

Nechako White Sturgeon Recovery Initiative 2009-2010 Annual Report



NECHAKO RIVER **WHITE STURGEON**



RECOVERY INITIATIVE



Adult sturgeon being assessed as potential 2009 broodstock.
Cory Williamson, TWG Chair, and Andrea Erwin, technician

From 1994 to 1999, the Province of British Columbia coordinated an intensive study of white sturgeon in the Nechako River. The study came to an unwelcome conclusion - the Nechako white sturgeon are in a critical state of decline. Unless immediate action is taken these great creatures, survivors from the age of dinosaurs, will become extirpated from the Nechako watershed.

With so many stakeholders involved along the entire length of the Nechako River, it was imperative that all interested parties gather together to begin working as a team in recovery planning efforts. This was the beginning of the Nechako White Sturgeon Recovery Initiative (NWSRI). The NWSRI is composed of two committees: the Technical Working Group (TWG), which is responsible for identifying the reasons for the decline of white sturgeon in the Nechako watershed, and for the design and implementation of habitat protection, restoration and management options; and the Community Working Group (CWG), which focuses on increasing the public's awareness and knowledge about the recovery process, as well as the ecological problems facing the Nechako white sturgeon.

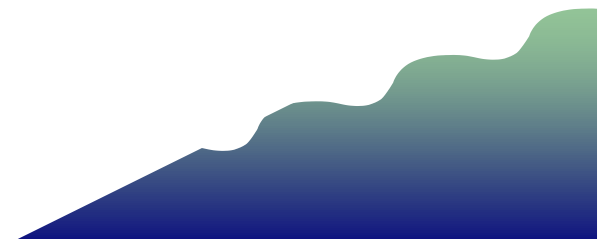
The Nechako White Sturgeon Recovery Initiative is committed to ensuring that sturgeon, from juveniles to adults, continue to live in the Nechako River for many generations to come.

For more information on the NWSRI, and for detailed reports on projects outlined in this report, please visit our website:

www.nechakowhitesturgeon.org

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Messages from the Chairs

Technical Working Group

This field season was very busy for the NWSRI with notable financial and in-kind support for projects from the Carrier Sekani Tribal Council, Rio Tinto Alcan, the Ministry of Environment and the Freshwater Fisheries Society of BC. Projects were diverse in scope, including: brood capture and radio tagging, spawn monitoring, assessments of larval habitat use, larval behaviour and survival, monitoring of juvenile recruitment, evaluating the success of pilot hatchery releases, and adult sturgeon harm reduction initiatives.

Efforts by our partners continue towards our goal of securing funding for the development of a Nechako white sturgeon conservation hatchery in Vanderhoof. A significant short term goal is to preserve the remaining genetic diversity in this critically endangered population.



Cory Williamson, TWG Chair

One of our biggest successes this year was the rearing of more than 70,000 larval white sturgeon to the post-hiding stage (approximately 12 days after hatch) for their subsequent experimental release. To-date, post-hiding larvae have not been observed naturally in the wild in the Nechako and it is highly likely that recruitment failure occurs at and before this stage. Using a novel approach to sturgeon culture, larval Nechako sturgeon were reared in gravel until 12 days after hatch to mimic natural conditions during the hiding phase. These fish were then released in the spawning reach at Vanderhoof to assess their survival and behaviour in the river. This work is one part of the significant effort by the NWSRI's Technical Working Group to determine the cause of the recruitment bottleneck in the first few weeks of life. Eventually, these studies and observations will allow us to develop measures to restore critical spawning habitat.

Cory Williamson, Chair
Technical Working Group
BC Ministry of Environment
March 31, 2010

Messages from the Chairs

Community Working Group

In 2009-2010 the Community Working Group continued to develop a common vision for sturgeon recovery in the Nechako Watershed. The CWG continued implementing a review and update of the Communications Strategy developed in 2003. A final draft was prepared December 2010 and is now available online www.nechakowhitesturgeon.org.

The CWG decided to continue the annual SOS Save Our Sturgeon event, despite not having any juvenile sturgeon to release. The event had a hands on display with samples of river habitat, sturgeon growth development and a talk about sturgeon biology and habitat led by a volunteer. Alongside the Nechako River we had stations set up to measure the water velocity, turbidity and water quality. The last station was set up for children to show the kites they had built, race them against each other and win prizes. Prizes were handed out according to categories; “made with the least impact on the environment”, “best flying”, and “most closely resembling a sturgeon”.

Outreach was also conducted in the form of interviewing First Nations fishers throughout the salmon fishing season (July-October). The by-catch coordinator worked with each community catch monitor to ensure that every fisher that encountered a sturgeon would know their current endangered status as well as the proper procedure for reporting any encounters and safely releasing any live sturgeon.

Outreach materials were also developed for distribution via our website, email and hand outs. A poster was developed showcasing the Vanderhoof spawning reach, as well as two newsletters by CSTC, and NWSRI T-shirts.

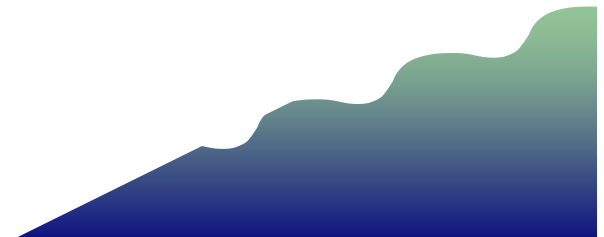
Thank you to all the staff and volunteers who work so hard each year to further the research, education and recovery of this amazing and ancient fish - which lives in our own back yard. I look forward to our continued work together to save this endangered fish.

Mussi (Thank you)

Christina Ciesielski
Community Working Group
Carrier Sekani Tribal Council
March 31, 2010



Christina Ciesielski, CWG Chair



The Teams

Technical Working Group

The Technical Working Group (TWG) was formed in September 2000, and is made up of private sector, federal and provincial biologists as well as First Nations and industry experts. Each member has specific qualifications, including a working knowledge of white sturgeon biology, expertise in stream flow management/hydraulic engineering or experience in other animal recovery initiatives. Some members have a regulatory role with regard to the protection of fish and their habitats in the Nechako watershed.

This team of scientists is responsible for investigating *why* the Nechako white sturgeon population is in decline, and then developing an effective plan to help restore the fish to a self-sustaining population. These strategies are based on the best-available science, local, and traditional knowledge.

Community Working Group

In April 2001, the Community Working Group (CWG) was assembled. Composed of some 20 individuals that represent First Nations, non-government environmental organizations, industry, local and regional governments, and affected public, the group was created to provide input from river stakeholders, and to act first and foremost as a public advocate for Nechako white sturgeon and the Recovery Initiative.

The CWG provides an opportunity for key groups essential to the success of the Nechako white sturgeon recovery plan to become involved in the process. The group focuses on increasing the public's awareness and knowledge about the recovery process, as well as the ecological problems facing the Nechako white sturgeon. It is also concerned with building and maintaining community support for the recovery plan and communicating progress back to their respective organizations.

Together the TWG and CWG work towards a common vision of sturgeon recovery. The TWG works to develop and oversee implementation of the Nechako White Sturgeon Recovery Plan. This includes designing and carrying out the projects that are described in this Annual Report. The CWG is the communication and extension arm of the Initiative, and assists the TWG by garnering public and financial support for sturgeon recovery within the Nechako watershed. By sharing a common coordinator, the two groups maintain a continual flow of information and are able to support each other on projects as needed.

NWSRI TWG & CWG Partnerships

Partners Involved During 2009-2010

The members of both the Technical Working Group and Community Working Group represent a wide range of organizations. Those involved during the 2009-2010 fiscal year included:

BC Ministry of Environment
BC Nature (Federation of BC Naturalists)
BC Wildlife Federation
Carrier Sekani Tribal Council
City of Prince George
District of Vanderhoof
Fisheries and Oceans Canada
Fraser Basin Council
Fraser River Sturgeon Conservation Society

Freshwater Fisheries Society of BC
Lheidli T'enneh
Rio Tinto Alcan Inc.
Sports Fisher representative
Spruce City Wildlife Association
Nechako River Alliance
Nechako Watershed Council
Tl'azt'en Fisheries Program



Future sturgeon ambassadors reviewing one of the NWSRI display panels at the Save-Our-Sturgeon (SOS) Event.

Project Updates for 2008-2009

Pilot Conservation Fish Culture Program

Project Lead: Freshwater Fisheries Society of BC (FFSBC)

Funders: Rio Tinto Alcan \$87,999; Ministry of Environment and Freshwater Fisheries Society \$87,999 and \$29,456 in-kind; and Aboriginal Fund for Species at Risk \$5,000.

Funding note: the combined \$179,998 provided by RTA (\$87,999) and MOE (\$87,999) was used to fund 4 of this year's listed projects: Conservation Fish Culture, Broodstock Capture, Larval Releases and Monitoring, and the Juvenile Indexing Program; however, because work was often carried out simultaneously between projects the funding split could not be accurately determined. To avoid repetition we have only listed the additional funding provided by other sources under those projects.

Year: 4 of a pilot project and ongoing

The objectives of the pilot conservation fish culture program were to maintain some fish from the 2008 year class and to operate a pilot facility and produce larvae for the investigation of substrate rearing and the evaluation of movements by released 15 day old larvae. Fifty seven juvenile fish from the 2008 brood year were kept in a tank and overwintered at the arena. These fish grew to an average weight of 70g and 30 of the largest fish were fitted with internal acoustic tags. The fish were released in April at a Save-Our-Sturgeon release event.

The capture of maturing fish for broodstock was led by Ministry of Environment staff. Seventy-one fish were captured of which two mature females and three mature males were used for spawning purposes. Fish were held at the FFSBC Prince George facility and on May 2 the spawning of both females produced a total of 289,000 eggs. Each female was spawned with each male to create six half-sibling families.

All eggs were incubated at the temporary facilities in Vanderhoof on river water heated to 15°C. After hatching 140,000 larvae were used in an experiment to determine the efficacy of substrate on early larval rearing. An additional 7,200 larvae were given to an UNBC graduate student for continuing studies on substrate effectiveness and 1,000 larvae were used to test the efficacy of downstream drift nets which would be used later in the study.

After the emergence from gravel larvae were placed in standard rearing troughs and fed for 7 days prior to their release into the Nechako River. In total 68,000 fed larvae were released into the river on June 21 and 22 at six test sites. These larvae formed the basis of the fed-larvae study to examine drift and dispersion of early life stage sturgeon. The fed-larvae study was conducted by the Ministry and the NWS-RI partners.

Project Updates for 2009-2010

Broodstock Capture

Project Lead: Ministry of Environment, Carrier Sekani Tribal Council

Funders: Ministry of Environment \$29,456 in-kind; Aboriginal Fund for Species at Risk \$5,000; and, Aboriginal Fisheries Strategy \$3,000.

Year: 4 and ongoing

Similar to 2006-2008 projects, the broodstock capture project for 2009 had three objectives:

- 1) To assess the feasibility of capturing up to 10-12 mature adults for use in a full scale conservation fish culture program with 10-12 family groups;
- 2) To capture 2 pairs of mature adult white sturgeon for spawning; and,
- 3) To capture and radio tag additional mature adults to aid the spawn monitoring project.

Two families were needed in 2009 to produce larvae for use in experiments investigating larval drift. 2009 was a successful year with a total of 71 sturgeon captured during the broodstock program. Sixty-one adults, five sub-adults and five juveniles were caught and tagged between April 30 and May 23. Thirty-one of these fish were first time captures and 40 were recaptures. A total of 19 females (two were reproductively mature) and 43 males (10 were reproductively mature) were captured. Of these, two ripe females and three ripe males were transported to Prince George for spawning. All five fish were spawned successfully.

Ten new radio transmitters were applied to track both wild sturgeon spawners and untagged sturgeon used in conservation fish culture. One sturgeon was also equipped with an electromyogram tag.



Nechako White Sturgeon capture during the 2009 broodstock capture program. (May 9, 2009).



Neil Jantz and Mick McDonald, FFSCB, and Cory Williamson, MOE preparing a white sturgeon for transport to the hatchery.

Project Updates for 2009-2010

Diagnosing the Causes of Recruitment Failure: Larval releases & monitoring drift of 15 day old larvae

Project Lead: Ministry of Environment

Funders: Aboriginal Fund for Species at Risk \$10,000.

Year: 3 and ongoing

While multiple factors have been considered as potential causes of recruitment failure, research has linked substrate changes with sturgeon recruitment failure in the Nechako River. Understanding the impacts of substrate types on larval survival is a critical component of species recovery. Unfortunately little is known about the early life history of white sturgeon and their respective habitat use within the Nechako River. The primary objective of the 2009 project was to release 15 day old hatchery-reared larvae into the Nechako River and to monitor their drift rates through various habitats within the river. Approximately 60,000 larvae were released and monitored at four sites located within, or near, the Nechako Bird Sanctuary Reach of the Nechako River in Vanderhoof, British Columbia. Ministry of Environment, BC Conservation Corps and Carrier Sekani Tribal Council staff teamed up to monitor three sites with drift-nets to assess general drift rates. A fourth site was sampled with a seine net to determine survival and growth rates of larvae. An additional 10,000 larvae were released at two other sites but were not monitored. It was hoped that these larvae would be detectable (captured) as feeding larvae later in the summer.

In summary, an initial pulse of drifting larvae was observed after release. Generally, larvae released into locations comprised mainly of sandy substrates moved quickly through the monitoring sites. Larvae released over sites with substrates containing a mixture of gravel and sand tended to be detectable over a longer period of time at monitoring sites. This suggests that larvae were able to find resting / hiding habitat before drifting downstream when released into sites containing gravel. Larval growth and survival was monitored at the fourth site but was unsuccessful as no sturgeon were recovered.

A secondary objective of this project was to sample a variety of sites with a beach seine to determine habitat use, growth rates and food of feeding sturgeon larvae and to determine the species and size of potential sturgeon predators in larval sturgeon habitat. Unfortunately, no larvae were recovered and consequently growth rates could not be determined. A variety of species of potential predators were captured and assessed including Northern pikeminnow (*Ptychocheilus oregonensis*), Prickly sculpin (*Cotus asper*), chinook (*Oncorhynchus tshawytscha*) and sockeye salmon (*Oncorhynchus nerka*). It is possible that the larval sturgeon survived. If they did survive we should be able to capture them again in the next couple of years.



Sifting through drift net samples for larval sturgeon. BC Conservation Corps staff: Cody Naples, Carolyn McCook, Rob Bell, Ian McCook and Jessica Courtier, and MOE employee Steve McAdam. (June 2009)

Project Updates for 2009-2010

Juvenile Indexing Program

Project Lead: Ministry of Environment and Carrier Sekani Tribal Council

Funders: Carrier Sekani Tribal Council \$5,000 in-kind; Prince George Nechako Aboriginal Employment and Training Agency \$10,000 (PGNAETA funds were used to help cover the labour costs for all projects that included CSTC).

Year: 6 and ongoing

The intent of the juvenile indexing program is to develop a methodology for a long term indexing program for the purposes of monitoring natural juvenile recruitment levels, as well as the growth, survival and distribution of conservation fish culture juveniles. In previous years various sampling techniques, such as gillnets, cod traps, beach seines and angling, were used in an attempt to capture and assess sturgeon under 1 meter in length.

The objective of the 2009 program was to investigate alternative capture techniques in an attempt to increase the overall capture rate of juvenile sturgeon. This year, crews used set-lines and angling as primary sampling techniques. Nine sturgeon, all juveniles were captured on set-lines. Eleven sturgeon, representing six juveniles, two sub-adults and three adults were captured on angling gear. Gillnets and seine nets were also employed as capture techniques, however no sturgeon were captured using either of those methods.

In total, 15 juvenile white sturgeon were captured during the 2009 assessment; more than in any other year of this program! These juvenile sturgeon ranged in length from 30 to 99 centimeters (fork length) and in weight from 0.15 to 5.85 kilograms. One of these fish was a conservation fish culture-reared juvenile fitted with an acoustic tag that had been released in June 2009.



BC Conservation Corps staff, Andrea Erwin & Cody Naples, holding a juvenile sturgeon captured during the 2009 program. (August 28, 2009).



Released juvenile Nechako white sturgeon sampled during the fall 2009 juvenile indexing program.

Project Updates for 2009-2010

Adult Spawn Monitoring (Telemetry, Egg Mats and Drift Sampling)

Project Lead: Ministry of Environment

Funders: Rio Tinto Alcan \$28,000; Aboriginal Fund for Species at Risk \$15,000; Aboriginal Fisheries Strategy \$3,000.

Year: 6 and ongoing

Since spawning sturgeon were first observed in the Nechako River at Vanderhoof in 2004, the NWSRI has conducted monitoring annually in late May through early June to better understand why this ancient lineage of fish is not reproducing successfully. In spring 2009 our main objectives were to precisely determine the locations and timing of spawning relative to water temperature and habitat features within the 3 km long spawning reach. This information will enable NWSRI biologists to plan the best approaches for future habitat restoration.

In 2009, Triton Environmental Consultants and the Carrier Sekani Tribal Council conducted spawn monitoring work while the Ministry of Environment and volunteers completed brood capture and tagging. Multiple techniques were used to determine where and when Nechako white sturgeon spawned. First, a brood capture and tagging program was initiated in late April to locate and apply radio transmitters to mature adults that were ready for spawning. A total of 71 sturgeon were captured, 12 of which were identified as mature males and used for this study. Three mature males and two ripe females were spawned for related studies on larval habitat requirements. To predict the timing of spawning to initiate programs to monitor for eggs, radio tracking with the use of boats, aircraft and fixed-position radio-telemetry stations. As in previous years, sturgeon were observed congregating within 5 km of Vanderhoof by late May and egg mats were placed on May 29th.

Spawning was first observed through the capture of eggs on egg capture mats placed on the river bottom on June 2nd and multiple spawning events were observed up until June 9th. Spawning was recorded throughout the spawning reach over the 2 km of braided river upstream of the Burrard Avenue Bridge upstream. Habitat observations made using underwater video indicated that the river bottom at all spawning sites was primarily gravel surrounded by fine sediments that would prevent sturgeon eggs and larvae from surviving. Information collected in this study will be used to determine sites for future experiments aimed at habitat restoration. Future spawning studies will be directed at experimentally modifying impaired habitats and then monitoring spawning and incubation success.



Mayor, Gerry Thiessen- releasing a rare sub-adult Nechako White sturgeon near Vanderhoof, BC.

Project Updates for 2009-2010

Juvenile (Acoustic) Monitoring Project

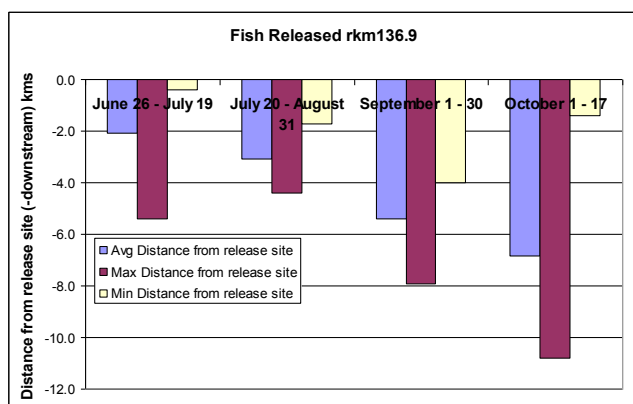
Project Lead: Carrier Sekani Tribal Council

Funders: Aboriginal Fund for Species at Risk \$25,000 and Aboriginal Fisheries Strategy \$5,000.

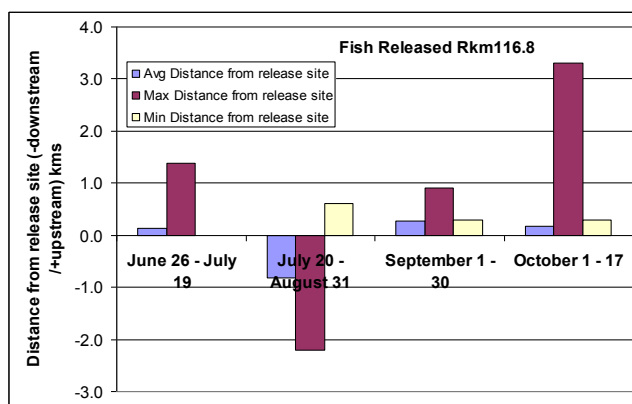
Year: 1 complete

A small group (200) of juvenile white sturgeon hatched in the pilot hatchery in the spring of 2008 were reared through the winter in Vanderhoof for release in the spring of 2009 (as 1-year-old fish). Thirty of these 1-year-old white sturgeon were implanted with tags that each emit a unique acoustic signal, and released in two groups of 15 fish (along with the other non-tagged 1-year-old hatchery reared fish) in two locations on the Nechako River in late June 2009. Roving surveys to detect the acoustic tags' signals were completed daily for the first two weeks post-release, and periodically until October 17 (27 roving surveys in total). Stationary acoustic receivers were installed at upstream and downstream boundaries of the study area. This provided an opportunity to observe the dispersal patterns of the fish from their release locations, and also document the habitats utilized and preferred relative to the river's physical conditions.

Monitoring of the locations of the tagged fish indicated that the group released at the upper location (rkm 136.9 - Vanderhoof) migrated continuously downstream throughout the monitoring period, with the average location at last detection being 5.7km from their original release location. Tagged fish released at rkm 116.8 (a known over-wintering location) moved far less on average, demonstrated a strong affinity for their approximate release location, and their location at final detection was on average 200m from their release location. The depths at which fish were detected were generally deeper for fish released at rkm 116.8, except during the STMP (high) flow period. Differences in fish behaviour were noted between the groups during the STMP (high) flow period, with fish released at rkm 116.8 moving the greatest observed amount, and the fish released at rkm 136.9 their least. No significant differences in fish detectability or inferred survival (the latest date at which a fish was detected) were noted between the two groups. The study has provided valuable information for the purposes of release strategies of future conservation-based fish culture operations.



Distance of tagged fish from their release site during 4 portions of the monitoring period (fish released at rkm136.9).



Distance of tagged fish from their release site during 4 portions of the monitoring period (fish released at rkm116.8).

Project Updates for 2009-2010

Effects of River Substrates on Larval White Sturgeon Behaviour

Project Lead: Ministry of Environment, University of British Columbia

Funders: Rio Tinto Alcan Inc. \$19,000

Year: 3 and ongoing

Investigations of the role of substrate in the recruitment failure of Nechako River white sturgeon have been ongoing since 2004. As part of that work recent findings have identified that substrate condition, and in particular the spaces present within gravel substrates, may play an important role in the survival and development of larval white sturgeon. During 2009 further investigation of the effects of both substrate condition and temperature on larval development were conducted by Marcus Boucher as part of his M.Sc. research project at the University of Northern BC. In 2009, Marcus' research showed that even though the larvae may only spend a short time within the gravel, they show significantly improved growth and survival over those reared without substrate. Marcus's research will continue to investigate the role of substrate as it relates to the recruitment failure of Nechako white sturgeon through 2010.



A 15 day post hatch Nechako white sturgeon larvae that is 18 mm long.
Photo: Gerrit Velema

Community Education, Outreach & Harm Reduction Programs for 2009-10

Communications Plan for the Community Working Group

Project Lead: NWSRI Community Working Group and Carrier Sekani Tribal Council

Funders: NWSRI CWG and TWG \$16,240 in-kind; Habitat Stewardship Program \$5,000 (NWSRI); and Carrier Sekani Tribal Council \$5,120 in-kind.

Year: 9 and ongoing

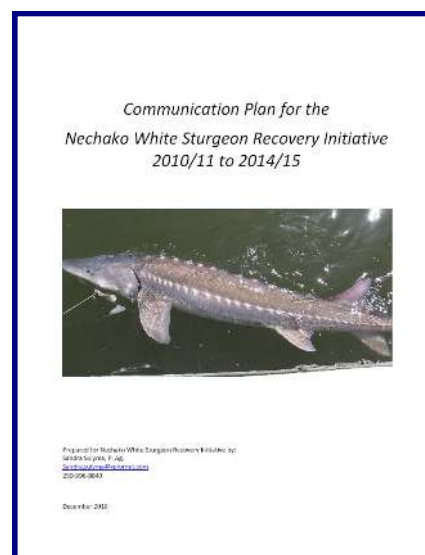
In the 2009-2010 fiscal year the CWG continued implementing a review and update of the Communications Strategy developed in 2003. This Communication Plan was driven by desired outcomes (changes) that need to occur in order to move forward towards the successful recovery of the Nechako white sturgeon population. A contractor, Sandra Sulyma, was hired through the NWSRI to lead the development of the Communication Strategy. Mrs. Sulyma and Cora McIntosh (CSTC by-catch monitor) assisted with the planning and development of the presentations, meeting format, participant surveys, meeting times and locations.

The CSTC by-catch monitor and Program Manager worked with the NWSRI contractor to arrange community meetings in 5 First Nation communities between July 2009 and February 2010. Meetings were conducted to ensure the needs of First Nation communities within the watershed as they relate to sturgeon were identified and included a presentation, discussion and member feedback survey. Meetings were held in Saik'uz, Nak'azdli, Tl'azt'en, Takla, Vanderhoof and Fort St. James.

"I found for the most part there were a good number of new people attending the workshop. Having someone in each community to reach out to their members proved to be very useful. I have realized, for the most part, every community had the same issues. It's a good start to getting a little more involvement in each community." Cora McIntosh, Saikuz member

The communications plan was developed to guide the NWSRI in ways to promote positive changes in human behaviour for specific target audiences towards white sturgeon and the initiative. The outreach and harm reduction activities contained within the plan are aimed at education and awareness that fosters increased community desire to conserve sturgeon and reduce mortality associated with by-catch by promoting stewardship which leads to the desire to release fish alive. Fostering stewardship and empowerment in the initiative increases the potential for the eventual recovery of the population.

A draft report was produced during this fiscal year, and the Communications Plan was finalized in December 2010 (the following fiscal year). It is available for download from the Nechako White Sturgeon web site: www.nechakowhitesturgeon.org



Outreach and Harm Reduction Programs, 2009-10

Save-Our-Sturgeon Community Event

Project Lead: Community Working Group

Funders: Fraser Salmon Watershed Program \$10,000; Resources North Association \$2,000; and NWSRI TWG and CWG \$37,840 in-kind

Year: 4 and ongoing

At previous Save-Our-Sturgeon (SOS) events children were able to release a 4 month-old juvenile white sturgeon into the Nechako River as part of the NWSRI's continuing effort to help restore the endangered white sturgeon stocks. Unfortunately due to funding constraints in 2009, there was no funding for a pilot hatchery and consequently no juvenile sturgeon for the kids to release into the Nechako River this year.

Regardless, the CWG decided to continue the annual SOS event and with a little innovation we were still able to put together an engaging and fun filled day. This year's focus was on Grades 4 through 7 to increase the number of schools able to participate and get a wider range of students from across the district. This event allowed over 200 local school children learn about white sturgeon biology and conservation, and water quality in the Nechako River. By the rivers edge, we set up three work stations for the students. High school students and volunteers assisted at each station. Station 1 was measuring the water flow velocity (meters per second). Station 2 looked at the amount of turbidity in the Nechako River. The third station focused on measuring water quality. At the picnic shelter we set up some hands on stations with invertebrates collected from the river, as well as having a volunteer discuss Sturgeon biology and their habitat. Students were encouraged to build their own kite with a sturgeon theme using environmentally friendly materials and bring it to compete against other classes. The event was held with great success on October 7-8, 2009 in Vanderhoof, BC.

Learning how to test the water quality of the Nechako River



Discovering what sturgeon eat



This way for Sturgeon fun!



Flying their sturgeon kites



Learning sturgeon biology from TWG Chair Cory Williamson

Outreach & Harm Reduction Programs for 2009-10

Promoting Harm Reduction and Monitoring By-catch in the Nechako Watershed FSC Fisheries

Project Lead: Carrier Sekani Tribal Council

Funders: Habitat Stewardship Program \$17,250 (CSTC); Aboriginal Fisheries Strategy \$1,005; Carrier Sekani Tribal Council \$5,120 in-kind; Fraser Salmon Watershed Program \$5,000; and NWSRI \$800

Year: 1 and ongoing

This year's outreach and education component also included a program lead by the Carrier Sekani Tribal Council aimed at monitoring sturgeon by-catch associated with the First Nations Food, Social and Ceremonial (FSC) gill net salmon fishing season. By-catch refers to the catch of untargeted species when fishing/netting. The focus of the by-catch monitor is to share information with CSTC's eight member First Nation communities about the NWSRI, the CSTC's role in the Initiative, and the status of the Nechako white sturgeon population.

In July 2009, Cora McIntosh was hired as a community outreach and harm reduction by-catch monitor. She interviewed First Nations fishers throughout the FSC salmon fishing season (July-October) and worked with each Community catch monitor to ensure that every fisher that encountered a sturgeon would know the proper procedure for reporting encounters, how to safely release by-caught sturgeon, and the sturgeons' current endangered status. She focused the by-catch outreach and monitoring on fishers in First Nation communities that are within the Nechako watershed. As the by-catch monitor she regularly met with the 5 FSC catch monitors to identify and address sturgeon related issues associated with the salmon gill net fishery. The by-catch monitor was able to reach more communities this year because she also participated in the development of the NWSRI CWG Communications Strategy presentations held at Saik'uz, Nak'azdli, Takla, Tl'azt'en, Vanderhoof and Fort St. James. She also kept track of any sturgeon captures, sightings or mortalities. Post season encounters between fishers, Conservation and Protection personnel and the by-catch monitor were compiled and compared. A total of 18 sturgeon were encountered between May 12 to September 8, 2009. Fifteen sturgeon were released alive and 3 died. One sample was obtained from a sturgeon caught in Stuart Lake.



Cora McIntosh, by-catch monitor and Saik'uz First Nation Councilor, with Gerald Mole, Saik'uz First Nation member, pulling gill nets set for the FSC fishery.

NWSRI MANAGEMENT & CONSERVATION GOALS

NWSRI Coordination and Data Management

Project Lead: Carla Wainwright—NWSRI Coordinator

Funders: Ministry of Environment \$11,000, Department of Fisheries and Oceans \$3,000, Habitat Stewardship Program \$2,800.

Year: 8 and ongoing

The Nechako White Sturgeon Recovery Initiative requires coordination, administrative and technical support in order to be effective. The coordination and administrative support involves the following services: organizing meetings; tracking action items; completing technical tasks assigned by members of the Recovery Initiative; assisting in project proposal development and Terms of Reference for projects; assistance in the development of funding proposals; website maintenance and updating; and, where necessary, assisting team members with their assigned tasks. Technical support is provided to ensure scientific accuracy and technical expertise in planning and executing recovery tasks.

The Nechako White Sturgeon Database continued to be updated with all new sampling, biological, tagging and radio telemetry data. The 2009 Save our Sturgeon Event with School District 91 was organized and assistance was given to help complete the 5 year NWSRI Communications Plan.



Carla Wainwright, NWSRI Coordinator



Children learning about sturgeon at the Save-Our-Sturgeon Event. The organization of outreach events such as the SOS are one of the many duties of the NWSRI Coordinator.

NWSRI Management & Conservation Goals

Conservation Fish Culture: Construct and Operate a Permanent Production Facility

Project Lead: Freshwater Fisheries Society of BC

Funders: Funding application was not successful; Program continues to seek funding

Year: 1 of 25

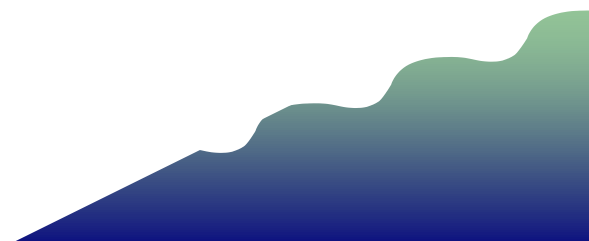
In 2009 a proposal for funding to build a new state-of-the-art recirculating conservation fish culture facility was submitted to the Community Adjustment Fund. Western Economic Diversification was the agency distributing the funds on behalf of the Federal government's infrastructure programme. Along with the FFSSBC other partners in the proposal represented all aspects of the community: First Nations, the District of Vanderhoof, the University of Northern British Columbia, Rio Tinto Alcan, various fish and wildlife organizations, the Vanderhoof School District and many other community interest groups.

The facility was dubbed the Nechako White Sturgeon Recovery Facility and has the primary purpose of assisting in the recovery of the Nechako sturgeon. Of major importance to the community is the creation for jobs through construction, material supply, local contracting, ongoing maintenance and skilled labour. The objective of the Facility is to be the hub of not only white sturgeon recovery and local employment, but to assist in watershed stewardship. The facility will provide space for fish culture, community education, research, equipment storage and a permanent place to continue exploring the intricacies of the Nechako watershed ecosystem.

The facility itself will be a hatchery for eggs and larvae and a nursery for juvenile sturgeon that are returned to the river in either the fall or the spring of the following year. The design was driven by the Nechako White Sturgeon Recovery Plan and has the capacity to hold up to 20 broodstock fish for spawning. Up to 12 individual maternal families can be held separately until they are large enough to receive a PIT tag, be scute marked and returned to the river.

The facility will also be a recirculating aquaculture system and will therefore use only a small amount of river water supplied through an infiltration gallery located near the river. Because the fish culture water is recirculated, only a small amount of river water - less than 5% of the total volume - is needed to service the culture tanks. This system solved a big problem of how not to divert river water, keep the unique chemical signature of the water, reduce pumping costs, ensure supply during the winter and limit water discharge.

In the end, the application was not accepted for funding by the Community Adjustment Fund, but the Technical Working Group was not dissuaded and project partners continue to look for other opportunities for funding.



Financial Summary for 2009-2010

During the 2009-2010 fiscal year, project funding was \$471,129 (\$362,353 and \$108,776 in-kind) which is \$500,663 less than last year's budget. Once again, project dollars came from a variety of sources including industry, government, environmental funding sources, and volunteer hours. The following is a breakdown of both financial and in-kind contributions to the NWSRI for 2009-2010:

BC Ministry of Environment (MOE) – \$11,000 and \$39,456 In-Kind

Freshwater Fisheries Society & MOE – \$87,999

Carrier Sekani Tribal Council – \$15,240 In-Kind and \$82,500 from:

Aboriginal Fisheries Strategy – \$12,005

Aboriginal Fund for Species at Risk – \$60,000

Prince George Nechako

Aboriginal Employment and Training Agency – \$10,000

Fisheries and Oceans Canada – \$3,000

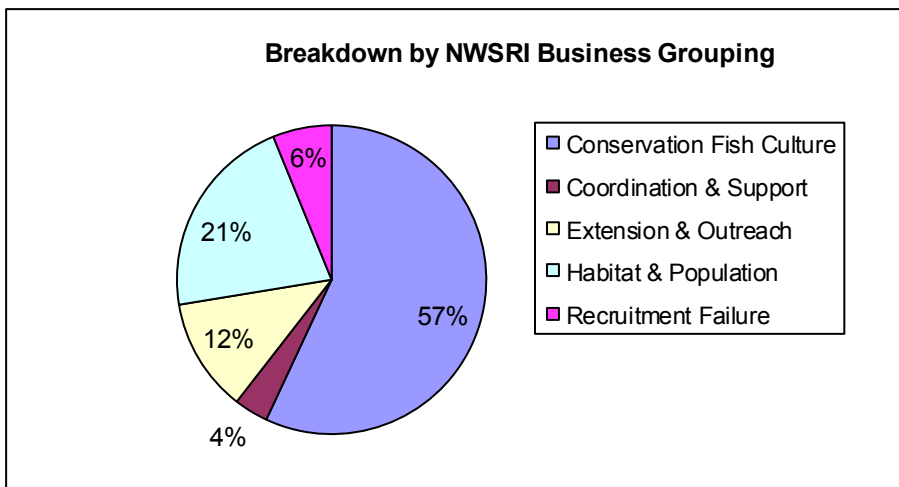
Fraser Salmon Watershed Program—\$15,000

Habitat Stewardship Program – \$25,850 (\$8,600 NWSRI, \$17,250 CSTC)

NWSRI Community Working Group - \$500 and \$54,080 In-Kind

Resources North Association – \$2,000

Rio Tinto Alcan Inc. – \$134,999



The NWSRI would like to extend a sincere thank you to all of the groups and individuals who have contributed funds, time and/or other in-kind contributions. This support is essential to the success of the Initiative and the recovery of white sturgeon in the Nechako watershed.

Photo Credits:

We gratefully acknowledge the use of photos for this annual report from the following organizations:

- Carrier Sekani Tribal Council
- Freshwater Fisheries Society of BC
- BC Ministry of Environment
- Chris Mushumanski, School District 91
- Gerrit Velema
- Ty Roberts, CNC
- Nechako White Sturgeon Recovery Initiative



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