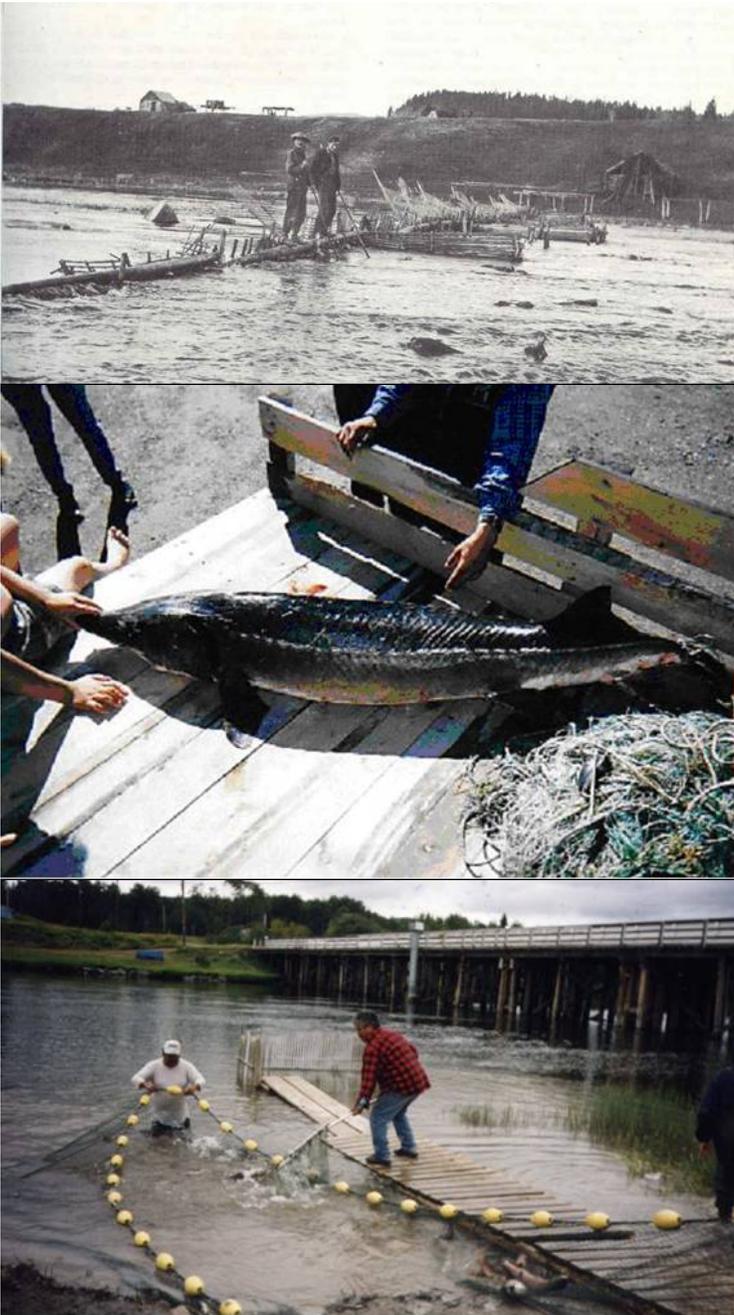


Working towards harm reducing and selective fishing methodologies for Carrier First Nations within the Nechako River watershed



Prepared Through Funding Assistance From The:



2005/06 Habitat Stewardship Program



Canadian Wildlife Service

Prepared By The:



Carrier Sekani Tribal Council

**2nd Floor, 1460 Sixth Ave.
Prince George, B.C.
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CSTC Overview

The Carrier Sekani Tribal Council (CSTC) is an administrative, political and technical organization representing and supporting its' 8 affiliated member First Nation Communities. These include the communities of the Saik'uz First Nation, Nakazdli First Nation, Tl'azt'en First Nation, Nadleh First Nation, Burns Lake Band, Stelat'en First Nation, Takla Lake First Nation, and Wet'suwet'en First Nation. The Carrier Sekani Tribal Council's office is based in Prince George. With the exception of the Wet'suwet'en First Nation, all CSTC communities are situated within the Nechako River watershed. The Carrier Sekani Tribal Council is mandated to work to:

- Preserve and promote the Carrier & Sekani heritage and identity
- Improve the social and economic independence of Carrier & Sekani people
- Achieve a just resolution of land claims and aboriginal rights issues for Carrier & Sekani people
- Promote better understanding between First Nations people and the general public
- Advance and improve the standard of living of the Carrier & Sekani people
- Promote self-government for Carrier & Sekani people

We are governed by a Board of Directors who are the Chief Councilors from each member First Nation. We are led by an elected Tribal Chief and Vice-Tribal Chief. Our operations are carried out by a professional staff of 26 full-time personnel. Our objective is to help our Member Nations achieve self-reliance through the delivery of support services in the following areas; economic development, financial management, first nation community management and planning, technical services, education, and natural resources. We also assist our Member Nations in their collective effort to secure their rights to their traditional lands and resources. To further the work we do, we maintain political affiliations with the Assembly of First Nations and the First Nations Summit.

The Carrier and Sekani First Nations that occupy the area of the Nechako basin have historically utilized a diverse range of both resident and anadromous fisheries resources, including the white sturgeon, for a sustenance and economic base. Today however, very few sturgeon are harvested from the Nechako system, and those that are harvested are the result of by-capture during sockeye salmon or char gillnet fisheries. However, white sturgeon continue to be important to the Carrier people, both as a cultural symbol and as an environmental indicator. The Carrier peoples' past and continued reliance on the natural environment surrounding them brings with it an inherent desire to contribute to the conservation and health of this environment and all species that contribute to its' diversity.

Acknowledgements

This work was funded through the Habitat Stewardship Program for Species at Risk (HSP) through Environment Canada's Canadian Wildlife Service. Without their support this work would not have been possible. Alan Charbonneau, A/Resource Mgr., Fisheries and Oceans Canada, B.C. Interior North, and Lisa De Goes, Regional Coordinator, Stewardship and Community Involvement, Habitat & Enhancement Branch, Fisheries and Oceans Canada (Vancouver B.C.) administered funding between HSP and the Carrier Sekani Tribal Council (CSTC). Margo French (CSTC Community Liaison), Brian Toth (CSTC Fisheries Program Biologist) and Sharolise Baker (Fisheries Program Manager) all contributed to the materials developed for outreach purposes and participated in project delivery. CSTC Community Fisheries Liaisons (CLs) and Catch Monitors (CMs) provided assistance in organizing community forums and were the central to promoting harm reduction. They included:

- Judy French (Takla CL & CM)
- Violet Kennedy (Stellat'en CL & CM)
- Ryan Tibbitts (Burns Lake Band CL & CM)
- Reg Ogen (Wetsuweten CL & CM)
- Robert (Bob) Antoine (Nakazdli CL) and Sandra Joseph (Nakazdli CM)
- Albert George Saikuz (CL & CM)

Assistance from other individuals in CSTC communities [Jim Webb (Ti'azt'en Fisheries Program Manager), Scott McIntosh (Saik'uz), Brian Ketlo (Nadleh)], who assisted with the collection of information with respect to fisher/sturgeon interactions was appreciated. The assistance and participation of all of those who made this important endeavor a success is appreciated.

Executive Summary

From April 2005 to March 2006 several technicians from the Carrier Sekani Tribal Council (CSTC) conducted numerous outreach meetings with First Nations communities situated within the Nechako basin. The focus of these sessions was the distribution of information to these communities, and specifically First Nations fishers, regarding the status and plight of the Nechako sturgeon, the ongoing recovery initiative activities, and the role First Nations are playing within this process. Tools were developed and applied during these sessions to directly and indirectly facilitate fishing methods that would reduce the potential for harming sturgeon. Further, information sharing protocols were developed with community catch monitors and fishers to report information regarding encounters with sturgeon. Additionally, efforts to transition existing non-selective gillnet fisheries for sockeye towards more selective means were completed, including the development of a policy to facilitate the transition toward selective fisheries.

The white sturgeon in the Nechako watershed have been identified as a genetically unique stock. It has been documented that the stock has been suffering from a severe recruitment failure since the 1960s, resulting in a rapidly diminishing population of nearly exclusively older fish. The Nechako stock, and all other white sturgeon, have been designated as Endangered by the COSEWIC, and may potentially be added to Schedule 1 of the Species at Risk Act in the near future. One of the remaining direct sources of human-caused mortality on the Nechako stock are non-selective First Nations Food, Social and Ceremonial (FSC) gillnet fisheries for sockeye salmon. Reducing the remaining direct sources of mortality on this stock was identified as a Priority 1 activity within the recovery plan developed for this population.

Activities undertaken in 2005 and early 2006 have been largely successful in furthering communication between the CSTC and its member and non-member communities within the Nechako watershed regarding the plight of the Nechako sturgeon. Reporting related to sturgeon encounters has improved. There is support for the development of selective means of sockeye harvesting, and a pilot-scale fishery on the Nautley River demonstrated substantial success. It was evident that a comprehensive policy to guide the planning, implementation and management of selective fisheries was required, which has been initiated. Recommendations for further

outreach-related work and harm-reducing selective fishery development have been developed.

Introduction

Originating from the eastern aspect of the Coastal Mountains in Tweedsmuir Provincial Park, the Nechako River flows east to Prince George where it joins the Fraser. An earthen-fill dam (Kenny Dam) was erected on the system in the 1950s, significantly altering aspects of the Nechako's flow patterns. The Stuart watershed is the largest tributary to the Nechako River, with a watershed area of approximately 15,600km², and is unregulated. Biogeoclimatic zones within the basin area are dominated by Sub-Boreal Spruce (SBS) in southern portions and Engelmann Spruce Sub-Alpine Fir (ESSF) in northern areas (Hickey et al. 1997).

The streams and lakes of this system support a diverse array of resident and anadromous fish stocks including coho (*Oncorhynchus kisutch* - Endangered Interior Fraser stock), sockeye (*Oncorhynchus nerka*), chinook (*Oncorhynchus tshawytscha*), rainbow trout (*Oncorhynchus mykiss*), bull trout/char (*Salvelinus confluentus*), lake trout/char (*Salvelinus namayucush*), lake whitefish (*Coregonus clupeaformis*), mountain whitefish (*Prosopium williamsoni*), burbot (*Lota lota*), kokanee (*Oncorhynchus nerka*), and white sturgeon (*Acipenser transmontanus*), as well an array of non-sport fish species.

First Nation communities that occur within the Nechako basin or possess Territories that are comprised of a portion of the area include the Lheidli T'enneh, Yekooche, Saikuz, Nak'azdli, Tl'azt'en, Takla, Stellat'en, Wet'suwet'en and Burns Lake First Nations. Of these, the latter 7 are members of the Carrier Sekani Tribal Council based in Prince George. The Skin Tyee, Cheslatta and Nee-Tahi-Buhn First Nations also occur within this watershed.

Industrial development within the basin is dominated by agriculture and forestry, with development occurring throughout the vast majority of the watersheds that drain into the basin (Hickey et al. 1997). Additionally, the area is heavily utilized by B.C residents for the purposes of recreational angling and hunting. The First Nations within the basin rely heavily upon the fish, including resident and anadromous stocks, and wildlife of the area for sustenance purposes.

Until approximately 1910, First Nation's within the Nechako watershed utilized an intricate system of weirs to selectively harvest returning sockeye salmon and other fish species. The success of this system of selective terminal harvest is evident in its historical support of human populations that were far in excess of what presently reside in the central interior, as well as its support of an extensive trade system that spanned the entire province. The sustainability of this system is evident in its establishment for thousands of years. Early in the 20th century, this weir system, thought to be a detriment to the mixed stock commercial fishery being established on the coast, was outlawed and First Nations were subsequently ordered to utilize gillnets as a means of harvesting (Roos 1991). This decision continues to have consequences for fisheries resources throughout B.C.

Background

The white sturgeon within the Nechako River have been assessed over the last several decades (Dixon 1986; RL&L 1996, 1997, 1998, 1999 & 2000a). Works by Dixon (1986) and subsequent investigations into the Nechako white sturgeon populations by RL&L Environmental Services (*now* Golder Associates Ltd.) between 1995 and 1999 identified a number of issues with regards to this population, the most notable of which was the fact that the population had been receiving negligible levels of juvenile recruitment for several decades (RL&L 2000b). Similar white sturgeon assessment work conducted throughout the Fraser River watershed over the same general time period resulted in the identification of at least four genetically distinct stock groupings that reside within geographically bounded portions of the watershed, including the lower, middle, and upper Fraser, and Nechako (Nelson et al. 1999; Pollard 2000; Smith et al. 2002).

Subsequent to the conclusion of RL&L's work on the Nechako in 1999, the Ministry of Environment, Lands and Parks (*now* Ministry of Water, Land and Air Protection-MoWLAP) initiated a recovery planning process for the Nechako sturgeon stock. This *Nechako White Sturgeon Recovery Initiative* (NWSRI) parallels similar recovery planning processes implemented on the Columbia and Kootenay rivers, where sturgeon populations within these regulated systems have also experienced recruitment failures (Golder 2003). The NWSRI Recovery Team produced a Recovery Plan for the Nechako White Sturgeon (Golder 2003).

The population of white sturgeon within the Nechako are presently “red listed” or considered “critically imperiled” by the BC CDC (2002), inferring that this unique stock is facing imminent extirpation without intervention. More recently, the Committee On the Status of Endangered Wildlife In Canada (COSEWIC) has designated all white sturgeon populations within Canada as Endangered. This “listing¹,” if accepted by the Canada’s Minister of Environment, may lead to white sturgeon being added to Schedule 1 of the *Species at Risk Act* (SARA). SARA includes components that may result in forced alterations to the manner in which activities in and about a stream are managed. This will include First Nations activities, including constitutionally protected rights to conduct fishing activities.

In 2000 it was estimated that the Nechako sturgeon population would approach an overall mean age and size (i.e. numbers) whereby, due to diminishing reproductive potential and effective population size, the recovery of the stock would not be possible by 2020 (Korman and Walters). This analysis did not consider what is now known to be the additional substantial mortalities incurred in the First Nations food fishery. As well, First Nations’ food fishing nets target sturgeon in the 1-2.5 meter range (large fish tear their way out of the nets) and are therefore harming the most reproductively viable portion of the population.

Recognizing the detrimental impact of the existing state of FSC sockeye fisheries, the CSTC initiated community outreach efforts through the Habitat Stewardship Program in 2004. These outreach efforts included an initial assessment of the challenges and opportunities related to the alteration of existing sockeye harvesting methods to more selective means (CSTC 2005). Both components of the work were continued in 2006.

Purpose

By-catch and mortality of white sturgeon during First Nation’s gillnet fisheries for sockeye salmon and resident species is the remaining direct anthropogenic source of mortality on the Nechako population. This project was intended to work towards reducing by-catch of non-target² species, primarily white sturgeon, and related sources of mortality on white sturgeon

¹ A decision with respect to the addition of White Sturgeon to Schedule 1 of SARA is expected in 2006.

² Nechako First Nations, as well as all Fraser First Nations, have voluntarily complied with a 1994 “agreement” to not direct harvest effort on white sturgeon, and to release incidentally captured white sturgeon when possible.

within the Nechako drainage. Reducing by-capture and potential sturgeon mortalities will assist in the maintenance of the most important portion of this Endangered population, and increase the potential of its eventual recovery.

One of the “Priority 1” Recovery Activities identified within the recovery plan for the Nechako sturgeon is to “protect existing sturgeon stock using available regulatory mechanisms and planning processes.” The education of First Nation fishers with respect to the safe release of sturgeon was identified as an action to be continued. As well, the CSTC recognizes that the existing gillnet-based food fishery inherently holds some threat to the stock, and there is a desire to reduce that threat.

Objectives

The broad objectives of this project entailed outreach-education with First Nation fishers regarding the plight of the Nechako sturgeon, the Nechako White Sturgeon Recovery Initiative, the impact of First Nation fisheries on this stock and available methods of harm reduction and selective fishing. More refined objectives of the work were as follows:

1. Reduce and eventually eliminate mortality of white sturgeon resulting from First Nations gillnet fisheries.
2. Ensure all desirable information possible is collected from white sturgeon (released and harvested) during First Nations fisheries in the Nechako watershed.
3. Monitor the impact of the food fishery on the sturgeon population.
4. Assess the plausibility and feasibility of developing and implementing completely selective food fishing mechanisms (i.e. community desire and/or acceptance, plausible methodologies, site locations, logistics).

Activities

Core activities that were implemented in relation to the objectives above included the following:

1. Delivery of a power point presentation to First Nation and non-First Nation forums explaining and describing the plight of the Nechako white sturgeon and the ongoing recovery process.

2. Delivery of the presentation to each CSTC community with significant FSC sockeye fishing activity in the Nechako basin on several occasions (Nadleh, Nak'azdli, Saikuz, Tl'az'ten, Takla, Stelat'en).
3. Providing fishers with actions/mechanisms to reduce harm to by-captured sturgeon when gill netting.
4. Development of protocols with fishers and individual community catch monitors to record specific information regarding sturgeon encounters and mortalities for the purposes of having the information reported back to the CSTC fisheries program.
5. Providing community catch monitors with required materials and training to collect relevant information from any captured sturgeon.
6. Conducting periodic outreach visits to First Nation communities to assess fishing activity throughout season (May-October).
7. Assessing the feasibility and plausibility of implementing completely selective sockeye food fishing methodologies.
8. Implementing pilot-scale selective FSC fisheries.
9. Developing policies and guidelines to facilitate community support for and the effective implementation and management of selective fisheries.
10. Completion of this report summarizing activities and results and recommendations for further work.

Project Results

It was intended that this proposed initiative would work to reduce by-catch of non-target species, such as white sturgeon, within the Nechako drainage through four primary means:

1. Educating First Nation fishers regarding the plight of the Nechako sturgeon

2. Disseminating the objectives and activities of the Nechako White Sturgeon Recovery Initiative, and First Nations' role in the initiative
3. Highlighting the potential impact of First Nation fisheries on this stock
4. Describing available methods of harm reduction and selective fishing

To these ends, appropriate informational/educational materials were developed, and several outreach sessions were held.

Materials

Activities related to this initiative were initiated in April of 2005 and continued into March of 2006. The presentation (Power Point) developed for the purposes of the outreach component of this work is provided in Appendix 1. Further, general informational handouts and information kits for community catch monitors were assembled and posters describing the purposes of the outreach work were prepared (Appendices 2, 3 and 4 respectively). Ensuing discussions following outreach presentations included the description of procedures for freeing captured sturgeon from gillnets in the most harmless manner, and other aspects of fishing activities that can be altered to reduce the potential for sturgeon by-catch and harm. Additional presentation were developed in 2005 for the purposes of furthering outreach objectives and developing a selective fishery policy (Appendices 5 and 6).

Outreach Activities

Outreach activities were initiated in April of 2005 and continued until March of 2006. Outreach sessions included the presentation of the Power Point Presentation developed specifically for this program and the distribution and discussion of the other materials developed. Attempts were made to attend all functions where the target First Nations audience would be in attendance and focus on opportunities with groups of fishers and youth. Meetings attended/outreach sessions are outlined in the table below.

Table 1. Dates, locations and subject matter at outreach sessions attended (2005/06).

Date	Place	Attended By	Purpose
April 4-6, 2005	Prince George – CSTC office	S. Baker, M. French	All clans gathering and youth conference (presentations on SARA, Sturgeon, and SLLP)
May 29-31, 2005	Takla	S. Baker, M. French	Takla AGA (Fisheries Presentations)

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Date	Place	Attended By	Purpose
June 15-16, 2005	Fort St James	M. French	Nak'azdli AGA (Fisheries Presentations)
June 27, 2005	Vanderhoof	S. Baker	NWSRI community consultation forum
July 5, 2005	Prince George – CSTC office	B. Toth, M. French, S. Baker S. Ratko, D Southgate	Meeting with DFO catch monitoring staff regarding CSTC catch monitoring program and additional funding requirements
July 12-14, 2005	Burns Lake	M. French	CSTC – AGA (Fisheries Presentations)
July 27, 2005	Prince George – CSTC office	R. Elson, A. Charbonneau, S. Baker	Meeting at CSTC office regarding enforcement/conservation issue at Nak'azdli and outline options
July 27, 2005	Vanderhoof	M. French	Attendance to organized press/community function regarding release of cultured sturgeon (providing information about CSTC outreach activities)
July 28, 2005	Nak'azdli	M. French	Meeting regarding illegal net setting and conservation issues
August 2, 2005	Stellat'en and Saik'uz	M. French	Sturgeon protocol upkeep and outreach
August 5, 2005	Nadleh Office	B. Toth, S. Baker	Meeting with Nadleh Chief and Council and Band manager regarding HSP project and catch monitoring issues
August 4-5, 2005	Nak'azdli, Ti'azt'en, Takla	M. French	Sturgeon protocol review and outreach presentations
August 9, 2005	Nadleh	B. Toth	Attend Nadleh in response to report of captured sturgeon and collect samples from fish; protocol upkeep
August 11, 2005	Nadleh	B. Toth, S. Baker	Attend meeting in Nadleh (1130) and met with Sharolise and Nadleh Chief and Council and Band manager regarding HSP project and catch monitoring issues
August 17, 2005	Nadleh	B. Toth, S. Baker	Coordination of selective fishery equipment and logistics and completion of test sets with volunteers
August 18, 2005	Nadleh	S. Baker	Continuation of test fishery coordination and outreach / protocol activities
August 22-28, 2005	Nadleh	S. Baker	Preparation for (hiring, equipment and volunteer organization) and implementation of selective fishery
August 29-31, 2005	Nadleh	S. Baker	Continued implementation and

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Date	Place	Attended By	Purpose
			coordination of selective fishery
September 1, 2005	Nadleh	S. Baker	Meeting with Nadleh Chief and Council regarding selective fishery issues, including reporting protocol and general outreach
October 13, 2005	Prince George	B. Toth	Attend NWSRT meeting regarding review of projects completed in 2005 and planning for upcoming year; priority tasks and potential funding sources; proposal development
December 13-14, 2005	Vancouver	B. Toth	National white sturgeon recovery team meeting
January 19, 2006	Prince George DFO office	B. Toth, L. De Goes, T. Chestnut	Meeting at DFO office regarding HSP proposal and CSTC's relation to the sturgeon recovery process and future potential proposals
February 13-14, 2006	Prince George MoE office	B. Toth	Nechako white sturgeon RT meeting regarding updates on status of 2005 work, and proposals for further outreach / harm reduction work in 2006
March 1, 2006	Tachie	B. Toth. M. Shepert	Meet in Tachie with TI'azt'en and Nakazdli members regarding sturgeon presentations and selective fishery policy development; protocol upkeep
March 3, 2006	Saikuz	B. Toth. M. Shepert	Meet in Saikuz regarding sturgeon presentations and selective fishery policy development; protocol upkeep
March 10, 2006	Stellat'en	B. Toth. M. Shepert	Meet in Stellat'en regarding sturgeon presentations and selective fishery policy development; protocol upkeep
March 13, 2006	Prince George CSTC office	B. Toth	Meeting with Takla representatives regarding sturgeon presentations and selective fishery policy development

Reporting Protocol

Attempts were made to maintain reporting and communication protocols with Community Liaisons and Catch Monitors (sometimes the same individual within a community fulfills both roles) within each of the six relevant First Nation communities. This individual was provided with the "sampling package" and the biologist and/or technician attending provided a brief

training session on the collection of the desired information using the directions provided. Feedback was received from the catch monitors in all 6 target communities, and CSTC staff were notified on several occasions throughout the summer/fall with respect to observations and concerns.

A total of 21 reports of white sturgeon being by-captured during sockeye gillnetting activity were provided (Table 2). Four of these sturgeon were reported as being killed as a result of by-capture, with the remainder being released unharmed. Information regarding the sizes of the sturgeon encountered indicated that they were all adults. Samples from the mortality reported in Nadleh were collected and provided to the Province. Samples were collected from 3 of the sturgeon mortalities that were associated with the Tlazt'en FSC fishery but were inadvertently disposed of when a freezer broke down. None of the fish by-captured were reported to be tagged in any manner.

Table 2. A summary of FSC fishery-related encounters with white sturgeon reported in 2005.

Community	Reporting Protocol	Sturgeon-Fisher Interactions
Nadleh	Nadleh is not a signatory to the CSTC AFS Agreement, making the ability to receive regular catch monitoring difficult. Improvements are required in this regard.	Reports indicated that 4-5 sturgeon were encountered during FSC fishing in the Nechako River at the confluence of the Nautley River and in Fraser Lake. One sturgeon was killed and samples were collected and provided to MoE.
Stellat'en	Most FSC harvesting occurs selectively in conjunction with the sockeye enumeration fence.	Some harvesting occurs in Fraser and Francois lakes No reports of sturgeon encounters were received.
Saik'uz	Catch monitoring information was collected and provided regularly.	Two sturgeon were encountered in the Nechako River near Finmore. Both were adults and were released unharmed.
Nak'azdli	Catch monitoring information was collected and provided regularly.	One report of a sturgeon encounter was provided from the vicinity of the Stuart River outlet. It was unclear if this fish was killed or released.
Tlazt'en	Tlazt'en's fisheries program operates autonomously from CSTC. Information regarding sturgeon encounters was provided as a function of this HSP project.	A total of 14 sturgeon encounters were reported. These were all encountered during FSC activities in Stuart Lake. A total of 3 sturgeon were killed.
Takla	Catch monitoring information was provided regularly.	No reports of sturgeon encounters during FSC harvesting activities were reported. It should be noted that this is largely a reflection of the conservation closure on

		early Stuart sockeye in 2006, which is the only Fraser stock that this community has opportunity to harvest
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In general, the reporting of information from the community catch monitors / community liaisons was much improved. This, in combination with fisher's increasing comfort levels for reporting information, is believed to account for the increase in the reported number of sturgeon being encountered. There is no known reason to believe that either a substantial increase in the number of individuals participating in the fishery, or that their fishing effort increased, relative to previous years.

One interesting observation from the local community was that an increased number of encounters were seen in Fraser Lake in 2005. This was suggested to result from the higher than normal flows in the Nechako River (during the summer of 2005), which increased the level/stage of the Nautley River, possibly making migration to Fraser Lake more suitable. This information has been passed on to the Recovery Team.

Selective Fishery Transition

One of the objectives of this work in 2005 was conducting a pilot-scale selective sockeye fishery, in a continued effort to assess the feasibility of establishing selective harvesting methodologies for First Nations food fisheries for sockeye. Information gathered in 2004 indicated that there was some support for this transition, and several suitable sites for selective harvesting methodologies were identified (CSTC 2005).

Pilot-Scale Selective Fishery

Among the suitable selective fishing sites identified in 2004 was the Nautley River. This site allows for the selective harvesting of both Nadina and Stellako sockeye stocks. It meets several criteria that make it a suitable selective fishery site in that it allows either weirs or seine fisheries to occur, it provides vehicle access and is in direct proximity to the infrastructure of the community of Nadleh, it is a site that is still commonly used for harvesting, and occurs within an area where sturgeon by-catch is an ongoing issue (CSTC 2005).

Several meetings were held with the Nadleh Chief and Council and Band administrators in 2005 to convey the CSTC's intended objectives in relation to the planned selective fishery. Their consent to conduct the fishery was provided pending suitable information relating to in-season run strength was

provided and conservation concerns were addressed. This information was provided via DFO's stock assessment and management personnel and the Fraser River Aboriginal Fisheries Secretariat (FRAFS) stock coordinator.

- The fishery was initiated on August 17th with two test sets completed with volunteers. A total of 46 sockeye were harvested.
- The fishery continued on August 18th –
- Personnel were identified and hired and the fishery continued August 22-28 –
- The fishery continued August 29-31 –
- A meeting was held with the Nadleh Chief and Council on September 1 to discuss concerns that were being expressed by some members of the community and the decision was made to terminate the fishery.

Harvested sockeye were distributed to elders within the community of Nadleh as a priority, and later to other Nadleh residents. Numerous non-target sport and non-sport species were released unharmed during the fishery, but records were not maintained. Volunteer participation in combination with the hired personnel was sufficient to operate the seine and deal with fish distribution. Community support for this type of communal selective fishery was evident and the site lends itself well to a selective seine fishery.

However, while political support for this fishery was conveyed, it was evident during the fishery that not all individuals within the community were supportive of this activity. Substantial opposition was expressed by some individuals that led to weakening political support and the selective fishery was discontinued much sooner than was intended.



Beach seined sockeye on the Nautley River.

Policy and Guideline Development

The issues that arose in 2005 in response to the planning and implementation of a selective sockeye fishery made it apparent that a comprehensive policy and associated guidelines were required to facilitate this process in the future. Funds that were intended to be utilized for the purposes of conducting a larger-scale pilot selective fishery in 2005 were refocused on this process. Marcel Shepert was contracted to complete the development of a policy paper on this issue, including a draft policy and guidelines that could be utilized to facilitate selective fisheries in 2006.

It was determined that in order to achieve community buy-in for any such policy and the transition toward selective fisheries, this process should be initiated in the communities. Open forums were held in several communities (see Table 1 above). A technical presentation on Nechako/Stuart sturgeon, SARA and the rationale for the transition to selective fisheries (see Appendix 5) was provided, as well as a presentation on why a selective fishery policy was required (Appendix 6), including several direct questions that were posed to the audience in the hopes of inciting discussion on the matter. Feedback was recorded for later consideration for incorporation into the policy document. The document was developed from December 2005 – March 2006.

The selective fishery policy document (Appendix 7) provides the following:

1. A summary of the status of the Nechako/Stuart white sturgeon population
2. A summary of the impacts of the existing FSC sockeye fisheries on the remaining population and its implications
3. A summary of the SARA and other relevant legislative instruments applicable to this situation, and how they impact FSC fishing rights
4. A review of the outreach and harm reduction efforts that have been undertaken in the last 2 years
5. Suggested policies that would be required related to the planning, implementation and management of selective fisheries, including a draft scenario-schematic of how this may occur.
6. Aspects of selective communal fishery management that would require guidelines, and associated draft guidelines.

Community Response

Community response to the prospect of transitioning to selective communal type fisheries was not highly negative. All agreed that this was a return to traditional practices of fishery management. Negative perceptions and opinions did exist in all communities in relation to the following:

1. It was felt that although First Nations had not contributed to the demise of the white sturgeon, their constitutionally protected rights had the potential to be most directly affected by this issue.
2. It was felt that there should be financial compensation for the loss of the ability to harvest and consume sturgeon. It was felt that this was clearly a case of government mismanagement of the resource.
3. The federal government should provide the resources that would allow any required change in fishing practices to be developed and implemented.
4. It was felt that this transition would be difficult given many people's reliance on what has become the prevalent method of food fish harvesting.

These issues should be considered when conducting future outreach and harm reduction work.

Conclusions and Recommendations

Nechako First Nations have become generally well adapted to harvesting sockeye with gillnets since their imposition approximately 100 years ago. Gillnets are a nonselective means of capturing sockeye and are evidently impacting non-targeted species. Gillnet catch-success is abundance based, meaning that reduced sockeye presence leads to increased effort and inherent increases in by-catch. In recent years the trend has been for decreasing sockeye abundance, particularly in the Stuart system, which has likely seen a significant increase in the potential for by-catch of sturgeon and other species. If these trends continue, impacts to resident stocks will become more threatening.

The Federal Minister of Environment is required to make a decision with respect to the addition of white sturgeon to schedule 1 of SARA in 2006 (expected August 2006). The inclusion of Nechako white sturgeon as Endangered under Schedule 1 of the *Species at Risk Act* will necessitate an "Allowable Harm Assessment (AHA)," which shall dictate which activities that pose a potential threat to sturgeon can continue under the authority of an "Incidental Harm Permit." This assessment will include the determination of the level of risk that First Nations FSC fishing activities pose to the recovery of Nechako stock, and has the potential to partially or completely limit non-selective fishing activities. Information collected in 2005 indicates that First Nation FSC fishing activity in the Nechako basin can have large-scale impacts on the remaining sturgeon population. In anticipation of this AHA process, Nechako First Nations, in partnership with the Federal government, should continue to take the lead in pursuing harm reducing alternatives.

Outreach activities should be continued in 2006 and be further integrated into the CSTC's fisheries program as a core activity. In preparation for the AHA, a focus should be applied to strengthening the communication protocol between Community Liaisons/Catch Monitors and CSTC fisheries program contact staff.

Utilizing the policy and guidelines developed in 2005, a planning process should be initiated early in 2006 for the purposes of attempting the implementation of a larger-scale selective FSC sockeye fishery in 2006. The policy document provides a draft process-scenario as to how the process of planning for selective fisheries can function in a community driven environment, while being coordinated by the CSTC, and providing a balance

between the required technical input and political process. The establishment of body to initiate such a process should be a priority.

Funding to continue the pursuit of these issues and activities should be sought in 2006.

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Appendix 1 – Power Point Presentation for Outreach Sessions
Graphics Removed

Appendix 2 - Handouts for meeting attendees and general community distribution



Fisheries Program, Carrier Sekani Tribal Council
2nd Floor, 1460 Sixth Ave.
Prince George, B.C.
V2L 3N2

White Sturgeon within the Nechako Basin are known to be “Endangered.” The Carrier Sekani Tribal Council is participating in ongoing recovery efforts, including research and population assessment activities, and promoting white sturgeon “harm reduction” within Carrier First Nations’ food fishing activities. First Nations fishers are requested to take steps to minimize harm to white sturgeon when they are captured during fishing activities.

- ✓ Avoid gillnetting in areas where sturgeon are frequently captured.
- ✓ Check gillnets with increased frequency to minimize harm to entangled sturgeon.

If you capture a white sturgeon during your food fishing activities, you are requested to do the following:

- **If it is alive;**

Attempt to release the fish without harming it. Do not remove the fish from the water or into your boat, and do not touch the fish’s gills. Please take note of the approximate length of the fish and any tags. Report the time, date, and location of the encounter, and specifics of the fish, to your community’s catch monitor (listed below).

- **If the fish is dead or cannot be released successfully when you encounter it;**

Please contact one of the people identified below as soon as possible. We wish to collect specific measurements and samples from the fish. If it is possible, please do not process (gut, dress, or cutup) or dispose of any portion of the fish until one of the individuals below has sampled the fish. If this is not possible, please retain the fish’s head and front fins for pickup by one of the persons below.

- **If you observe a sturgeon (not captured) during your activities, please report the date, time and location to one of the individuals below.**

If you would like further information with respect to this issue, contact Margo French 250-613-5000.

Brian Toth, CSTC, 250-613-5680
Jim Webb, Tl’azt’en, 250-648-3224
Betty-Lynn French, Takla, 564-3704
Sandra Joseph, Nak’azdli, 996-0321

Ricky Nooskie, Nadleh, 690-7156
Violet Kennedy, Stellat’en, 699-7771
Margo French, CSTC, 250-613-5000
Scott McIntosh, Saik’uz, 250-567-9293

**Appendix 3 – Sampling and reporting directions for community
catch monitor and/or fisheries liaisons**



Carrier Sekani Tribal Council
 2nd Floor, 1460 Sixth Ave.
 Prince George, B.C.
 V2L 3N2



Nechako White Sturgeon Outreach and Harm Reduction
Handout for Carrier First Nations FSC Fishery Monitors,
Liaisons and/or Representatives

The Carrier Sekani Tribal Council is promoting the conservation of white sturgeon in the Nechako and Stuart watersheds. We are requesting that First Nations fishers release white sturgeon captured whenever possible. We are also initiating a monitoring program to document observations of, and encounters with white sturgeon in the Nechako and Stuart watersheds. Your assistance to these ends is greatly appreciated. Reporting and information collected will be shared with all Carrier First Nations.

Your name and contact information has be distributed to fishers in the area. If you are contacted by a someone that has encountered or observed a white sturgeon, please collect the following information.

1. If the sturgeon was only observed or the fisher(s) were able to release it successfully (alive):

- a. The date and time the sturgeon was encountered.
- b. The location where the sturgeon was observed and the nature of the observation (what the sturgeon was doing, what the observers or fishers were doing.)
- c. The general length of the sturgeon.

2. If the sturgeon reported is dead:

- a. Please try to get to the fish as soon as possible and request that the individuals in possession of the fish do not process (gut or cut up) or dispose of any part of it.
- b. Please collect the measurements identified on the attached Reporting Form.
- c. Please collect the samples and info identified on the attached Reporting Form

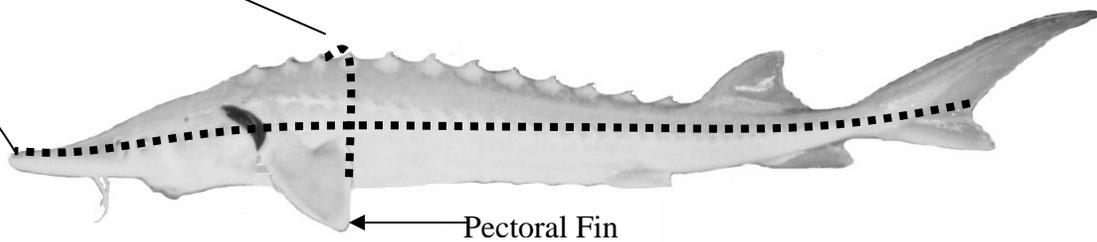
3. If a sturgeon is reported alive and still entangled in a net:

- a. Please attend the site if possible and assist with the safe removal and release of the fish.
- b. If it is not possible to attend the site yourself, please inform the individuals how to safely release the fish and request that they inform you if attempts are unsuccessful.

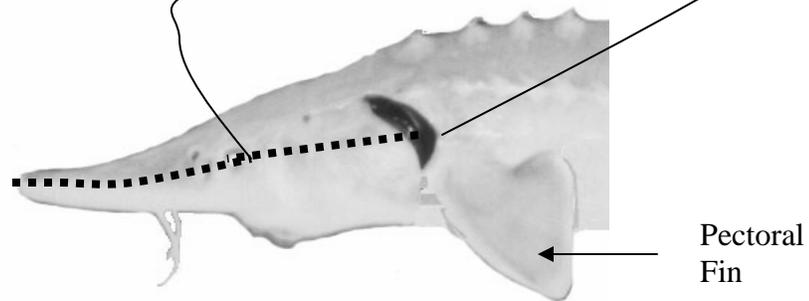
NOTE: Please ensure that if multiple persons are reporting the same sturgeon capture, encounter, and/or observation, that the reporting records indicate this.

Margo French, CSTC Community Liaison Tech. 250-613-5000	Sandra Joseph, Nak'azdli Contact, 250-996-0321
Brian Toth, CSTC Biologist 250-613-5680	Ricky Nooskie, Nadleh Contact, 250-690-7156
Jim Webb, TI'azt'en Fisheries Manager, 250-648-3224	Violet Kennedy, Stellat'en Contact 250-699-7771
Betty-Lynn French, Takla Contact, 250-564-3704	Scott McIntosh, Saik'uz Contact 250-567-9293

Measurement	Specific Technique For Measurement
Fork Length	From the center of the curvature of the snout, along the lateral line, to the fork of the tail.
Post Opercular Length	Place tape at the center of the curvature of the snout and measure around to the posterior edge of the opercular plate. In the case of a gap between the operculum and the bony structure located posterior of the opercular plate, the gap should be included in this measurement.
Post Orbital Length	Place tape at the center of the curvature of the snout and wrap around to the back of the eye socket.
Girth	Taken as the circumference of the fish's body on the posterior side of the pectoral fins. Wrap tape around body directly behind pectorals.



Note: in the case of all measurements, pull the fabric tape taut, but not tight (e.g. in the case of a girth measurement, the form of the fish's body should not be altered by the tape when measuring.)



Place head and pectoral fins in one plastic bag labelled with you name and the date. Place all entrails from the body cavity into another plastic bag labelled in the same manner. Freeze both bags as soon as possible.

Additional Comments: _____

Nechako White Sturgeon Outreach and Harm Reduction
Sturgeon Observation, Encounter and/or Capture *Reporting Form*

Refer to the rear of this form for specific directions and additional space for comments

1. A sturgeon was observed or released successfully (alive):

Date and time of report: _____

Date of observation or encounter: _____

Location of Encounter: _____

Nature of Encounter: _____

Approximate Fish Size: _____

2. If the sturgeon reported is dead, please contact the CSTC, in addition to recording:

Date and nature of report (who and when reported, how captured): _____

Where and when the fish was captured and died/killed or when and where it was found dead: _____

Nature of your report (where, when, how you attended): _____

Check for tags and evidence of previous tagging (Floy and radio): _____

Fork Length (cm or inches): _____ Post Opercular Length (cm or inches): _____

Girth (cm or inches): _____ Post Orbital Length (cm or inches): _____

Samples: Collect, label and freeze the following in the plastic bags provided:

- a. Both pectoral fins (remove with a knife or saw as close to the body as possible)
- b. The head
- c. All innards (all guts including all gonad material)

3. If a sturgeon is reported alive and still entangled in a net:

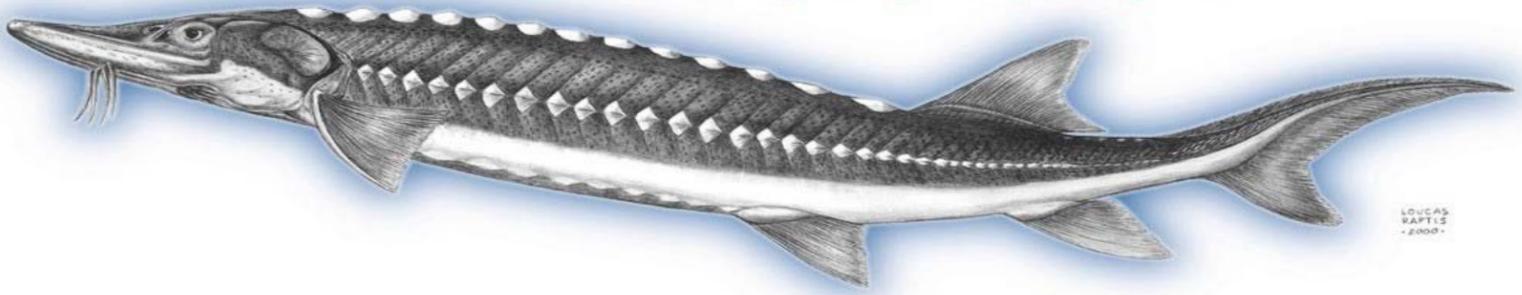
Depending on outcome, complete either 1 or 2 above.

Report (date, time, etc.): _____

**Appendix 4 - 11x17" Posters created and posted within First
Nations Communities**

NECHAKO
RIVER

WHITE STURGEON



RECOVERY INITIATIVE

White Sturgeon within the Nechako Basin are known to be “Endangered.” First Nations fishers are requested to take steps to minimize harm to these fish when they are captured during fishing activities.

If you encounter a white sturgeon during your food fishing activities:

- If it is alive, attempt to release the fish without harming it. Take note of the general length of the fish and any tags. Report the time, date, and location of the encounter, and specifics of the fish to your community’s catch monitor.***
- . If the fish cannot be released successfully and/or is dead when you encounter it, please contact one of the people identified below as soon as possible. We wish to collect specific measurements and samples from the fish.***

If you would like further information with respect to this issue, contact Margo French 250-613-5000



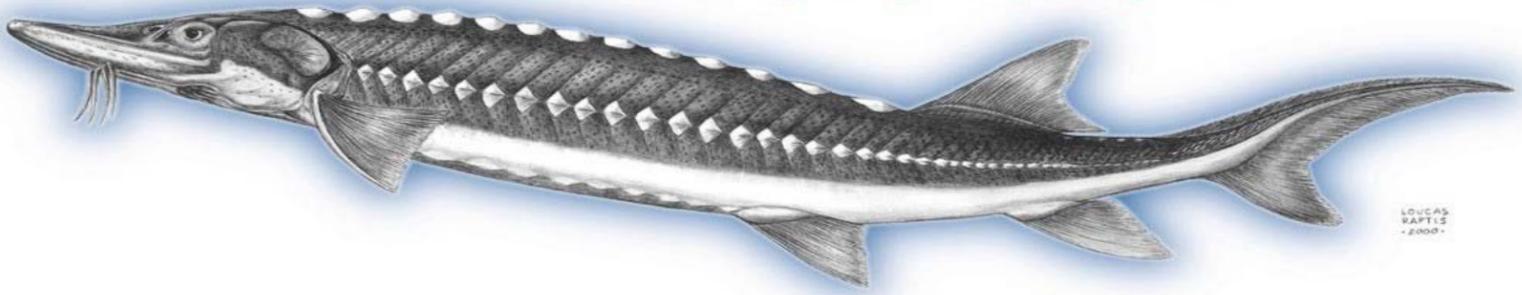
**Carrier Sekani Tribal Council
2nd Floor, 1460 Sixth Ave
Prince George, B.C.
V2L 3N2**

CONTACTS

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Jim Webb, Tl'azt'en, 250-648-3224
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Sandra Joseph, Nak'azdli, 996-0321
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Scott McIntosh, Saik'uz, 567-9293

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- . If the fish is dead or cannot be released successfully when you encounter it;
Please contact one of the people identified below as soon as possible. We wish to collect specific measurements and samples from the fish. If possible, please do not dress, cut up or dispose of any portion of the fish.**

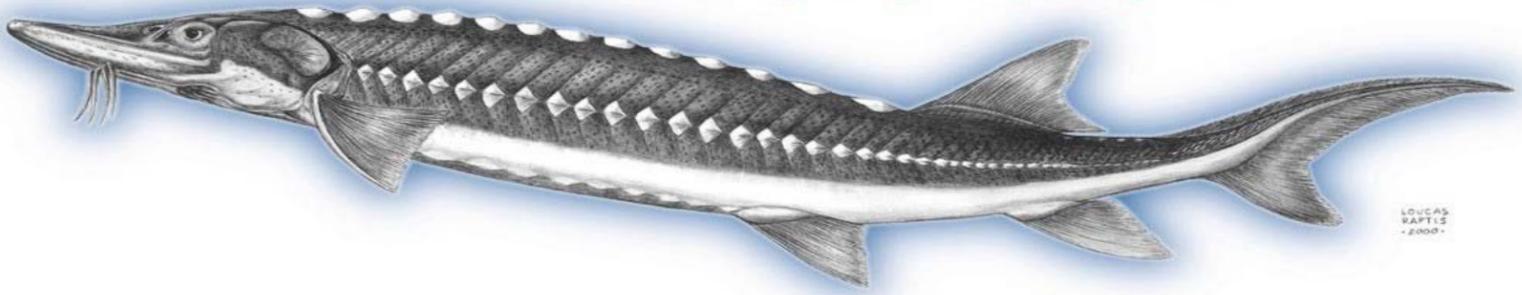
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**Appendix 5 – Community presentation – Background on
sturgeon issues in preparation of for selective fishery policy
discussion**

**Appendix 6 – Community presentation – Selective fishery policy
rationale, proposed outline, and discussion**

Appendix 7 – Selective fishery policy document

Carrier Sekani Tribal Council Selective Communal Fisheries Policy



Abstract

The genetically distinct Nechako white sturgeon population that inhabits the Nechako River, Fraser Lake, and the Stuart River and lakes system, is not reproducing at a sustainable rate and will likely become doomed to extinction within 15 years without immediate measures to curb the decline. In 1999 a provincial recovery strategy was initiated to research the cause of the population's collapse, find solutions, and work with communities to develop plans to recover this important species. This initiative continues today, with the CSTC's input and contributions being fundamental to the process.

First Nations' gillnet fisheries for sockeye remain as the only direct threat of harm and mortality to the remaining sturgeon population. The potential for successful recovery of the Nechako's sturgeon would be assisted by the elimination of this remaining source of harm.

It is essential to explore the reintroduction of traditional fishing methods and fishing sites, once banned by federal authorities, while developing a broad vision for a selective fishery, including how such fisheries will be implemented and how associated management challenges will be redressed. This paper explores the rationale for change and the principles, guidelines, and strategies that are required for moving forward. The development of effective policy and guidelines is considered fundamental for generating community support for a gradual transition from gillnetting to more traditional selective and communal fisheries. For these purposes, workable design arrangements between and amongst CSTC member bands involving site-location opportunities, distribution protocols and mechanisms, and funding issues and needs are explored. Finally strategies for the effective consideration of downstream/upstream impacts, target stock selection and conservation issues are proposed.

As any such transition is made, it is understood that time will be needed to assess approaches, offset impacts to existing fish harvesters, develop management strategies to cope with resistance, and identify employment opportunities and other benefits that will stem from this transition.

Preamble

Carrier Sekani Tribal Council (CSTC) represents members from seven First Nations who belong to the CSTC association. Five thousand members make up the membership of the seven First Nations, which includes Burns Lake Band (Ts'il Kaz Koh First Nation), Nak'azdli Band, Nadleh Whut'en, Saik'uz First Nation, Takla Lake First Nation, Tl'azt'en Nation, and Wet'suwet'en First Nation.

The Tribal Council is an advocate for, and frequently represents the interests of, its member-nations. The Council also provides technical and professional services to its member-nations in such areas as fisheries, education, economic development, community and infrastructure planning, forestry, financial management, and treaty negotiations.

In 1993 the CSTC signed an Aboriginal Fishing Strategy (AFS) agreement between the Department of Fisheries and Oceans (DFO) and the CSTC. Since signing the agreement the management of fish stocks within this region has undergone a change for the better. The management of salmon stocks, most notably sockeye salmon and chinook salmon, is not the sole responsibility of the DFO. It has been proven unequivocally that First Nations have a vested interest and a right to a say in the management of these species. This current development in management is laying the foundation for future agreements in natural resource management.

The CSTC fisheries program has focused on capacity development and training, while slowly taking on more responsibility for stock and habitat assessment. During this period, fisheries management as a whole, has been under tremendous pressure with shrinking budgets, increasing costs, and a shifting policy landscape, which demands more attention and time.

First Nations face many challenges in their new role as modern resource managers. Global warming, species at risk, less resources, tense inter-tribal relations, no economic access to the fishery, and continued pressure by industry to keep things as they are.

Acknowledgments

I acknowledge the Habitat Stewardship Program and Environment Canada for providing the funding for this project. The opportunity to return to traditional fisheries harvest methods for Carrier and Sekani people is real, but will require a paradigm shift, this project marks that beginning.

I would like to thank the Carrier Sekani Tribal Council for the opportunity to work on this project. The fisheries staff at the CSTC has been very supportive and has provided me with access to fisheries information, particularly about sturgeon and sockeye. Brian Toth, CSTC biologist has spent time assisting with the development, outline, and editing of this report.

I thank the treaty staff at the Nakazdli First Nation, particularly Lillian and Fred Sam for gathering information about the Hudson Bay Co., and the Barricades Treaty.

I would like to thank Nicholette Prince for providing me with information about the Early Interior First Nations fisheries on the Fraser River, as well as the first contact and the impacts that had on First Nations Fisheries.

Acknowledgments also need to go to the participating First Nations that made time for our community meetings to discuss this important issue: Tl'azt'en Nation, Sak'uz First Nation, and Stelat'en First Nation. I acknowledge too that this is only a beginning and more information needs to be disseminated to all of the affected First Nations communities of the CSTC.

Finally I would also like to acknowledge all of the people both within and outside of government for their invaluable contribution to this project, in particular Dave Moore, Byron Louise, Murray Ross, Ken Wilson, Pete Nicklin, and the Nechako Sturgeon Recovery Team.

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1. Introduction

The Carrier and Sekani People are facing a difficult problem over the coming years due to the conservation concerns for the Nechako White Sturgeon (Lä Cho) (*Asepencer transmontanous*). For the past forty years the Nechako Sturgeon has been in decline. Studies demonstrate that the animals are not reproducing in numbers sufficient to maintain a healthy population, and if rigorous conservation measures are not taken, the population faces imminent extinction. At this point in time, there are many theories for the declines; however, these are beyond the scope of this paper. It is suffice to say there is a real problem that needs immediate attention.

Existing evidence indicates that juvenile sturgeon are not surviving the critical early components of their life stage (i.e. within their first months of life). The primary interim recovery measure being implemented at present is a conservation-based sturgeon hatchery that will attempt to spawn adults and hatchery-rear and release juveniles back into the Nechako several months to a year later.

The federal government is considering listing the stock under the new *Species at Risk Act* (SARA); this could lead to potential conflict between provincial/federal jurisdiction and First Nations within Section 35 (1) of the *Constitution Act*, which allows First Nations to harvest salmon for food, social, and ceremonial purposes, after conservation concerns have been met. The purpose of this paper is to present alternatives for reducing harm to sturgeon while allowing Carrier and Sekani People to maintain a harvest for sockeye, chinook and other species in the Nechako watershed.

Because different species and stocks migrate through the Nechako basin in varying abundances at varying times during the summer and fall seasons, the Carrier and Sekani People have to take advantage of harvest opportunities for food, social, and ceremonial purposes when they exist. The Carrier and Sekani People are the primary fishers in this watershed, thus their activities have the potential to pose the greatest threat to Nechako Sturgeon. The primary threat is not that they fish, but the manner in which they fish. The current fishing practice for sockeye is primarily by use of gillnets, which was not always the case. Gillnets were adopted after the barricades treaty of 1911, which saw traditional fishing weirs, traps, and various spears replaced with

gillnets. Gillnets are non-selective and lead to incidental by-catch of sturgeon and other non targeted species.

The Carrier and Sekani People want to do their part for conservation, even if the demise of the Nechako's sturgeon population is not of their doing; this was made very clear after community meetings held at Tl'azt'en Nation, Saikuz First Nation, and Stelat'en First Nation. Attendees were very clear about their commitment to the conservation of the Nechako Sturgeon. Those with an interest in fish and fishing realize that in order to reduce harm due to by-catch, a paradigm shift needs to occur. The irony is that a selective communal fishery is a return to pre-contact fishing methods. In other words, "the more things change, the more they stay the same." The key question is whether the Carrier Sekani Tribal Council (CSTC) and its members have the will to begin making the changes that are required to address this conservation crisis, as posed in this paper.

This document proposes a return to more traditional fishing methods, fishing sites, and offers supporting governance structures and policies to support this transition. In order to reduce further harm on the Nechako's sturgeon population the current practices of gillnetting salmon for food, social, and ceremonial purposes needs to be replaced.

2.0 Background

For thousands of years prior to contact with Europeans, the Carrier and Sekani Peoples' fishing activities, especially those related to salmon (harvesting for food and trade) have been the foundation of First Nations' economic, cultural, and social lifestyles along the Fraser and Nechako rivers. All Carrier and Sekani groups had access to a variety of fish, salmon being the most abundant. The principal salmon harvested along rivers is Sockeye (Talo) (*Oncorhynchus nerka*). The distribution and population densities of the Carrier and Sekani People are directly linked to their access to this resource. Large populations could only be maintained with sufficient food resources; in this case salmon that was caught and smoke-dried. Pre-contact, the ability to process and preserve fish influenced the amount of fishing that would take place.

A variety of other fish species were harvested in the region. Many of these species are resident year round so they are consumed fresh. These fish include: largescale suckers (*Catostomus macrocheilus*), northern pike minnow (*Ptychocheilus oregonensis*), peamouth (*Meilocheilus caurinus*), mountain whitefish (*Prosopium williamsoni*), rainbow trout (*Oncorhynchus mykiss*), burbot (tsintel) (*Lota lota*), lake trout (bit) (*Salvelinus namaykush*), and white sturgeon.

Carrier and Sekani Peoples have possessed a variety of fishing methodologies utilizing many different tools, techniques, and knowledge passed from generation to generation.

The outcome was a culture and economy heavily intertwined with the fisheries resource, and the development of an extremely efficient and productive fishery. In the Stuart watershed, fishing activity was coordinated by the legendary Chief Kwah (pronounced GWEH). According to the Carrier People and their system of governance, Kwah watched over the fishing sites at the outlet of Stuart Lake across the mouth of the Stuart River. This name was handed down from generation to generation and was therefore always responsible for allocating fish to all families in the area.

Slightly later than in other parts of North America, settlement of the region by non-Aboriginal people began only 200 years ago. "First contact" between Carrier Sekani peoples and non-Natives is generally identified as 1805-1807, it was during this period

that Simon Fraser, an explorer for the Northwest Company, established four trading posts in the Carrier and Sekani territories: Fort McLeod, Fort George, Fort St. James, and Fort Fraser. It is important to recognize that until the Hudson Bay Company and the North West Company joined together in 1821, Fort St. James was the centre of government and commerce in British Columbia (then called New Caledonia).

From the early 1800's to the 1860's dried salmon became a commodity of trade during this expansion period. It was purchased for provisioning post employees as transporting other foods to this remote region was very expensive. Furthermore, the non-Native people had no rights to the system of weirs and traps that the Carrier people controlled. Sometimes Hudson Bay Company employees would have inventories with as many as 10,000 dried salmon in store." (HBCA B.97/a/1). This was at a point in time when First Nations in the area vastly outnumbered colonists.

The *Indian Act*, first passed in 1876, marked the combined legislative control of Canada's Aboriginal people. B.C.'s Native people would soon feel the effects of legislation by the colonial governments (federal and provincial) on fishing and other activities. The earliest fisheries legislation was the *Dominion Fisheries Act* in 1878. It made no mention of Indian fishing but restricted the use of nets in fresh water, which related directly to Aboriginal fishing practices. The practice of bartering with or selling salmon was not acknowledged in this legislation. Already at this early date, there were tensions over the land as settlers and miners had taken much. When reserves were surveyed, some fishing sites were identified and set aside as reserve lands in recognition of the importance of fishing in the region. In some instances, the reserve commissioner noted an "exclusive right" to fish for salmon in certain areas along the rivers Harris (1998).

The following decade, Aboriginal people were specifically restricted from selling salmon in the *British Columbia Fishing Regulations Act*. The salmon run of 1886 was particularly small and with 6,000 commercial fishermen already on the Fraser River, competition for the fish was fierce, Newell (1997). In 1886, new fisheries regulations were enacted which restricted Aboriginal peoples' access to fish (Newell, 1997; Ware, 1978).

At the turn of the century, a number of canning and fishing enterprises owned by Euro-Canadians were operating along the British Columbia coast. These owners actively

lobbied government to restrict fishing by Aboriginal peoples as they were in direct competition for the same fish stocks. As a result, Native people throughout the province found themselves requiring “special” permission to fish by 1894. By 1910 the *Fishing Regulations Act* limited Aboriginal fishing to specific areas and times. In addition, it defined legal fishing gear based on Euro-Canadian models (Newell, 1997).

In 1913 a rock slide caused by the Canadian national Railway (CNR) blocked the migration of sockeye, and in 1914 a slide at Hell’s Gate occurred, which seriously compounded the slide from the year before. The fallout would have serious implications for First Nations fisheries because it was the Natives who bore the brunt of restrictions, in the name of conservation. Testimonies from the McKenna – McBride commission hearings in 1914 – 1915 include complaints about fisheries disruptions for Aboriginal people right up to the headwaters of the Fraser River. Even though the government was aware of the pending famine facing Aboriginal people, their response was to protect the processors by prohibiting fishing from the canyon upward (Newell, 1997). The Indian food fishing right was under direct threat.

In a 1915 the chief inspector of B.C. fisheries stated that “Aboriginal food fisheries may have a time immemorial right to certain concessions, such concessions were granted under conditions entirely different from the present day, and with the ever growing importance of the fishing industry of this province; it behooves the government to make some arrangements which will protect the salmon from molestation when they have practically reached the breeding stage and the breeding grounds”

Food fisheries were further regulated in 1917 by the introduction of permits for Aboriginal people; the permits restricted fishing further by imposing area opening, gear types and opening and closure dates.

3.0 Biological Rationale

The Nechako Sturgeon is known as Łă-Cho by Carrier peoples or *Acipenser transmontanus* by its western scientific name. Acipenser is an old world name meaning sturgeon, and transmontanus meaning beyond the mountains. White sturgeon evolved approximately 290 million years ago and are the longest surviving relicts of B.C.'s existing freshwater fish assemblage.

Sturgeons live to be very old, sometimes over 100 years; they are the largest freshwater fish in North America and have been known to grow up to 6 metres long (the length of a small school bus), reaching 1,800 lbs.

The white sturgeon is a slow growing, late maturing fish. Spawning occurs in May through June, most often in swift current with a rocky bottom, near rapids when natural river flow is at its peak. They depend on a number of environmental cues in the spring to spawn - these include water temperature, day length, strength of water current and riverbed material.

White sturgeon can spawn multiple times during their life, and spawn every 2-11 years as they grow and mature. Females can each produce from 100,000 to several million eggs.

Adults broadcast spawn in the water column and the fertilized eggs sink and attach to the bottom to hatch. Eggs can hatch in 4 days to 2 weeks, depending on water temperature.

White sturgeon have been an integral part of the traditional fishery and the history for First Nations peoples in British Columbia; they have been used for food and in ceremonies for at least 3,000 years in N. America. In the Stuart watershed they were a kind of delicacy for many and yet for some they were seen as a sign of bad luck and if observed while on the water, fisherman would leave immediately. When harvested, every part of the animal was used. Records indicate that parts of harvested sturgeon were sold to Chinese residents of the area in the 1940's.

In 1999 the Province of BC started the Nechako White Sturgeon Recovery Initiative, which consists of two teams:

1. Recovery Team (technical personnel from stakeholders and all levels of government, including First Nations).
2. The Action Planning Group (stakeholders and all levels of government, including First Nations).

The objective of the initiative is to research the cause of the collapse, find and test solutions, and work with communities to develop plans that work for everyone (as best as possible), to recover the sturgeon population.

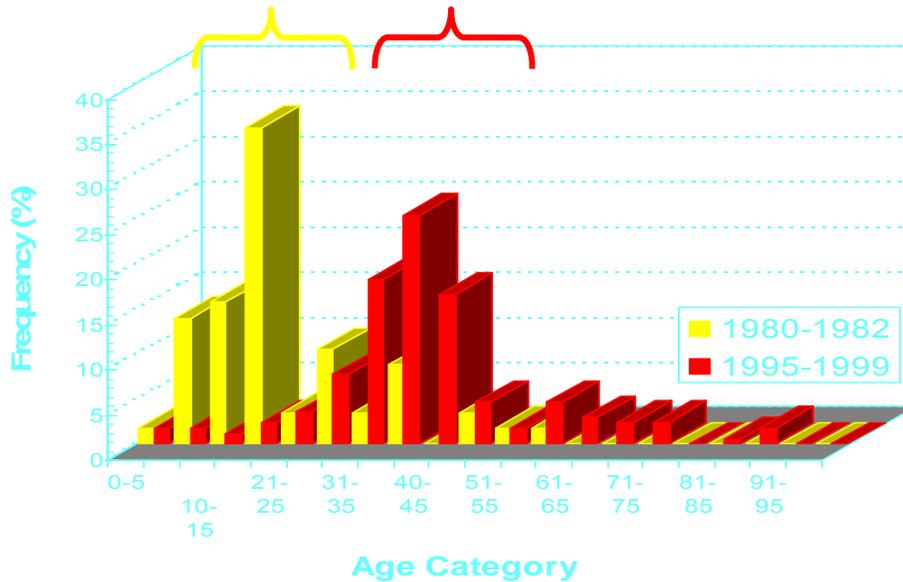
In 1990 The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed white sturgeon as vulnerable in Canada. The term “vulnerable” refers to species populations that are subject to change in response to fishing pressure and habitat disturbance. In 1994, BC Conservation Data Centre listed Nechako white sturgeon as critically imperiled (the second highest 'at-risk' rating), putting it on BC's *red list*. In September 1994 B.C. implemented a province-wide non-retention regulation for the sturgeon sport fishery. During the spring of 1995 a comprehensive 5-year assessment program was initiated, the focus was on:

- Fraser River mainstem
- Nechako River (including the Stuart River)
- Other potential sturgeon areas (tributaries to the Fraser R., lakes)

The Nechako populations suffer from recruitment failure, meaning inadequate numbers of juvenile fish are being generated to maintain or build the current population. Unlike other white sturgeon populations in the Fraser watershed, there are few juveniles in the Nechako, and the population is rapidly becoming smaller (in size) and older (avg. age). As the figure below shows, a large number of juvenile (<1m TL) sturgeon were sampled in 1980-1982, but many fewer were found and the average age of the Nechako's population was much greater when similar sampling was completed 1990-1995.

AGE DISTRIBUTION OF NECHAKO STURGEON

Young fish dominant in 1980-82 catch.
Older fish more abundant in 1990-95 catch.



The CSTC, among many others, is very concerned about the current Nechako situation; the reasons for recruitment failure are as yet unknown; however, the CSTC is actively participating in research which is investigating the Nechako sturgeon’s problem.

All white sturgeon have been listed as Endangered by COSEWIC and the federal government will determine which stocks of the species or if all stocks will be included under the Species at Risk Act – SARA. Inclusion of the Nechako stock under SARA will have a number of implications for the CSTC and its member communities, and selective fishing is likely to become a necessity.

The CSTC has and will continue to provide outreach to communities to provide information on the sturgeon issues. Previous efforts in this regard have focused on encouraging reporting and release of captured sturgeon. There is now a need to move toward the implementation of selective fisheries. With an estimated 600 white sturgeon left in the Nechako, possibly including the Stuart, every fish counts. The incidental capture of these fish in FSC fisheries are a threat, but are not illegal as yet. However,

there is a very strong likelihood that the sturgeon conservation issue could constrain non-selective FSC fishing in the Nechako watershed in the very near future.

4.0 Relevant Legislative Considerations

There are a number of relevant legislative considerations that will affect the shift to a selective communal harvest either directly or indirectly and to varying degrees. Past treaties, like the barricades treaties of 1911, remain unresolved and need to be considered. Government legislation and policy from both Provincial and Federal departments exert influence over all aspects of natural resource management. As pressure continues to mount over resource allocation from varying user groups, First Nations must understand the implications of legislation on their inherent interest and rights to the resource.

4.1 The Barricades Treaty 1911

Prior to 1911 the Indian food fishery was mostly unregulated in the upper Fraser and Nechako basins, that is until the government began to perceive the upper Fraser region fisheries as a threat to the commercial sector dominated by the canning interests.

At that time, in order for First Nations to obtain their fish they would place a barricade right across the river or stream, of course the Nechako and Fraser main stems were too large for weir construction, but the Nadleh and Stuart rivers provided excellent sites for weir construction. In a letter to the superintendent of fisheries in Ottawa a fisheries guardian wrote;

There are three Indian bands to deal with – known as the Stuart Lake band, Fraser lake Band, and the Stoney Creek Band. The barricades are located in the Stuart River about $\frac{3}{4}$ of a mile below the lake of the same name and extend right across the stream blocking it entirely. These barricades are placed in shallow water about three feet in depth, and on the upper side of the barricades, a large willow basket or crates are placed, and connected with the barricades by a flume in the shape of a funnel which is about three feet in diameter. These baskets are sunk in about ten feet of water

so that the length of funnel would depend upon the depth above the barricade. These baskets contain about five to ten thousand fish, whereby they will be removed by spears. These barricades are in position and ready to capture fish about the end of August to the end of the season.

The Indians look upon the use of these barricades as a moral right and state that their living depends upon the capture of fish by the means and they view with displeasure any suggestions made to prohibit the use of the same by them.

It is interesting to note that the description of the only two bands are mentioned as the so called "Fraser lake bands; they are the Fraser Lake Band, and the Stoney Creek Band." Both bands erected barricades; one at the outlet of Fraser Lake, currently Nadleh Whut'en, the other was erected by the Stoney Creek Band at the outlet of the Stellaquo River.

It was recognized that the issue was not one of conservation but one of allocation; the issue at stake was how to compensate the First Nations who, after all where forfeiting their right to earn a livelihood from the resource. In a letter from the federal minister of the interior, Frank Oliver wrote to the federal fisheries minister, L.P. Brodeur arguing that "natives had a first right to their ordinary means of livelihood" or a right to compensation if they were deprived of this resource (D.Harris 2001). In order to please the canneries the First Nations had to be compensated either by the fisheries or by the industry. The reason was simple, if you remove their ability to earn a livelihood the cost would eventually be borne by the federal department of Indian Affairs.

On June 19, 1911 the Chiefs of the Stuart Lake agency signed a Barricade Treaty. On June 15, 1911 the chiefs of the Fraser Lake agency signed a similar agreement prohibiting the use of weirs. In return First Nations would receive one net per family, seeds of all kinds, farming implements for proper cultivation, schools, and fishing stations located at convenient sites for the express purpose of taking fish for First Nations.

Sadly, following the demise of the barricades, the first two years proved to be very harsh for the First Nations. In statements made by Chiefs George, and Chief Thomas, both speak of the useless nets and the fact that “there was no salmon left in the country” which brought great hardship to the people, even the strong families had a difficult time during the winter. It is clear that the First Nations experienced severe hardship; however, they continued to observe the term of the Agreement. The government was not as faithful in observing its obligations. Nets were not supplied after 1914. The reasons are not known and many of the relevant files have since been destroyed.

If there is anything positive to come out of this difficult period is that the agreement document is a legal recognition by the government of Canada of the Aboriginal right to the fishery in British Columbia, and that particular element continues to play out to this day.

4.2 Government Policy

There are currently many government policies that will affect the Carrier and Sekani fishery both now and into the future. The affects each of these policies vary depending on the species, the time, and the location of the fishery in question. The current situation requires an analysis of certain key government policies that will certainly affect the Carrier Sekani Fishing right, particularly as it relates to harm reduction on Nechako sturgeon and the selective communal fishery being proposed. This paper will focus on three pieces of government policy they include: *Species at Risk Act*, Wild Salmon policy, and the *Navigable Waters Act*.

4.2.1 Species At Risk Act (SARA)

According to the government web site the following statement is made:

For greater certainty, nothing in this Act shall be construed so as to abrogate or derogate from the protection provided for existing aboriginal or treaty rights of the aboriginal peoples of Canada by the recognition and affirmation of those rights in section 35 of the *Constitution Act, 1982*.

The *Species at Risk Act* (SARA) is an act of conservation and protection that provides opportunities to develop species-specific recovery plans. In each instance, the development of a recovery plan is dependent on the species, its life history and what opportunities exist to minimize the impact to the species. All factors must be considered and accounted for in a recovery plan; it should be structured to minimize impacts and safeguard against incidental harvest when talking about aquatic species that are listed under SARA. Finally, what are the effects upon the constitutionally protected rights of the Aboriginal peoples of Canada, especially those substantive rights of priority harvest. It is imperative that the Carrier Sekani people clearly understand the legal implications prior to entering into any type of recovery process to ensure maximum benefit to their citizens, the species in question and the critical habitat of the listed species.

The Supreme Court of Canada has found that Aboriginal rights are not absolute and the Crown may infringe upon an Aboriginal right based upon conservation, public safety, or for economic purposes, but the onus is on government to “*justify their infringement*”. If it is deemed that, the actions or inactions of the Crown had directly or possibly indirectly resulted in the decline of the species. This brings into question, was the infringement justifiable?³ If not, compensation maybe required, but compensation can take many forms and is not constricted to monetary compensation.

Compensation can come in the form of tools or equipment to conduct selective harvesting techniques such as fish wheels, weirs or specialized traps to conduct live release of captured listed species,⁴ provide provisions to allow for full and effective participation, or provide guidance and outreach. It is imperative that the Carrier and Sekani people, or their organizations, be given the opportunity to determine their own needs in terms of SARA implementation.

SARA provides for an unprecedented opportunity to participate in the protection and recovery of species deemed to be at risk. It creates a new paradigm of negotiation that is

³ Recent Supreme Court decisions have brought into question earlier Supreme Court of Canada rulings regarding the requirement of the Crown to seek the consent of the effected Aboriginal peoples in instances of significant infringement of Aboriginal title and rights.

⁴ If the Crown is providing technical support in the form of biologists, hydrologists or other professional services this cannot be construed as a form of compensation. The Crown is merrily fulfilling their statutory obligations. (*The Federal Fisheries Act for example.*)

based upon conservation and protection. SARA can provide the statutory tools in the form of federal legislation supported by the full weight of Aboriginal title and rights. It can create opportunities for the Carrier Sekani people and the environment on which they are dependent, but this may only be accomplished by their full understanding of this Act and its implications.

Finally the Minister shall establish a Council, to be known as the National Aboriginal Council on Species at Risk, consisting of six representatives of the aboriginal peoples of Canada selected by the Minister based upon recommendations from aboriginal organizations that the Minister considers appropriate. The role of the Council is to:

- (a) Advise the Minister on the administration of this Act; and
- (b) Provide advice and recommendations to the Canadian Endangered Species Conservation Council.

The act is very complicated and has the potential to seriously affect your Aboriginal rights and title. Each case will be evaluated on its own special circumstances. The United States “Endangered Species legislation” is a template and has shown us the particular litigious nature of the act.

For more information please visit the following web site:

<http://laws.justice.gc.ca/en/S-15.3/fulltoc.html>

4.2.2 Wild Salmon Policy (WSP)

The implementation of the WSP will affect the way in which Carrier Sekani people harvest salmon, particularly in context of “harm reduction on Nechako Sturgeon”. This report will not comment on legal aspects faced by First Nations after the policy is finalized or during implementation of the policy. As outlined in the section on Species at Risk, there are clear overlaps, which go beyond the scope of this report. It is recommended that First Nations obtain a legal review of the policy to supplement this report.

The Wild Salmon Policy is the result of an initial round of consultations performed in 2000 and 2004. Substantial changes to the original policy have occurred over the past five years, both in substance and format.

The WSP aligns itself with the *Species at Risk Act* and the assessment process employed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The WSP defines conservation as “wise-use” and adopts a precautionary assessment convention used in international agreements.

The policy states that no additional resources will be made available to DFO for implementation of the policy, and focuses on the need for building partnerships in order to meet the goal and objectives.

Conservation units (CU's) are based on population genetics and spatial (geographical) distribution. The downfall of managing CU's is that certain sub-populations within the CU may fluctuate in abundance and will not necessarily be protected when managing the CU as a whole. Fraser First Nations will have to play a critical role in the identification and assessment of salmon CUs.

The assessment of habitat status within the CUs is a huge job, some of which has already been done. This is not a one-time exercise. On-going assessment of the habitat status in the CUs is required for healthy, or Green status CUs, and less healthy CUs. The WSP states that the Habitat Management program of DFO is undergoing an evolution in order to become more pro-active in the management and assessment of habitat. The scope of the role of habitat in fisheries management is huge, and requires expert opinion on what the implementation of this portion of the WSP will mean to Fraser First Nations. The same can be said of the inclusion of ecosystem values for identification and monitoring of the status of freshwater ecosystems.

A more complete understanding of the technical implications of the WSP is needed in order to analyze the management processes that will be applied under the policy. This could be accomplished by having First Nations biologists engage DFO biologists in specific discussions of complex fisheries management examples and scenarios to determine how DFO would apply the implementation strategies of the WSP in order to

meet the objectives of the policy. Some examples that will directly affect the Carrier Sekani and should be considered a minimum for discussion are: Early Summer Sockeye Complex (Nadina sockeye), Early Stuart sockeye, and Early timed chinook, which are harvested by lower river First Nations and sport fisheries.

The WSP is yet another piece of legislation that will have the potential to justify infringement of Aboriginal Rights.

More detailed information can be obtained at the following web site: (http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/wsp-sep/wsp-sep2000_e.htm)

4.2.3 Navigable Waters Act

The *Navigable Waters Act* will also affect the selective harvest of fish in a new fishing regime for the Carrier Sekani, especially if the CSTC members choose to return to the traditional fishing methods such as barricades. According to the act, if, in the opinion of the Minister,

- (a) the navigation of any navigable water over which Parliament has jurisdiction is obstructed, impeded or rendered more difficult or dangerous by reason of the wreck, sinking, partial sinking, lying ashore or grounding of any vessel or part thereof or other thing,
- (b) by reason of the situation of any wreck, vessel or part thereof or other thing so lying, sunk, partially sunk, ashore or grounded, the navigation of any such navigable water is likely to be obstructed, impeded or rendered more difficult or dangerous, or
- (c) any vessel or part thereof, wreck or other thing cast ashore, stranded or left on any property belonging to Her Majesty in right of Canada is an obstacle or obstruction to such use of that property as may be required for the public purposes of Canada, the Minister may cause the wreck, vessel or part thereof or other thing to be removed or destroyed, in such manner and by such means as the Minister thinks fit, if the obstruction, obstacle, impediment, difficulty or danger continues for more than twenty-four hours.

This act gives the minister a lot of discretion and power and must not be taken lightly. Again as with the other two pieces listed above, if the CSTC members choose to return to weirs or traps, discussions with the appropriate federal officials should be pursued.

For more information please visit the web site at: <http://laws.justice.gc.ca/en/N-22/202477.html>

4.2.4 International

The concept of sustainable development: development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs, FAO, Code of Conduct for Responsible Fisheries (1995)

Due to clear signs of over exploitation of fish resources globally, largely caused by over investment/development of modern fishing fleets, processing factories, and an overall growing demand for fish and fish products, the Food and Agriculture Organization of the United Nations recognized that exploitation was not sustainable.

Subsequently, in 1991 the FAO developed the concept of, responsible fisheries, and elaborated on a code of conduct. The code is voluntary; however certain parts of it are based on relevant rules of international law.

So what is the code of conduct and how does it relate to this policy? With this situation in mind, more than 170 Members of the Food and Agriculture Organization of the United Nations (FAO) adopted the Code of Conduct for Responsible Fisheries in 1995. The Code is voluntary rather than mandatory, and aimed at everyone working in, and involved with, fisheries and aquaculture, irrespective of whether they are located in inland areas or in the oceans. Because the Code is voluntary, it is necessary to ensure that all people working in fisheries and aquaculture commit themselves to its principles and goals and take practical measures to implement them.

The Code of Conduct, which consists of a collection of principles, goals and elements for action, took more than two years to elaborate. Representatives from members of FAO, governmental organizations, the fishing industry and non-governmental organizations reached agreement on the Code. It is therefore a result of effort by many different

groups involved in fisheries and aquaculture. In this respect the Code represents a global consensus or agreement on a wide range of fisheries and aquaculture issues.

Governments, in cooperation with their industries and fishing communities, have the responsibility to implement the Code. FAO's role is to technically support their activities but it does not have a direct responsibility for implementation because FAO does not have a responsibility for the development and implementation of national fishery policies. This is the sole responsibility of governments.

Implementation of the Code will be most effectively achieved when governments are able to incorporate its principles and goals into national fishery policies and legislation. To ensure that there is support for these policies and legislative changes, governments should take steps to consult with industry and other groups to promote their support and voluntary compliance. In addition, governments should encourage fishing communities and industry to develop codes of good practice that are consistent with, and support, the goals and purpose of the Code of Conduct. These codes of good practice are another important way of promoting the implementation of the Code.

The following is an excerpt taken from the FAO guide and represents some of the principles for sustainable development and precautionary principles. This list is by no means exhaustive.

(Excerpts from Principles of Sustainable Fisheries Management, FAO Code of Conduct for Responsible Fisheries 1995)

- *The right to fish carries with it the obligation to do so in a responsible manner;*
- *Fisheries management will promote the maintenance of the quality, diversity and availability of fish resources in sufficient quantities for present and future generations in the context of food security, poverty alleviation and sustainable development;*
- *CSTC will prevent over-fishing and excess fishing capacity and will implement measures to ensure that fishing effort is commensurate with the productive capacity of the resource;*
- *Conservation and management decisions for fisheries will be based on the best scientific information available, also taking into account traditional ecological knowledge of the resource and their habitat, as well as relevant environmental, economic and social factors;*

- *The CSTC will apply a precautionary approach widely to conservation, management and exploitation of the resource in order to sustain target species and the aquatic ecosystems that support them;*
- *Selective and environmentally safe fishing gear and practices will be employed;*
- *Harvesting, handling, processing and distribution of fish and fish parts should be carried out in a manner which will maintain nutritional value, quality and safety of the products, reduce waste and minimize negative impacts upon the environment;*
- *The CSTC will ensure that their fishing interests, including the need for conservation of the resource, are taken into account in multiple uses of the resource and are adequately addressed in local, sub-basin, watershed, regional and where appropriate in bi-national management forums;*
- *The CSTC will ensure compliance with conservation and management measures by fisheries within the Territories;*
- *The CSTC will take into account relevant laws and regulations in the management of the fishery, ensure that decision-making processes are transparent and achieve timely solutions to urgent matters, and will facilitate consultation and effective participation of industry, fish workers, environmental and other interests in the CSTC salmon fishery.*

4.2.5 Fisheries Act

It is important to note that both the Provincial and Federal governments have fisheries acts. Both acts deal directly with fish habitat issues, specifically for the purposes of this exercise, some in stream work may need to be done, which may require some form of habitat alteration. It is important to be aware that if you are going to alter the environment in any way that you inform DFO before you begin. Specific sections under the fisheries act relating to habitat are: **Section 35 – Harmful alterations, Section 37 – Minister may require detailed plans and specific activities, Section 38 – Inspection.**

Also under the fisheries act is the Aboriginal Communal fishing License Regulations. The regulation basically gives the band the authority to fish by specifying within the license who can fish, what species and methods to be employed, what location, and

timing of the fishery. It is up to the First Nations to decide how the overall fishery will be conducted.

5.0 Purpose and Objectives

The Carrier Sekani Tribal Council received funding from Environment Canada's Habitat Stewardship Program in 2004/05 and 2005/06 to work towards reducing white sturgeon by-capture through educating First Nation fishers regarding the plight of the Nechako sturgeon, the role of the Nechako White Sturgeon Recovery Initiative, and the impact of First Nation fisheries on this stock. Further, the methods of permanent harm reduction or selective fishing available were explored. It was intended that the proposed activities in 2005/06 would build on previous activities and continue to focus on reducing by-catch of white sturgeon within the Nechako drainage through the implementation of a selective fishery on the Nautley River. This included assessments of the feasibility of establishing and utilizing selective fishing methods for First Nations food fisheries for sockeye stocks within the Nechako drainage (i.e. community desire and/or acceptance, plausible methodologies, site locations, logistics). ***During these activities it became clear that a comprehensive policy would be relevant and applicable to the implementation and management of communal selective fisheries that may occur within the territory of any CSTC Member Communities.***

5.1 Selective fishing policy objectives

- To ensure selective fishing technology and practices are adopted to reduce harm on Nechako Sturgeon.
- Adoption of more traditional fishing methodologies as part of an overall move toward traditional methods and standards.
- Meet conservation objectives, while creating fishing opportunities.
- Further fisheries that avoid other non-target species.
- Create an atmosphere of trust in order to allow for successful sharing arrangements between the CSTC member communities.
- Establish standards according to the best available science and TEK.
- Further an effective fishery management (recognizing this may take years to implement).

- Facilitate the establishment of a set of incentives/disincentives agreed to by the member communities.
- To get buy-in from active fishers to begin modifying current practices.
- Incorporate stock assessment components into fisheries where feasible.
- Provide an atmosphere of management excellence and skills development.

6.0 Methods and Process

This document has taken years to evolve; however, due to the serious precipitous decline in the Nechako's white sturgeon population and the potential for the enactment of the SARA with ramifications of First Nations' harvesting rights, the need for change is reaching a critical point.

Over the period 2000-2003 as only moderate records have been kept, approximately 5-10 sturgeon/year have been by-captured within First Nation's food fishing nets in the Nechako basin; this figure is likely an under estimate. It is apparent that approximately half of these fish either died in the net and/or are subsequently harvested. Given that it is estimated that less than 600 sturgeon remain in the Nechako River, decreasing the rate of by-capture of these fish in the food fishery is critical to allowing their eventual recovery.

In 2004/05 and 2005/06 the CSTC received funding from HSP to work towards reducing white sturgeon by-capture through educating First Nation fishers. Further, the methods of harm reduction and selective fishing available to reduce this impact were explored. It was intended that the proposed activities in 2005/06 would build on previous activities to focus on reducing by-catch of white sturgeon through the implementation of a selective fishery on the Nautley River. This included assessments of the feasibility of establishing and utilizing selective fishing methods for First Nations food fisheries for sockeye stocks within the Nechako drainage (i.e. community desire and/or acceptance, plausible methodologies, site locations, logistics). It was understood that a key to this process was developing this community-driven policy document. The process outlined below led to its development.

6.1 Community meetings

As part of the program of work preliminary community meetings were held with several CSTC member communities, including the Saikuz First Nation, Stelat'en First Nation, Nakazdli First Nation, and TI'azt'en Nation.

The discussions were invigorating with a wide array of views expressed; naturally people were concerned and understood the importance of selective fishing. It was also clear that there is an appetite for a return to a traditional style fishery. Much of what was heard came from concerned elders who shared their knowledge; which was poignant and direct.

There should be no surprise that a couple of issues were common at each session. It is interesting to highlight these similarities to add to the breadth of discussion and for better long-term decisions.

Quality and quantity of Fish: Many elders spoke of the deterioration of the salmon quality and presumed that the environmental changes must affect the sturgeon as well, hence the inability to reproduce. Consistently, from community to community, elders spoke of the pollution in the rivers and the cumulative affects on the animals.

The run size issue was also acknowledged, with members raising their concerns over the state of Early and Late Stuart sockeye, Early Summer sockeye (Nadina), and chinook. The dwindling numbers of these stocks and poor fish quality have made access for food, and societal purposes difficult, which for a First Nations person, or community means spending limited resources seeking alternatives.

Alcan and past government agreements: For many First Nations old enough to remember the construction of the Kenny Dam and the subsequent profound changes to the Nechako River; the plight of the sturgeon is no surprise. Based on the existing state of the River, and the current legal understanding of consultation, many people wondered about the legality of the original agreement between the government and Alcan. First Nations find it difficult to comprehend the supposed inability of science to form the absolute conclusion(s) of the causes and affects of the dam and the demise of

the sturgeon, and fish in general. The mistrust of the First Nations toward governments and policies of the governments is instilled and will require great care and an absolute commitment to the current legal framework and First Nations law. The socio economic impacts of the dam from the First Nations perspective need to be understood and if need be compensation measures discussed.

Some members commented on the inability of the, Aboriginal Fisheries Strategy (AFS) to really deliver on its promise: to involve First Nations in the industry and management systems. Capacity remains an issue.

Compensation and mitigation: First Nations are being asked, once again, to bare the burden of conservation measures designed to conserve sturgeon; the issue of compensation was unavoidable. This issue was tied to many of the other themes in this report like, barricade treaties, Kenny dam / Alcan, socio economic analysis, and now SARA.

Some kind of artificial rearing facility for the sturgeon, or a cold water release facility must be built soon. Community members questioned why these things are taking so long if there is such a concern for these animals.

First Nations in the region have witnessed the complete reversal of the salmon harvest trend, from a point not long ago when Nechako First Nations were the largest harvesters of sockeye in the Fraser, to where they are now with the lowest level of harvest and consumption. The affects of this trend on the communities in the region have been profound and need to be analyzed, understood and reversed. They are understood to relate to many of the health issues observed as traditional diets have been altered.

Alternatives must be explored and many First Nations wanted to start having that dialogue. For example, what other kinds of fish can be enhanced, what other food alternatives exist?

Consultation: First Nations view this as a necessary step, but only the first step in many toward full implementation. The ways in which First Nations in Carrier country understand consultation has changed and Carrier people made it clear that the development of this policy is only a beginning. “ *the policy must truly come from the*

people, otherwise it will never work”- Tl’azt’en Nation elder - Time and resources must be made available in order to make the transition as smooth as possible. Many (Kayoh) holders felt that it was important to spend time out on the land to understand and see the big picture. A deeper form of consultation will need to take place than has in the past.

There seemed to be a general consensus that, within the Carrier Sekani Tribal territories, work will need to be done on building strong inter-tribal relationships. The move toward selective, communal fisheries for the Carrier Sekani people may be an opportunity to reinvigorate the fishery and, by extension, the culture. Developing the right system therefore, will require time and commitment but could involve benefits well beyond fisheries conservation.

6.2 Document Preparation

After the community process the author reviewed the many historical documents referenced in this paper to provide perspective on how Carrier-Sekani peoples have come to find themselves in this situation. Further, many components of what is foreseen to be the required policy to facilitate the transition process discussed here have been proposed in draft form to further discussion on this matter and speed the development of the required policy to guide activities as early as 2006.

7.0 Policy Scope

Any policy that this paper is intended to inform will support the Tribal council’s transition towards communal selective sockeye fisheries. The involvement and input of the CSTC’s Chiefs table, the community members, the Policy and Operations Committee, and the Elders groups will help form the outcome of the policy. These groups or any sub-committee will make a contribution to the development and amendment of policies; plans, projects, and programs to ensure that the tribal council commits to these essential activities in an open and transparent manner, and time frame, with the requisite resources.

Subsequent policy evolving from this paper should be a “living document” designed to initiate the transition to communal selective fishing in the CSTC territories. The first steps

toward developing and implementing a workable policy is to maintain engagement of the relevant parties in the discussion and all those responsible for developing the action plans. It must be realistic from an operations and capacity perspective; including technical and human resources.

The methods and standards must be developed over the next two years, understanding that these will most likely be adjusted, while allowing for some pilot projects or demonstration fisheries to occur in the interim. However, the commitment to collaboration is vital to implementation. Criteria to evaluate and select one fishery over another, or to assess the effectiveness of the effort, need to be developed.

A thorough understanding of the risks and benefits should be included, before any fishery is conducted. The CSTC must agree upon some clear and measurable; management objective(s):

- a. specify alternative management actions,
- b. identify key sources of uncertainty, if any,
- c. spend some time understanding the uncertainties associated with the transitional method,
- d. evaluate the consequences of management actions, and,
- e. develop a decision matrix if possible to explore possible results and rank the best one.

The CSTC management actions should meet the following objectives, listed in order of priority:

- a) to reinstitute the traditional fishing methods which were selective and based on a traditional form of governance.
- b) to develop an effective selective fishery for all CSTC members to be proud of and want to utilize; and
- c) to improve community involvement and understanding of selective communal harvesting and of the need to conserve Nechako Sturgeon; and
- d) to improve the data collection system while demonstrating to the greater public the CSTC commitment to conservation
- e) to improve public relations overall.

Alternative management actions to be considered could include:

- a) alternative site selection
- b) not to fish
- c) to have fish trucked in
- d) status quo

It will be important to consider 'base case' fishing plans for each management action considered based on unknown variables and try to identify all of the variables that may impact potential outcomes (e.g.):

1. Run Size
2. Run Timing
3. River Entry Timing and enroute mortality
4. Level of community involvement
5. Legal situation

Thus, uncertainties create *risk* for managers, harvesters, sockeye and most importantly the Nechako sturgeon population! It will be necessary to standardise methods for displaying results of the analysis in a transparent manner that CSTC members will understand. In this problem, there will likely be a trade-off between maximising catch and effort while protecting sturgeon; in the end it will be up to the CSTC or the community to make the decision and remain accountable.

7.1 Planning

The planning process will be key to successful implementation. The CSTC member communities need to determine what the goals, objectives, and incentives are going to be by setting out a 1, 5, and 10 year plan for selective communal fishing. Without clear well defined plans it will be difficult to secure stable resources. The communities need to be frank about whether there is any real interest in moving this important issue forward at all. There are multiple considerations, each with their own issues:

- ***Pre-season planning time lines and joint scheduling***

After it has been decided how the governance structure to oversee the transition will function, the participating bodies must begin a joint scheduling exercise to include issues like sockeye pre-season planning, conservation and escapement planning, and general information exchange. A schedule of meetings and

documentation should be developed for distribution well in advance of the fishing season, a series of formal meetings will be held: preliminary pre-season, detailed pre-season, and post season, with additional meetings held if mutually agreed upon. The fisheries sub committee may, in consultation with the fisheries department, define agendas and develop clear outcomes from meetings and develop recommendations on issues. A post season review process will be held to evaluate and recommend improvements for the next year.

- ***Logistics***

There will be a number of logistical considerations that include material requirements including nets and the lead time to produce, trucks and transportation, boats and equipment, transportation of fish from community to community, and permitting.

- ***Procurement and deployment of resources including capital and human***

It is important to consider who will be responsible for overall coordination of the transition, including procurement of resources and development of the plan.

- ***Decision rules to guide the fishery***

Of critical importance is the conduct of the fishery including where and when the fishery is likely to occur, complete with contingency plans. An orderly fishery will include guidelines stipulating who gets fish first and when. Other rules should include incentives and disincentives for participation and conduct. It is essential that the participants have a clear understanding of the process. This will be achieved by community meetings at the pre-season planning process. The outcome will be the development of a documented plan including objectives and priorities, and management measures; which must be signed off by one or all of the sub-committees.

- ***Risk management framework***

In order for the CSTC to move forward the members must agree upon some clear and measurable management objective(s); specify alternative management actions; identify key sources of uncertainty, if any; spend some time understanding the uncertainties associated with the transitional method, evaluate

the consequences of management actions; and, develop a decision matrix if possible to explore possible results and rank the best one(s).

- ***Socio-economic analysis***

In any analysis done factors need to be considered relating to enhancement of the culture, and links to ancestry, FSC food values, impacts of SARA, commercial access, conservation measures and benefits to other species, the ecosystem and nutrient loads, mountain pine beetle impacts, science and TEK.

Planning for any kind of salmon fishery requires a combination of technical and political processes; it requires time and capacity, and most importantly it requires dedication and commitment. The planning process starts early in the new year while there is still ice on the rivers and lakes. It is at this time that the CSTC needs to have a process in place for receiving the technical information and begin making plans for the upcoming year.

There are many diverse interests and viewpoints to consider when planning any type of fishery. The interests vary from maximizing harvest to conserving and setting escapement targets for future use. It is well known that the First Nations interests go beyond a particular stock(s) to include local rivers and surrounding geography. At the Nation level, inter-tribal cooperation is essential between the CSTC bands, tribal organization, fisheries organizations, and local governments. Because this is also about salmon, the entire Fraser watershed needs to be considered as well.

Post Season Planning: Local DFO resource managers meet with local First Nations groups to identify issues / concerns from the previous season. A set of options to address issues is identified. First Nations are responsible to forward comments relevant to the watershed-level review to their respective technical assistants, in this case that would be the CSTC Biologist.

Once the CSTC biologist has reviewed the information he/she may want to begin working at the regional or watershed level i.e. UFFCA/FRAFS process to determine if more information is required and learn what may be happening with other First Nations and the watershed. At this point, DFO staff feeds comments from meeting into DFO post-season review process as appropriate. During this period, local DFO resource

managers are working with local First Nations groups to develop schedules of meetings / timelines for the upcoming planning sessions.

At the watershed level the FRAFS and the UFFCA meet with technical staff to discuss strategies for development of a comprehensive First Nations plan often referred to as a Conservation and Management Plan to accompany the DFO-produced Integrated Fisheries Management Plan or IFMP. The Stock Management Coordinator (SMC) of FRAFS develops a draft post-season report for the entire watershed; it is distributed to Fraser First Nations for comments / input. The CSTC Fisheries Program will be responsible for reviewing this document and disseminating it to the communities.

Pre Season Planning: By late January DFO presents near final catch and escapement data for the CSTC Fisheries Program to review. DFO also presents preliminary stock outlooks and possible implications for the upcoming fishing season. It is at this point that the CSTC may identify key issues anticipated to arise in the upcoming season i.e. Early/Late Stuart, Stellaquo, or Nadina sockeye runs. At this point the CSTC Fisheries program technical staff will need to decide what general discussions of options for action plans need to be addressed.

By March DFO staff need to be working directly with the CSTC to identify general management objectives / strategies / issues for the upcoming season (in some cases, this meeting could serve to cover post-season information, if no meeting is held in the fall).

By this time the CSTC should have met with the all affected communities and have a preliminary draft paper in place which may serve as a starting point for discussions. Any band should identify their general level of acceptance of content of the discussion document prepared by the CSTC Fisheries Program. Of particular importance are areas of disagreement, and any additional objectives and issues of relevance to the local area fishery affected by the selective fishing policy.

Local-level fishing requirements will be clearly identified by the CSTC and DFO and the affected band will discuss what portion of this information should be communicated to the watershed level, and incorporated into watershed-level fishing plans. If the band has

comments they wish to have incorporated into the draft plan, it is their responsibility to forward them to the CSTC Fisheries Program Manager. Cc's may be forwarded to the DFO local manager, or to the CSTC political leadership as appropriate. At this point, CSTC Fisheries will need to inform DFO. DFO staff feeds comments from the meeting into their local and regional internal planning processes as appropriate.

By April the CSTC Fisheries program will have set the management objectives, possibly including recommendations on escapement targets, identifying key management issues and presenting possible strategies to address issues. The biologist will co-ordinate drafting a document, endeavoring to reflect all views of the CSTC communities, but areas of disagreement between members will be clearly identified.

Presentations on the planning document and updated stock assessment / outlook information, questions and clarifications need to be brought to the communities for ratification and approval. Issues may be raised by bands, but a final date must be given for input. Action items may be identified to address issues and followed up on by the CSTC. Discussion of how bands comments received to date may be incorporated into the plan.

At this point the CSTC fishing plan must be forwarded to the watershed and DFO in order to be incorporated into the IFMP and C&M plans. Essentially the CSTC will be perceived as speaking with one voice to the entire watershed, DFO, and industry.

Inseason process: During the fishing season it is important that the CSTC establish a process for communication (i.e. weekly conference calls of the fisheries liaison with the project manager and the CSTC Fisheries program). The CSTC political leadership table can be updated monthly as well. In addition there will be regular updates from the Fraser Panel Process, in-season stock assessment information, and other information pertinent to the management of fisheries. The selective fishery can be adjusted accordingly. Distribution of in-season information via the CSTC fisheries program will need to be established. The CSTC technical staff will need to standardize information formats that will be easily understood by community members.

Most in-season interaction at the local level will occur as informal exchanges between

DFO, regional watershed, and the Fraser as a whole, resource managers and band technical staff. Technical staff (both DFO and First Nations) are responsible to forward issues of management / policy concern to the management level. Communications will likely be through phone, email, fax rather than in-person due to the time limitations of in-season management. All parties record issues that arise in-season to be addressed in the post-season process.

8.0 Selective Fishing Implementation

The Carrier Sekani Tribal Council has spearheaded a number of projects aimed at education and awareness, which have been responsible for decreased by-catch and an understanding of what to do when a sturgeon is encountered. It may be up to the Carrier Sekani Tribal Council to develop projects and proposals that meaningfully increase the knowledge about selective fisheries and the appropriate technologies, but in the end, it will be up to the individual fishers, and the communities to make this paradigm shift work.

The methods chosen must be evaluated and assessed with scientific rigor using already established standards and guidelines. Methods chosen will be based on best results for releasing live sturgeon without harm.

It will be important for the CSTC to continue working with the communities to raise awareness and to provide regular updates as the policy moves to the implementation phase.

8.1 Outreach training and skills development

For the past four years the CSTC has coordinated sturgeon outreach and awareness programs between the eight member communities. During the next two years the CSTC should maintain this level of involvement to provide technical and policy advice visa vise, the CSTC Fisheries Program.

Currently the CSTC has hired a community fisheries representative (CFR) from each community to represent the community on a number of issues related to fish. In addition

the CSTC employs catch monitors during the harvesting period July – October each year. It will be important to work with and increase the skill sets of the current human resource capacities within each community. This will be achieved by conducting a series of workshops on effective communications, report writing, print material, and developing information programs.

For some communities, particularly in the Stuart watershed, the transition to weirs or beach seining will require assistance, training and education; this may be achieved via a series of workshops, and community meetings. There can be no way to avoid the fact that that much will be learned on the job with leadership being provided by the Carrier Sekani Tribal Council. It is advisable that the member communities support the training and skills development of fisheries technicians within each community; this will make the transition more affective and may create opportunities for future employment.

8.2 Governance

Currently the governance of the CSTC member communities is done in one of three ways:

- 1) Keyoh and clan system (bahl'ats)
- 2) Band Council system
- 3) Tribal Council system

There are differing ideas as to how to govern amongst the CSTC members; however there is a move toward a more traditional style of governance which will involve the Keyoh holders and the practice of bahl'ats. While there is still a lot of work to be done to sort out the role, if any, the Keyoh holders will play. The CSTC should be encouraging a meeting of the Keyoh holders to seek their advice as to the level of involvement they wish to play.

No matter which system is chosen, the very nature of this initiative speaks to the need for collaboration, inter-tribal relationship, trust, coordination and governance. The CSTC has been the central coordinating agency to date and through the fisheries program should maintain a role.

At this point the CSTC also has a number of subcommittees representing, forestry issues, fisheries, mining, the chiefs table, elders, and the youth. The chiefs fisheries sub committee could be a good sounding board for implementation and should be given a mandate to work with the CSTC fisheries program to plan implementation and report back to the Chiefs. In addition there is also an, Elders Council and, the Policy and Operations Committee (POC). Each of these sub committees may play a role in providing advice.

In order for the selective fishery to occur efficiently and effectively, the CSTC needs to consider making changes to the current organizational structure. Presently there is only one decision making body, which is the CSTC Chiefs table. Due to the work load and priorities of the CSTC is not recommended that the selective fishery be managed by this table. Instead it is recommended that the CSTC communities begin the process of selecting potential members to sit on a new selective fisheries committee.

The formation of the new committee should include input by the CSTC communities, and the CSTC Chiefs. The **“Selective Fisheries Committee”** will be responsible for planning and overseeing the implementation of the fishery. Due to the heavy time commitment, it is important that the CSTC chiefs table not have to deal with the day-to-day operation of the fishery. The Chiefs table should only be responsible for approving the process and the structure of the new committee, after the committee is up and running the Chiefs table will only require updates at monthly meetings. The committee will also have direct access to the CSTC Fisheries Program for technical assistance and support; however, the CSTC Fisheries Program will only be used as a support service, it will have no decision making authority other than to make recommendations for implementation of the fishery.

Selective Fishing Committee (SFC): Any SFC will require that a mandate. The mandate should be as follows: To promote the design and implementation of the CSTC selective fishery including location, time, hiring of staff, coordination of fish distribution, fisheries monitoring and control. The committee would be mandated to provide a collective voice to all issues pertaining to the selective fisheries management in the CSTC territories; it will also be responsible for dispute resolution.

The formation of the Selective Fisheries Committee will legitimize the governing of the

fishery by providing the following:

Legitimacy and voice

- Ensuring that the committees operations fit within an overall community-accepted philosophy
- Where possible, engaging community members in key decisions.

Accountability

- Having clear lines of accountability back to members
- Promoting transparency in reporting results
- Using mechanisms like regular reporting and audits to ensure accountability.

Performance

- Establishing a clear organizational separation between the *politics* of the CSTC Chiefs table (i.e elected governing Board and *operations* carried out through the Fisheries Program and the SFC).
- Stressing the importance of high quality management

Fairness

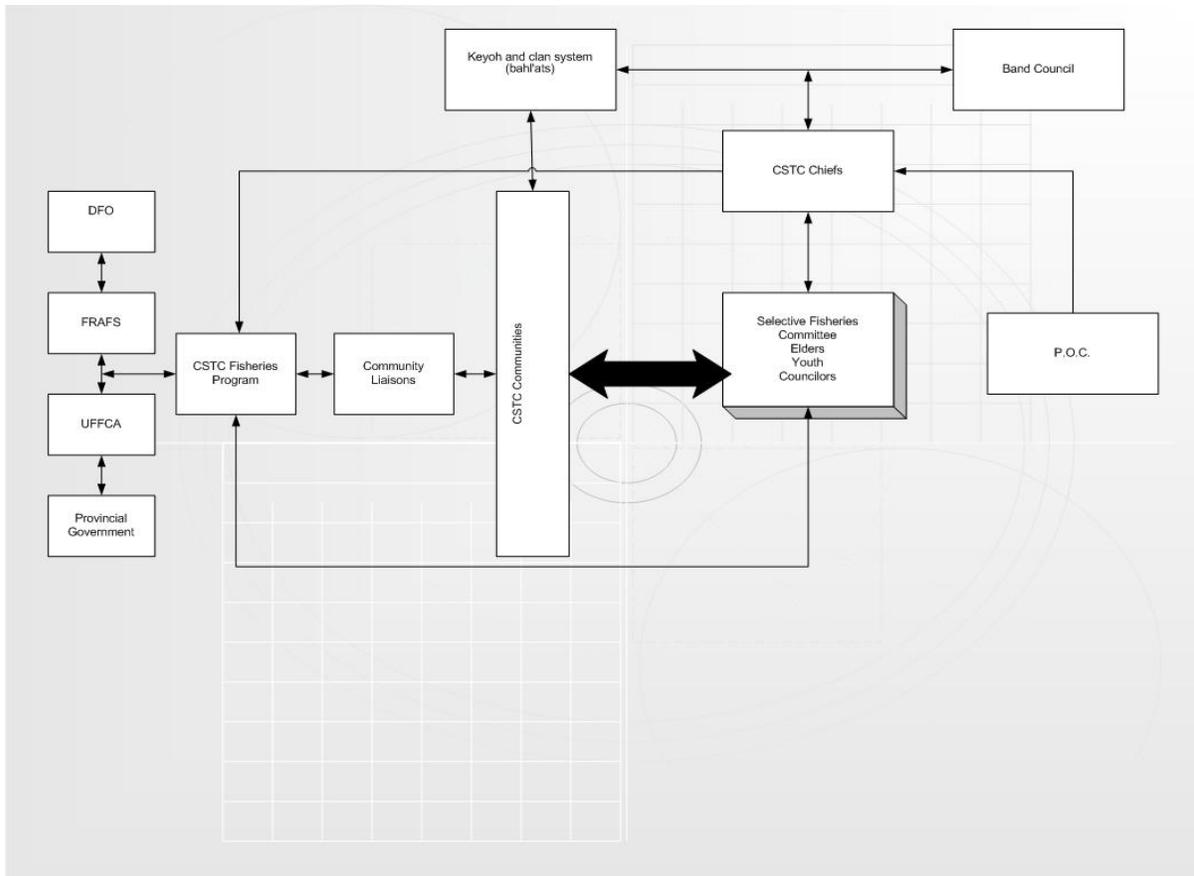
- Ensuring that the benefits of the organization reach all of the People of the CSTC communities
- Open and transparent staffing competitions thus ensuring that the choice of staff is not subject to political favoritism
- Merit driven pay scales

Direction

- Developing the committee within a broader movement related to self governance of the fishery
- Relying on political stability.

Strong and healthy governance practices are essential for the Project.

Figure 1. Decision making system



8.3 Policy principles

- Ensure that the policy is inclusive, clear, and includes community input, and is accessible.
- Collaborative approach based upon consensus based decision making.
- Creates opportunities for CSTC members.
- Make information available to all affected members.
- CSTC members need to have input otherwise faith in the policy will be lost and participation will fail.
- This is a self governing process.
- Seeks to create an environment of positive change that will enhance the CSTC traditions.

- Seeks to create clarity about roles and responsibilities with respect to authority and governance.
- Honesty, shared information, transparency, fair and inclusive process.
- Avoid adversarial processes that divide CSTC communities.
- Affective meaningful consultation.

9.0 Selective Fishing

Selective fishing is any method that avoids harming Nechako Sturgeon, the definition will likely evolve over time.

As reiterated, there is a strong need to promote harvesting of sockeye in the Nechako watershed in a manner that respects conservation of Nechako Sturgeon, especially within the next two years as the sturgeon move toward a designation of “endangered” under the *Species at Risk Act*. The participating communities of the Carrier Sekani Tribal Council (CSTC), currently face two dilemmas: The decrease in overall salmon harvest and the need to conserve Nechako sturgeon. The key outcome for the CSTC over the next two years will be to embrace a program of selective communal harvest that is effective and can demonstrate that it is truly selective while protecting endangered sturgeon.

9.1 A return to selective fishing

The Carrier Sekani Tribal Council, like many other First Nations in BC, harvested salmon in large numbers in traditional territories, using selective methods. As the Hudson bay records demonstrate salmon formed a major part of the dietary needs and were used for trade and barter as well. The listing of Nechako sturgeon represents an opportunity to return to a traditional fishing methodology. A paradigm shift has presented itself under SARA, which is forcing the government’s hand to change the conduct of all fisheries. This opportunity may allow the CSTC bands a return to full access to their traditional fishing sites and numbers.

The CSTC is currently in a position to provide the necessary policy and technical support to aid members in this important and necessary transition. Under the current AFS agreement between DFO and CSTC, the fisheries program administers many programs effectively and has the infrastructure to support the transitional period. It is important for the participating member bands to partner with the CSTC fisheries program in order to achieve the best possible outcome. The system of governance within the CSTC will likely be an important consideration for successful implementation and must therefore be considered within the scope of this paper.

9.2.0 *Methods and standards*

The planning and research phase will focus on preparing for a selective fishery by examining the different options and the associated gear needed to execute the selective fishery [i.e. weir(s), traps, or beach seine(s)]. Trials need to be considered by measuring physical parameters at potential study sites and constructing site specific methods and standards. Specific gear types will be identified and dates and times identified to implement.

9.2.1 Weirs

The use of weirs is an age old practice used extensively by the Carrier Sekani people pre contact, circa 1911. The weirs, or barricades were erected at three sites in the CSTC tribal territories, they are as follows: the outlet of Stuart Lake, the outlet of Stellako River into Fraser lake, and at the outlet of Fraser Lake into the Nautley River.

This system of barricades was in place for thousands of year and according to post-contact records they were an extremely efficient means of catching sockeye. In order for the weirs to be effective the entire community would have to be engaged, from actual construction, to fishing, and then finally to preparation of the fish. The operation is very labor intensive, needing twenty four hour supervision, and excellent management.

Under today's regulatory regime there would also be a number of permits to consider in order to construct such a barricade. Health and safety regulations are also important

considerations. With the current flow regimes of the Stuart and Nechako Rivers, the timing of sockeye runs, and the lower river fisheries the timing and logistics of such an enterprise would be very complex.

Stuart River: A barricade located at the outlet of Stuart Lake would be feasible as a demonstration project and could compliment the historic park located near by. The economic benefits may be substantial if the activity is coordinated with the FSJ historical park, potential fish sales may also be realized. Stock assessment data on Late and Early Stuart sockeye would also be a benefit.

Tachie River: While not as well documented as the Stuart and Nechako Weirs, the Tachie River is know to have contained operational weirs as well. At the confluence of the Tachie River with Stuart Lake i.e. the village of Tl'azt'en is an excellent choice. The infrastructure needed to create a weir is in place, roads labor, and boat launch access. This area has a significant sturgeon encounter rate, operating in tandem with the Stuart River site would offer an excellent opportunity for Carrier Sekani people to increase employment, reinvigorate its culture, increase sockeye catches while increasing stock assessment date, and most importantly eliminate by-catch mortalities on sturgeon.

Nautley River: As mentioned earlier a large scale fish weir was located at the Nautley River prior to the signing of the barricade treaty 1911. The site remains a favorable location even though the river has changes since the Kenny Dam was constructed and altered the flows of the Nechako River. The Nautley River currently has a bridge traversing it, located at the Nautley village site. This may present an opportunity for the construction of a weir. The site is still a favored fishing spot for community members and, from time to time, for other CSTC members to fish at due to its shallow, stable channel morphology. It is a well known migration corridor for sturgeon and a well documented site for by-catch problems. As with the other sites it has good road and boat access, a good labor pool; however, there is still a great deal of mistrust in the community toward the CSTC and governments in general.

9.2.2 Traps

Traps came in many sizes, shapes and styles and were used in conjunction with weirs or some kind of barricade or partial barricade. The basket trap was popular made mostly of

willow, or alder, it was shaped into a long, slender, cylindrical shape, tapering into a cone, and placed in smaller streams or at the end of a weir to entrap the fish which were herded down in to it. This method also requires a lot of labor and is not as efficient as barricades. Another issue is that the technology has been lost due to the barricades treaty, few know how to construct a trap any more.

9.2.3 Beach Seining

Beach seining has been successfully utilized on the Skeena River by Gixsan fishers for years and has potential for site specific areas in the Carrier Sekani territories. Beach seining has been piloted at the Nautley River by the Nautley Whut'en from 2002-5. the results of this pilot has been mixed. The actual method has been successful; however the level of commitment by the community has been less than desired, and there is still a high level of mistrust demonstrated by the community as well.

In order for a beach seining program to be successful the CSTC must commit to a planning and research phase, which would focus on preparing gear trials, measuring physical parameters at potential study sites and constructing site specific seine net testing during gear trial phase. Specific gear trial study sites will be selected by technical advisors based on:

- Suitable beach landing areas, where it is possible to allow sufficient net to be left in the water to ensure fish survival;
- Suitable substrate type with minimal cleaning required of the river bottom;
- Consideration of water depth, current, and back eddies;
- Known fish holding sites, based on TEK, visual information, and run size and timing.
- Riparian and habitat

During the trial phase a variety of beach seine nets with varying dimensions and configurations will be tested to determine the appropriate one(s). The length and depth, mesh size and materials will also vary.

The CSTC and any member band engaging in any one of the proposed selective fisheries will have to consider the following:

- Project monitoring

- Quality assurance and control
- Liaise with all CSTC members communities
- Consider data collection and sampling
- Harvest allocations
- Handling, holding and release protocols for non target species

Results are likely to vary due to a variety of factors. It is important to get the process up and running and maintain an open mind to the process as it moves forward. What works in one spot on any given year may not work the following because of environmental or political factors.

10.0 Costs and resources

Responsibility for costs associated with the transition to communal selective fisheries will have to be borne primarily out of the CSTC Fisheries Program with assistance from the federal government. A number of federal agencies will have to support this initiative including Environment Canada (HSP), DFO, and INAC. The CSTC fisheries program should be the lead in developing proposals and programs to ensure resources are best utilized to achieve the objectives laid out in this paper, with the understanding that funding may eventually be replaced through sales or treaty settlements.

11.0 Recommendations

- The CSTC Chiefs immediately review this policy paper and the CSTC Fisheries biologist work with the Chiefs table to explore planning options
- Measures be immediately taken develop the Selective fisheries Committee (SFC)
- Find a neutral party to facilitate the initial phase of development
- Develop clear conflict resolution guidelines for the committee
- Adopt (as an interim) or modify the planning, implementation and management policy components outlined in this paper and initiate planning for 2006.
- Begin a dialogue with DFO and the province to share information and further planning

- Begin 1-5&10 year planning for transition

12.0 Proposed Carrier Sekani Selective Fishing sites Map

