

NEEF Report for April 2021 to March 2022- NWSCC

This was the ninth year of operation for the Nechako White Sturgeon Conservation Centre (NWSCC). Throughout the season we conducted various programs including our brood capture program, spawning and spawn monitoring, aquaculture rearing of juvenile sturgeon, and juvenile indexing to research juvenile Nechako White Sturgeon in the wild.

Brood Capture Program

Spring brood capture was completed from April 15th, 2021, to May 17th, 2021, by using setlines



and angling. 33 individual sturgeon were caught in a total of 35 capture events (2 sturgeon were caught twice during the sampling period). Of the 33 sturgeon sampled, 18 were males, 13 were females, one was a sub-adult, one was a juvenile, and one had an unidentified sex code. 5 males and 7 females were brought back to the NWSCC for use in the conservation fish culture program. Out of the 35 total captures, 8 were new captures and 27 had been captured in previous years. 23 sturgeon were released immediately after capture, at the point of capture, after a biological assessment. A total of 13 radio tags were applied to sturgeon in 2021. 12 radio tags were applied into sturgeon that hadn't previously had a radio tag and 1 old radio tag was removed and replaced. Additional brood collection efforts were made from September 20th, 2021, to

September 24th, 2021, to try to capture a maturing female white sturgeon for use in the 2022 brood program. A total of 17 individual white sturgeon were captured by angling. Of the 17 captures, 8 were males and 9 were females. 3 adult females were brought into hold for spawning in 2022. Detailed biological information, including tags applied and measurements taken, is provided to the Nechako White Sturgeon Database that is managed by the Province of BC.

Spawning in 2021

Spawning in 2021 was a great success. 7 females and 5 males were spawned, and fertilized eggs were retained for culture in the conservation center. One of the females spawned in 2021 was already in the facility from the previous year. All sturgeon were released immediately after spawning between 3km and 6km downstream of the main spawning area near Vanderhoof, BC.



Spawn Monitoring Program

The 2021 Adult Spawn Monitoring Program ran from May 26, 2021, to June 12, 2021. Throughout the 2021 spawn monitoring field work, the NWSCC team collected 245 eggs, 64 of which were damaged eggs (left in the Nechako River) and 180 of which were collected and brought back to the NWSCC hatchery for incubation. All eggs collected in the field were obtained between May 28th- June 4th, 2021. The viable eggs

collected in the river are reared in the NWSCC to add more genetic diversity to our program.

Inventory

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

1. Brood Year 2019: 200 were released in June 2021 at an average size of 3.0 Kgs and 74.6 cm.
2. Brood Year 2020: Reared during this period from approximately 10 months old to 22 months old. Great growth rates and fish health were achieved.
3. BY2021: Spawned during this period, incubated, hatched, and reared for approximately 10 months. This group also had best case growth rates and optimal fish health.

Juvenile Indexing Program

In 2021 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. The juvenile indexing program was conducted from July 15th to September 11th, 2021, using set lines. 14 unique juvenile sturgeon were captured. Of the 14 caught, 11 were caught in the Nechako River, and 3 were caught in Fraser Lake. Of the 3 caught in Fraser Lake, 2 were hatchery origin recaptures and one was a wild origin first capture. Of the 11 caught in the Nechako River,

9 were hatchery origin, one was a hatchery-reared wild sturgeon (collected on egg mats and reared in the hatchery), and one was wild origin. Of the 11 Nechako River captures; 4 sturgeon were hatchery origin recaptures and one was a wild recapture. 5 hatchery raised sturgeon and one hatchery-reared wild sturgeon were caught for the first time. Sturgeon were immediately released in their capture location after biological measurements and samples had been taken. First capture wild origin fish had fin ray and DNA samples collected and a PIT tag inserted. New wild fish caught in Fraser Lake had standard biological sampling listed above for new wild fish, with the additional application of an acoustic tag. Detailed biological information, including tags applied and measurements taken, is provided to the Nechako White Sturgeon Database that is managed by the Province of BC.

The major capital project this year was the connection of the flow meters in the Adult Spawning Module and the Adult Holding Module to the control computer (PLC). This connection allows remote monitoring of flows and the ability to alarm these flows. The alarms for these flow meters will make it possible to alert employees of system failure before loss of adult sturgeon health occurs.

Work Plan for April 2022 to March 2023

Fiscal Year 2023 is the last year in our original 10-year funding agreement with NEEF. We are hoping that the global Covid-19 Pandemic is behind us, but we will continue to do everything possible to protect our core business functions and maintain the safety of our staff.

We will be releasing 300 juvenile white sturgeon in the Nechako Watershed in accordance with Provincial stocking plans. These juveniles will be two years old and will be released at a target size of 70cm.

We will also continue to rear 300 juvenile white sturgeon that were hatched in June 2021 (Brood Year 2021). These are healthy and growing fast. They will be released in June 2023 as large-sized juveniles.

Brood capture targets are the same as last year. We are aiming for the maximum genetic diversity possible which will target eight females each crossed with 12 males. BC-FLNRORD will set stocking numbers for this brood year.

In the coming year FFSBC crews will continue to cooperate with the NWSRI Technical Working Group (TWG) and Community Working Group (CWG) in various programs including spawn monitoring, adult sampling, research experiments, predator monitoring and research, radio telemetry tag tracking, juvenile indexing, and data management. Many of these programs are also supported by local First Nations, Universities, and Government organizations.

There are no major facilities projects planned for April 2022 to March 2023 at this time.



FRESHWATER FISHERIES SOCIETY OF BC
Nechako White Sturgeon Recovery Facility

FUNDING SUMMARY	ACTUAL 2021	ACTUAL 2022	BUDGET 2023
Funding accumulated shortfall	-	-	-
Balance of building funding	-	-	-
NEEF Total Invoiced	429,324	414,421	440,560
RTA Funding	50,000	50,000	50,000
Funds for operating expenses	(435,121)	(456,727)	(490,560)
Funds for operating capital	(44,203)	(7,694)	-
Surplus (deficit)	-	-	-
NEEF Agreement Maximum Funding	444,896	452,320	459,855
Balance of Funding	15,572	37,899	19,295
<i>Accumulated Funding Balance</i>	<i>58,991</i>	<i>96,890</i>	<i>116,185</i>

ACTUAL for Operating Year Completed	FISCAL 2022			
April 1, 2020 - March 31, 2021	TOTAL	NEEF 1061	RTA 1060	FFSBC/OTHER
Operating Expenses				
Salaries	286,089	236,089	50,000	-
Travel	637	637	-	-
Contract services	570	570	-	-
Operating Supplies & Services	32,982	32,982	-	-
Vehicle Expenses	4,614	4,614	-	-
Fish Feed	6,654	6,654	-	-
Facilities	33,365	33,365	-	-
Utilities	25,113	25,113	-	-
Property Taxes & Permits	16,717	16,717	-	-
Administration	30,252	30,252	-	-
Sub-total	436,993	386,993	50,000	-
GST payable	19,734	19,734	-	-
Total Operating Expenses	456,727	406,727	50,000	-
Operating Equipment				
Vehicles (net)	-	-	-	-
Production Equipment and computers	7,694	7,694	-	-
Total Operating equipment	7,694	7,694	-	-
Total Operating Costs	464,421	414,421	50,000	-

BUILDING				
Building capital costs (including gate)				
April 1, 2016 - March 31, 2022	18,150	18,150	-	-
Prior years cumulative costs	5,459,676	3,810,741	1,648,935	-
Total Building and Gate Cost	5,477,826	3,828,891	1,648,935	-

BUDGET for Current Operating Year	FISCAL 2023			
April 1, 2021 - March 31, 2022	TOTAL	NEEF 1061	RTA 1060	FFSBC/OTHER
Operating Expenses				
Salaries	298,839	248,839	50,000	-
Travel	5,592	5,592	-	-
Contract services	800	800	-	-
Operating Supplies & Services	37,670	37,670	-	-
Vehicle Expenses	7,910	7,910	-	-
Fish Feed	7,000	7,000	-	-
Facilities	35,950	35,950	-	-
Utilities	28,500	28,500	-	-
Property Taxes & Permits	19,694	19,694	-	-
Administration	27,626	27,626	-	-
Indirect expense allocation	-	-	-	-
Sub-total	469,581	419,581	50,000	-
GST payable	20,979	20,979	-	-
Total Operating Expenses	490,560	440,560	50,000	-
Operating Equipment				
Vehicles (net)	-	-	-	-
Production Equipment and computers	-	-	-	-
Total Operating equipment	-	-	-	-
Total Operating costs	490,560	440,560	50,000	-