

Unit 2: Recovery and Rehabilitation



Nechako white sturgeon are an Endangered Species

- There are likely less than 650 Nechako white sturgeon, and historically there were thousands in the Nechako Watershed.
- Endangered as per the Species at Risk Act (SARA) in Canada
- Now fully protected, it is against the law to keep sturgeon or any of their parts.



Why are there so few Nechako white sturgeon?

We do not know for sure, but what we think is:

- Habitat altered
 - Kenney Dam has changed the size and flow of the Nechako River
 - More sand than before
- Poor survival of young sturgeon
- Predation
- Human impacts
 - Fishing
 - Pollution
- Climate change



What is being done?



First Definitions

To understand what the Nechako White Sturgeon Recovery Initiative does to help sturgeon, you need to understand two words...

- Recovery
- Rehabilitation



Definitions

- **Recovery** – a return to a normal state of health (of the population).

Currently the population is so low that it needs help to return to a healthy level.

- Rehabilitation



Definitions

- Recovery – increase number of sturgeon
- **Rehabilitation** – return to former condition.

Currently the shape, riparian zone and water in the Nechako River are very different than they were 20, 50, 100 years ago.

Rehabilitation of areas along the river (eg. planting trees) helps return the habitat to its previous condition. You can also use the word ‘restoration’.



Definitions

- **Recovery** – increase number of sturgeon.
- **Rehabilitation** – return habitat back to original state (or an improved state that is better for fish).



What is being done to help the Nechako white sturgeon

- Scientific Research
 - Answering the why?
- Conservation Centre (hatchery)
 - Genetic diversity
 - Increase population
- Public Awareness
 - Eg. Juvenile Release
- Protected status
 - Illegal to catch or keep
- Education
 - Proper way to release a sturgeon
 - **School Curriculum – that's you!!**



Scientific Research

- Scientists work on projects in the river that ask questions about sturgeon habitat, spawning, movements, and food availability. Examples are:
 - What is the rate that sand and silt fill in the important gravel spawning beds for sturgeon?
 - How many juvenile sturgeon are there in the river that will be reproducing in the next 10-20 years?
 - Where are adult sturgeon spawning?
 - What do young hatchery sturgeon do after they are released?





Here a researcher uses radio-frequency equipment to locate tagged sturgeon in the river.





Here a researcher checks large heavy mats that are placed on the river bottom. Sturgeon eggs stick to the mats (as does silt). Eggs on the mats are collected and taken to the hatchery to be raised. The orange buoys you see in the river near the bridge each spring has one of these mats connected to it.



Here a researcher sets heavy fishing lines in the river to catch older sturgeon. They put a special tag in each sturgeon they catch to help them determine if they caught it previously. They collect milt and eggs from spawning age sturgeon for use in the hatchery.



Conservation Centre

- The Conservation Centre (hatchery) in Vanderhoof raises and releases young sturgeon into the river to increase the population. Hatchery workers can:
 - Do genetic tests on sturgeon to better understand their biology.
 - Run experiments to see what factors (water quality, temperature, food etc.) affect young sturgeon the most.
 - Raise more sturgeon than are naturally reproducing in the river.





Adult sturgeon are very large! Researchers catch sturgeon each spring in the river to collect their milt and eggs to use in the hatchery.





At the Conservation Centre, the eggs and milt are measured out precisely, and then volunteers help to mix the milt and eggs to fertilize the eggs.



Larval sturgeon are very small! Researchers at the Conservation Centre can conduct experiments to determine what factors are most critical for young sturgeon survival.

Rehabilitation

- Based on the research, rehabilitation projects get planned and carried out. Examples of projects include:
 - Adding gravel to the river where researchers suspect sturgeon spawn (just upstream of the bridge in Vanderhoof).
 - Educating other groups, the public, and decision makers to rehabilitate rivers that flow into the Nechako to improve water quality and riparian habitat.





This section of Murray Creek was rehabilitated to reduce erosion and silt moving downstream to the Nechako River. It also improved the habitat for trout to spawn.



Public Awareness and Education

- The best way to help sturgeon is to tell people about them! The more we are aware, the more we will take care of our streams and water.





Fun at **Rivers Day**! Go to Rivers Day and learn everything there is to know about rivers and fish.





The Nechako Watershed

Nature Guide and Educational Resource

www.nechakowhitesturgeon.org

NECHAKO WHITE STURGEON
RECOVERY INITIATIVE



There are lots of **signs, posters and even a Nature Guide**, around the community that talk about sturgeon and river and watershed health. Take your parents on a walk and find some.





Juvenile sturgeon releases. Each year students from around the Nechako watershed participate in the juvenile release in the spring.



Our class is participating in the....

Nechako White Sturgeon Curriculum

PILOT PROJECT

This means we are one of the first classrooms to try these lessons and give our feedback!



There are less than 350 Nechako white sturgeon in the Nechako River.

Our class is learning about...

- the *endangered* Nechako white sturgeon
- watersheds
- riparian zones
- fish habitat
- conservation

Ask us about it!

School presentation and this course.
The more you learn, the more you can teach others.



A project sponsored by the Nechako White Sturgeon Recovery Initiative

