheries
- DFO Oceans
- DFO Coast Guard
- Central Coast Commercial Fisheries Association
- Province of BC
- West Coast Conservation Land Management Program
- Marine Planning Partnership
- Gordon and Betty Moore Foundation
- Hakai Institute
- Coastal First Nations — Great Bear Initiative

- Transport Canada
- University of Victoria
- Simon Fraser University

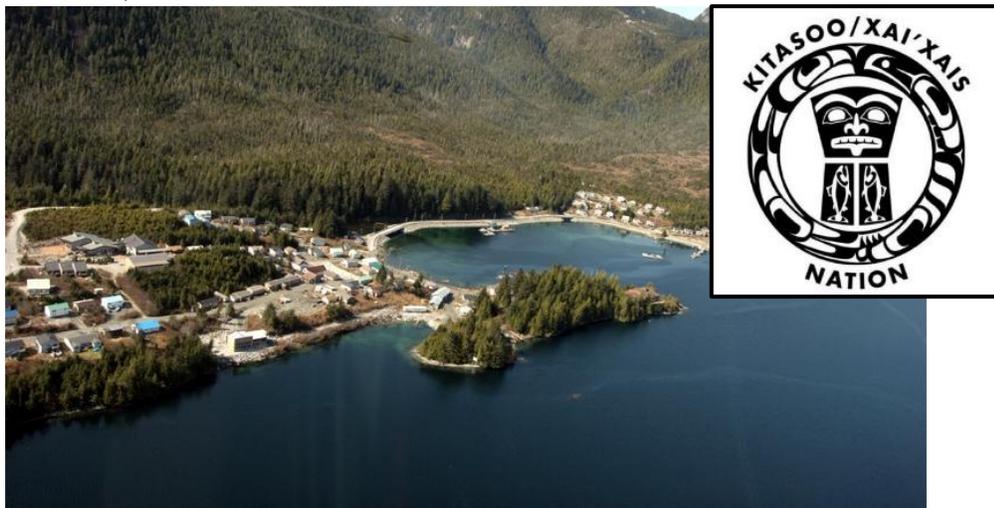
CCIRA Member Nations

Heiltsuk Territory



Heiltsuk Territory encompasses 16,658 square kilometres of land, and extensive nearshore and offshore waters. The territorial boundaries are defined by six Heiltsuk tribal groups and extend into national waters. According to *nuyem* or oral tradition, the Heiltsuk have had a relationship with these rich and productive lands and waters for countless generations.

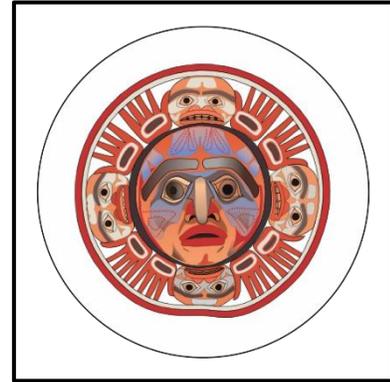
Kitasoo/Xai'xais Territory



Klemtu. Photo by Doug Neasloss.

Kitasoo/Xai'Xais Territory is composed of both land and marine areas, totally 3,939 square kilometres. The western portion of the territory is characterized by many windswept island groups and narrow channels. Deep valleys, long fjords and glaciated peaks of the Pacific Coast Range Mountains are typical of the eastern portion of the territory.

Nuxalk Ancestral Territory



Bella Coola. Photo Credit: Michael Wigle.

Nuxalk Ancestral Territory includes 18,000 square kilometres of land as well as significant marine territory. Large watersheds draining several rivers and streams, deep valleys and fjords, and glaciated peaks of the Pacific Coast Range Mountains characterize the territory.

Wuikinuxv Territory



Wuikinuxv Village. Photo Credit: Michael Wigle



Wuikinuxv Territory is made up of both land and marine areas, with the land portion totaling almost 7,000 square kilometres and the marine portion totaling over 200 square kilometres. The territory is characterized by a significant lake network, temperate rain forests, deep valleys, and glaciated peaks of the Pacific Coast Range Mountains.



First Nations Fisheries Council of British Columbia

First Nations Fisheries Council of British Columbia

Mission/Mandate

The FNFC works with and on behalf of BC First Nations to protect and reconcile Aboriginal Title and Rights and Treaty Rights as they relate to fisheries and the health and protection of aquatic resources. The FNFC will achieve this mandate by working to:

- Advance and protect First Nations Title and Rights related to fisheries and aquatic resources, including priority access for food, cultural and economic purposes;
- Support First Nations to build and maintain capacity related to fishing, planning, policy, law, management, and decision-making at a variety of scales (local, regional, national, international);
- Facilitate discussions related to the development of a BC-wide First Nations-
- based collaborative management framework that recognizes and respects First Nations jurisdiction, management authority and responsibilities.

Our Story

The FNFC was formed in 2007 under the direction and mandate of BC Chiefs when they determined a need for a province-wide First Nations fisheries organization. Established as a registered society in 2008, the FNFC has the mandate of implementing the BC First Nations Fisheries Action Plan (2007), which provides a foundation for BC First Nations to seek increased shares in the BC fishery and greater involvement in management and decision making. The Action Plan is a strong collective vision and strategy to achieve progress on First Nations' goals for transformative changes in the BC fishery and is focused on the six key themes of:

- 1) Relationships and Reconciliation,
- 2) Aquatic Resource Sharing
- 3) Safeguarding Habitat and Responding to Threats
- 4) Aquatic Resource Management

- 5) Building Solid Economic Opportunities, and
- 6) Negotiations and Litigation.

Key Activities

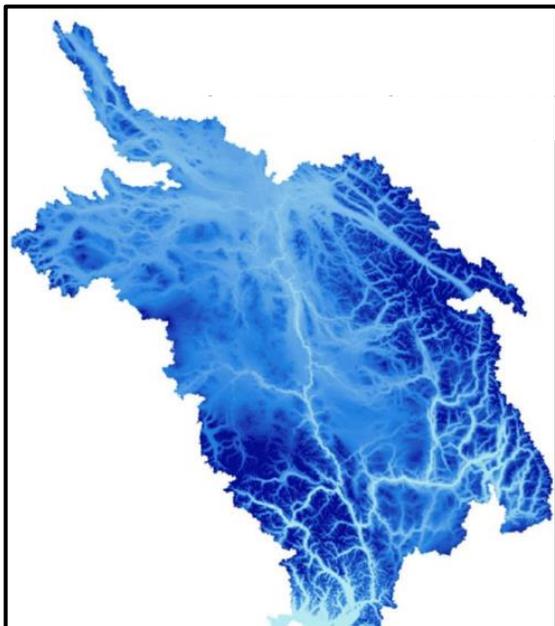
The FNFC works with and on behalf of BC First Nations to protect, reconcile, and advance First Nations Title and Rights. In recognition of the need to advance common positions on fisheries matters through a united voice, the FNFC works to develop capacity and relationships that enable BC First Nations to influence the integrated planning and management of fisheries and aquatic resources. By establishing collaborative processes and cohesive messaging, BC First Nations can become active fisheries managers and decision-makers to ensure fisheries resources are conserved for the benefit of future generations.

The FNFC is a mature agency that has achieved stability and an advanced rating as an organization, and will continue to guide our activities into the future. Our progress since the FNFC's inception in 2007 demonstrates that collaboration and dialogue are progressing in a constructive manner in BC.

“Our ancestors have passed on to us the responsibility to protect our land, water and resources as they have before us, and to pass on our traditional values and practices to future generations. First Nations in BC will work together, based on respect for each other and the natural world, to address issues in the fishery for our common good and to enhance the wellbeing of our communities. We will strive to maintain healthy aquatic ecosystems and species and restore them as necessary. We will work in partnership and share management responsibility based on our ownership of our territories and our right to manage the fishery. We will work with other governments and third parties to ensure recognition and respect of our Title and Rights and conservation and appropriate management of the resource.”

BC First Nations Fisheries Action Plan (2006)

Fraser Salmon Management Council



Key Objectives

The objective of the FSMC is to prepare for, negotiate and implement an agreement for the joint management of Fraser River salmon. (Constitution)

The Fraser Salmon Management Council is a Tier 1 (First Nations only) governance body that successfully concluded a historic agreement with Fisheries and Oceans Canada (DFO). The Fraser Salmon Management Agreement was ratified by more than 80% of the FSMC's 76 Signatory Nations, and was signed by Minister Wilkinson and FSMC President Darren Haskell on July 5, 2019 at Katzie First Nation. This Agreement puts First Nations at the decision-making table for the management of Fraser River salmon by stipulating a truly collaborative process and structure.

Principles

The long-term health and sustainability of Fraser River salmon stocks.

To preserve and protect Fraser River salmon in a way that celebrates their uniqueness and preserves the FN way of life.

A shared responsibility for the collaborative planning and management of fisheries.

Work that will benefit Fraser River salmon and all FN who benefit from the resource.



Island Marine Aquatic Working Group



Mission/Mandate

With one voice, IMAWG
fisheries, by taking a

Government. IMAWG will work strategically to advance First Nations fishery interests in policy, traditional ecological knowledge, modern science, habitat and fisheries management.

Our Story

The Island Marine and Aquatic Working Group (IMAWG) is an incorporated not for profit society that has been in existence since 2008. Our main purpose is to facilitate regional wide fisheries management meetings between both First Nations and Fisheries and Oceans Canada (DFO) to discuss all fisheries matters of interest. We are funded by the DFO program Aboriginal Aquatic Resource and Oceans Management (AAROM).

Our ultimate goal is to create a space for engagement for a unified approach to co-management, while empowering First Nations within their local fisheries supported by the most up to date information, technical advice and recommendations. IMAWG is supported by a technical team called the Island Marine Aquatic Technical Working Group (IMAT) who uses both historical and modern science to review data and information to provide the best sound advice to Nations when engaging in co-management with DFO. It's important to understand that

IMAWG is not a rights holding organization or a decision making body, therefore does not replace fiduciary bilateral consultations between First Nation groups and the Government; we are here to support those discussions with shared information and advice.

How are we organized?

During inception, IMAWG had been an amalgamation of First Nations from Vancouver Island and Marine Approach areas; now IMAWG has 15 appointed/elected members made up of all the three language groups on and around Vancouver Island: Coast Salish, Nuu-chah-nulth and Kwakwaka'wakw who systematically follow a set of bylaws, constitution, policies, this strategic plan and the AAROM agreement reporting requirements.

IMAWG is managed by a contracted executive director and supported by one full time biologist. The executive director administers the program, while the biologists provide technical advice and recommendations to fisheries data, information, management planning and co-chair IMAT. The contractors work with IMAWG members, the IMAWG Board of Directors, DFO and other regional First Nation fishery organizations/processes.

IMAWG delegates and/or contractors participate in several other regional fishery processes such as the Forum on Conservation and Harvest Planning for Fraser Salmon, Salmon Coordinating Committee, BC Southern Chinook Planning Initiative, Halibut Conference Board, and where feasible, DFO lead advisory/sectoral engagement sessions.

Even though IMAWG focuses on a regional approach to fisheries engagement, IMAWG recognizes that the language group Nations may take direction and share information with tribal or hereditary Chief Councils; for example IMAWG partners with the Council of Ha'wiih where they appoint the five Nuu-chah-nulth members to IMAWG and we are invited guests to their meetings. Ultimately it's the First Nations communities themselves IMAWG takes full direction from, and will always remain in service to whatever systems those communities have in place. IMAWG continues to strive to improve operations and through the 2016-2019 strategic plan they hope to build regional and local partnerships, enhance communications with local communities, share information, increase engagement with FNFC delegates, build on the relationship with DFO and seek out long term sustainable funding that will ensure a consistent service of business.

Lower Fraser Fisheries Alliance



Our Story

We are sq'eptset syoyes sth'o'th'eqwi – fishers working together.

The Lower Fraser Fisheries Alliance represents the interests of 25 Fraser Valley First Nations in partnership with the Department of Fisheries and Oceans, First Nations Fisheries Council, and Fraser River Aboriginal Fisheries Secretariat.

Communities

Semiahmoo First Nation

Tsawwassen First Nation

Kwantlen First Nation

Katzie First Nation

Matsqui First Nation

Aitchelitz First Nation

Shxwha:y First Nation

Skowkale First Nation

Squiala First Nation
Tzeachten First Nation
Cheam First Nation
Kwakwa'apilt First Nation
Scowlitz First Nation
Seabird First Nation
Shxw'ow'hamel First Nation
Soowahlie First Nation
Sts'ailes First Nation
Peters First Nation
Sumas First Nation
Chawathil First Nation
Yale First Nation
Kwikwetlem First Nation

Key Activities

Habitat restoration · Stock Assessment · Indigenous Knowledge · Climate Change Adaptation ·
Emergency Planning ·

Internal Capacity

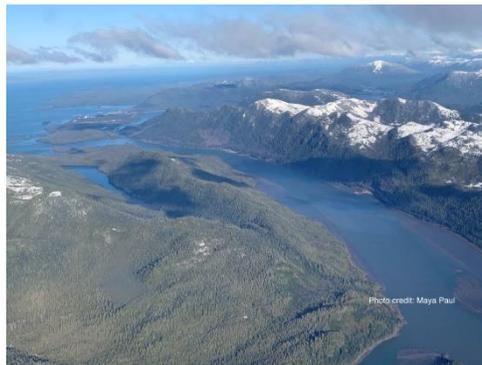
- Executive Director
- Program Coordinator,
- Program Assistant,
- Biologists and Communications Coordinator

Partnerships

- First Nations Fisheries Council (FNFC),
- Upper Fraser Fisheries Conservation Alliance (UFFCA),
- Okanagan Nation Alliance (ONA),
- Island Marine Aquatic Working Group (IMAWG),
- Fraser River Peacemakers (FRP),

- S'ólh Téméxw Stewardship Alliance (STSA),
- Stò:lò Tribal Council, Province of British Columbia,
- Coastal Restoration Fund,
- Pacific Salmon Commission and Pacific Salmon Foundation

North Coast Skeena First Nations Stewardship Society



Our Story

The North Coast-Skeena First Nations Stewardship Society (NCSFNSS) was established in 2005 to enable First Nations communities on the British Columbia North Coast and lower Skeena River to collaborate on projects of shared value. In particular, the NCSFNSS works on regional and community-based initiatives related to planning and the sustainable use of marine resources. The current Member Nations of the NCSFNSS are: Gitxaala, Gitga'at, Kitsumkalum, and Kitselas First Nations.

The NCSFNSS coordinates, supports, and implements multiple projects. Through both Marine Planning and Fisheries Programs, NCSFNSS staff work towards increasing our understanding of the North Coast's social and biological environments as well as carrying out specific Habitat restoration projects and assessments.

Marine Planning Activities

NCSFNSS is working to implement the MaPP North Coast plan. Regarding Marine Planning, the priority identified during the planning process for our Member Nations is Cumulative Effects and their potential impacts to habitat and marine resources as industrial projects are both proposed and sometimes built in our Nations traditional territories. NCSFNSS is transitioning away from some Marine Planning activities but, through MaPP and the Environmental Stewardship Initiative, NCSFNSS will be engaged with Cumulative Effects planning on the North Coast for the foreseeable future.

Key Activities

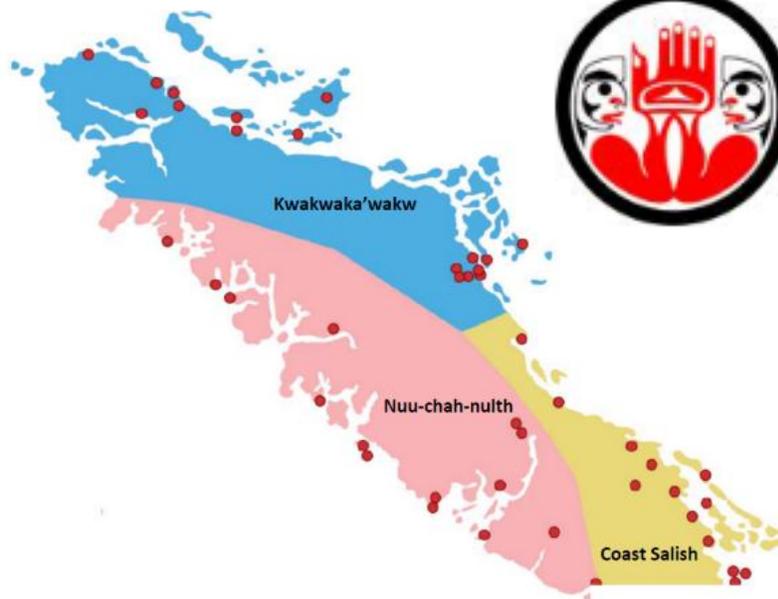
Recreational Fishery Monitoring · First Nations Commercial Fishery Development · Fisheries Legislation & Policy Development and Fisheries Management Advocacy · Fisheries Related Community Development · Fish Habitat Restoration · Eulachon FSC Harvest Monitoring

Internal Capacity

· Executive Director · 1 Fisheries Program Director · 1 Fisheries Habitat Biologist · 1 Fisheries Technical and Communications Coordinator – 1 Office Manager · 1 Program Director Cumulative Effects and Strategic Initiatives · 1 Office Administrator ·

Partnerships

Department of Fisheries and Oceans · Province of British Columbia · Coast Opportunities Fund – Coastal First Nations · Pacific Salmon Foundation · Pacific Salmon Commission · Gordon and Betty Moore Foundation · Marine Planning Partnership (MaPP)



Nuuchahnulth Tribal Council

British Columbia

Type: Watershed

Our Story

Founded in 2005 as a collaboration between Nuuchahnulth hereditary and elected chiefs, Uu-a-thluk, represents a new and vital approach to managing aquatic resources in Nuuchahnulth ha-ha-houlthee (chiefly territories of land, resources and people). Uu-a-thluk is an aquatic resource management organization administered through the Nuuchahnulth Tribal Council (NTC). Uu-a-thluk is funded through a contribution agreement with



the Department of Fisheries and Oceans (DFO) Aboriginal Aquatic Resource and Oceans Management (AAROM) program within the policies and practices of the NTC.

Uu-a-thluk brings Nuuchahnulth-aht together to work with other governments and groups. Its framework allows us to manage our aquatic resources consistent with Nuuchahnulth practices and principles, complementing and reinforcing Ha'wilth patak Ha'wiih (Nuuchahnulth governance). Together we are increasing Nuuchahnulth participation in the harvest and management of our aquatic resources.

What does Uu-a-thluk do?

Access: Uu-a-thluk increases Nuu-chah-nulth access to sea resources by (1) protecting and advancing Nuu-chah-nulth fishing rights, (2) maximizing Nuu-chah-nulth participation in beneficial government programs, (3) managing and protecting habitat and resources within Nuu-chah-nulth ha-ha-houlthee, and (4) retaining knowledge of Nuu-chah-nulth rich oral history and culture as it relates to the sea.

Management: Uu-a-thluk improves Nuu-chah-nulth role in sea resource management by providing a forum for Nuu-chah-nulth to work together and with other governments and organizations on aquatic resource management issues and opportunities.

Capacity: Uu-a-thluk enables and equips Nuu-chah-nulth individuals to take advantage of opportunities in the sea resource sector through training, education, mentorship, and workplace.

Vision

Our vision is to manage Nuu-chah-nulth ha-ha-houlthee of our Ha'wiih (Hereditary Chiefs) in a sustainable way for our muschim (the community), consistent with Nuu-chah-nulth knowledge and values. This is a responsibility given by Naas (Creator). Our aquatic resources must fulfill our sustenance, ceremonial and societal needs, and provide an economic base for healthy communities, listed below.

Ahousaht

Ditidaht

Ehattesaht/Chinehkint

Hesquiaht

Hupacasath

Huu-ay-aht

Kyuquot/Cheklesaht

Nuchatlaht

Mowachaht/ Muchalaht

Tla-o-qui-aht

Toquaht

Tseshaht



Uchucklesaht

Yuu-cluth-aht

Key Activities

• Council of Ha'wiih Forum on Fisheries • T'aaq-wiihak Fisheries • Joint Technical Working Group
• Community Capacity Building • Sustainable Aquatic Resource Management • Research •
Education • Communication & Outreach • Policy

Internal Capacity

• Program Manager • 3 Regional Biologists • Associate Biologist • Program Coordinator •
Communications and Development Coordinator • Capacity Building Coordinator • Fisheries
Technicians and Interns (seasonal) •

Partnerships

- Nuuchahnulth member Nations
- First Nations Fisheries Council
- West Coast Aquatic
- Fisheries and Oceans Canada (DFO)
- Island Marine Aquatic Working Group (IMAWG)
- Science Venture
- Vancouver Island University
- Simon Fraser University
- University of British Columbia (UBC)
- Clayoquot Biosphere Trust
- Nuuchahnulth Seafood Development Corporation
- MC Wright and Associates



Okanagan Nation Alliance

British Columbia

Our Story

“The conservation, protection, restoration, and enhancement of indigenous fisheries (anadromous and resident) and aquatic resources within Okanagan Nation Territory.”

The Okanagan Nation Alliance established a fisheries program in established in 1995 under the direction of the Chiefs Executive Council and member communities to take a role in the management of fisheries and aquatic resources. Under the long standing leadership of the Chiefs and Councils of our member communities and the Colville Confederated Tribe Business Council (CCTBC), formally undertook their responsibilities and obligations to their lands, waters and peoples to restore the Okanagan Sockeye Salmon back to the Columbia River systems. On a watershed level, the Okanagan Nation Territory includes the Okanagan Basin, the Similkameen Basin, and the Kettle Basin, as well as portions of the Columbia Basin (Columbia River and Arrow Lakes) and Thompson Basin (Shuswap River and Salmon River). The ONAFD works to provide technical fisheries assistance for the Nation and its seven member Bands and acts as a liaison with federal and provincial fisheries agencies, NGOs, and corporations. The ONA has built its capacity through the employment of highly qualified personnel, continuous professional development of existing staff, and relationship building with qualified professionals and sub-contractors. This has ensured that projects are completed to meet and exceed scientific and administrative quality standards. The ONA has accrued a great deal of experience in managing projects and now supports programs and projects ranging in budget from thousands to 3 million dollars. These projects are the result of solid working relationships, which have been formed with various partners including: provincial/state and federal government agencies in BC, Canada, and Washington State; local Bands; industry and non-government organizations.

Communities

Okanagan Indian Band

Upper Nicola Band

Westbank First Nation

Penticton Indian Band

Osoyoos Indian Band

Lower Similkameen Band

Upper Similkameen Indian Band

Colville Confederated Tribes

Key Activities

Habitat Restoration · Environmental and Species Monitoring · Conservation Hatchery · Fish Laboratory Services (disease testing, etc.) · Food Fish Harvest · Economic Fisheries · Harvest Management · Education and Outreach ·

Internal Staff

45 full-time staff:

- 22 biologists
- 7 certified technicians
- 4 policy /support staff
- 30-45 seasonal technicians

Partnerships

- Department of Fisheries and Oceans
- Ministry of Forests Lands Natural Resources Operations and Rural Development
- Public Utility District of Chelan
- Public Utility District of Grant
- First Nation Fisheries Council
- BC Hydro
- Okanagan Basin Water Board

Q'ul-Ihanumutsun Aquatic Resources Society (QARS)

Our Story

The Q'ul-Ihanumutsun Aquatic Resources Society (QARS) is an incorporated non-profit Society that was created to provide technical capacity and strategic communications for our Member First Nation communities, so that community staff and leadership are able to engage on aquatic resource management in an informed manner. We create opportunities for the six Coast Salish communities of Stz'uminus First Nation, Halalt First Nation, Penelakut Tribe, Lyackson First Nation, Cowichan Tribes and Lake Cowichan First Nation – representing over 8000 people overall, to carry out strategic planning on fisheries and aquatic resources. This is accomplished through having a board of directors with equal voice from each of the six communities, by hosting meetings where information can be shared, and by providing expertise in the field, in communities and in technical and policy-oriented aquatic resource processes. Our services provide meaningful capacity to communities that require the services of a Biologist, and access to up-to-date information that must be achieved through a high level of process engagement. QARS provides its member communities with the data collection and management capacity as afforded by modern database systems and data capture tools such as UAV's and ROV's. We engage with DFO and other agencies to create opportunities that support community interests

including fisheries access, shellfish safety, salmon enumeration, herring rebuilding, intertidal habitat assessment and the preservation and use of marine traditional knowledge.

Highlight Project – Pacific herring rebuilding

Pacific herring play a critical role in the health of our local marine ecosystem. Within the Hul'q'umi'num core territory, Pacific herring spawning events have been reducing dramatically since the 1990's with no spawn of any kind observed in the last two years. This lack of spawn, coupled with increased Food and Bait fishery quotas, led QARS and its Member nations to begin working towards the removal of commercial herring fisheries from the Hul'q'umi'num core territory. After several years, the QARS and its Members have succeeded in the closures of the Roe Herring and Food and Bait Herring fisheries from the waters contained within the Southern Gulf Islands. These closures will provide overwintering and migrating herring with a refuge from commercial fishing pressure that is present almost year-round in the Strait of Georgia. QARS continues to work towards the rebuilding of local herring stocks and the rehabilitation of the local ecosystem.

Communities

Cowichan Tribes

Lake Cowichan First Nation

Lyackson First Nation

Halalt First Nation

Stz'uminus First Nation

Penelakut Tribe

Key Activities

Provide technical capacity to support Member community engagement in fisheries and aquatic resource management · strategic planning around aquatic resources · ecological assessment · stock assessment · conservation-based research · community engagement ·

Internal Capacity

- Executive Director
- Biologist

Partnerships

- Fisheries and Oceans Canada
- Environment and Climate Change Canada
- Health Canada
- Province of BC
- Pacific Salmon Foundation
- Ducks Unlimited
- Island Marine Aquatic Working Group
- Cowichan Lake Salmonid Enhancement Society
- Salish Eye Productions
- Trailmark Systems Inc.

Secwepemc Fisheries Commission



Secwepemc Fisheries Commission

British Columbia

Type: Watershed

Mission

As part of a larger initiative to establish self-government for the Shuswap Nation Tribal Council communities, the Secwepemc Fisheries Commission advocates for First Nations' rights and title with respect to our fisheries interests and perspectives. Central to our mission is our commitment to protect existing fisheries resources, to promote integrated, holistic approaches to ecosystem conservation and management, and to provide policy advice on political and technical matters.

The SFC promotes ecosystem conservation and the sustainable use and harvest practices of fisheries resources. The re-invigoration of traditional fisheries practices and the strengthening of First Nations' social and cultural heritage is a reflection of our respect for all living beings. This, in turn, contributes to the preservation of our values and beliefs.

In our coordinating function, we form partnerships with other fisheries organizations for mutual benefit, and build relationships with other First Nations' organizations as appropriate. Co-management is a cornerstone of our mandate.

Our Services

SFC is a unique, non-profit support service agency offering creative approaches and innovative solutions. We feature an experienced team of permanent staff with extensive experience working with a wide variety of fisheries programs, technical projects, and policy/management processes. Our staff have over 100 combined years of experience in fisheries management. Our commitment to partnerships remains a priority. SFC maintains a broad network of relationships with private, public, and tribal organizations including community stewardship groups, watershed roundtables, federal and provincial agencies, provincial crown corporations, other Indigenous tribal and band organizations, and, various private sector companies. We believe that these long-standing partnerships speak to our effectiveness in delivering the highest quality of services in the following areas:

- Fisheries Management
- Aquatic Habitat Restoration
- Communications and Outreach
- Commercial Salmon Fisheries
- Salmon Stock Assessment

Communicate with us.

Vision

The Secwepemc Fisheries Commission is a progressive First Nations fisheries body that works within the mandate of Shuswap Nation Tribal Council communities and Tribal Chiefs. We support the work of our communities to provide stewardship for the fisheries in their territories and to assert their traditional fisheries rights within a co-management framework. This is accomplished as they are building capacity for self-government.



Communities

Adams Lake Indian Band
Bonaparte Indian Band
Neskonlith Indian Band
Little Shuswap Lake Indian Band
Shuswap Indian Band
Simpcw First Nation
Skeetchestn Indian Band
Splatsín First Nation
Tk'emlúps te Secwepemc
Whispering Pines

Key Activities

Fisheries Management Aquatic Habitat Restoration · Communications and Outreach ·
Commercial Salmon Fisheries · Salmon Stock Assessment ·

Internal Capacity

- Director of Fisheries
- Fisheries Management Coordinator
- Operations Manager
- 2 Fisheries Biologists
- 3 Fisheries Technicians

Partnerships

- Province of BC
- Fraser Basin Council
- Ducks Unlimited Canada
- Pacific Salmon Foundation
- Watershed Watch Salmon Society
- Kingfisher Environmental Centre
- BC Cattlemen's Association
- Sustainable Forestry Initiative
- BC Wildlife Federation
- BC Hydro
- Shuswap Watershed Council
- Adams River Salmon Society
- Thompson Rivers University
- Columbia Basin Trust

Our Story

SFC operates under the direction of our Commissioners, being hereditary title holders from each of our Member Nations, as well as a Deputy Commissioner who has been with the organization from its earliest days. SFC formally came into being with the signing of a Memorandum of Understanding in 1990. It has never been incorporated under any provincial or federal law.

Highlight Project

SFC and its Member Nations work together to ensure that the Member Nations have input into all fisheries management plans affecting the stocks to which the Member Nations have Aboriginal rights. Similarly, any development plans either inside or outside of the Member Nations' territories that have the potential to affect fish (or their habitat) to which the Member Nations have Aboriginal rights attract the attention of SFC in support of protecting those Aboriginal rights. SFC technical staff work with Member Nations to develop and implement robust scientific research programs to monitor and manage aquatic resources in their territories. We also provide technical support to Member Nations to assess the effects of proposed industrial development in their territories. SFC Biologists provide technical comments and critiques of various fisheries and environmental policy and science initiatives brought forth by both federal and provincial government departments and industrial project proponents alike. In 2018, SFC was contracted by the National Indigenous Fisheries Institute to help develop technical capacity and projects for the Norway House Fishermen's Co-op based in Manitoba. Activities on this project include identifying existing capacity and capacity gaps, review of existing fisheries issues and data gaps, assisting the Co-op in identifying priority research topics, and designing and carrying out a research program. SFC is involved with several water quality monitoring programs throughout the middle and upper Skeena and Nass River watersheds. Activities and responsibilities on these projects include analyzing existing data from water quality monitoring activities and developing recommendations for future monitoring priorities.

[Skeena Fisheries Commission](#)



Skeena Fisheries Commission

British Columbia

Type: Watershed

Our Story

SFC operates under the direction of our Commissioners, being hereditary title holders from each of our Member Nations, as well as a Deputy Commissioner who has been with the organization from its earliest days. SFC formally came into being with the signing of a Memorandum of Understanding in 1990. It has never been incorporated under any provincial or federal law.

Highlight Project

SFC and its Member Nations work together to ensure that the Member Nations have input into all fisheries management plans affecting the stocks to which the Member Nations have Aboriginal rights. Similarly, any development plans either inside or outside of the Member Nations' territories that have the potential to affect fish (or their habitat) to which the Member Nations have Aboriginal rights attract the attention of SFC in support of protecting those Aboriginal rights. SFC technical staff work with Member Nations to develop and implement robust scientific research programs to monitor and manage aquatic resources in their territories. We also provide technical support to Member Nations to assess the effects of proposed industrial development in their territories. SFC Biologists provide technical comments and critiques of various fisheries and environmental policy and science initiatives brought forth by both federal and provincial government departments and industrial project proponents alike. In 2018, SFC was contracted by the National Indigenous Fisheries Institute to help develop technical capacity and projects for the Norway House Fishermen's Co-op based in Manitoba. Activities on this project include identifying existing capacity and capacity gaps, review of existing fisheries issues and data gaps, assisting the Co-op in identifying priority research topics, and designing and carrying out a research program. SFC is involved with several water quality monitoring programs throughout the middle and upper Skeena and Nass River watersheds. Activities and responsibilities on these projects include analyzing existing data from water quality monitoring activities and developing recommendations for future monitoring priorities.

Communities

Gitxsan Nation

Gitanyow Nation

Wet'suwet'en Nation

Key Activities

SFC Technical Committee – Facilitation of discussions for Member Nations at Tier 1 and Tier 2 levels to exchange information and analysis on fisheries science and management issues · Support to Member Nations in bilateral discussions with government · EA processes and scientific support · Hydroacoustics · Environmental Baseline Assessments ·

Internal Capacity

- President
- Communications Specialist
- 4 Biologists
- Legal Support

Partnerships

- Member Nations
- DFO
- First Nations Fisheries Council
- Pacific Salmon Commission
- Skeena First Nations Technical Committee

Upper Fraser Fisheries Conservation Alliance



Upper Fraser Fisheries Conservation Alliance

British Columbia

Type: Watershed

Our Story

The UFFCA is a First Nations Natural Resource Management Agency committed to developing technical capacity in Salmon Management, field science, habitat and TEK through a collaborative facilitated process covering the entire area of interest within the UFFCA territories.

First conceived as an ad hoc body in 2001, the Upper Fraser Fisheries Alliance was formalized as an entity in 2004 as one of the founding participants in the National AAROM program. The Upper Fraser Fisheries Conservation Alliance's (UFFCA's) primary objectives include working to further the fisheries and aquatic resource related interests of the Upper Fraser First Nations.

This is done each year through the development of an Annual Strategic Work Plan outlining priority objectives and the related activities to engage staff and contractors towards this end. It is then presented back to the community and stakeholders, in order to summarize the organization's activities and outcomes for the year.

The UFFCA is committed to an open, transparent and accountable operating environment, focusing on a technical agenda; and to building cooperative and collaborative relationships amongst its membership and with the Department of Fisheries and Oceans (DFO). The various tasks, purposes and products to which the UFFCA dedicates its resources have been allocated among eleven portfolios, which are reflected within the terms of reference to various contract positions within the organization.

Mission

Our mission is by utilizing the best in western science and TEK and with a common voice, the UFFCA will seek to influence all levels of government and the general public to rebuild salmon stocks and sustain fisheries for future generations.

Vision

Our vision is for abundant fish in a healthy aquatic ecosystem throughout the entire UFFCA area.



Communities

The UFFCA is available provides technical support to 23 Indigenous communities in the Upper Fraser Watershed. For a full list see the UFFCA weblink:

<https://www.upperfraser.ca/members.html>.

Key Activities

Key Activities include providing fisheries management and policy advice, advancing First Nations interests in activities within their respective territories, including Water Quality and Quantity monitoring, stock assessment etc., Incorporating Indigenous knowledge into everyday decisions such as fisheries and water management, environmental assessment processes and monitoring.

Internal Capacity

At the UFFCA we have an Executive Director, responsible for the administration elements and who reports to a Board of Directors representative of the 5 primary sub-watersheds that comprise the Upper Fraser Watershed. We have a fulltime Resource Management Biologist who provides on the ground support to the communities as well as engaging in broader processes dealing with fish management. We also have the following part-time positions: Strategic Policy Advisor, Stock Management Biologist, Project Biologist and communications coordinator and IT support person.

Partnerships

The UFFCA frequently partners with our member communities and DFO to implement projects that are of particular focus and interest to the conservation of salmon returning to the Upper Fraser including rights-based fisheries issues. Additional partnerships include the Northern Shuswap Tribal Council, Tsilhqot'in National Government and Carrier Sekani Tribal Council.

