

NEEF Report - NWSCC- April 2024 to March 2025

This was the twelfth year of operation for the Nechako White Sturgeon Conservation Centre (NWSCC). This was a productive year celebrating 11 successful years of operation. During this period, we conducted various programs including brood capture and adult sampling, spawning, spawn monitoring, aquaculture rearing of juvenile white sturgeon, and juvenile indexing to promote recovery of Nechako White Sturgeon in the Nechako Watershed.



This has been an important year for collaboration with Nechako White Sturgeon Recovery Initiative (NWSRI) Technical Working Group (TWG) projects. These projects include habitat restoration, habitat use studies, and thermal tolerance studies.

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Brood Capture Program

Spring brood capture was conducted from April 15, 2024 – May 14, 2024, by using setlines and angling. 109 individual sturgeon were caught in the Spring Brood/Sampling Program. Of the 109 sturgeon sampled, 28 were males, 32 were females, 22 were of unknown sex, and 27 were juveniles.

A total of 13 mature sturgeon, 6 males and 7 females, were brought back to the NWSCC for use in the conservation fish culture program.

An effort was made in the fall to collect maturing females for holding until the following spring, but sampling was limited to one day due to high winds. Fall sampling took place on September 25, 2024. A total of 9 capture events included 3 males, 1 unknown sex, and 5 juveniles. No sturgeon were brought back to NWSCC during the fall brood capture program.

38 radio tags were applied into adult sturgeon in 2024 using frequency 148.740. 14 of the 38 radio tagged adult sturgeon were used in the spawning program.

Spawning

Spawning took place on May 15th, 2024 and May 22th, 2024. Spawning was successful with 8 females and 6 males being spawned creating 24 familial crosses. Fertilized eggs were retained for culture in the conservation center. One of the females spawned in 2023 was already in the facility from the previous year. All sturgeon were released after spawning 3km downstream of the main spawning area near Vanderhoof, BC.

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Spawn Monitoring Program

The NWSCC team participated in the 2024 Adult Spawn Monitoring Program from May 14, 2024, to June 5, 2024. Throughout the spawn monitoring field work, the NWSCC team collaborated with Carrier Sekani Tribal Council (CSTC) and collectively gathered 389 eggs which were brought back to the NWSCC hatchery for incubation. All eggs collected in the field were obtained between May 23rd, 2024 and June 3rd, 2024. The viable eggs collected in the river are reared in the NWSCC to add more genetic diversity to our program. Over 50 of the 389 eggs collected were viable eggs and were reared to the juvenile stage.

An additional method of collecting eggs was tested May 27th, 2024 to May 30th, 2024. This method used “D” Rings and collection nets. This method requires more attention, but could be more effective in collecting larger numbers of eggs in future years. The tests did not capture any eggs, but provided valuable information for future use.

Inventory

During this reporting period the NWSCC had three-year classes at the hatchery.

1. Brood Year 2022: 300 were released in June 2024 at an average size of 3.28 Kgs and 74.87cm. Specifically, 91 juveniles were of “wild collected as egg” origin, and 209 were hatchery crosses.
 - a. All were PIT Tagged, 50 radio tagged.
 - b. Five release sites in total; 3 Nechako River sites, and 2 Fraser Lake sites.
2. Brood Year 2023: 300 for release in June 2025. Reared during this period from approximately 10 months old to 22 months old. Approximately 32% are from “wild collected as egg” origin.
3. Brood Year 2024: 300 for release in 2026. Spawned during this period, incubated, hatched, and reared for approximately 10 months. This group is growing well and is on target to meet release size goals. Approximately 17% are from “wild collected as egg” origin.

Juvenile Indexing Program

From July 17, 2024, to August 24, 2024, the NWSCC participated in the juvenile indexing program organized by the NWSRI in cooperation with CSTC and Lheidli T’Enneh First Nation. This was also supported in part by staff from a Rio Tinto Student Work Experience Program. Sampling was limited to the Nechako River as temperatures in Fraser Lake were too high for safe sampling. 27 unique juvenile sturgeon were captured, and of the 27 caught, 12 were hatchery (from wild parents) origin, 5 were hatchery (wild collected as eggs) origin, 9 were wild/experimental origin, and 1 was a wild/experimental subadult. The juvenile sturgeon were immediately released in their capture location after biological measurements and samples had been taken. Detailed biological information, including tags applied and measurements taken, is provided to the Nechako White Sturgeon Database managed by the Province of BC. It is really encouraging to see a moderate number of juveniles surviving from the Conservation Fish Culture Program at NWSCC.

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Capital Projects

We had two major capital projects this year:

1. Replaced pickup truck with all-electric Ford F-150. This truck has been working excellent for the program.
2. The HMI computer replacement was not planned but became necessary when the previous computer failed. This computer has tailored software that interfaces with the PLC that controls facility pumps, water quality monitoring, and alarm setpoints. This is one of two program critical computers. The new computer is working excellent.