



2022-2023 REPORT

EVERY STURGEON COUNTS - EMERGENCY BOAT KIT PROGRAM



Report Prepared by: Nechako White Sturgeon Recovery Initiative
March, 2023

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YOUTUBE VIDEO:

Every Sturgeon Counts:

<https://www.youtube.com/watch?v=YhrEJUEi-ow>

(Click link to go to video)

DATA FORMS:

[Sturgeon Release Form are available
on the NWSRI website.](#)

(Click text to go to form).

COVER: Sturgeon caught in Stuart Lake in 2022. Photo courtesy Peter Erickson.



INTRODUCTION

The Emergency Sturgeon Live Release Boat Kit Program (BKP) was piloted in 2011 because the Nechako White Sturgeon Recovery Initiative (NWSRI) and Carrier Sekani Tribal Council (CSTC) had become aware that an unknown number of sturgeon were caught as by-catch in association with the First Nation Food, Social and Ceremonial (FSC) fisheries and that fisher families didn't necessarily know how to release a sturgeon safely from their gill nets. The goal:

- > To reduce accidental harm to sturgeon and the sturgeon population as a result of sturgeon by-catch associated with the First Nation gill net fisheries.

This goal addresses one of the main objectives of the Recovery Plan for Nechako White Sturgeon "Prevent extirpation of white sturgeon in each of the four identified populations by preventing net loss of reproductive potential" (DFO 2014), by reducing the number of sturgeon harmed or accidentally killed during the fisheries, thereby maintaining breeding adults and juveniles in the population for future breeding purposes as well as genetic variability.

The NWSRI Coordinator oversees the BKP, and the NWSRI contracts CSTC to manage the program and hire Community By-catch Monitors in each of seven communities. The By-catch monitors communicate with the Fisher Families.

2017-2022

This report follows the previous summary of the BKP (2011-2016). Other factors impacting the BKP should be noted. Namely, from 2019 to 2021 the salmon return numbers were too low for the FSC salmon fishery to occur, and very little to no BKP activity happened in those years.

It should also be noted that sturgeon loss occurs outside the FSC and are not part of the BKP. For example, in 2014 a sturgeon washed up on the shore of Stuart Lake. The cause of death was not confirmed. In 2016 during the spawn monitoring program a 2 m sturgeon ended up in a fyke net, used to sample for larval sturgeon, and died in the net. And most recently, in 2022 11 dead sturgeon were found in the Nechako and Fraser rivers - their cause of death is still under investigation.

PROGRAM DETAILS

Funders

The NWSRI and CSTC developed this program in 2011. Funding and in-kind support for this program has come primarily from Habitat Stewardship Program (HSP), CSTC, and the NWSRI. Other contributors over the years include Fisheries and Oceans Canada, Canfor, Mt. Milligan and Integris Credit Union. Total financial and in-kind contributions to this program since 2011 total \$180,176 (Figure 1).

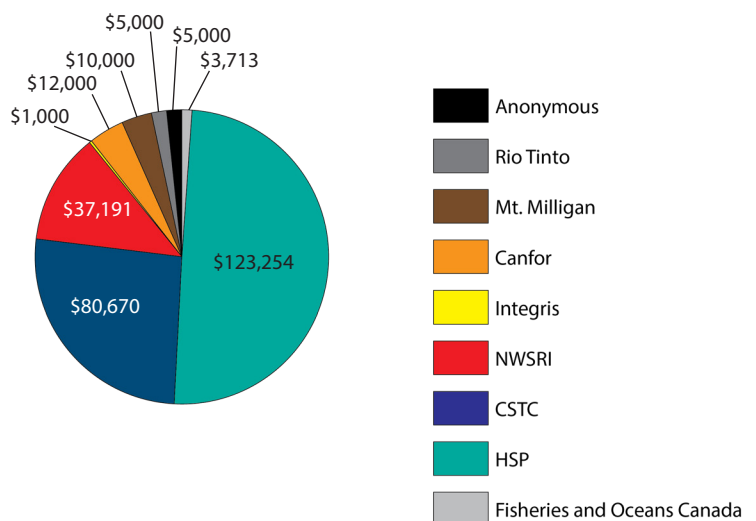


Figure 1: Breakdown of total funding contributions equaling \$307,828 for the BKP from 2011-2022.

Resources

The BKP goal is achieved by providing the following resources to First Nation fisher families on how to release sturgeon safely from their gill nets.

- > A kit small enough to remain in the boat at all times and contain all of the tools necessary for a successful live release.
- > A video, "Every Sturgeon Counts" as an educational and training tool for Fisher Families.
- > An on-site community By-catch Monitor that can explain the program and help release sturgeon caught in a net.

First Nation Communities

Seven First Nation communities; Nadleh Whut'én, Stelat'én, Saik'uz, Nak'azdli, Tl'azt'én, Takla and Lheidli T'enneh, are approached each year to participate in this program. Figure 2 shows the location of the First Nation communities and the distribution of Nechako white sturgeon.

The By-catch Monitors distribute kits to the families, and assist with removal and data collection.

The majority of First Nation communities have participated in the BKP since 2011.

Yearly Schedule

The BKP operates on an annual basis, starting in April of each year (Table 1).

Table 1: Boat Kit Program yearly schedule.

Activity	Date
Hire By-Catch Monitors	April
Identify Fisher Families and distribute Kits	April-June
Data Collection & Submission	July-November
Collection of Boat Kits	November-March
Inspect & Replenish Boat Kits	March
Report to Funders	April

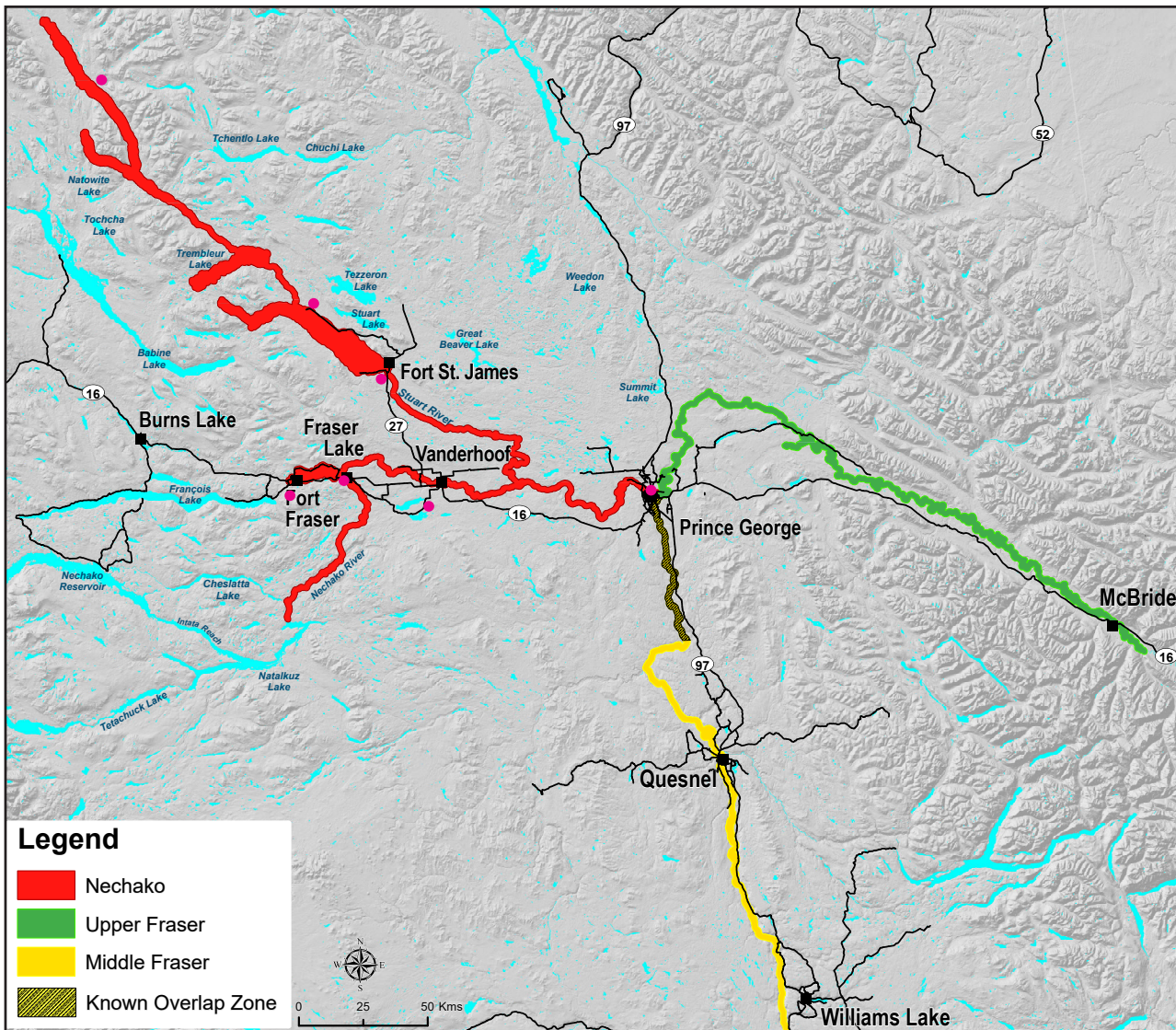


Figure 2: Distribution of Nechako white sturgeon populations, and the location of the seven First Nation communities (pink dots).



The Fisheries

There are two main fisheries over the three time periods in the year in our region - salmon and char/lingcod. The BKP focuses primarily on the salmon fishery, which occurs during the summer and early fall (July-September). The char and lingcod fishery takes place both in the spring (March-May) and the fall (September-October). Lake and river gill netting is used in these fisheries (Table 2).

Table 2: Locations where each of the First Nation communities fish.

First Nation Community	Char/Lingcod <i>Mar-May</i>	Salmon <i>Jul-Sept</i>	Char/Lingcod <i>Sept-Oct</i>
Nadleh Whut'en	Fraser Lake	Nadleh River	Fraser Lake
Stellat'en	Fraser Lake	Fraser Lake	Fraser Lake
Saik'uz	Nechako River	Nechako River	Nechako River
Nak'azdli	Stuart Lake	Stuart Lake	Stuart Lake
Tl'azt'en	Stuart Lake	Stuart Lake	Stuart Lake
Takla	Takla Lake	Takla Lake August	Takla Lake
Lheidli T'enneh	Fraser River	Fraser River August	Fraser River

RESULTS

Sturgeon Releases

From 2011-2022, a total of 90 sturgeon were caught as by-catch in the FSC Fishery. Of those, 81 sturgeon were released live, and 9 died in gill nets (Figure 3).

A breakdown of the number of sturgeon caught as by-catch from each of the First Nation communities is shown in Figure 4. The majority of sturgeon caught in the FSC Fishery have been in Stuart Lake (Figure 5) by the Tl'azt'en and Nak'azdli First Nations.

Gill nets were reported as the method of capture for 6 of the 9 sturgeon reported to have died. The sturgeon were tangled in the gill nets. The remaining fish did not have method of capture recorded.

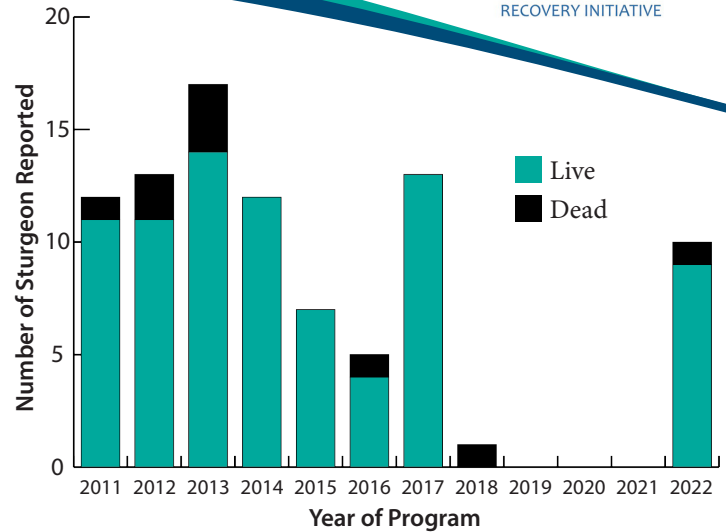


Figure 3: Number of live and dead releases per year.

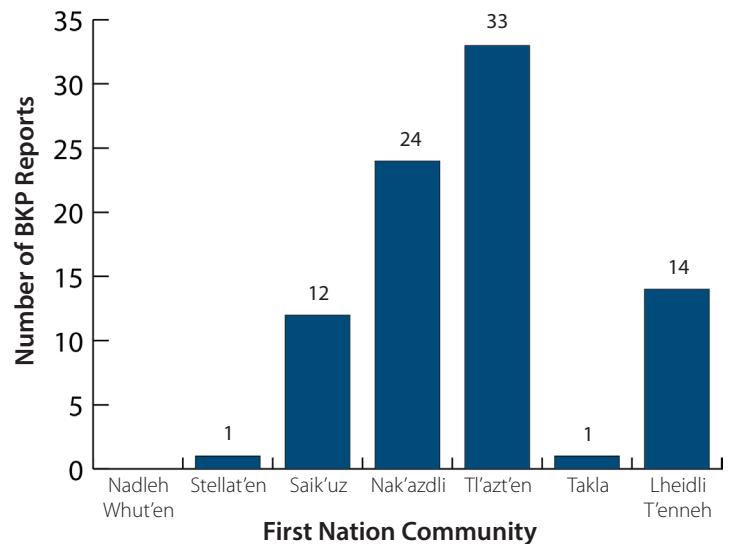


Figure 4: Number of sturgeon reports submitted to the BKP per First Nation community from 2011-2022.

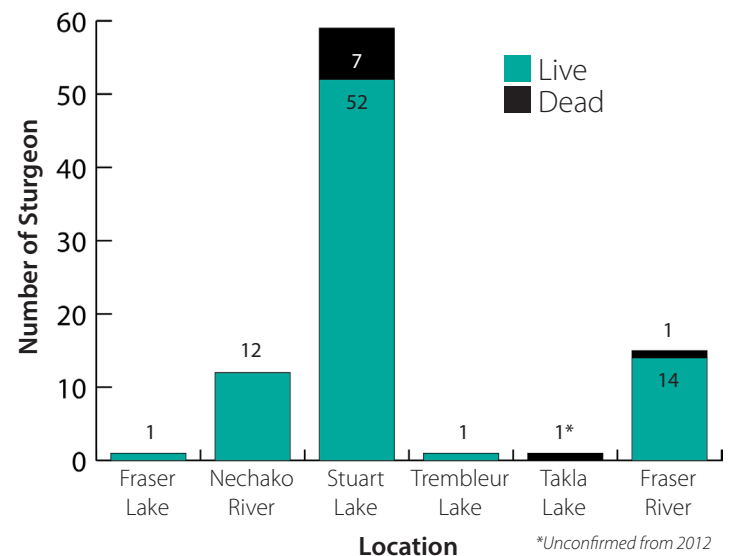


Figure 5: Number of live and dead releases by location.

Sturgeon Characteristics

Approximate length data was recorded for 61 (68%) of the sturgeon reported between 2011 and 2022 (Figure 6). The largest sturgeon caught was recorded as longer than 3.2 m in length (Stuart Lake, 2014). The smallest sturgeon caught was roughly 0.30 m in length (Stuart Lake, 2016).

Over half (5 of 9) of the sturgeon that died were <1.5 m in length (juvenile or sub-adult). Of the reported spawning age sturgeon (30), two of 16 adults sized 1.5-2 m died in the nets, and all 14 sturgeon over 2 m in length were released successfully.

Table 7 shows the length distribution by location. Fish less than 1 m in length were only caught in Stuart Lake and the Fraser River.

PIT tag readers were most often not present in the boats at the time of capture. Only two of those sturgeon caught were reported to have a PIT tag:

- > # 424D3B7366, 2011, Nechako River
- > # 152209781A, 2018, Stuart Lake “Cupcake”

“Cupcake” was part of the Juvenile Sturgeon Release in 2015, and unfortunately died in the gill net in 2018. Cupcake had grown 33 cm and over 6 kg in the three years.

Five sturgeon had radio-transmitter tags, however it was not possible to record the frequency:

- > Sept. 6, 2011 - Nechako River, 2.1m, 1R Scute
- > Sept. 11, 2011 - Nechako River, 1.1m, 1R & Lpec
- > August 12, 2012 - Stuart Lake, 2.0m
- > Sept. 8, 2013 - Stuart Lake, 0.76m
- > Sept. 14, 2016 - Stuart Lake, 1.3m

Sturgeon per Fishery

Two sturgeon were reported to have been caught outside of the July and September salmon fishery window. One sturgeon was caught in April 2013 and one in January 2017, both in Stuart Lake during the char/lingcod fishery. The one caught in April was not alive when encountered. The report stated that the net had been left for 2.5 days.

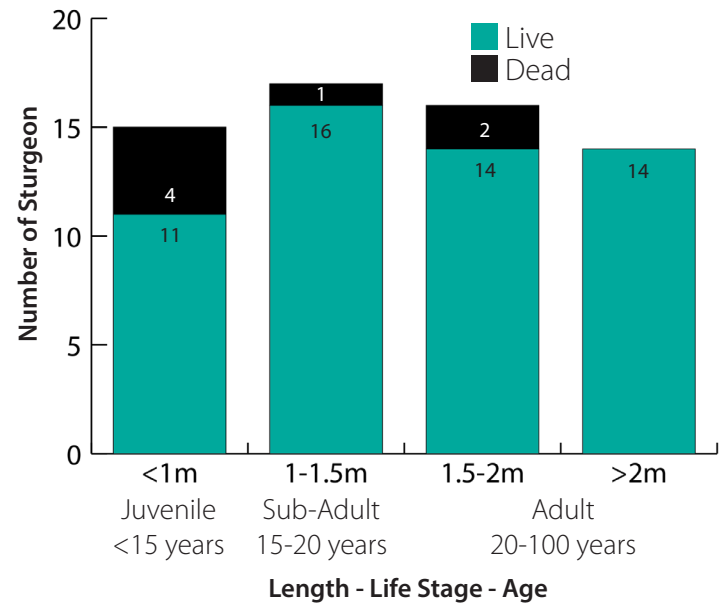


Figure 6: Length histogram of sturgeon caught if 61 of the 90 fish caught. Based on other research, sturgeon <1m = <15 year old (juveniles); 1-1.5m = 15-20 years old (sub adult, non-spawner); 1.5-2m = 20-40 years old (adult); >2m = 40-100 years old (adults).

Injuries to Fish and Nets

There was one report of a sturgeon caught in a seine net (mouth of Stellako River in Fraser Lake). The rest of the records were from gill nets.

Of the 34 reports that recorded how the sturgeon was caught in the net, 65% recorded the sturgeon were tangled in the net, 20% were tangled and rolled in the net, 12% rolled only, and 3% (1 sturgeon) was trapped in a seine net.

Of the sturgeon that were released live, Fishers reported most often that it was easy to release the sturgeon. Two described that it was difficult, and another reported that the net was destroyed as the sturgeon needed to be cut free. Five reports stated the sturgeon escaped.

Of those reported, the majority of nets received either no damage (14 nets) or only minor damage (18 nets). The remaining were either moderate (1 net), major damage (4 nets), or destroyed (1 net).

Of the 26 records that reported sturgeon health, 20 of the reports stated that sturgeon looked good/healthy or swam away easily. Four reports stated that the sturgeon were lethargic or slow to swim away, and one was injured.

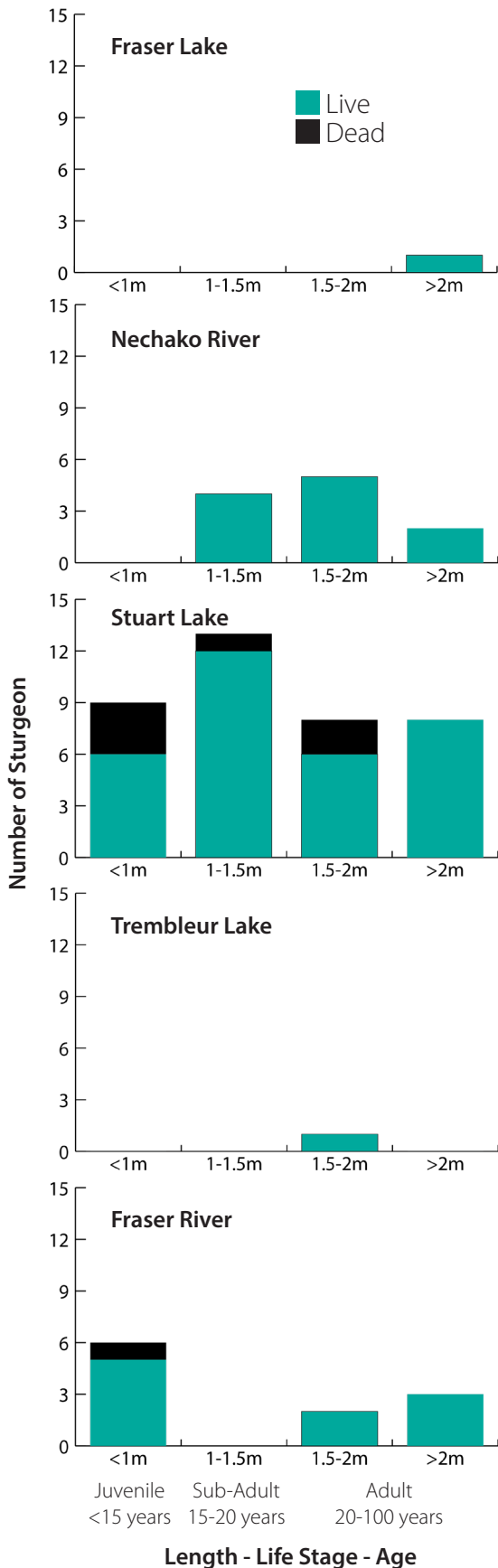


Figure 7: Length histogram of sturgeon in each of the major locations, based on 61 fish. Life stage and age assumed from length.

SUMMARY

Since 2011, 81 sturgeon have been released live. Forty-four (44) of those were over 1 m in length with 28 of spawning size. Based on a 2017 calculation, the adult population estimate is roughly 545 individuals (TWG 2017-02-20 Minutes) in the Nechako. The live releases account for roughly 15% of the adult sturgeon in the population. This value shows that the Emergency Boat Kit Program has been successful in its goal of reducing harm to the endangered Nechako White Sturgeon.

Almost all the data comes from the salmon fishery, which was the main focus of the BKP. Although Fisher Families still have access to the kits during the char/lingcod fisheries, the data is limited. This is due to both to the time of the fishery (sturgeon are inactive in the winter), and the boat kits not being utilized as much during the winter.

The NWSRI and CSTC are working towards rebuilding relationships with First Nation communities to ensure full participation moving forward. As part of that rebuilding, annual meetings will be held to receive feedback from Fisher Families and Boat Kit Monitors to make improvements to the program.

RECOMMENDATIONS

Two meetings were held in December 2022 and March 2023 with Boat Kit program participants. The main recommendations were:

- > Develop strategies/incentives to engage all communities each year.
- > Create a smaller essentials kit for the boat, and the larger mending kit can be stored at the Band offices.
- > Continue to have data forms available digitally and in paper form.
- > Get PIT tag readers with each kit.
- > Offer net mending workshops in the year to increase participation in the BKP.
- > Offer a prize for participation in the Boat Kit Program.

ACKNOWLEDGMENT

We thank the many hours of dedication from all the Fisher Families, By-catch Monitors, Program Leaders, and volunteers of this recovery initiative of the NWSRI, as well as all our funders.



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