

RECOVERY INITIATIVE

White Sturgeon Status

In Canada, white sturgeon are primarily resident in only two watersheds, the Fraser and Columbia rivers, where their populations are much reduced because of historical over-fishing and hydrologic changes resulting from dam building. Accurate estimates of sturgeon numbers are not available, but the number of mature individuals is critically low in many areas. To assist with population recovery, the harvest of sturgeon has been illegal in British Columbia since 1994.

In the Kootenay River drainage, which straddles the Canada United States border, sturgeon have not reproduced since about 1974, and only 800 to 1000 adults remain. That population has been declared endangered under the U.S. Endangered Species Act. In other portions of the Columbia system in Canada, the remaining landlocked populations are also small and may be affected by limited spawning success.

Fraser River sturgeon, though much reduced from historical levels, appear to be holding their own and might increase now that harvests have been curtailed. However, the Nechako River white sturgeon population is endangered. In 1999, BC Environment and BC Fisheries com-



(photo by Rena Zatorski, courtesy of Lheidli T'enneh First Nation)
Jason Yarmish and Domo Fredrick holding a three metre long white sturgeon captured in the upper Fraser River

pleted a five-year study of the status of white sturgeon in the Nechako River. The results of the study revealed that Nechako River white sturgeon are in a critical state of decline, and that they will likely become extinct within the next 20 to 30 years unless prompt action is taken to restore the population. Provincially, white sturgeon has been given Red List status (species being considered for legal designation as Endangered or Threatened).

“However, the Nechako River white sturgeon population, is endangered.”

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Unique Fish

White sturgeon are certainly unique. Their physical appearance, in particular their plates of armor, give them a prehistoric look. Indeed, the fossil record tells us that sturgeon have changed relatively little for millions of years. Despite this, they are survivors, having successfully persisted through eons of climatic change, including ice ages. They have found a niche today as scavengers and predators in a few large, productive lakes and rivers.

Among fish, their reproductive habits are also quite unusual. Adults require 15 to 30 years to reach sexual maturity, spawn at intervals of up to

10 years, and can deposit a million or more eggs at a single spawning.

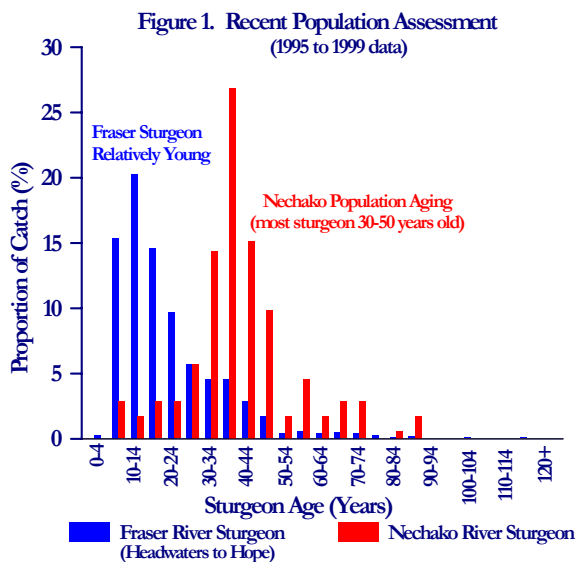
Two imposing features of the white sturgeon - their huge size and their rows of bony shields (or scutes) - set this fish strikingly apart from other fresh-water species in the province. Reaching 6 m in length, 635 kg in weight and over 100 years in age, this is the largest freshwater fish in Canada. The white sturgeon remains a beast of much mystery and awe because of its reclusive habits and choice of dark or muddy waters, where observation and study are difficult.

“Reaching 6 m in length, 635 kg in weight and over 100 years in age, this is the largest freshwater fish in Canada.”

In Our Backyard ...

After years of research, fisheries scientists now suspect that Nechako River white sturgeon are not reproducing at all, or that reproduction is taking place so slowly (or unsuccessfully) that fish numbers are rapidly declining towards possible extinction. What is the evidence for the apparent “reproductive” or “recruitment” failure? The evidence comes from years of data on population structure, and more recently from investigations of population genetics (or DNA). As shown by the blue bars on Figure 1, population data collected between 1995 and 1999 indicate the white sturgeon population in the Fraser River (from Torpy River, upstream of Prince George to Hope) is largely composed of fish younger than 20 years, with relatively fewer fish representing the older age classes. The structure of the age distribution observed in the Fraser River is one that would be expected from a healthy and sustainable population such that there are more fish in the younger age classes than in the older age classes (i.e., fish die as they age, as is the case in most animal populations). Moreover, the prevalence of young fish in the Fraser River would seem to confirm successful reproduction is taking place.

“After years of research, fisheries scientists now suspect that Nechako River white sturgeon are not reproducing at all, or that reproduction is taking place so slowly that fish numbers are rapidly declining towards possible extinction.”



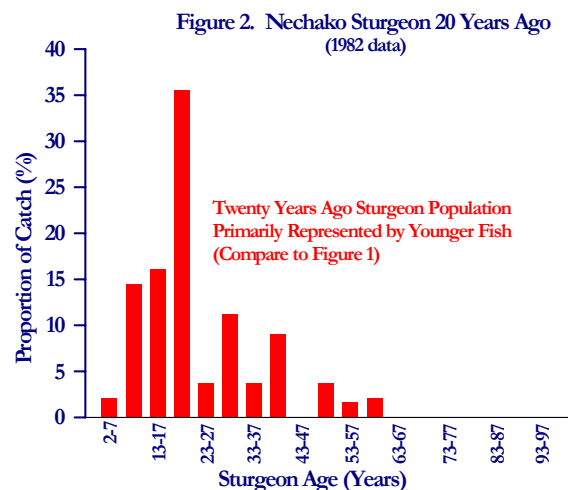
While there is evidence Fraser River white sturgeon are successfully reproducing, population data collected from the Nechako River over the period 1995 to 1999 would seem to support the idea there has been a recruitment failure in the Nechako population. As shown by the red bars on Figure 1, most of the white sturgeon in the Nechako River are between the ages of 30 and 50 years, with relatively few fish representing younger age classes. So what does this mean? Simply put, the scarcity of young sturgeon in the Nechako River means older fish in the population will not be replaced as they die by younger fish and, perhaps more importantly, reproduction rates are either very low or mortality rates of young life stages are high. The low numbers of young white sturgeon in the Nechako River will, in the future, mean there will be fewer numbers

Reproductive Failure

of fish reaching reproductive maturity.

An alternate hypothesis has been put forth. It has been suggested that low numbers of young sturgeon are observed in the Nechako River because spawning and rearing takes place outside of the Nechako River (e.g., in the Fraser or Stuart rivers). Fitting with this hypothesis, it has been further suggested that young fish born outside of the Nechako River do not move into the Nechako until they reach maturity; thus explaining the apparent lack of young sturgeon in the Nechako River. However, biologists who have been studying white sturgeon in the Nechako River for several years have more-or-less dismissed the possibility there has not been a recruitment failure. One argument defending the conclusion of recruitment failure is that young sturgeon have historically been observed in

the Nechako River and the present near-absence of young sturgeon is a relatively recent occurrence. In support of this argument, population data collected in 1982 clearly show young sturgeon were, at one point in time, prevalent in the Nechako River (see Figure 2). The white sturgeon in the ± 20 -year age classes observed in 1982 (Figure 2) are very likely from the same cohort as those observed in the ± 35 -year age classes during the 1995 to 1999 surveys (15 years later; see Figure 1). Furthermore, recent comparisons of the DNA of Nechako River versus Fraser River white sturgeon have shown the Nechako population is reproductively isolated from the Fraser populations (i.e., Nechako River sturgeon are genetically distinct from Fraser River sturgeon). According to Don Cadden (Regional Biologist, Ministry of Water, Land and Air Protection), the results of the genetics study are consistent with observations made during radio-telemetry tracking investigations that have shown movements of Nechako River sturgeon into the Fraser River are fairly uncommon.



One of the objectives of the Nechako River White Sturgeon Recovery Initiative is to learn more about the ecological and environmental factors that control white sturgeon reproduction and survivorship, and to use this knowledge to develop a strategy that will ensure the future success of white sturgeon in the Nechako River.

In Our Backyard ...

Sturgeon in the Fraser River Watershed

According to the brochure titled the "White Sturgeon, Wildlife in BC at Risk" (BC MELP 1997), the lower Fraser River sturgeon population was over-fished between the years 1880 and 1915. Further, the die-off of about 35 large female white sturgeon found on the shores of the lower Fraser River in 1993 and 1994, prompted serious questions regarding sturgeon survival. Following the last event, the provincial and federal governments prohibited commercial and recreational white sturgeon fishing, and First Nation groups decided to also stop their white sturgeon fishing activities. These measures were undertaken to allow the wild Fraser River white sturgeon population to increase in numbers.

The scientific authorities commissioned a five-year monitoring program to evaluate the status of the white sturgeon population in the Fraser River. The main investigator was R.L. & L. Environmental Services Ltd., but several other groups have also contributed to the study or are still investigating white sturgeon populations. Some of these studies are presented in more detail in this newsletter. Additional studies will also be presented in future newsletters.

- **R.L. & L. Environmental Services Ltd.** has been investigating Fraser River white sturgeon populations since 1995 (See page 4).
- **Limnotek Research and Development Inc.** tracked radio-tagged white sturgeon to their spawning grounds, and collected eggs and larvae in 1998 and 1999. As a result, spawning habitats present in the lower Fraser River (downstream of Hell's Gate) were described and the time of spawning was determined.
- **Rivers North** (www.riversnorth.bc.ca), a licensed guide and sturgeon charter owned by Gord Parfitt, participated in the study by angling for white sturgeon in the Fraser River from Blackwater River to Tete-Jaune Cache in 1998. Most white sturgeon were caught only up to Torpy River (an area between Prince George and McBride). Several tributaries, such as Blackwater, Nechako, Bowron, McGregor, and Torpy rivers were angled as well. In 2002, there is a possibility that Pauline Heaton from Water Vision will work with Gord to produce a film on the white sturgeon.

- The **Fraser River Sturgeon Conservation Society** has been successful in bringing together various parties who are concerned about the white sturgeon of the lower Fraser River since 1998 (See page 5).
- **Triton Environmental Consultants Ltd.** conducted a Nechako River juvenile white sturgeon study for Alcan Smelters and Chemicals Ltd. in 1999.
- Jason Yarmish and four members of the **Lheidli T'enneh First Nation** have been actively investigating the upper Fraser River white sturgeon population since 1999 (See page 5).

"Further, the die-off of about 35 large female white sturgeon found on the shores of the lower Fraser River in 1993 and 1994, prompted serious questions regarding sturgeon survival."

More studies are being conducted with the intention of closing some gaps in the data; as well, more education is being provided to the public regarding the white sturgeon. For example, since March 8th, **The Exploration Place** has had First Nations and fish exhibitions that present various information concerning the Carrier Sekani Tribal Council fisheries program; the upper Fraser River white sturgeon study conducted by the Lheidli T'enneh First Nation; and a model of the temporary salmon fence on the Chilako River that has been constructed and monitored by the Spruce City Wildlife Association for the last three years. Furthermore, on Wednesday April 17th, Jason Yarmish (Lheidli T'enneh First Nation) will be the guest speaker of the **Prince George Naturalists Club**. Jason will be presenting the results of three-year study on the upper Fraser River white sturgeon population.

Finally, because of the small number of juvenile white sturgeon estimated in the Nechako River and the possibility of recruitment failure (see page 2), the Action Planning Group and the Recovery Team are considering the possibility of saving the endangered species by practicing conservation aquaculture.

Status of the Nechako River Stock from R.L. & L. Environmental Services Ltd. (2000, pg. 84)

"Nechako River white sturgeon displayed a population structure that was similar to that described for the other white sturgeon populations in regulated systems. Results of the Fraser River White Sturgeon Monitoring Program suggested the population consisted predominately of older fish and that spawning success and recruitment were low. The size of the stock in the Nechako and lower Stuart rivers was estimated at less than 600 fish. Movement data indicated the population moved extensively within the mainstem Nechako River for feeding, overwintering, and possibly spawning purposes, with some individuals moving between the Nechako and Stuart rivers. Movements in the Nechako River were generally more frequent and of a lar-

ger distance, than movements observed in other areas of the Fraser River drainage. Some of the large-distance movements were thought to be spawning related, such that fish may have been moving to spawning habitat in the lower Nechako River near Isle Pierre and Whitemud rapids. Several other areas also were identified as being potentially suitable for spawning (Hulatt Rapids, Nautley River - Fraser Lake outflow, lower Stuart River). The maturation and growth of the population was slow which may be attributed in part to factors such as the short growing season and food abundance."

For more information download the pdf report file at <http://wlapwww.gov.bc.ca/nor/fish/sturgeon.html>

In Our Backyard ...

A five-year study of white sturgeon in the Fraser River was initiated by the province in 1995 to help determine the status of white sturgeon stocks. Fisheries biologists, First Nations, and numerous volunteers throughout the province participated in the study. As part of the study, sturgeon were captured, primarily by angling and using set-lines,



(photo by Francine Audy,
courtesy of R.L. & L. Environmental Services Ltd.)

Nechako River white sturgeon in a stretcher

long rope lines with numerous hooks baited with pieces of sockeye salmon. Life-history data, such as fork length, total length, weight, and girth, were recorded by the researchers. The fish were checked for injuries or evidence of previous capture, such as tags. In addition, a small piece of the pectoral fin ray was removed by the researchers for aging purposes; a small piece of pectoral fin was also collected for DNA analysis. All sturgeon had a passive integrated transponder (PIT) tag implanted under their skin. The PIT tag is uniquely numbered, allowing the fish to be easily identified using a PIT tag reader, a tool that recognizes data from the PIT tag through the fish's skin (a process similar to bar coding at the grocery store).

Juvenile (< 1.0 m length) and sub-adult sturgeon (1.0 to 1.5 m length) were released following this examination. The sex and maturity of adult sturgeon (> 1.5 m length) were determined by examining the reproductive organs with an otoscope through a small incision in the sturgeon's belly. The otoscope allows the researcher to examine the testes

Methods for the Fraser River White Sturgeon Monitoring Program

(male) or ovaries (female) to determine the state of maturity of the fish. An experienced biologist can differentiate testes from ovaries and can even approximate when a sturgeon will spawn next. Following the examination, male sturgeon were released. Most mature female sturgeon were fitted with a radio-transmitter tag that attached to the dorsal scutes before being released.

Telemetry is the way biologists can follow the movement of tagged female sturgeon, and helps researchers identify habitats for overwintering (feeding and resting areas during winter period), spawning (areas where adults meet for reproduction purposes), and rearing (as overwintering, but for the rest of the year). Tagged individuals were tracked with a receiver and antenna, and tracking was conducted by helicopter, plane, or boat. Each radio transmitter was uniquely coded, allowing individual sturgeon to be identified. The researchers tracked the sturgeon a number of times each year to help develop an understanding of the timing of sturgeon movements.



(photo by Francine Audy,
courtesy of R.L. & L. Environmental Services Ltd.)

Corey Stefura making incision on a Nechako River white sturgeon

Fraser River Sturgeon Conservation Society

On October 29, 1998, a group of biologists, anglers, conservationists, and government employees came together to form the Fraser River Sturgeon Conservation Society. The society is a non-profit organization, whose members actively participate in the conservation and restoration of wild Fraser River white sturgeon.

A two-year population and distribution study conducted by the society was recently completed. This study utilized the skills and energy of the true stewards of the resource - recreational fishermen, fishing guides, First Nation fishermen, and test fishery operators - to tag, measure, and release approximately 10,000 sturgeon in the lower Fraser downstream of Yale. Recaptures of these tagged sturgeon, and the resultant data, has provided new information on the population and migration behavior of the lower Fraser

River white sturgeon population.

A project report to the society (Nelson *et al.* 2002, Draft) indicated that some of the movements observed during the tagging program were likely related to the seasonal availability and location of specific prey items, including eulachon (*Thaleichthys pacificus*) in the spring and Pacific salmon species (especially the carcasses and roe of pink and chum salmon) in the late summer and fall.

Results from the study will be useful for the development of both recovery and strategic management plans for Fraser River white sturgeon.

For more information, contact:

Troy C. Nelson, Program Manager/Biologist
Fraser River Sturgeon Conservation Society
E-mail: tnelson@lgl.com

In Our Backyard ...

Jason Yarmish and four fisheries technicians from the Lheidli T'enneh First Nation (Domo Fredrick, Rena Zatorski, Irvine Gagnon, and Leona Prince) have been studying the upper Fraser River white sturgeon population since 1999. The study area encompasses the Fraser River from the confluence of the Blackwater River, south of Prince George, upstream to the confluence of the Goat River near McBride (over 400 km). A great variety of habitats have been sampled and many tributaries, including the lower portion of the Nechako, Bowron, and McGregor rivers were studied.



(photo by Rena Zatorski, courtesy of Lheidli T'enneh First Nation)

Jason Yarmish and Domo Fredrick holding an adult white sturgeon from the upper Fraser River

To date, over 200 white sturgeon have been captured, tagged, and released. Analysis of DNA from captured sturgeon indicates genetically unique populations, reproductively distinct from sturgeon found in both the Nechako and lower portions of the Fraser River (i.e. Quesnel area). Recapture data from tagged sturgeon indicate white sturgeon exhibit a large degree of movement within the upper Fraser

Lheidli T'enneh First Nation

River watershed. White sturgeon from the upper Fraser River were separated into two age classes: juveniles (less than 1.0 m length) and adults (greater than 1.0 m length). Researchers have observed a variation in length between white sturgeon populations in the southern and northern portions of the Fraser River. It is thought this is mainly because of a slower growth rate in the north caused primarily by colder water temperatures and limited anadromous food sources (salmon sp.). Finally, the best population estimates obtained to date are 630 juvenile white sturgeon (+/-100 fish) and 185 adult sturgeon (+/-30 fish). The recapture data have also provided information on sturgeon growth rates. A compendium of the three year study will be available soon.

For more information or to obtain a copy of the compendium contact:

Jason Yarmish, Biologist
Lheidli T'enneh First Nation
Natural Resources Department
E-mail: jasony@lheidli.ca



(photo by Jason Yarmish, courtesy of Lheidli T'enneh First Nation)

Domo Fredrick holding a juvenile white sturgeon from the upper Fraser River

Chilako River

The Spruce City Wildlife Association has operated a fish fence on the Chilako River (a.k.a. Mud River) since 1998. The fish fence is located 6 km upstream from the Nechako River. The purposes of the fish fence are to estimate the chinook salmon population coming up the Chilako River for spawning and to collect

eggs and milt for the Spruce City Wildlife fish hatchery. Other fish species are often captured as well. Shawna Hartman found two white sturgeon about 55 cm long each in the trap on August 6, 2000. While the presence of juvenile white sturgeon in the Chilako River is interesting, its importance is unknown.

“Shawna Hartman found two white sturgeon About 55 cm long each in the trap on August 6, 2000.”

Historical Fact Stuart River

Notes from Vanderhoof, The Town that Wouldn't Wait: "1914-1930 - large sturgeon caught periodically at Sturgeon Point. Small sturgeon caught approximately 3 km downstream from Sturgeon Point." (NORCAN Consulting Ltd., 2000, pg. 10)

Historical Fact Stuart Lake

Entry taken from the Hudson's Bay Post Journals: "1818 - 21 sturgeon caught in the month of June, from 224 cm to 366 cm in length. The largest of the sturgeon was measured 150 cm in girth, it was estimated that it would weigh from five hundred and fifty, to six hundred pounds." (NORCAN Consulting Ltd., 2000, pg. 9)

In Our Backyard ...

The first step in stabilizing and restoring Nechako sturgeon is to develop and engage all interested parties in recovery planning efforts. Through a recovery plan, we hope to develop a common understanding of the issues and the implications of the various recovery options.

A recovery planning process was initiated for Nechako white sturgeon in September 2000. The process will be the mechanism for First Nations and other interested parties to become engaged with responsible government agencies in recovery planning. It will build understanding and support for a recovery plan and will facilitate implementation of the plan. There are two principle committees that will oversee the process:

- The Nechako River White Sturgeon Action Planning Group and,
- The Nechako River White Sturgeon Recovery Team

The Action Planning Group will provide an opportunity for interested parties to become meaningfully involved in Nechako sturgeon issues, and membership will reflect key groups essential to the building and implementation of

White Sturgeon Recovery

a recovery plan. The primary task of the Action Planning Group (APG) will be to develop a common vision for sturgeon recovery and to assist the Recovery Team by acting as a public advocate that promotes acceptance and implementation of the long-term recovery plan amongst the various interests in the basin. Its members are expected to identify and provide feedback on the socio-economic and environmental impacts of the proposed Recovery Plan components, and to educate and communicate to the broader community. Once the recovery plan has been completed, the role of the APG will include promoting and supporting plan implementation.

The Recovery Team is a technical group whose role is to develop the most effective recovery strategies based on the best available science. The criteria for membership on the Recovery Team included: a working knowledge of sturgeon biology; expertise in streamflow management or hydraulic engineering; experience in other animal recovery programs; or having a regulatory role with regard to the protection of fish and their habitats in the Nechako basin.

Historical Information from the Nechako River Watershed

In 2000, NORCAN Consulting Ltd was hired to collect historical information concerning presence of white sturgeon in the Nechako River watershed. As a result, the report "Review of Historical White Sturgeon Distribution Within the Nechako River Watershed" was prepared. This report includes various document reviews and four interviews.

Several interesting facts and anecdotes are found in NORCAN's report, but the most amazing stories are provided by Thomas Richards' findings and Harmon's first mention of white sturgeon in Fort St. James literature. Thomas Richards surveyed the southeast of Stuart Lake in 1978 for pictographs and found some illustrating white sturgeon. While these pictographs were not dated, Richards presumed they were drawn before the white people settled in the area. As we can see, the First Nations interacted with white sturgeon long before the 19th century, but the first mention in the literature dates from 1812, when D. W. Harmon wrote

"June 23 Tuesday (1812). The natives this morning took a Sturgeon that might weigh 200 pounds

but there are many in the lake much larger, but the Natives had no method for taking them, neither are the nets we have sufficiently strong to hold them."

in the Hudson's Bay Post Journal for Fort St. James (Stuart Lake) in 1812.

This report also presents some evidence of over-fishing happening as early as the 19th century, changes that occurred within the government regulations since 1918, and information gaps.

The second phase of the NORCAN study was to collect information on First Nations traditional ecological knowledge concerning the Columbia and the Nechako/Stuart river watersheds. According to Don Cadden, Regional Fisheries Biologist for Ministry of Water, Land and Air Protection, the second phase of this study is already underway and should be completed this summer.

For more information regarding historical data, download the pdf report file at <http://wlapwww.gov.bc.ca/nor/fish/sturgeon.html>.

White Sturgeon on Vancouver Island?

"White Ghosts of the Somass" was the title of a feature report presented in BC Outdoors, April 1999. According to Al Fred, then Aboriginal Fisheries Officer for the Alberni District, and Dr. David Lane (Professor Emeritus, Nanaimo's Malaspina University-College), sturgeon were first observed in the Somass River estuary during an evening in 1989. According to elders, a few sturgeon had been previously caught outside of Barkley Sound, otherwise no sturgeon was ever caught at the Nuu-chah-nulth chinook salmon net fishery before 1989. In 1992, the Nuu-chah-nulth fishermen caught 52 white sturgeon, between 20 and 30 in 1995, and 8 to 10 in 1998. In 1998, four white stur-

geon were tagged. White sturgeon have also been seen in the Sarita, Gordon, and Cowichan rivers since 1989. Sturgeon tissue samples for DNA analysis were taken from white sturgeon captured in the Somass and Cowichan rivers to identify if they are individuals that belong to populations in the Fraser, Columbia, or even the Sacramento rivers (CA, USA). To date these samples have not been analysed.

For more information contact:

Dr. David Lane or Gordon Edmondson
Malaspina University – College
900 Fifth Street, Nanaimo, BC, V9R 5S5
lanefish@mala.bc.ca or edmond@mala.bc.ca

Kids Corner ...

Contest for artists of all ages

Draw, paint, or create a poster regarding the white sturgeon (maximum size of 11 x 17 inches). Include your name, age, and phone number on the back. Then send your poster before May 15th, 2002 to: BCCF c/o Poster Contest, #202 - 1940 3rd Avenue, Prince George, BC, V2M 1G7. The author of the best poster within each category (under 6, 6-10, 11-14, 15-19, over 19), will receive a Nechako River White Sturgeon Recovery Initiative T-shirt (see photo). Second place winners will receive a baseball hat, while third place winners will receive a water bottle. The winning posters will be presented in the next newsletter.



Contest for writers of all ages

Write a poem, a story (400 - 500 words), or an essay (400 - 500 words) regarding the white sturgeon. Include your name, age, and phone number on the back. Then send it before May 15th, 2002 to: BCCF c/o Poster Contest, #202 - 1940 Third Avenue, Prince George, BC, V2M 1G7. The author of the best poem, story, and essay within each category (under 6, 6-10, 11-14, 15-19, over 19), will receive a Nechako River White Sturgeon Recovery Initiative T-shirt (see photo). Second place winners will receive a baseball hat, while third place winners will receive a water bottle. The winning literature will be presented in the next newsletter.

Around The World ...

There are five different species of sturgeon found in Canada, the largest of all being the white sturgeon.

- **White sturgeon**, *Acipenser transmontanus* (“the sturgeon across the mountains”), inhabit coastal and inland Pacific watersheds. In British Columbia, they are found mainly in the Fraser and Columbia river watersheds. Since 1989, white sturgeon have also been found in the Somass, Sarita, Gordon, and Cowichan rivers of the east coast of Vancouver Island (BC Outdoors 1999).

“There are five different species of sturgeon found in Canada, the largest of all being the white sturgeon.”

- **Green sturgeon**, *Acipenser medirostris*, inhabit Pacific coastal waters from California to Alaska. Also found in Korea, China, Japan, and Russia.
- **Lake sturgeon**, *Acipenser fulvescens*, inhabit the Great Lakes and lakes and rivers of southern and central Canada, and eastern and central United States.
- **Shortnose sturgeon**, *Acipenser brevirostrum*, inhabit ocean, rivers, and estuaries of the east coast of North America, from St. John River, New Brunswick, to the east coast of Florida.
- **Atlantic sturgeon**, *Acipenser oxyrinchus*, inhabit ocean, rivers and estuaries of the east coast of North America, from Hamilton Inlet, Labrador, to the east coast of Florida.

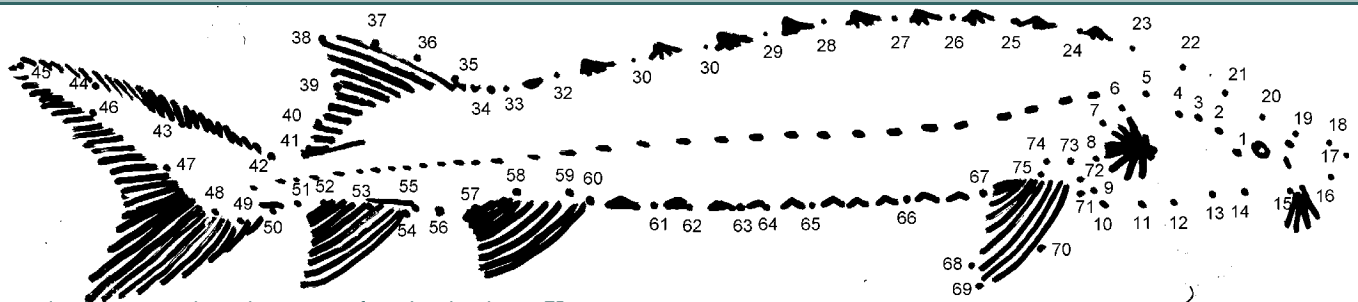
Historical Fact Nechako River (Vanderhoof to Prince George)

Jim and Shirley Simonson reported “1922-1956 - 4-5 sturgeon caught each year, on average, by Ed Simonson. Some years the fish were scarce, others years they were plentiful.” (NORCAN Consulting Ltd., 2000, pg. 12)

Contest “Drawing by numbers”

Name: _____ Age: _____ Phone: (250) _____

Two colored drawings sent before May 15th will be drawn. The winners will receive a Nechako River White Sturgeon Recovery Initiative pencil.



Draw a line between each number, starting from 1 and ending at 75. Send your colored drawing before may 15th, 2002 to: BCCF c/o Drawing by numbers, #202 - 1940 Third Avenue, Prince George, BC, V2M 1G7.

PUBLISHED BY THE NECHAKO RIVER WHITE STURGEON RECOVERY INITIATIVE ACTION PLANNING GROUP

This Newsletter was written by

- Karen Geertsema from British Columbia Conservation Foundation, #202 - 1940 Third Avenue Prince George, BC, V2M 1G7
- Todd French, Biologist
- Francine Audy from R.L. & L. Environmental Services Ltd. A Member of the Golder Group of Companies, 2272 S. Nicholson Street, Prince George, BC, V2N 1V8



RECOVERY INITIATIVE

Funded by

- Environment Canada—Habitat Stewardship for Species at Risk Program.
- Upper Fraser & Nechako Fisheries Council.
- The McGregor Group.

Thanks to

- Don Cadden from Ministry Water, Land and Air Protection (WLAP).
- Dr. David Lane, Gordon Edmondson, and Alicia Diane Hooper from Malaspina University—College.
- Nancy Elliott, Duncan Hendricks, Curtiss McLeod, and Hanna Van de Vosse from R.L. & L. Environmental Services Ltd., a Member of the Golder Group of Companies.
- Troy C. Nelson from Fraser River Sturgeon Conservation Society.
- Gord Parfitt from Rivers North.
- Jason Yarmish from Lheidli T'enneh First Nation.
- Members of the Nechako River White Sturgeon Recovery Initiative, Action Planning Group.

We are on the web at
wlapwww.gov.bc.ca/nor/fish/sturgeon.html

Habitat alteration and declining water quality threaten the survival of this species in British Columbia. Over the past century, white sturgeon populations throughout their range have been adversely affected by over-fishing, construction of hydroelectric dams, dyking and drainage projects, and human competition for food such as salmon and eulachon. Their future is also threatened by declining water quality as human populations increase and land uses intensify in the Sacramento, Columbia, and Fraser river basins, the main watersheds where white sturgeon are.

Historical Facts

Nechako River (Fort Fraser to Vanderhoof)

Information reported by Eric and Lenore Rudland (1988): "1919 - several small sturgeon. August 15, "... I always understood that [it] and several smaller ones were killed when they were blasting out the false-work for the bridge construction". This refers to the highway bridge built in 1919 that crossed the Nechako River approximately 150 m below the confluence of the Nautley and Nechako Rivers." (NORCAN Consulting Ltd., 2000, pg. 11)

Fraser Lake (Nautley)

D.W. Harmon wrote "Monday, October 2 (1815). Within a few days past, we have caught, in nets made for the purpose, of strong twine, three sturgeon, one of which measured ten feet and three inches in length, and four feet and one inch round his middle, which might weigh about four hundred pounds. All that we have taken, were uncommonly fat, and of the best flavour of any that I have ever eaten." (NORCAN Consulting Ltd., 2000, pg. 11)

Upper Nechako River
(Section upstream of Fraser Lake)

Leo LaRocque reported that "Sturgeon drags", were observed in 1955 or 1956, before the spillway failure, at a place known locally as the "Cutbanks". Sturgeon drags are indentations in the river floor left by sturgeon as they swim along the muddy or sandy bottom of the river." (NORCAN Consulting Ltd., 2000, pg. 6)

What we all can do ...

Several measures have recently been taken to improve the white sturgeon's prospects for survival. In 1994, commercial and sport harvest of sturgeon became illegal in the province, and First Nations people voluntarily stopped their sustenance harvests. This should allow more sturgeon to reach reproductive age, and may help to rebuild some stocks. Designation of the white sturgeon by COSEWIC as a vulnerable species in Canada has focused attention on its plight and stimulated some research.

Much more research is needed to address information gaps and will only be done if there is strong public support for it. It is important for the public to encourage more research, support the present ban on sturgeon har-

vest and report any illegal sturgeon fishing that comes to their attention.

In the Fraser watershed it is crucial that water quality not be allowed to deteriorate further. The public can be of great assistance by supporting existing pollution control and clean-up programs, and by reporting any habitat degradation they observe.

With increased pressures of human settlement, white sturgeon populations have been decimated and its habitats degraded. Today, the plight of the white sturgeon is widely recognized and the species is getting increasing attention. Hopefully, this will ensure its continued existence as a unique and valued member of our provincial and national fauna.