



**THE “VUNTUT GWITCHIN WAY” COMMUNITY-BASED
PORCUPINE RIVER SALMON PLAN**

DEDICATION

This community-based Porcupine River Salmon Plan is dedicated to the memory of our Elders who taught us our Vuntut Gwitchin Way of respect, sharing and the importance of passing on our traditional ways to future generations.

**“ Yeendoo diinehdoo ji’heezrit
nits’oo ts’o’ nan hee’aa?”**

“After our time, how will the Earth be?”

Sarah Abel Chitze (1896 – 1998)



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ACRONYMS:

DFO – Department of Fisheries and Oceans

ADFG – Alaska Department of Fish and Game

EDI – Environmental Dynamics Inc.

VGG – Vuntut Gwitchin Government

YSSC – Yukon Salmon Sub-Committee

USFWS – United States Fish and Wildlife Service

YRSA – Yukon River Salmon Agreement

TH – Tr’ondëk Hwëch’in

NYRRC – North Yukon Renewable Resources Council



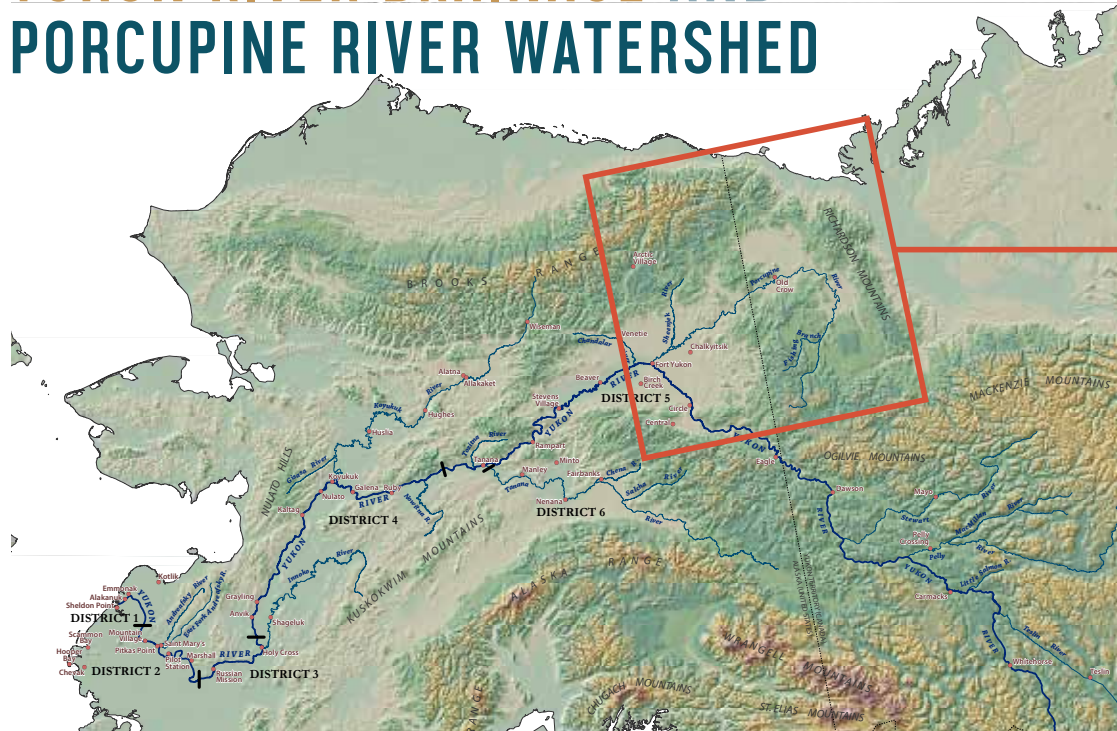
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*Stephen Frost Sr. holding a large Porcupine River Chinook salmon.
VGG Heritage*

Cover | *Robert Kyikavichik, Aidan Kyikavichik, Dean Kapuschak and Adam Kyikavichik fishing for the community on the Porcupine River. Darius Elias*

YUKON RIVER DRAINAGE AND PORCUPINE RIVER WATERSHED



The Porcupine River Watershed has a unique geological structure. The main-stem of the Porcupine begins in Fort Yukon and flows northeast onward to Rampart House on the Alaska Yukon border. It then slowly bends to the east and passes the village of Old Crow at the mouth of the Crow River. It continues to bend until it is flowing directly south. The main stem ends at the confluence of the Miner and Whitestone Rivers. The main tributary is the Miner River, which bends to the west and penetrates deep into the Ogilvie Mountains.

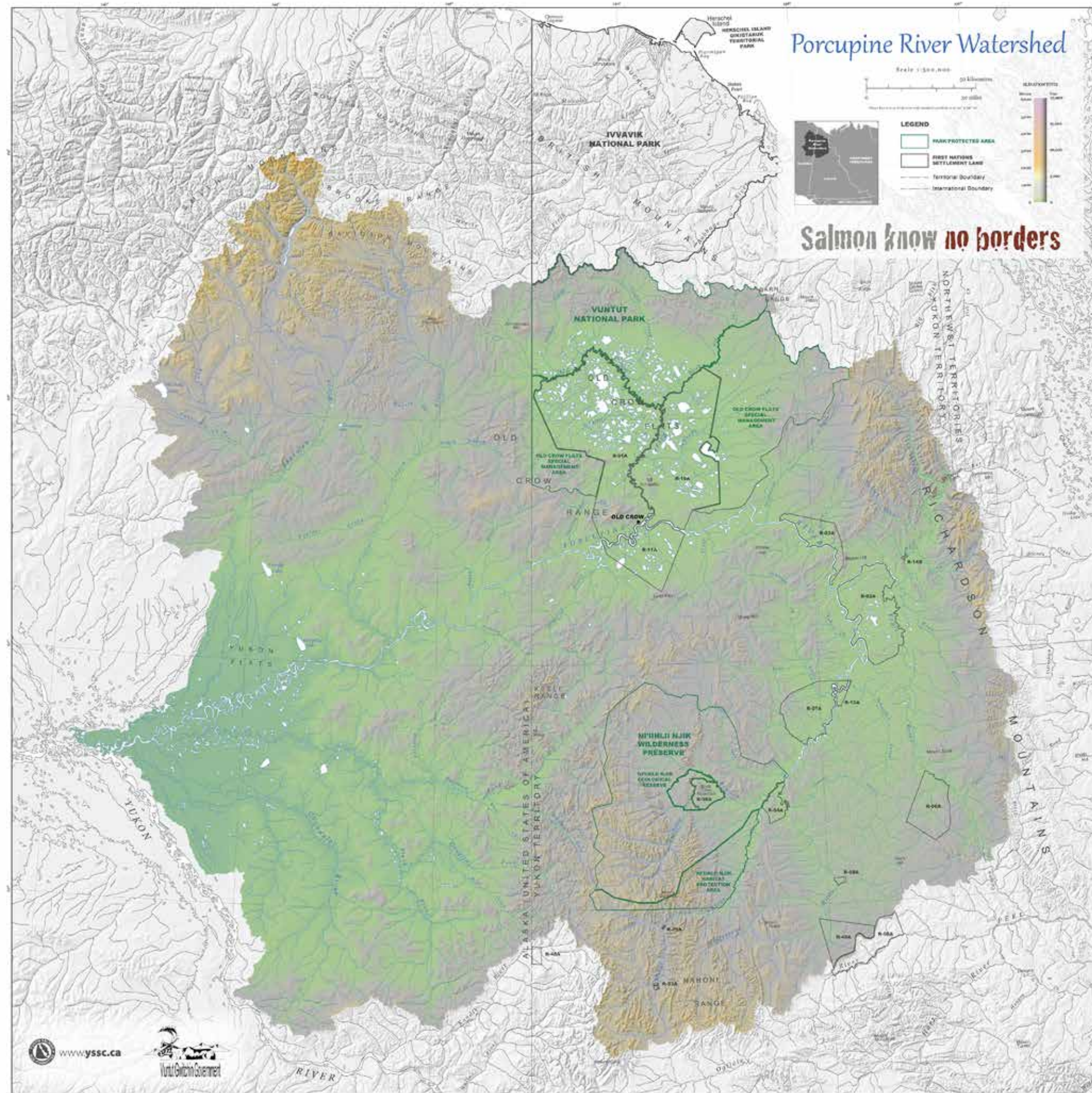
The land surface near the main-stem tends to be flat and the river and stream gradients are low. Above the Bluefish River the Porcupine River flows over materials deposited between 8000 and 4000 years ago (Lauriel et al. 2001). The Crow River above the canyon has a similar geomorphological history. Lakes are common in lowland areas. All are shallow, and most or all are the residues of much larger lakes that existed in the past (Lauriel et al. 2009).

Permafrost has been considered to be continuous in the Basin, although this may be changing.

The basin is rimmed by higher ground. With the exception of the Eagle Plains, most higher ground was subject to alpine glaciers in the past. Lakes are rare to absent in upland areas. Significant underground water storage is present in the areas of past alpine glaciation and contributes to winter flows of rivers and streams. Streams typically have stretches of open water in winter at or near the transition between the mountain valleys and lowland areas.

Spring snow melt has formerly included an early breakup followed by a later freshet when snow on high ground melted. The freshets have started to overlap, contributing to very high flow and spring flooding (Janowicz 2017). Underlying permafrost limits the ability of the land to absorb summer precipitation events. Rapid increases in river levels result.

Water levels in summer may be very low. Long hours of daylight in concert with the low flows may result in water temperatures that approach and exceed recognized tolerances for Salmon.



MESSAGE FROM THE CHIEF:

We as Vuntut Gwitchin have always had a relationship and relied on the Salmon for sustenance in our Porcupine River watershed for thousands of years. Today, we have a responsibility to care for them and ensure they have pure clear waters when they come home, as they are an integral part of a healthy northern ecosystem.

This community-based Salmon plan is one that reflects our traditional values, sustainability principles, conservation practices and we are committed to maintaining and forging partnerships to ensure our future generations have a traditional way of life with the Salmon. From the smallest water beetle and the roots of trees, to the mighty grizzly bear and the eagle, we honor the salmon.

Hai'
Dana Tizya-Tramm
Dah Jilti

DINJII KHEHKAI:

Van Tat Gwich'in idilii ts'at t'uk choo vakan gwiidandaii Ch'oodèenjik gwinjik yeenoo tr'igwiniidhat gwats'at. Juk drin t'uk choo gwik'anaatii, shik chuu drinh' heelyaa guk'antr'angwandaii, zhat shik neegeedidal geenjit nan kak jidii tthak, nin, gwanzhih, t'uk, dzhii tsal, k'it zhat gwa'an gwats'at tigiinch'uu.

Jii t'uk Choo Gwidinehttee nits'oo dinji zhuh idilii ts'at tr'igwandaii aii geenjit nanh, nin, t'uk hah tthak gwiinzii gook'atr'ahnahtyaa ts'at tthak ts'o' nihjaa heedilyaa, gwiinzii nihah gikhiidikhyaa, gwiinzii nihah gwitr'it t'agwahaa'yaa, yeendoo diigii, dicheii kat t'uk choo kan kak gogweeheidaii. Gwats'at chan chehtsi' tsal, ts'iivii trih, shih choo ts'at ch'izhin, jii tthak, t'uk choo goochidhaa'ee.

Hai'
Dana Tizya-Tramm
Dah Jilti

THE VUNTUT GWITCHIN WAY WITH PORCUPINE RIVER SALMON

Gwich'in people have lived with Salmon for thousands of years. Like our way with caribou, we are Salmon people too. Salmon that travel the Yukon River and then the Porcupine River into our traditional territory are integral to life for us as Vuntut Gwitchin. These two keystone species are always top of mind for us. We are willing to protect these Salmon by establishing parks for them, voluntarily not harvesting, sacrificing for them, and stepping up to be advocates for them. We pass on our knowledge, we celebrate the return of Salmon and we take our stewardship seriously. We believe in Nii'inlii or the "Circle of Life." Salmon is a provider that has purpose.

“ We know there is a relationship between the Salmon and a healthy northern ecosystem. They give life to bears, trees, so many fish and wildlife species and are tied to our human health. There is a reason that in the far north in our traditional territory there are huge trees that have been fed by the nutrients from the Salmon. This is what we know and what we need to ensure stays in balance.

Darius Elias - Natural Resources, Fish and Wildlife Manager

VUNTUT GWITCHIN GOVERNMENT VISION

Our vision is one that reflects our traditional values, sustainability principles a commitment to building a strong and self-determined First Nation. We will strive to create and maintain a healthy, vibrant community that provides a safe, supportive environment in which to live, work and raise our families.

VGFN Values: In order to preserve, protect and maintain our Vuntut Gwitchin way of life, traditional occupation and use of our waters, lands and wildlife and to strive for economic, community, spiritual and personal well-being.

- We value the empowerment of our people
- We value all that is living
- We value our children and youth who are the leaders of tomorrow and we instill in them an awareness of our Vuntut identity and values, promote their education and enhance their future
- We value our traditional language, our culture, spirituality, and the teachings of our elders
- We value accountable and transparent governance.



Beadwork on baby belt by Marla Charlie. VGG Heritage



Fishing Branch Fall Chum waiting to spawn. Peter Mather

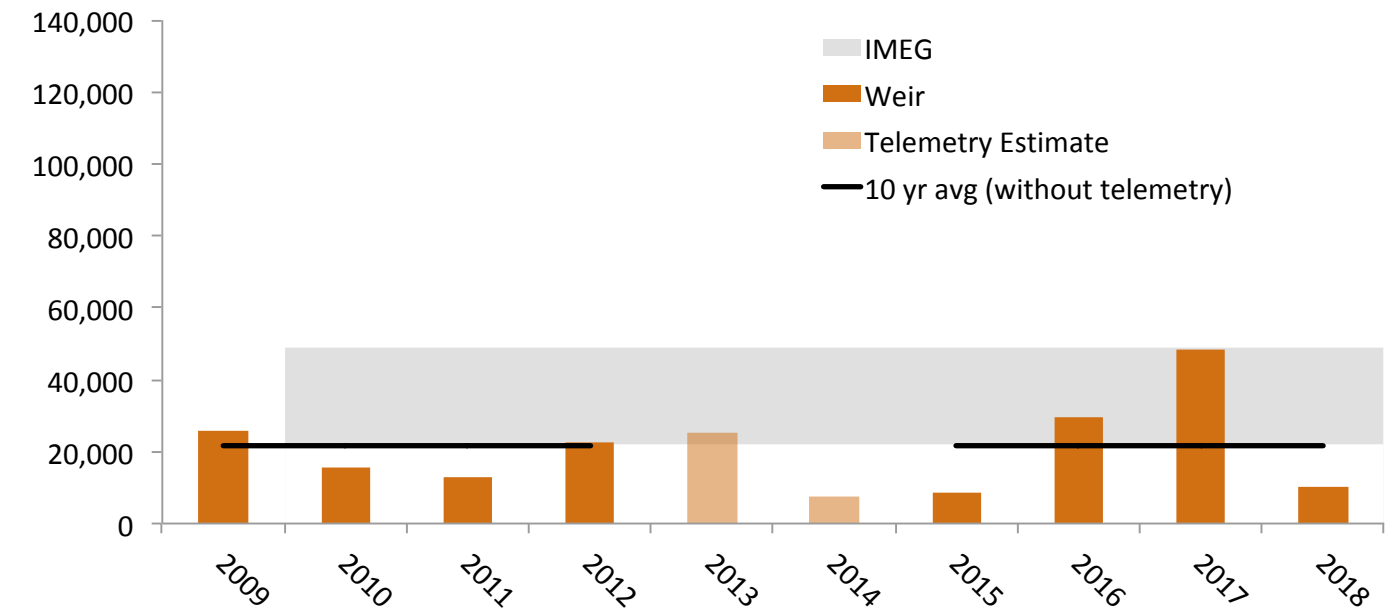


Family fish camps along the Porcupine River.
Yukon Archives Collection



Grizzly Bear at the Fishing Branch weir. M. Milligan, DFO

Fishing Branch Escapement 2009-2018



CHANGE AND OUR NEED TO PLAN FOR SALMON

While our people have always lived in unison with Porcupine River Salmon, we know that things are changing and we need to share them with other communities, animals, trees and all living things. We have seen the climate changing. Things are warming. Our ice is not freezing like it used to. The river is flooding. The animals that we depend on are changing their movements and patterns. Salmon are also no longer as plentiful as they once were. Porcupine River Chinook Salmon are not as large and there are not as many as in years past. There are fewer Fall Chum and the population goes up and down much more each year. Coho Salmon are getting harder to fish for given the ice is changing. It's often not as safe as it once was.

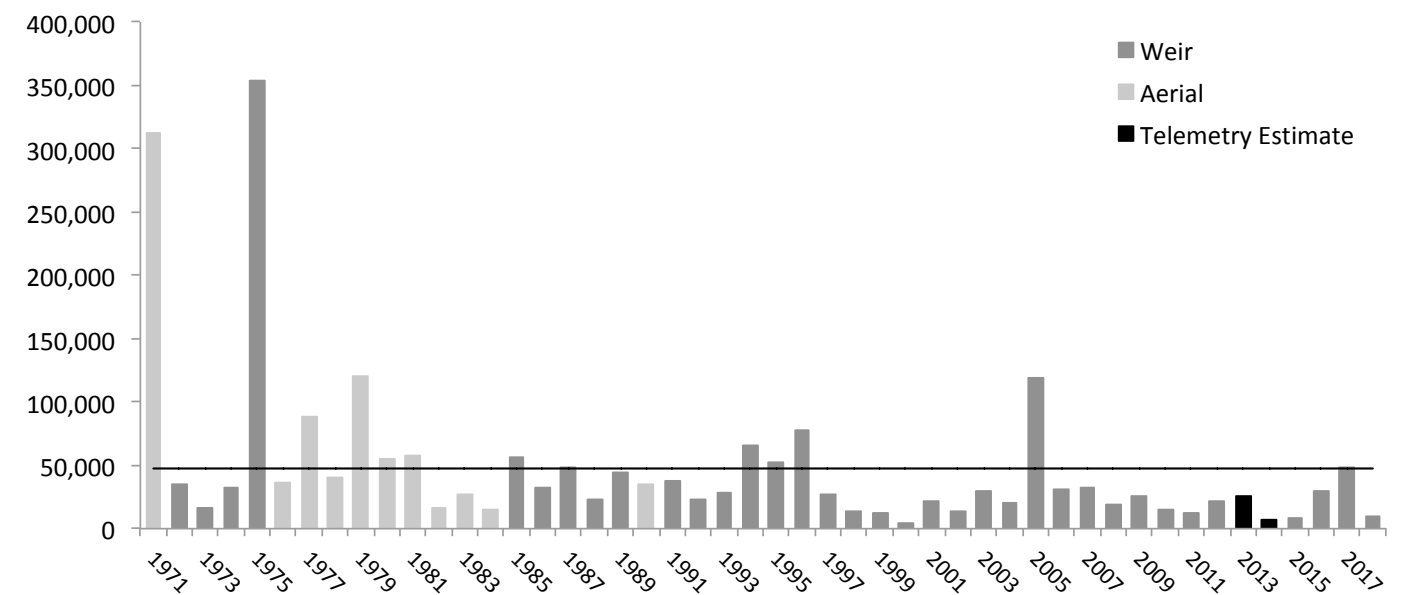
Things are changing in our traditional territory, but they are also changing throughout the entire Yukon River watershed. All communities and villages are facing these changes. This is making it harder for all of us to meet our needs as well as the needs of a healthy northern ecosystem. We know from the mouth of the Porcupine River, things are also changing for our Gwich'in relatives in Fort Yukon, Alaska. This uncertainty, along with declining Salmon, is making the management of Salmon very challenging.

Salmon management is very complex, given these fish travel thousands of kilometers through Alaska and past many communities, nets, and people. For example, all Porcupine River Salmon must pass the community of Fort Yukon before making their way north to the community of Old Crow.

The Salmon are also governed under a number of treaties. These include treaties set up through the Yukon River Salmon Agreement (YRSA) between Alaska and Yukon, and those reinforced through our Vuntut Gwitchin Final Agreement.

Other management partners such as the Yukon Salmon Sub-Committee (YSSC), the Department of Fisheries and Oceans Canada (DFO), Alaska Department of Fish and Game (ADF&G) and the United States Fish and Wildlife Service (USFWS) are also given a seat at the table, through the Yukon River Panel. Most of the discussion at this table focuses on how we can all share and conserve these Salmon through what are called escapement goals, and harvest sharing allocations between the two countries.

Fishing Branch Escapement 1971-2017



Fishing Branch Fall Chum are very important and one of three specific Salmon stocks that Alaska and Yukon manage through the Yukon River Salmon Agreement (YRSA). There is a specific Interim Management Escapement Goal (IMEG) set for these Salmon. The IMEG is the specific range of Salmon managed to get to the spawning grounds as per the YRSA. These two charts show that Fall Chum Salmon going to Fishing Branch vary greatly from year to year and are often at the low end of the range, or not meeting the escapement goal at all.

WE HAVE BEEN WORKING ON OUR PLAN

For many years, our Vuntut Gwitchin citizens, with support from the Vuntut Gwitchin Government (VGG), has been meeting as a community to discuss the fate of our Porcupine River Chinook, Fall Chum and Coho Salmon. We have had annual meetings with our partners to discuss Salmon and to build this community-based Salmon plan.

In order to demonstrate our commitment to Salmon, resolution 2016-009 was passed by consensus at the August 2016, Vuntut Gwitchin Government General Assembly. The resolution calls for the development of the Community-based Salmon Management Plan.

Over the last few years, the VGG has partnered with the YSSC to deliver a “Porcupine Drainage - Local and Traditional Knowledge Salmon Workshop.” The proceedings were published and subsequently used in follow-up workshops with citizens, youth, Elders and other knowledge holders, North Yukon Renewable Resources Council (NYRRC) members, and VGG staff from the Natural Resources and Heritage departments.

The meetings also included the participation of support staff from DFO and the ADF & G. All of these meetings brought us all together for a community dinner and larger public information sessions with a review of the Salmon season. The youth have also been a part of this plan with a *Salmon in the Classroom* program being delivered at the Chief Zheh Gittlit School. Getting our youth talking about what is happening to our Salmon is very important, as they will be the stewards in the future.

While we have been partnering with outside agencies to talk about management and our community priorities, we have also been busy working on many research and science projects within our traditional territory. It is important that we give fair and full consideration to both traditional ecological knowledge and western science.

Some examples of our projects include counting our Salmon through sonar and weir projects, technical studies around groundwater and de-watering, monitoring environmental conditions, regional land use planning, permafrost and snow monitoring, lake and river hydrology studies, fry incubation projects, human health bio-monitoring and studying the levels of mercury in our fish. In fact, in 2017 we had 32 different research projects in our traditional territory.

We have our research priorities and an extensive research protocol process to ensure that external researchers and partners maximize community benefits and respect our northern ecosystem, culture and priorities.

SUMMARY OF PROCEEDINGS PORCUPINE DRAINAGE LOCAL AND TRADITIONAL KNOWLEDGE SALMON WORKSHOP



VUNTUT GWITCHIN FIRST NATION SALMON MANAGEMENT PLAN RESOLUTION

At the August 2016 Vuntut Gwitchin Government General Assembly the following resolution was drafted:

RESOLUTION NO. 2016-009 PASSED BY CONSENSUS

VGFN Salmon Management Plan

Whereas; Salmon returns to the Porcupine River have been weak for several years;

Whereas; Much work has been done through use of the YRP Restoration and Enhancement funds, but these projects do not address specific community based management actions;

Whereas; Natural Resources partnered with Yukon Salmon Sub-Committee to hold a Local Traditional Knowledge Workshop in which the framework for a management plan was developed:

Therefore Be It Resolved;

That the VGG NR department move forward to complete an Old Crow Community-Based Salmon Management Plan;

This plan be developed closely with the community, based on VGFN values, with management recommendations that balance VGFN salmon harvesting efforts with the state of the salmon stocks.



Citizens and other salmon partners (DFO, ADF & G, and YSSC) working together on the Salmon plan. Dennis Zimmermann

HOW THIS PLAN WORKS

This plan has been developed by our community and needs to be revisited approximately every five years. This plan is an umbrella document with three other documents connected to it. They are: **1) Local and Traditional Knowledge Report**, **2) Porcupine River Watershed Salmon Restoration Plan** and **3) the Implementation Plan**. These three documents are being held by the Natural Resources Department of the VGG and are considered evergreen, meaning that they can be updated when things change, or there is newly available information. Things change and so should these plans. While they need to be adaptable and fluid, they always need to reflect community values and priorities.

We have a responsibility as Vuntut Gwitchin people to take care of the Salmon and make sure they are here for generations. There are many ways we can help and demonstrate our support and respect for Chinook, Fall Chum and Coho Salmon. We are holistic and focus on our Salmon, our culture, our healthy northern ecosystem, our youth, Elders and much more. This plan provides a way forward for our community to support Porcupine River Salmon.

We don't just talk about doing something, we can also do many specific things. We can celebrate by learning our Gwitchin language, storytelling, hosting Salmon celebrations, participating in fish camps and passing our knowledge to our youth on how to set nets, catch, smoke and put up fish. We can harvest other freshwater species and attend Salmon meetings in Canada and Alaska. We can conduct scientific research, monitor, count, and attempt restorations actions. Our Implementation Plan provides a list of actions that have come from the community that we can deliver with enough support and resources.

Whatever we do, it must be consistent with the "Vuntut Gwitchin Way" and our values that we discussed as a community. Community-based Salmon management plans are not fixed and can change and adapt. Our goals, purpose and principles may need to be revisited from time to time in order to react to changing community values, the environment, priorities and the condition of the Salmon run in general.

THE "VUNTUT GWITCHIN WAY" COMMUNITY-BASED PORCUPINE RIVER SALMON PLAN



The "Vuntut Gwitchin Way" Plan is the umbrella document with the three evergreen documents connected to it.



Setting a drift test-net for Salmon on the Porcupine River near the sonar. EDI

OUR COMMUNITY-BASED VALUES AND

THE “VUNTUT GWITCHIN WAY”

The following are the values that came from our citizens in how we need to support Salmon.



Yukon Archives Collection

1 GWICH'IN ARE ONE PEOPLE

This quote from Elder Myra Cho Kaye was shared. It points to the need to look at traditional values and how we used to work with Alaska to support our Salmon. This is especially true of working with Fort Yukon and the Gwichyaa Zhee Tribal Council.

“*Ti'yah niniint'aii kwaa dai', Gwich'in naii tthak Khekak k'it t'igiinch'uu*”

“Back when there was no border, all Gwich'in people were just like one”¹



Peter Mather

4 FOCUS ON YOUTH. OUR YOUTH NEED TO BE PART OF THIS PLAN

They are the future and we need to pass on our Salmon knowledge and culture to them. They will also be responsible for Salmon stewardship in the future.



Dennis Zimmermann

5 NOT JUST TALK, DO IT

A Vuntut Gwitchin trait is to not just talk about things, but rather to do them. The plan must be driven by our community and our citizens. It must be supported by our government and partners. It is not about outside agencies telling us what to do. It is about Vuntut Gwitchin taking responsibility and making it happen.



Peter Mather

2 NI'IINLII “CIRCLE OF LIFE”

Our community highlighted Salmon are a provider that has a great purpose. Salmon give life to bears and trees and is tied to our human health and a healthy northern ecosystem.



Van Tat Gwich'in Cultural Tech. Project 2010

6 INFLUENCE FROM HOME AND MOVE OUTWARD

We have a role to play in working with our partners in Yukon and Alaska and in supporting Salmon management and conservation. The work we do should begin with us in Old Crow and then we can influence others outside of the Porcupine Drainage through action, demonstration and commitment.



Peter Mather

3 HONORING, RESPECTING, CELEBRATING SALMON

Our community reinforced the need to further respect Salmon by bringing back culture, ceremony and spirituality around their arrival and status as a provider for the Vuntut Gwitchin people.



Peter Mather

7 WALKING WITH TRADITIONAL ECOLOGICAL KNOWLEDGE AND WESTERN SCIENCE

We are committed to supporting Porcupine River Salmon with full consideration of both knowledge systems. This means working with our Elders, citizens and oral history as well as moving forward with our partners on western research and science.

¹ A quote from Myra Cho Kaye provided by VGG Heritage Staff Brendon Kyikavichik



Aerial photograph of Ni'iinlii Njik (Fishing Branch) Territorial Park. Joel Harding, DFO

VUNTUT PROTECTED AREAS ~ 31,189 KM² APPROX.

We have protected approximately 31,189 square kilometers of our traditional territory. Together, Ni'iinlii Njik (Fishing Branch) Territorial Park and adjacent Habitat Protection Area (HPA) and Settlement Lands protect make up an ecological reserve which is a distinct and fascinating ecosystem and an enduring Gwich'in connection to the land. Limestone caves, year-round open water and early-winter Salmon runs support grizzly bear concentrations and large trees rarely seen this far north. The Porcupine caribou herd also migrates through the area, home to many other species of wildlife, including Dall's sheep and moose.² Other areas we have protected:

- Vuntut National Park ~ 4345 Km²
- Fishing Branch Territorial Park & Habitat Protection Area (Ni'iinlii Njik) ~ 6500 Km²
- Fishing Branch Ecological Reserve & Settlement Land R-5A & S-3A1 ~ 169.1 Km² and 138.4 Km².
- Old Crow Flats Special Management Area ~ 19,000 Km²
- Whitefish Wetlands Habitat Protection Area (Ch'ihilii Chik) ~ 468 Km²
- Bell River Summit Lake ~ Proposed Territorial Park (Daadzaii Van) ~ 1525 Km²
- Vuntut Gwitchin Traditional Territory ~ 55,548 km²
- **56% of our Vuntut Gwitchin Traditional Territory is protected.**

² Source: <https://yukon.ca/en/outdoor-recreation-and-wildlife/parks-and-protected-areas/niiinlii-njik-fishing-branch-territorial>

COMMUNITY-BASED THEMES AND PRIORITIES

Vuntut Gwitchin citizens have had many conversations around Porcupine River Salmon over many years. There is a rich narrative around Porcupine River Salmon that is often not documented. In an attempt to provide context around Porcupine Salmon, we offer an overview of the themes, information and priorities that have been highlighted by our citizens. These themes and priorities, as well as the content within, are not comprehensive. They will change as new information comes forward.

SALMON CHINOOK, FALL CHUM AND COHO

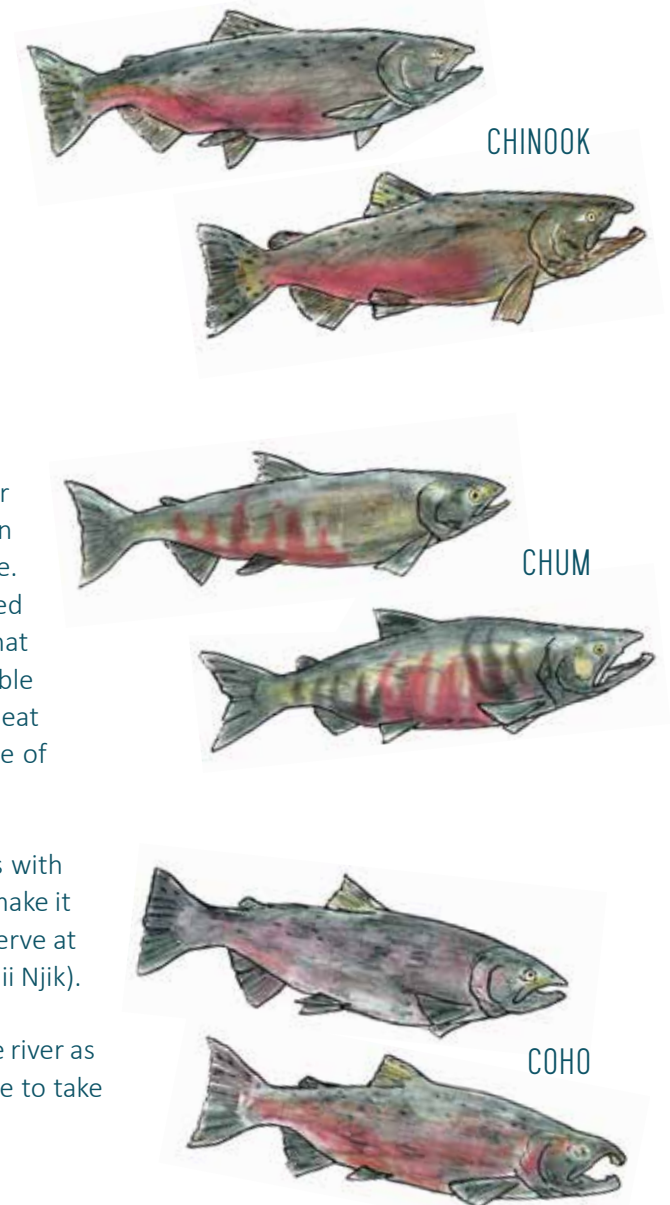
Of the three Salmon species that travel the Porcupine River, citizens largely discuss Chinook and Fall Chum Salmon. Coho Salmon also travel the river past Old Crow in the late fall. There is little known about Porcupine Coho and often the ice is not thick enough to set nets under the ice.

At meetings, participants speak about the rights of the Salmon and their importance beyond harvest to the Vuntut Gwitchin. Their health and condition is important culturally and they should not just be seen as a fish for harvest. While their cultural value and importance is similar to that of caribou, they don't have the same status within the community.

All participants at meetings agree that community values for Chinook and Fall Chum Salmon were different. Chinook were seen as a table food for people to eat, provide nutrition and sustenance. Fall Chum are essential for dog mushers and trappers who need to feed dogs and require bait for trapping. Citizens state that approximately five per cent of Fall Chum caught in nets is suitable for humans to eat. Dog mushers at meetings state that dogs that eat Fall Chum have better stamina than if they ate dog food because of the protein and oil in the fish.

Porcupine River Fall Chum Salmon have special treaty provisions with Alaska under the Yukon River Salmon Agreement to ensure they make it back for the bears, boreal forest and habitat at the ecological reserve at Fishing Branch Territorial Park and Habitat Protection Area (Ni'iinlii Njik).

Other species like whitefish and pike are also important within the river as citizens are starting to harvest them as an alternative food source to take the pressure off of Chinook and Fall Chum.





Spawning Fall Chum near Fishing Branch. Peter Mather

SALMON PARTNERS - THE SPHERE OF INFLUENCE

Salmon travel a great distance, through different countries, in both freshwater and the ocean at different life-stages. This is a very complex environment with many interest groups. Vuntut Gwitchin people are used to this as we have been giving voice to caribou in Washington, D.C., and throughout the world in order to protect the calving grounds and habitat in the Arctic National Wildlife Refuge. Vuntut Gwitchin want to start by building strength within Old Crow and its citizens, then influence outward from there. We recognize there is a need for meaningful collaboration between all governments.

Citizens have spent time identifying all the other parties involved in Salmon management locally, within Yukon, nationally and internationally.

Locally:

- Vuntut Gwitchin Citizens and community members including fishers, youth, Elders, dog mushers, single parents, and families;
- VGG - Natural Resources Staff - Game Guardians, Heritage Staff; the North Yukon Renewable Resources Council.

Domestic/Regional Governance:

- Umbrella Final Agreement/Self-Government Agreements;
- Gwich'in Tribal Council;
- Ni'iinlii Declaration;
- Other Yukon First Nations w/overlapping areas (i.e. Tr'ondëk Hwëch'in);
- Government of Yukon, Environment - Yukon Fisheries & Water Resources;
- Department of Fisheries and Oceans Canada;
- Yukon Salmon Sub-Committee.

International:

- Gwichya Zhee Tribal Council – community of Fort Yukon, Alaska.
- Alaska Department of Fish and Game;
- Joint Technical Committee – Yukon River Panel;
- United States Fish and Wildlife Service;
- Yukon River Drainage Fisheries Association;
- Alaska Tribal – Tanana Chiefs Conference, Yukon River Inter-Tribal Fisheries Council;
- High Seas – North Pacific Anadromous Fish Commission;
- Countries like – Russia, Korea and Japan;
- Yukon River Panel – Pacific Salmon Treaty (Chapter 8), Yukon River Salmon Agreement.



Salmon knowledge holders meeting in Old Crow. Dennis Zimmermann



Robert Kyikavichik and Ben Schonewille tagging Fall Chum Salmon. EDI



Fisheries and Oceans Canada Pêches et Océans Canada

The Vuntut Gwitchin have served as the stewards of the land, animals and fish for time immorial. For generations the traditional ways and knowledge have guided the conduct and interactions between people and Salmon. Fisheries and Oceans Canada is honored to have been invited to work with the Vuntut Gwitchin government to support co-management, research and monitoring of Chinook, Chum and Coho salmon that are an integral component of the Porcupine River watershed and the lifeblood of the Vuntut Gwitchin. Fisheries and Oceans Canada's work with the Vuntut Gwitchin Government is first and foremost founded on, and continues to be informed by traditional knowledge.

Vuntut Gwitchin representatives serve integral roles on the Yukon Salmon Sub-Committee and the international Pacific Salmon Treaty - Yukon River Panel to guide, advance and chart the course for sustainable use of Porcupine River salmon. As a key partner, Fisheries and Oceans Canada continues to work closely with the Vuntut Gwitchin Government to monitor Salmon stocks through several joint-projects including the Porcupine River mainstem and Fishing Branch River programs in order to ensure Basic Needs requirements established in the Vuntut Gwitchin Final Agreement are achieved and Salmon stocks continue to provide for the needs of the Vuntut Gwitchin and the Porcupine River watershed ecosystem.

Although history has shown that change in both distribution and abundance of Salmon over time is inevitable, Fisheries and Oceans Canada remains committed to the long-standing cooperative working relationship with the Vuntut Gwitchin to work together to continue to foster sharing and exchange of traditional knowledge and scientific information to best inform decisions regarding the management, sustainable use and long-term survival of Salmon in the Porcupine River watershed. On behalf of the Government of Canada, Fisheries and Oceans Canada extends our appreciation to the Vuntut Gwitchin for continuing to be leaders in the conservation and wise use of Salmon, lands and resources in the Porcupine River Watershed and we look forward to working with the Vuntut Gwitchin government to support the implementation of the Community-Based Salmon Management Plan.

Steve Gotch
 Director, Yukon and Northwestern BC Transboundary Rivers Area
 Fisheries and Oceans Canada



The Vuntut Gwitchin Government (VGG) and the Yukon Salmon Sub-Committee (YSSC) are partners in managing Porcupine River Salmon, and have been so since the YSSC was formed. We have represented the interests of the VGG and Porcupine River Salmon in the Yukon River Panel processes. Between 2000 and 2005 we sponsored a Habitat Steward in Old Crow as part of our Yukon Habitat Stewardship and Conservation Program. We have partnered with the VGG and North Yukon Renewable Resources Council in holding Salmon related out-reach projects over the years.

We are pleased to have partnered with the VGG in the preparation of the Porcupine River Community-based Salmon Management Plan. We appreciate that the Plan was based on decades of projects conducted in the Porcupine River Watershed by the VGG and their partners. The VGG provided the leadership for this wide ranging program of studies which included Traditional Knowledge, Archival and Scientific/Technical projects.

We now look forward to the implementation of the Plan, and hope to be able to continue to work with the VGG as we move forward.



EDI Environmental Dynamics Inc. (EDI) and VGG have partnered on Salmon research and monitoring projects in the Porcupine River watershed annually since 2004. These projects have included a collaborative approach where EDI's technical team works with the VGG Natural Resources

department to plan, design and obtain funding for Salmon projects that are important to the community and VGG's management of salmon. The projects are completed using a combination of EDI technical resources and local community members with a goal of developing local capacity and increasing knowledge/stewardship in the community. Projects have included research to understand salmon and Salmon habitat within the watershed, stock assessment projects to help with resource management and investigation of issues and potential restoration opportunities. Over the course of the past 15 years this has included over 30 projects that have been successfully implemented to vastly increase the knowledge on Salmon in the Porcupine River watershed. Some examples of projects include:

- Juvenile sampling to better understand rearing and outmigration patterns.
- Telemetry studies for Chinook, Chum and Coho to document and understand spawning distribution of all three species.
- Stock assessment projects to provide in season information on numbers of returning Chinook and Chum. This work has now transitioned to DFO.

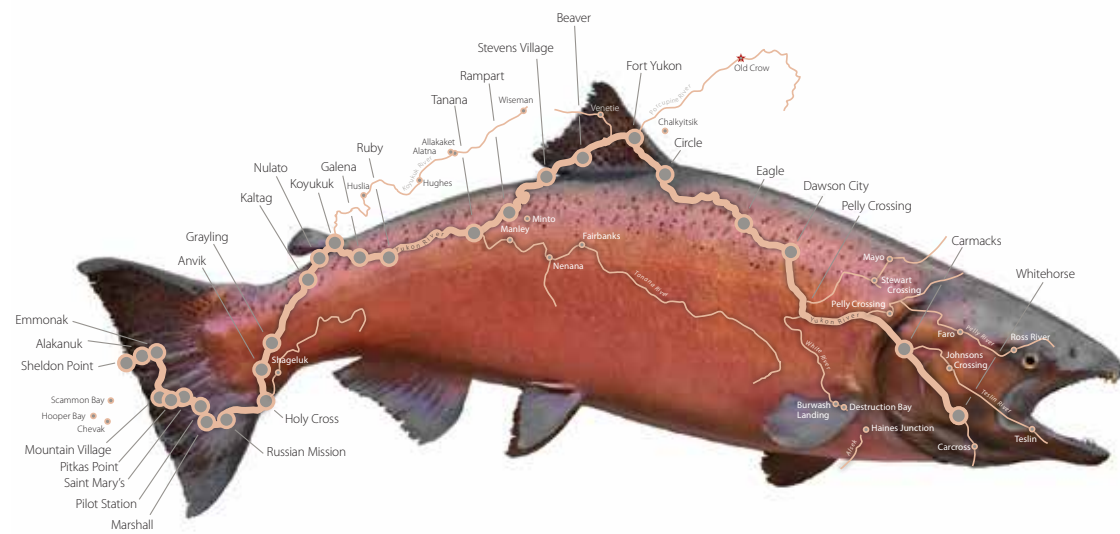
Most recently, EDI and VGG have partnered on a research project at the Fishing Branch River (2013-2018) to understand potential contributing factors to recent low Chum escapement levels in this critical spawning area. This project has furthered the understanding of the spawning habitat in the Fishing Branch and has laid the basis for Chum Salmon restoration in the watershed.

In summary, VGG has gained a significant amount of knowledge on Salmon in the Porcupine River Watershed and continue working with partners to further develop knowledge so they can help make better management decisions and help declining stocks in the watershed. The partnership with EDI on these projects is an excellent example how VGG can leverage available funding and local technical resources to focus on Salmon issues that are important to them.



Vickie Josie setting a net for subsistence on the Porcupine River. Peter Mather

Salmon know no borders



“Everyone should share the salmon and catch only what you need.

My family fishes every season for salmon on the Porcupine River. I started collecting data to share with fisheries managers. I would record

daily catch, weight, length and sex, and see if salmon were getting smaller, and to see how they are looking. I’ll keep doing it. Why not? It doesn’t take much time. While I’m cutting fish I may as well learn more about them.”

*Vickie Josie—Yuntut Gwich’in Citizen, Old Crow **

YUKON SALMON SUB-COMMITTEE

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Some citizens stated that it is important to protect the fish from the mouth of the river in Alaska all the way to the Porcupine River. Citizens believed that there is a direct correlation with what Alaskans do with their Chinook fishery management in the open ocean and in the river. If there were more fishing restrictions in Alaska, there would be more fish in Old Crow. If there were fewer fishing restrictions in Alaska, there would be fewer fish in Old Crow.

There is an even more direct relationship with what happens in Fort Yukon, Alaska. Fort Yukon is approximately 450 km southwest of Old Crow at the confluence of the Yukon and Porcupine Rivers. This is a largely Gwich’in community, with the Gwichyaa Zhee Tribal Council as the local government body. When fishing in Fort Yukon is restricted, there are noticeably more Salmon in Old Crow. It was noted that Fort Yukon residents have been making efforts and have been regulated over the last number of years and that is making a difference in Old Crow. There are three main entrances to the Porcupine River near Fort Yukon, so this is not an easy task to manage.

There are still concerns about commercial fishing in Alaska at the mouth of the Yukon River and in the Bering Sea. The major commercial fishery in Alaska is for Summer Chum, in which Chinook are caught as bycatch. With Chinook Salmon numbers in decline and unstable for decades, there has been a focus in Alaska on harvesting the Yukon River (main stem) Fall Chum. This is challenging for fishery managers on both sides of the border because Porcupine River Fall Chum run with Yukon River Mainstem Fall Chum. It is very difficult to distinguish between the two. Some of our dwindling stocks of Fall Chum are being taken in Alaska when they run with the more plentiful mainstem Yukon River Fall Chum in other parts of the Yukon River.

There is recognition by citizens that others depend on the Chinook, Fall Chum and Coho Salmon. There is also recognition that other communities might, at times, need fish more than Old Crow needs it. Our citizens want to share with others and hope for the same in return. The term **“one river one people”** and **“Salmon know no borders”** has come up in our meetings.



Winter supply of Fall Chum hanging in a smoke house. Darius Elias



Large Porcupine River Chinook Salmon harvested along the Porcupine River. Van Tat Gwich’in Cultural Tech. Project 2010



Mary Tizya and Brianna Tetlich working together cutting fish. Van Tat Gwich'in Cultural Tech. Project 2010

CULTURE

Citizens stated that culture and ceremony around Salmon is essential to this plan. Porcupine River Salmon bring life and need to be respected and celebrated. It is part of the holistic way of looking at a healthy northern ecosystem.

Sharing was repeatedly highlighted as a cultural value that has always been a part of Vuntut Gwitchin life. Participants in meetings state that some citizens have lost sharing as a core value and that, as Salmon become fewer, this value is slowly being forgotten.

Historically, citizens would catch Salmon and share them with others in the community who were in need. One citizen stated that they used to always have Salmon strips to share. Some stated that they don't see as many people making Salmon strips anymore, and thus less sharing.

In the past, people used to fish together and share with others as a means of survival. This is different today, with smaller family units fishing together or individuals fishing. Before there were freezers in the community, people would catch only what the community needed with one or two community nets. The same was done with caribou, which were group-hunted and shared. In modern times this has changed due to people working in the wage economy, advances in technology, people having their own boats and more people being involved overall.

Being at fish camp for part of the summer was a big part of growing up and being Vuntut Gwitchin. The teaching that happened at fish camps with youth was always important. This has changed with citizens having 9 to 5 p.m. jobs in town. They can't be at fish camp for long stretches, as they have to be back at work.

Citizens spoke about how important it is to know how to prepare and preserve fish in order for it to be a quality meal. It must be respected and preserved properly so that it is not thrown out. This skill is not being passed on as much anymore.

Citizens stated that there is a need to elevate the role and respect for Porcupine River Salmon. There are "Caribou Days" in the community but there are no celebrations around Salmon to bring the community together. It was stated that Salmon are life-givers and need to have that status and be honored when they come back for the Vuntut Gwitchin.



Salmon is an appealing source of food for families. Dennis Zimmermann



Smoked Salmon strips are a delicacy. VGG Heritage



Hanna Netro hanging a large Chinook Salmon. Yukon Archives Collection



Esau Schafer, Elizabeth Kaye and Mary Tizya looking at large Chinook Salmon along the Porcupine River. Van Tat Gwich'in Cultural Tech. Project 2010



Jynesta Charlie, Mackayla Kyikavichik and Candace Tetlich boating along the Porcupine River. Darius Elias

YOUTH EMPOWERMENT

Being at fish camp is essential for youth. This is where Salmon values are learned and can be passed on. Youth will have the responsibility to support Salmon, fish camp and Salmon culture for the rest of their lives. It is often stated by Elders that the preservation of culture requires the next generation of youth having a connection to Porcupine Salmon. With the low numbers and the current fishing restrictions this connection is difficult to maintain. One meeting participant stressed that youth also need to be able to eat Salmon and be able to fish for them in order to appreciate it.

Citizens stated that mentorship was a common traditional way that is being lost. Youth were taught by Elders how to fish, set nets, check nets, cut fish, smoke fish, preserve and prepare fish. At fish camp, the family unit needs to continue to pass down the knowledge around Salmon.

Summer fish camps and organized youth programs offered through the school were stressed as an important strategy for keeping youth engaged and involved. The long established *Salmon in the Classroom* program is also a good place to start with young kids and the schools. The program provides general environmental education about Salmon and can assist them in raising Salmon fry in the classroom for release into the river.

One citizen also spoke about the need to not only focus on young kids but young adults as well. Youth often leave the community at 14 years of age to go down south, returning at 17 to 20 years of age to look for employment. There are often not enough jobs for them when they return. We know that if we have little to no Salmon in the Porcupine River we can't teach Salmon knowledge to our children.

There are important life skills around fish camp and Salmon that are important for youth that might lead to future employment and being able to maintain a traditional lifestyle. These skills include mechanics, boat maintenance, boat operations, First Aid, research and wildlife biology. There are jobs in the community with VGG, DFO or Environmental Dynamics Inc. that focus around Salmon sonar projects and fish and wildlife management.



Preparing to back a fish net with Irwin Linklater, Jane Montgomery, Mary Jane Moses, Robert Bruce Jr., Brianna Tetlich, Essau Schafer, and Matthew Keaton. Van Tat Gwich'in Cultural Tech. Project 2010



Alice Frost-Hanberg fly-fishing for Arctic Grayling. Dennis Zimmermann



Youth at Chief Zzeh Gittlitt School in Old Crow participating in the Salmon in the Schools program. Dennis Zimmermann



Dean Kapuschak checking the fish net for the school program. Darius Elias



Michelle Rispin holding a large Porcupine River Chinook Salmon in order to obtain age, sex and length information. EDI

FORT YUKON AND THE GWICHYAA ZHEE

Citizens were very clear that Fort Yukon and the Gwichya Zhee must be recognized in this plan. There was a discussion around a co-management and a joint harvest plan that could be developed with Fort Yukon.

There was a recognition by citizens that more needs to be done in building these relations around Salmon. Citizens stated that working together used to happen traditionally and this was the Gwich'in way. Gwich'in people would travel "over the mountain" and share with other villages. Sharing accords are something that has been done before. It was noted that funding is often difficult to obtain for the Fort Yukon, Gwichyaa Zhee to participate and they don't have the same rights in Alaska that we have in Yukon.

It has been a while since there has been a relationship with Fort Yukon and VGG around Salmon management. Citizens stated that it would be good to have the current generation of youth and leaders connect with Fort Yukon. The time to visit would be when the Salmon are arriving in Fort Yukon. The Vuntut Gwitchin could bring moose meat to share and gifts for their leaders.

SCIENCE

Traditional knowledge from Vuntut Gwitchin citizens that "walks side by side" with western science was an identified outcome from the June 2016 "Porcupine Drainage - Local and Traditional Knowledge Salmon Workshop." Some of the more significant research projects in the Vuntut Gwitchin Traditional Territory include the Porcupine River Sonar and the Fishing Branch Weir project.

Citizens had many questions about what research has been done on Salmon in their traditional territory. Many questions revolved around where the fish are spawning, climate change, sonar "counting projects," the health and condition of the fish, the number of outgoing fry and juvenile migration. Many of these questions can be answered through additional scientific research as well as full consideration around traditional knowledge. There are many gaps in knowledge around Porcupine River Salmon. We will try to fill these gaps them as best we can by working with our research partners and updating the *Porcupine River Watershed Salmon Restoration Plan*. We will also work with our citizens by updating the *Local and Traditional Knowledge Report*.

Citizens shared many observations around climate change and how many things have changed as a result. The river has changed with much more debris floating downriver, higher water levels, rapidly changing river conditions, riverbank erosion and murky water. It was also noted that fish are going to different places, there are more beavers and there are more predators.

Citizens were very clear that there needs to be more work done on understanding Salmon spawning areas and the associated returns from those spawning grounds. Citizens were concerned that there were few projects looking at the juvenile Salmon and looking at how many fish were surviving at various life stages (i.e. egg to fry to juvenile). Predation of eggs and fry is a major concern and focus for VGG research.

When these meetings and workshops happened in 2016 there were many questions about where sonar assessment projects are located. Citizens had some suggestions on additional locations in order to better understand where the Porcupine Salmon are going and how many there are. Other methods for counting fish were shared. These include fish wheels and fish weirs. Overall there was a concern on the part of citizens that there is a great deal of data missing and that harvest management decisions were made before this information was known. It is for this reason that our First Nation has developed the Porcupine River Watershed Salmon Restoration Plan.

Developing and increasing full time and seasonal work opportunities and identify training opportunities is also important for the community's connection to the Salmon.



A Fall Chum salmon is measured at Fishing Branch. Joel Harding, DFO

ACTIVE SCIENCE, RESEARCH AND THE PORCUPINE RIVER WATERSHED RESTORATION PLAN

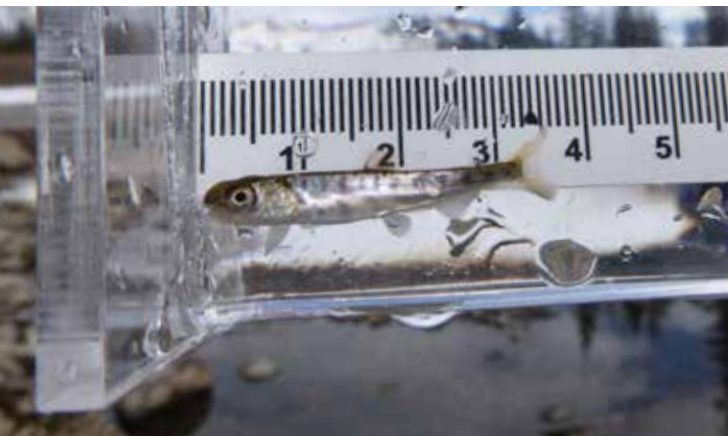
We have always been active in working with western science that “walks side by side” with traditional knowledge. Science provides a way for us to understand what is happening to our fish and our environment in a rapidly changing climate. The associated document, the *Porcupine River Watershed Restoration Plan* describes what we have done, what we are doing and what we wish to do for salmon and the watershed. The principles of the Porcupine River Watershed Restoration Plan include:

1. The Plan must be sufficiently flexible to accommodate climate change related changes to the lands and waters of the Porcupine River watershed;
2. The Plan must be conducted in accordance with the Vuntut Gwitchin Way and include, to the extent possible, downriver Gwich'in communities;
3. The Plan recognizes that VGG cannot implement it alone – we need and welcome those agencies and institutions that wish to work with us.

Some examples of our active scientific projects with our partners includes:

- Old Crow Fall Chum and Chinook Salmon Enumeration Sonar
- Fishing Branch River Weir
- Porcupine River Water Temperature Monitoring
- Fishing Branch River Chum Egg Incubation Trial
- Salmon and Mercury Tracking Project

The *Porcupine River Watershed Restoration Plan* has listed a broad range of over sixty Salmon-specific scientific and technical studies completed since the 1970s.



Collecting age, sex and length information from a Chum Salmon captured at the Porcupine sonar site. EDI

Upstream limit of wetted channel on the Fishing Branch River during the late spring. EDI

Chum Salmon emergent fry captured at the Fishing Branch River in the spring. EDI

OLD CROW IS RESEARCH-FRIENDLY

In 2017 we had 32 different research projects in Vuntut Gwitchin Traditional Territory.

- VGG has a productive working relationship with researchers ensuring the community enjoys the mutual benefits from many advanced research projects.
- Researchers contact VGG before they design their project, as this allows for the maximum community & committee direction and engagement.
- Our research agreement template can be adjusted for projects that have less impact or more impact, such as projects that gather knowledge from citizens.



Moose resting near the Fishing Branch weir. M. Milligan, DFO



Fishing Branch counting weir lit at night. M. Milligan, DFO

BASIC NEEDS ALLOCATION

Specific Provision

16.10.7.1

The Vuntut Gwitchin First Nation shall have the exclusive basic needs allocation of Salmon in the drainage basin of the Porcupine River.

16.10.7.2

Subject to 16.10.7.4, for the drainage basin of the Porcupine River, Government shall allocate the first **750** chinook Salmon, the first **900** coho Salmon and the first **6,000** chum Salmon to the Vuntut Gwitchin First Nation.

16.10.7.3

If a total allowable catch is established for either Chinook Salmon, Coho Salmon or Chum Salmon for the drainage basin of the Porcupine River, Government and the Vuntut Gwitchin First Nation shall make best efforts to negotiate a percentage allocation of the total allowable catch for either Chinook Salmon, Coho Salmon or Chum Salmon in accordance with 16.10.3, which percentage will apply to any total allowable catch established thereafter.

16.10.7.4

Government shall allocate Chinook Salmon, Coho Salmon and Chum Salmon to the Vuntut Gwitchin First Nation pursuant to 16.10.7.2 or 16.10.7.3, whichever is the greater.

HARVEST

Vuntut Gwitchin is a self-governing nation and has constitutional rights to harvest through a basic needs allocation for Porcupine River Drainage Chinook, Fall Chum and Coho Salmon. In fact, our government is one of two Yukon First Nations that has a negotiated basic needs allocation built within our Final Agreements.

Even with our Vuntut Gwitchin rights, there is a real interest in the precautionary principle and we have demonstrated conservation by catching fewer fish.

Today, much of Salmon management focuses on Salmon harvest. However, as stewards, we recognize that harvest management alone will not increase Salmon numbers returning to our waters. There are numerous ways to manage harvest by VGG, for Vuntut Gwitchin citizens. Some management approaches react to how well the run is doing and then change with the run as Salmon come up river towards Old Crow. Harvest management approaches can be very specific to a precise number or range that may change depending on the run strength. A community may take fewer if the run is not good, or may take more if the run is better.

Many citizens in our community and the VGG have advocated for self-regulation or voluntary restrictions. These harvest management options are best implemented with increased communication, education and outreach. Citizens are then informed when they make personal or family harvest decisions.

A large part of harvest management for our Government is dependent on the pre-season run projection and how the run is materializing throughout the summer season. The Yukon River Panel sets an escapement goal for Chinook along the Yukon River that is built into the YRSA. The Porcupine River is special due to the fact that within the YRSA there is a special treaty provision for Fishing Branch Fall Chum. There is an interim management escapement goal in the treaty for Fishing Branch River Fall Chum in the range of 22,000 to 49,000. This is very important as it means we need to work with Alaska and Canada to meet this goal for Fishing Branch.



Vickie Josie getting set for winter and putting up Porcupine River Fall Chum for subsistence needs. Peter Mather

Some of the community-based harvest restrictions being discussed include: releasing live females from nets, using six-inch mesh nets to let the bigger fish pass, using 50-foot long nets to allow for some passages, limiting the amount of time in the water in order to conserve and leaving the last pulse to let them pass.

Some of our citizens have stated that there should never be a closure and that there should always be a fishery for Chinook and Fall Chum on the Porcupine River. This is stated as a constitutional right to harvest. Some also feel this way because there are no upriver communities from Old Crow that need the fish. Old Crow is an isolated community with very high food costs, so a harvest is often seen as essential.

Regardless of the approach, citizens have stated that a harvest plan should be responsive to water levels and temperature on the Porcupine River because fishing conditions can fluctuate a great deal. For example, it can be hard to fish with extreme high water and also with extreme low water. With water levels changing due to climate change, it's generally more difficult to catch fish.

Salmon knowledge holders spoke about how harvest was traditionally managed. Traditionally every family used dip nets and fish traps to catch what they needed. These tools also allowed them to selectively harvest Salmon.

Citizens have stated that selective harvest, or being specific about which fish are caught and kept, could be considered when regularly checking a net at camp. For example, this may mean releasing females and larger fish and management around pulses of fish that are coming up the Porcupine River.

It was explained by supporting agencies and VGG staff that it is not only about the number of fish that are being caught but the quality of the fish as well. The quality of fish includes the sex ratios (male/female) and the size and age of the fish. For example, it is beneficial to live release the spawning females only if people can check nets during the week, or if they can be on their nets regularly. With regard to females, local knowledge holders suggested that there are a great deal of females on the second pulse and fishers should either pull the net in response or be on the net when in the water.

Some citizens have stated that it is important to manage net sizes to make sure that females and the big ones are not always being caught. Science and traditional knowledge from Vuntut Gwitchin citizens should inform this.

Other observations at the meetings included that after the first pulse goes by, the big whitefish come. This is a species that is under-harvested and could be fished after the first pulse goes by. One citizen stated that they are shifting their harvest to whitefish in order to take the pressure off of Chinook.

There was a great deal of discussion about what level of enforcement is required to manage citizens and be accountable and transparent to citizens and the VGG. Some citizens felt that there needs to be strict enforcement and others wanted less enforcement.

Some additional thoughts by citizens included that if numbers are so low limits might only one or two Chinook per person. In this case, citizens asked what was the point and why not just close it? Other citizens pointed to Vuntut Gwitchin treaty rights and the guarantee of a certain amount of Salmon through basic needs allowance.

Citizens brought forward the notion of creating designated spots for fishing and setting household limits that are shared. This could be done formally (regulated) or informally (unregulated) as a sliding scale of number of fish depending on how the Salmon are doing.

Those who favoured more regulation and enforcement suggested that the VGG could be proactive with registered fishing, fishing nets, number of nets, mesh size limit, and set fishing time. There were questions as to who will pay for the enforcement and implementation of community-based Salmon management. Citizens stated that game guardians could play an important role.

The need for in-season Salmon harvest data in-season was discussed by citizens. Most of the information comes before the season starts and is only an estimate. It takes a while for the Salmon to be counted in Alaska and this does not allow a great deal of time for our Government and fishery managers to prepare the community. In order to make informed decisions on numbers there would need to be regular harvest data reporting by fish camps, families or individuals.

There were specific suggestions for a Fall Chum harvest. It was stated that the first run should be highly regulated with no time limit for harvesting Fall Chum for human consumption, and that the last run have no limit until the ceiling is hit for dog mushers. There could also be fishing between the various pulses. These are considerations for the VGG to discuss with council and the community in the development of the community-based Salmon Plan.



Elizabeth Kaye guiding Brianna Tetlich through cutting Whitefish.
Van Tat Gwich'in Cultural Tech. Project 2010



Joel Peter and Peter Tizya with Old Crow school children and a large Chinook Salmon.
VGG Heritage - Hamilton Collection

ACKNOWLEDGEMENTS

We want to acknowledge our Elder's traditional teachings, community member's voluntary precautionary stewardship approach, the youth, the Vuntut Gwitchin Government, Natural Resources staff that worked on this, our partners (such as Fisheries and Oceans Canada, Yukon Salmon Sub-Committee, North Yukon Renewable Resources Council, and Alaska Department of Fish and Game, Yukon River Panel and Al von Finster).

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SUGGESTED REFERENCE FOR THIS REPORT:

- Vuntut Gwitchin Government and Dennis Zimmermann, Big Fish Little Fish Consultants (2019). The "Vuntut Gwitchin Way" Porcupine River Community-Based Salmon Plan.

Document Design: Bird's Eye Design

CHINOOK - *tuk choo*

COHO - *nèhdlii*

CHUM - *shii*

FISH NET - *chihvyàh*

FISH CAMP - *tuk deek'it tr'agwich'ii*

WHITEFISH - *tuk dagaii*

FISH EGGS - *tuk k'yù'*

BROAD WHITEFISH - *chihshòo*

DRY FISH - *tuk gaii*

FISH FIN - *tuk gyù'*

FISH GUTS - *ch'its'igighòo, tuk ts'ik*

FISH HEAD - *tuk chì'*

FISH HOOK - *jat*

FISH SCALES - *tr'ahgyùu*

FISH SLIME - *tuk tl'ùu*

FISH TAIL - *tuk chi'*

FISH TRAP - *k'oo*

FISH WHEEL - *tr'il*

LARGE FISH NET NEEDLE - *chihvyàh v&ah di'ke'tr'ahchuu*

SMALL FISH NET NEEDLE - *vah chihvyàh tr'itl'uu*