Keeyask Generation Project

Fisheries Offsetting and Mitigation Plan

Lake Sturgeon Production and Stocking Report

FOMP-2023-01

KEEYASK

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2022 -2023

KEEYASK GENERATION PROJECT

FISHERIES OFF-SETTING AND MITIGATION PLAN

REPORT #FOMP-2023-01

LAKE STURGEON PRODUCTION AND STOCKING SUMMARY FOR BIRTHDAY RAPIDS AND BURNTWOOD RIVER POPULATIONS

OCTOBER 2021 TO SEPTEMBER 2022: YEAR 1 OPERATION

Prepared for

Manitoba Hydro

By

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June 2023

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SUMMARY

BACKGROUND

Construction of the Keeyask Generation Project at Gull Rapids began in July 2014 and was completed in March 2022. Before government allowed construction to begin the Keeyask Hydropower Limited Partnership (KHLP) had to prepare a plan outlining activities that could reduce the potential effects of the Keeyask Generation Project on fish in the Nelson River (the Fisheries Offsetting and Mitigation Plan, FOMP). The plan also explained how the proposed activities would be completed and monitored.

Activities directed at Lake Sturgeon (*Namao* in Cree) were included in the plan because of its importance to the partner First Nations, because the population in Gull and Stephens lakes were low before the Project, and because the generating station will change or destroy habitat used for spawning and early life stages both upstream and downstream.

In 2017, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reviewed and maintained the previous (2006) recommendation of listing the Nelson River population of Lake Sturgeon as Endangered. The goal of the KHLP is to have self-sustaining populations of Lake Sturgeon in this area in the future. To help achieve this, the KHLP has made a commitment to produce and release hatchery-reared sturgeon into the Keeyask area (i.e., Keeyask reservoir and Stephens Lake) and the Burntwood River until there are self-sustaining populations. These two areas are stocked in alternate years using the offspring from adults captured at Birthday Rapids on the Nelson River and First Rapids on the Burntwood River.

This report describes the hatchery production and stocking activities of Lake Sturgeon from October 2021 to September 2022.

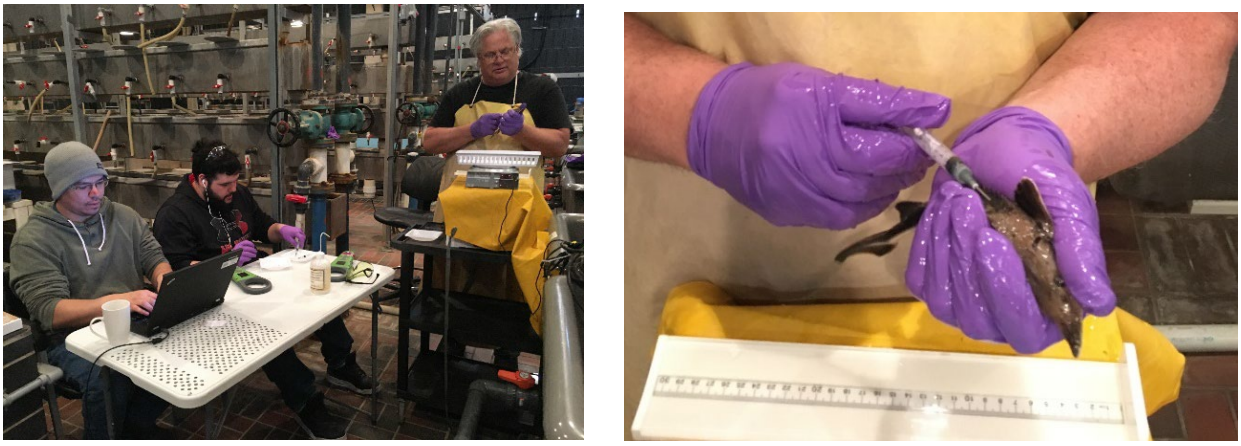
Lake Sturgeon feeding on bloodworm at the Grand Rapids Fish Hatchery

STOCKING PROGRAM

Lake Sturgeon are produced at the Grand Rapids Fish Hatchery (GRFH) located in Grand Rapids, MB from the eggs and milt (sperm) of wild adults. Offspring are reared in fiberglass troughs using well water. Fish are started on a diet of newly hatched brine shrimp and later transitioned to frozen bloodworm.

Lake Sturgeon are released as yearlings (12 months old) after spending their first winter in the hatchery. However, due to limited tank space, it is often necessary to release some of the sturgeon as fingerlings (3 to 4 months old) prior to winter. In the past, the hatchery also stocked larvae (less than 1 month old) but are no longer able to do that due to current virus testing criteria which require that the sturgeon be at least 9 weeks old. Virus testing before stocking is necessary to ensure hatchery fish do not increase the amount of Namao Virus present in wild populations. The virus does not appear to effect adults but can cause mortality among young sturgeon.

Prior to release, yearlings are marked with uniquely numbered Passive Integrated Transponder (PIT) tags, inserted into the muscle along the fish's back. PIT tag scanners held over the fish can detect a tag and display the number on a screen. This marking technique helps to identify hatchery-reared fish caught in the river and can be used to assess the movement and growth of individual fish following stocking. Fish released as fingerlings are not large enough to be PIT tagged. Instead, tissue samples from individuals representing all family groups are preserved to provide a genetic 'fingerprint', allowing future identification of stocked individuals.



PIT tagging activities at the Grand Rapids Fish Hatchery

Since 2013, when the KHLP began producing Lake Sturgeon, larvae, fingerlings, yearlings and two-year old's have been stocked (see table below).

Summary of Lake Sturgeon stocking in the Keeyask area since 2014

Year	Burntwood River/Split Lake			Keeyask reservoir			Stephens Lake		
	Larvae	Fingerlings	Age-1+	Larvae	Fingerlings	Age-1	Larvae	Fingerlings	Age-1
2014	0	0	595	152,926	4,656	0	0	0	0
2015	0	0	0	0	0	423	0	0	418
2016	0	0	23	192,167	780	0	184,134	799	0
2017	71,740	3,765	0	0	0	463	0	0	720
2018	0	0	739	0	933	0	0	1,009	0
2019	0	3,681	0	0	0	398	0	0	390
2020	0	0	574	0	0	0	0	0	0
2021	0	0	188*	0	0	0	0	1,050	0
2022	0	5,197	0	0	0	402	0	0	400
Total	**71,740**	**12,643**	**2,119**	**345,093**	**6,369**	**1,686**	**184,134**	**2,858**	**1,928**

* 2-year old sturgeon

BIRTHDAY RAPIDS POPULATION (2021 YEAR-CLASS)

Hatchery Production

Eggs and milt were collected in spring 2021 from spawning adults captured near Birthday Rapids.

A total of 809 Birthday Rapids fingerlings consisting of three family groups (F1M3, F1M6, F1M8) remained at the hatchery for the 2021/22 winter. They were raised in the recently renovated Pickerel Place in order to not subject the main hatchery building's new equipment to iron and minerals within the source well water until additional improvements are made. Survival from the beginning of October 2021 until the spring stocking in late May/early June 2022 was 99%.

Stocking

In spring 2022, a total of 800 Lake Sturgeon yearlings were released into the Keeyask area from the Grand Rapids Fish Hatchery. One group of yearlings (400 fish) were transported by truck to the Keeyask Generating Station on May 30 and released from shore into Stephens Lake (Site 1; see map below). On June 2 another two groups (200 fish each) were transported by truck to the Keeyask Generating Station and released into the Keeyask reservoir by boat with assistance from North South Consultants at Sites 2 and 3 (see map below). On average, yearlings were 23 cm long and weighed 47 g.

On June 24, 2022 Manitoba Hydro's boat patrol crew transferred two fish from the George Saunders Memorial School in York Landing by boat to North South Consultants (NSC) field staff working downstream of Birthday Rapids. NSC staff PIT tagged the two individuals and released

the fish at Site 4 (see map below). These fish had been at the school since September 28, 2021 as part of the Kischi Sipi Namao Committee's school aquarium program.

Release sites for Birthday Rapids sturgeon (2021 year-class) stocked into Stephens Lake (Site 1), the Keeyask reservoir (Sites 2 & 3) and downstream of Birthday Rapids (Site 4). Stocked sturgeon were the offspring of spawning adults collected near Birthday Rapids (Site A).

BURNTWOOD RIVER POPULATION (2022 YEAR-CLASS)

Spawn Camp

Wild Lake Sturgeon adults were captured using gill nets set downstream of First Rapids in June 2022. Adults identified as spawning fish were maintained in tanks along the shore of the Nelson River for several days. Selected adults (1 female, 7 males) received a small dose of hormone to facilitate the release of eggs and milt. Use of this product does not present a threat to the Lake Sturgeon or to humans. The hormone is produced by the fish naturally and is present within their body during spawn. This method has been successfully used by other sturgeon conservation programs in North America and helps to synchronize egg and milt collection for fertilization.

The first sign of eggs was observed approximately 33 hours following hormone injection at 04:00 on June 12. A total of 550 ml of eggs (unfertilized) was collected and mixed with the milt from four males to create four family groups (F1M1, F1M3, F1M6, F1M7). Number of fertilized eggs transported to GRFH was estimated to be 44,350.

Following egg collection, recovery of the female was monitored closely and she was released in good health. The males were also released in good health following milt collection. Virus testing of the broodstock revealed that M6 was positive for Namao Virus. All other broodstock and offspring tested negative for the virus.

Hatchery Production

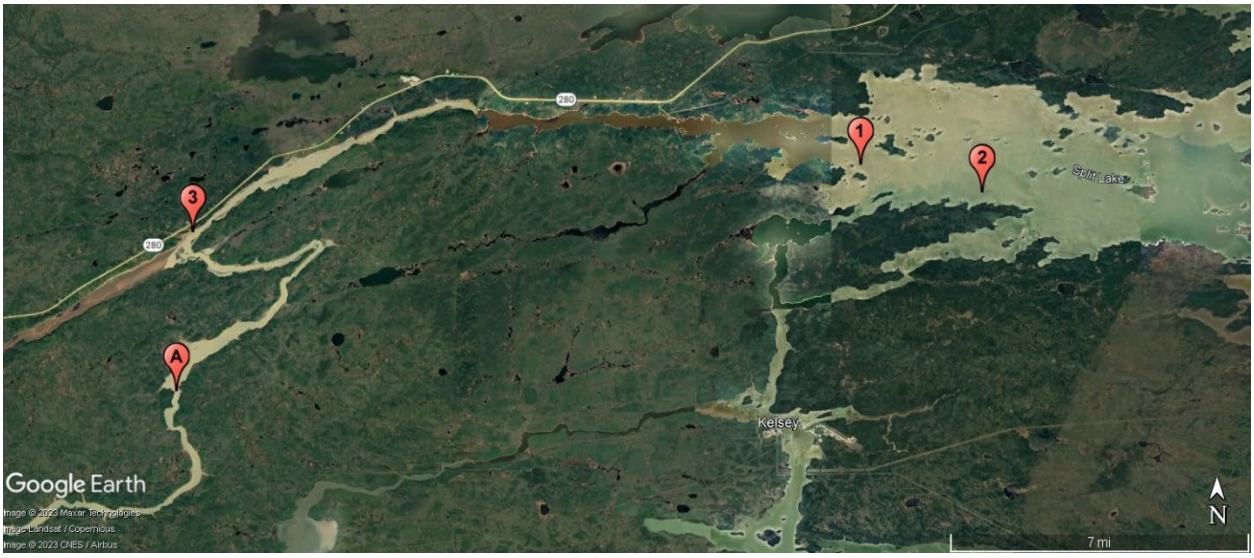
Prior to entering GRFH, the sturgeon eggs were soaked in a disinfectant for 10 minutes to kill any potential pathogens (e.g., viruses) that may have attached to the surface of the egg during fertilization and/or transportation. Five days following fertilization, eggs were checked for viability and the estimated hatch was 84%. Hatch began on June 21 and resulted in an estimated 37,053 larvae.

From the point of hatch to the end of September, monthly survival rates were greater than 90%, except for July and August where it was closer to 60%. During these months larvae were introduced to brine shrimp and later transitioned to bloodworm, a period when the highest mortalities are typically observed.

Following the fingerling release in September, a total of 800 fish from the Burntwood River population were kept at GRFH for further growth over winter.

Stocking

Over 5,000 Burntwood River fingerlings were released in fall 2022. This year marks the first time sturgeon were stocked into Split Lake.



Release sites for Burntwood River sturgeon (2022 year-class) stocked into upper Split Lake (Sites 1 & 2) and the Burntwood River (Site 3). Stocked sturgeon were the offspring of spawning adults collected near First Rapids (Site A).

On September 26, a total of 1,729 fingerlings were transported by truck to the Orr Creek boat launch and released by boat with assistance from Manitoba Hydro's boat patrol crews into Split Lake at Site 1 (see map above).

On September 28, a total of 1,729 fingerlings were transported by truck to an access point closer to where the Burntwood River meets Split Lake. Fingerlings were moved by boat with assistance from Manitoba Hydro's boat patrol crews and released into Split Lake at Site 2 (see map above).

On September 30, a total of 1,739 fingerlings were transported by truck to the Orr Creek boat launch and released from shore into the Burntwood River at Site 3 (see map above).

Fingerlings had an average total length of 10 cm (range: 8 to 11 cm) and average weight of 3.3 g (range: 2.0 to 4.6 g).

STOCKING RESULTS

Since the stocking program began in 2013 a total of 600,967 larvae, 21,870 fingerlings, 5,545 yearlings and 188 sturgeon aged 2-years have been released by GRFH for the KHLP. Annual monitoring programs being conducted by the KHLP in the Keeyask and upper Split Lake areas have captured a total of 705 hatchery-reared sturgeon released as yearlings or aged 2-years. Annual survival of stocked yearlings in Stephens Lake, Keeyask reservoir and upper Split Lake area has been estimated to be 78%, 95% and 92%, respectively.

FUTURE ACTIVITIES

Hatchery-reared sturgeon from the Burntwood River population (2022 year-class) will be released in spring 2023, pending provincial approval. Egg and milt collection from wild adults will take place in the Nelson River near Birthday Rapids in spring 2023.

Further upgrades to the infrastructure at GRFH are expected to be completed by spring 2023.

PRODUCTION AND STOCKING TEAM

Grand Rapids Fish Hatchery

- Yhana Michaluk, Fish Culture Supervisor
- Shaun Kirchmann, Senior Fish Culturist
- Luc Boudreau, Senior Fish Culturist
- Jerry Cook, Fish Culturist
- Morgan Blacksmith, Fish Culturist
- Tobias Dolinski, Fish Culturist
- Cory Ferland, Fish Culturist
- Jesse Scott, Assistant Fish Culturist
- Emily Cook, Assistant Fish Culturist

Generation Environmental Services

- Allison Zacharias, Department Manager
- Warren Coughlin, Senior Environmental Specialist
- Cheryl Klassen, Environmental Specialist

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1.0 INTRODUCTION

In June 2012, the Keeyask Hydropower Limited Partnership (KHLP) filed an Environmental Impact Statement (EIS) in support of the Keeyask Generation Project (the Project), a 695 megawatt hydroelectric generating station (GS) to be built at Gull Rapids on the Nelson River (Map 1). Construction of the Project began in July 2014 following regulatory approval and was completed in March 2022.

As discussed in the EIS, construction and operation of the Project will result in the alteration and destruction of Lake Sturgeon habitat, thereby potentially affecting regional populations.

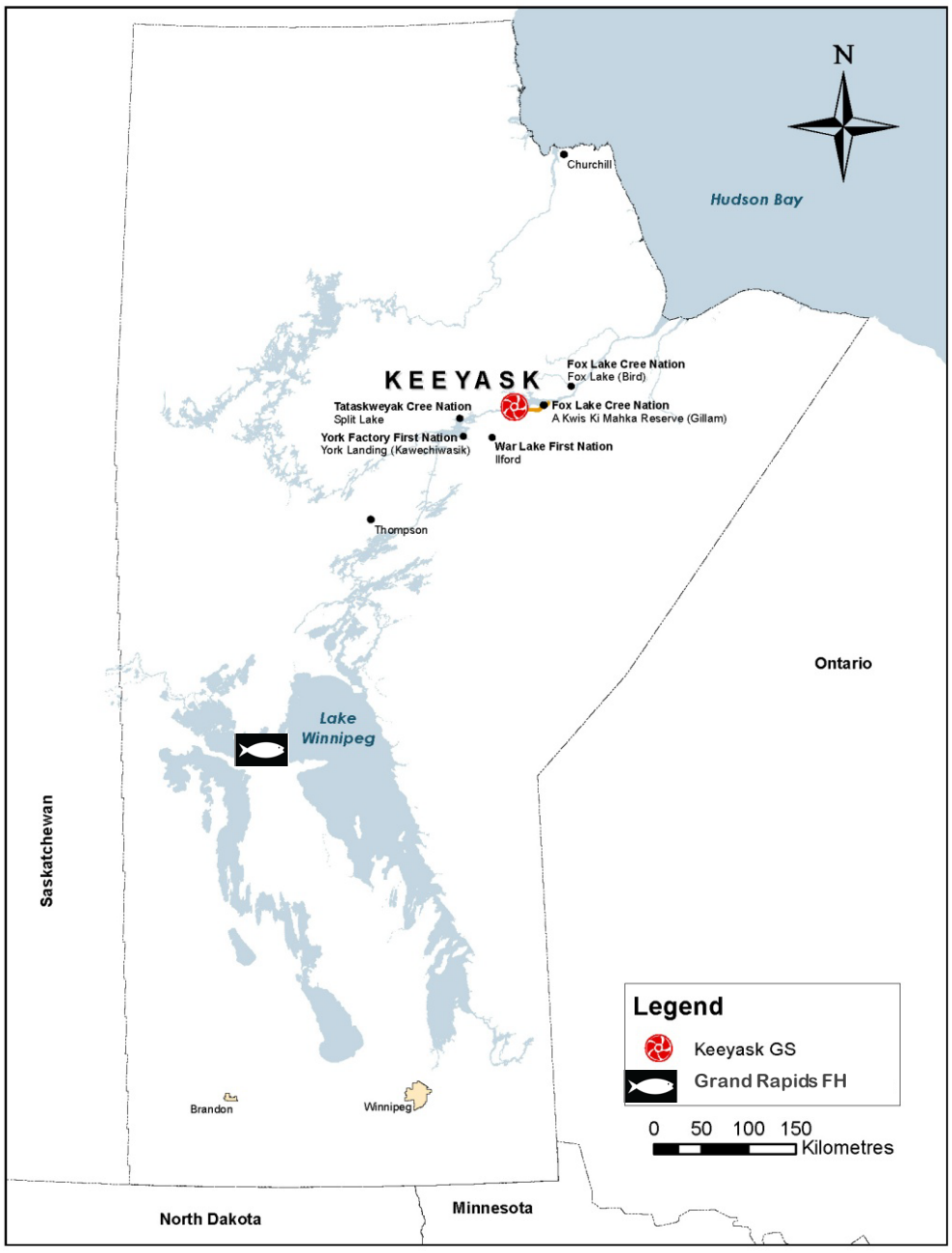
To mitigate impacts of the Project, the KHLP has developed a strategy that involves several components, including:

- management measures during construction to avoid mortality of sturgeon;
- stocking of sturgeon into Stephens Lake during construction to offset potential effects of the loss of spawning habitat in Gull Rapids;
- spawning habitat creation in the tailrace of the GS;
- alternations to habitat upstream of Birthday Rapids, if post-Project monitoring demonstrates that this area is no longer suitable for spawning sturgeon;
- creation of young-of-the-year rearing habitat at the upper end of Gull Lake following impoundment, if post-Project monitoring demonstrates that suitable habitat is not available;
- on-going studies to determine requirements (if any) for upstream fish passage;
- the use of monitoring of downstream movements and mortality to determine the need for any additional fish protection measures related to downstream passage at the GS;
- a conservation stocking program, with the objective of re-establishing a self-sustaining Lake Sturgeon population; and
- a conservation awareness program, highlighting the vulnerability of Lake Sturgeon.

Stocking was identified as being critically important because Stephens Lake may be able to support more Lake Sturgeon than are currently present. Therefore, a conservation stocking plan for the lower Nelson and Burntwood rivers was designed to address:

- existing low population numbers due to historic effects;
- potential effects of creation of the Keeyask reservoir, including possible emigration of adult Lake Sturgeon in response to water level changes at impoundment, and reduced year-class strength in the initial years of impoundment due to changes in spawning and young-of-the-year habitat. These effects are predicted to be restricted to the first years of impoundment, if they occur at all; and

- potential decrease in year-class strength of sturgeon in Stephens Lake, due to the alteration and ultimate loss of spawning habitat in Gull Rapids during construction of the GS. This effect is offset during the operation phase by the constructed spawning habitat.



Map 1: Location of Keeyask Generation Project and Grand Rapids Fish Hatchery

An initial 10-year stocking plan was developed and described in the Fisheries Offsetting and Mitigation Plan (FOMP). During the initial 10-year plan, the number of sturgeon released at each developmental stage (larval, fingerling and yearling) will be dependent upon:

- the number of Lake Sturgeon available at each developmental stage;
- the amount of hatchery space available to enable 'normal' growth of fish; and
- the end goal of maintaining 2,000 fingerlings annually through the winter to be released as yearlings the following spring.

Lake Sturgeon stocking in the lower Nelson and Burntwood rivers began in 2014 and has included the release of multiple stages over the years (Table 1).

Table 1: Summary of Lake Sturgeon stocking in the lower Nelson and Burntwood rivers since 2014

Year	Burntwood River/Split Lake			Keeyask reservoir [a]			Stephens Lake		
	Larvae	Fingerlings	Age-1+	Larvae	Fingerlings	Age-1	Larvae	Fingerlings	Age-1
2014	0	0	595	152,926	4,656	0	0	0	0
2015	0	0	0	0	0	423	0	0	418
2016	0	0	23	192,167	780	0	184,134	799	0
2017	71,740	3,765	0	0	0	463	0	0	720
2018	0	0	739	0	933	0	0	1,009	0
2019	0	3,681	0	0	0	398	0	0	390
2020	0	0	574	0	0	0	0	0	0
2021	0	0	188[b]	0	0	0	0	1,050	0
2022	0	5,197	0	0	0	402	0	0	400
Total	**71,740**	**12,643**	**2,119**	**345,093**	**6,369**	**1,686**	**184,134**	**2,858**	**1,928**

[a] previously referred to as Gull Lake and the future Keeyask reservoir
[b] two-year old sturgeon

The Keeyask Fisheries Regulatory Review Committee (which also undertakes the role of Lake Sturgeon Advisory Committee as described in the *Environment Act* licence) may decide to modify the stocking plan based on annual monitoring activities.

Lake Sturgeon stocking in the lower Nelson and Burntwood rivers will continue until self-sustaining populations are established. At present, it is anticipated that stocking will occur for at least one full generation (25 years) to restore the historically depleted population.

To meet the goals outlined in the FOMP, the KHLP is stocking Lake Sturgeon hatched at the Grand Rapids Fish Hatchery (GRFH). The hatchery, located in the community of Grand Rapids, MB (Map 1), was constructed in the early 1970's by the province of Manitoba. The building was originally configured for production of Walleye, Whitefish and a variety of trout species. In 1994, GRFH began producing Lake Sturgeon for the Nelson River Sturgeon Board, in support of efforts to conserve populations in the upper Nelson River.

Manitoba Hydro purchased GRFH in 2007 and the facility was operated in partnership with Manitoba Conservation and Water Stewardship (now Natural Resources and Northern Development) through a Joint Management Committee. At the end of 2012, Manitoba Hydro assumed full operation of the hatchery and currently employs seven permanent and two seasonal staff. Operations and regulatory matters are overseen by Manitoba Hydro's Generation

Environmental Services Department. Building and equipment maintenance is currently conducted in partnership with the Grand Rapids Generating Station and NME Construction Services. GRFH is currently in the process of filling a new permanent position to support on-going maintenance of the facility's expanding infrastructure.

Since 2012, GRFH has focused its production efforts exclusively on Lake Sturgeon and Walleye. Rearing space for the Lake Sturgeon is shared between the two stocking programs: Keeyask Generation Project and the Nelson River Sturgeon Board.

To meet future annual stocking targets, Manitoba Hydro has upgraded and expanded rearing capacity at GRFH. In March 2014, a facility assessment was completed by HDR Inc. which confirmed that the existing infrastructure could not meet projected Lake Sturgeon production commitments. Upgrades were also necessary to attain national and provincial biosecurity standards and recommendations to reduce the risk of pathogens from entering the facility and spreading.

Planning for infrastructure upgrades and expansion of GRFH began at the end of 2014 and managed by Manitoba Hydro's Generation Projects Department. A final design was completed by SNC Lavalin in spring 2019 and a contract was awarded to NME Construction Services in fall 2019.

Pickerel Place (previously referred to as the Service Garage; Photo 1), was commissioned in November 2020 and is serving as the interim sturgeon production facility until renovations in the main hatchery building are completed. Commissioning and handover of the main hatchery building was initially attained in October 2021; however, well water issues causing iron and calcium build-up within the new systems has led to the need for additional water treatment equipment. Final commissioning is expected to be completed in spring 2023, after which time Pickerel Place will be dedicated to GRFH's Walleye program.

Pickerel Place houses two separate water recirculating aquaculture systems (identified as System 4000 and 4100), each with two grey rearing troughs measuring 8.1 x 0.9 x 0.5 m (L x W x H; Photo 2). Each tank can be divided into 4 equal sections. The original piping feeding the building with surface water (Cedar Lake) was capped and a new line to bring in well water was installed. Water treatment equipment within the aquaculture systems include drum filter, biofilter, degasser, and UV disinfection. Temperature is controlled using a hot water tank and by adjusting the rate of make-up water added.

Total usable rearing area for Lake Sturgeon in Pickerel Place is approximately 27 m^2. Rearing space is shared between the two stocking programs: Keeyask Generation Project and the Nelson River Sturgeon Board.

The purpose of this report is to provide a summary of Lake Sturgeon production at Grand Rapids Fish Hatchery and stocking activities for the Keeyask Generation Project in 2021/22.

Klassen et al. (2015; 2016; 2017; 2018; 2019; 2020; 2021; 2022) provides summaries from past years.

Photo 1: Water recirculating aquaculture systems in Pickerel Place. System 4000 is on the right and system 4100 is on the left.

Photo 2: Rearing troughs in Pickerel Place used for interim Lake Sturgeon production. Installation of screens allow each tank to be divided into four sections.

2.0 BIRTHDAY RAPIDS POPULATION (2021 YEAR-CLASS)

2.1 PAST PRODUCTION AND STOCKING

Wild Lake Sturgeon adults from the Nelson River were captured downstream of Birthday Rapids (Map 2) in early June 2021. On June 11 the milt (sperm) from four males (M3, M5, M6, M8) was mixed with the eggs from one female (F1). The total number of eggs brought to GRFH was estimated to be 40,750. The overall percentage of viable eggs was estimated to be 35%. The estimated number of hatched larvae was 14,414; however, closer to hatch all remaining viable eggs were counted and actual hatch was 5,250 (13%).

Monthly survival during the spring and summer months was greater than 85%, with the exception of June (61%) when fish began exogenous feeding. Survival during the month of September exceeded 95%.

On September 28, a total of 1,050 fingerlings were transported by truck to the downstream boat launch located at Keeyask and released from shore into Stephens Lake. At the time of the fall stocking fingerlings had an average total length of 110 mm (range: 90 to 130 mm) and average weight of 5.0 g (range: 2.8 to 7.7 g).

Klassen et al. (2022) provides additional detail on past production and stocking activities for the Birthday Rapids sturgeon (2021 year-class).

2.2 PRODUCTION

2.2.1 WINTER

A total of 809 Lake Sturgeon fingerlings representing three family groups (F1M3, F1M6, F1M8) were kept at GRFH over the 2021/22 winter season for further grow-out. Fish were held in Pickerel Place (System 4000). Well water was used exclusively and UV disinfected prior to entering tanks. During the winter grow-out, sturgeon were fed frozen bloodworm twice daily to satiation in the morning and afternoon.

Overwinter survival for the 2019 year-class was 99% (Figure 1; Table A1-1). Four fish died naturally (two in October, one in November and one in February) and five were euthanized due to fish health concerns (three in December and two in March).

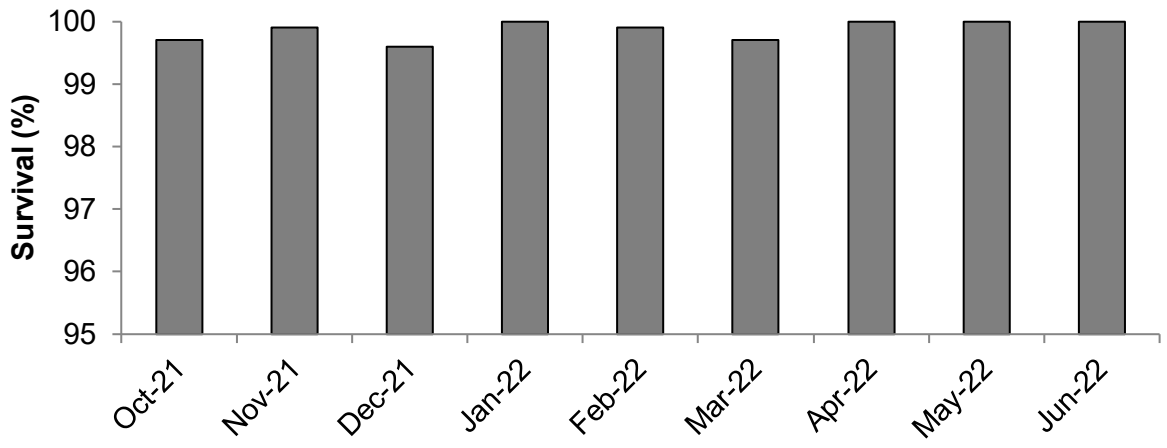


Figure 1: **Monthly survival (%) of Birthday Rapids sturgeon (2021 year-class) at GRFH from October 1, 2021 to June 2, 2022**

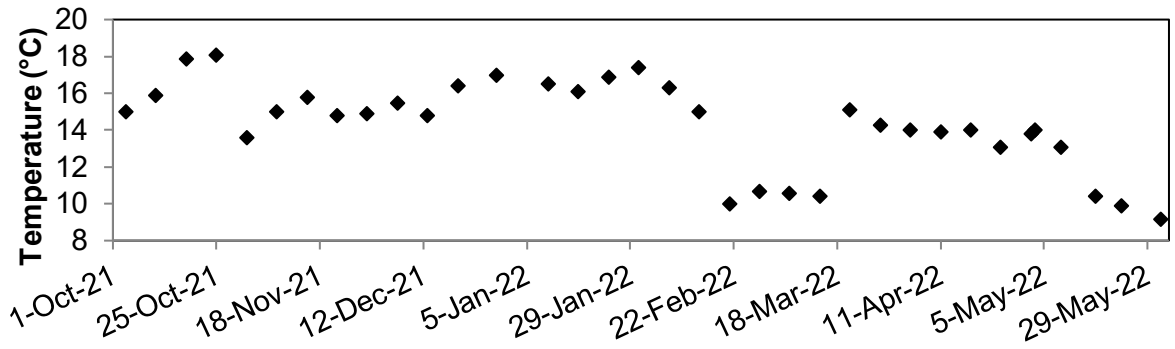


Figure 2: **Water temperatures (°C) in rearing troughs holding Birthday Rapids sturgeon (2021 year-class) at GRFH from October 1, 2021 to June 2, 2022**

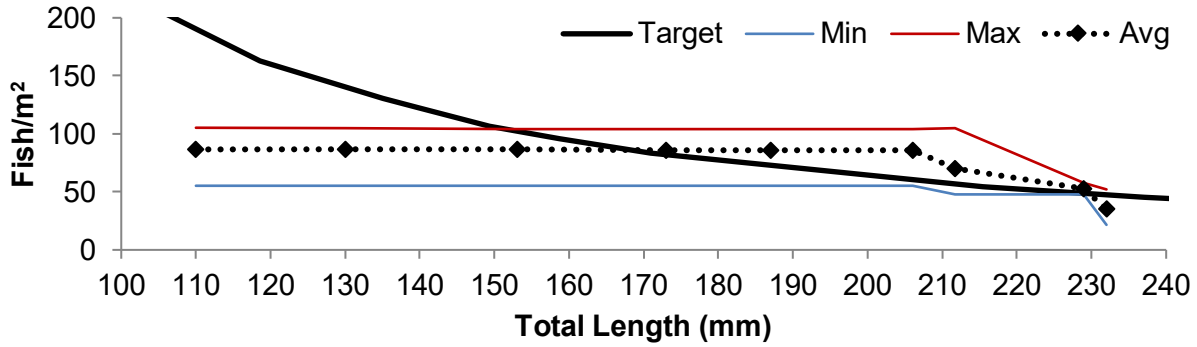


Figure 3: **Average, minimum and maximum rearing density (fish per m^2) of Birthday Rapids sturgeon (2021 year-class) at GRFH from October 1, 2021 to June 2, 2022**

Average tank temperature recorded during water quality assessments was 14.3°C (range: 9.2°C to 18.1°C) from October 1, 2021 to June 2, 2022 (Figure 2). GRFH staff dropped the rearing temperature in February and March of 2022 to reduce feeding rates due to a bloodworm shortage with suppliers.

Average Rearing densities remained at or below historical target levels until the end January, after which point densities were slightly above optimum until the spring stocking (Figure 3).

Water quality samples were tested weekly (or more often, if needed) at a system level throughout winter. Measurements included dissolved oxygen (DO; EcoSense DO 200A, Pentair), dissolved carbon dioxide (dCO2; GO2P, Oxygaurd International), pH (pH450, Oakton Instruments), total ammonia nitrogen (TAN; Photometer 7500, Palintest), un-ionized ammonia (UIA; Calculated by multiplying TAN with a multiplication factor based on temperature and pH, Emerson et al. 1975) and nitrite-nitrogen (NO2-N; Photometer 7500, Palintest; Photo 3).

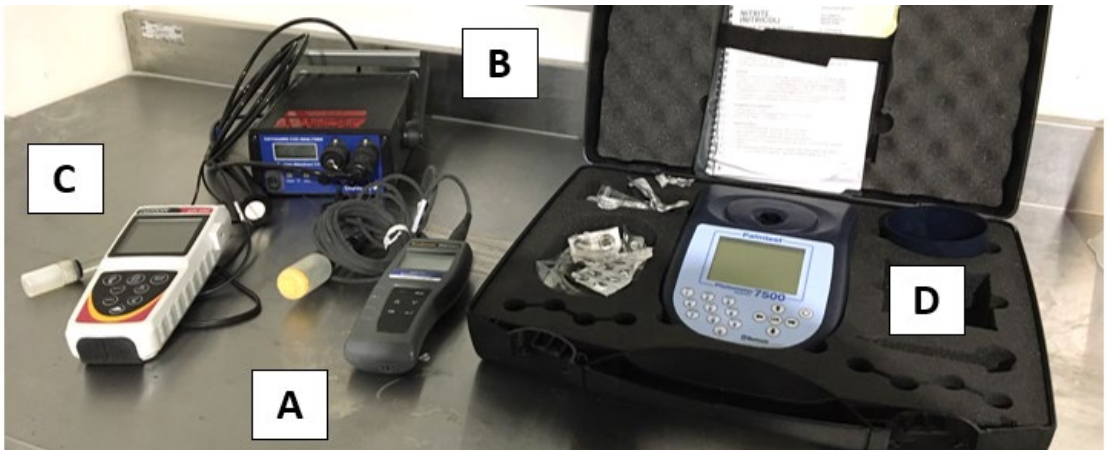


Photo 3: Equipment used to test dissolved oxygen (A), dissolved carbon dioxide (B), pH (C), total ammonia nitrogen (D) and nitrite-nitrogen (D) at GRFH

Average, minimum and maximum monthly water quality values, with the exception of TAN, are plotted in Figure 4. A detailed summary of monthly values is presented in Table A1-2. Recommended threshold values for sturgeon production are listed in Table A3-1.

Average monthly values for DO (>80%), dCO2 (<10 mg/L) and NO2-N (<0.2 mg/L) were at or within acceptable limits during winter production. Average monthly values for pH were slightly above recommended thresholds (6.5 to 8.5) throughout most of the winter production and UIA values exceeded recommended limits (<0.01 mg/L) on several occasions. Further upgrades to the hatchery's water treatment equipment are taking place to better manage issues associated with the source well water (e.g., iron and mineral build-up within the rearing systems).

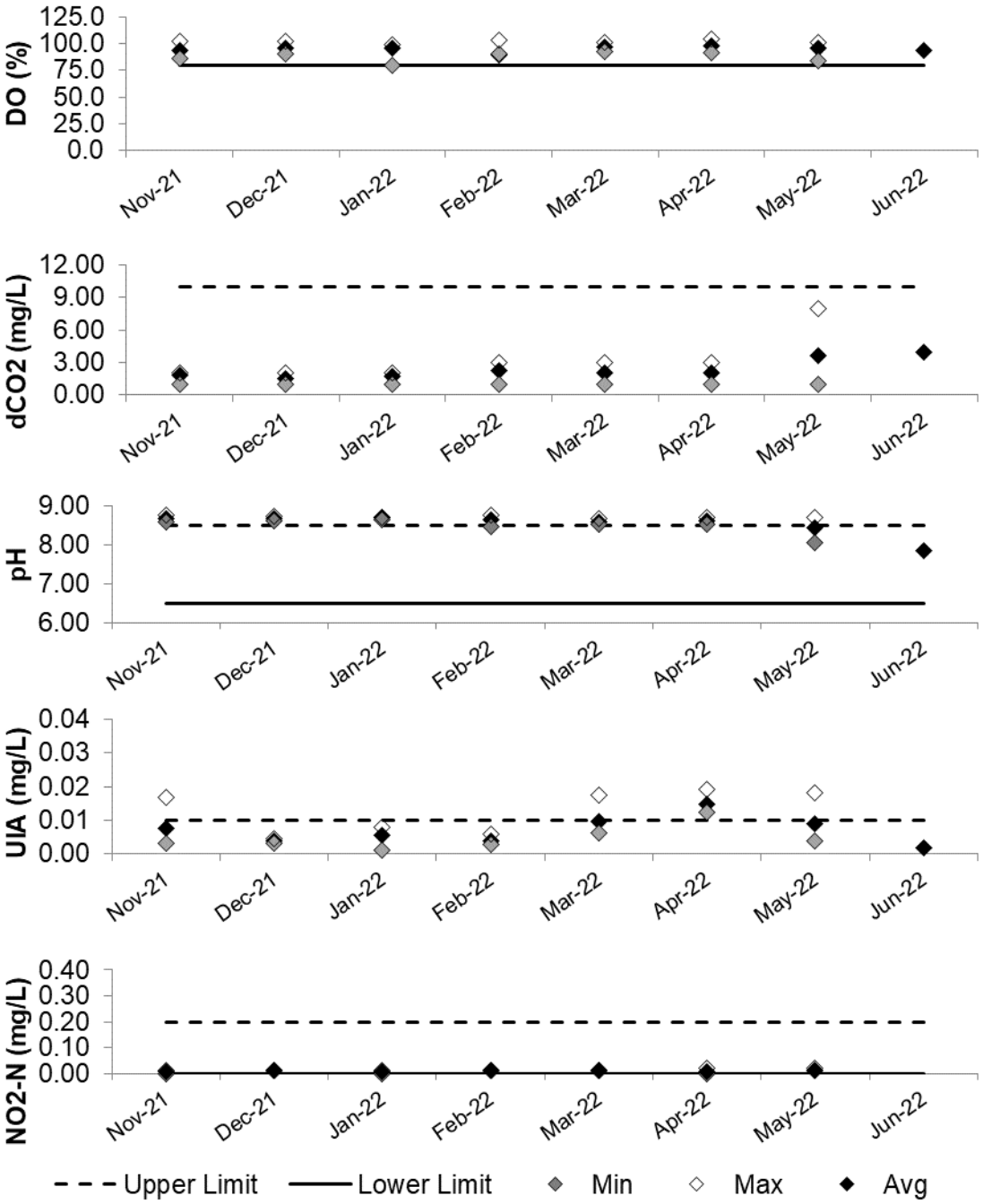


Figure 4: **Average, minimum and maximum monthly dissolved oxygen (DO), dissolved carbon dioxide (dCO2), pH, un-ionized ammonia (UIA) and nitrite-nitrogen (NO2-N) values in the rearing system holding Birthday Rapids sturgeon (2021 year-class) at GRFH from October 1, 2021 to June 2, 2022**

At the end of each month, 15 Birthday Rapids sturgeon were randomly selected and measured from each of the three family groups. All fish were measured at the end of May prior to the spring stocking. There was a gradual but steady increase in growth among fish over winter (Figure 5). As is typically observed, there was a noticeable size range among fish.

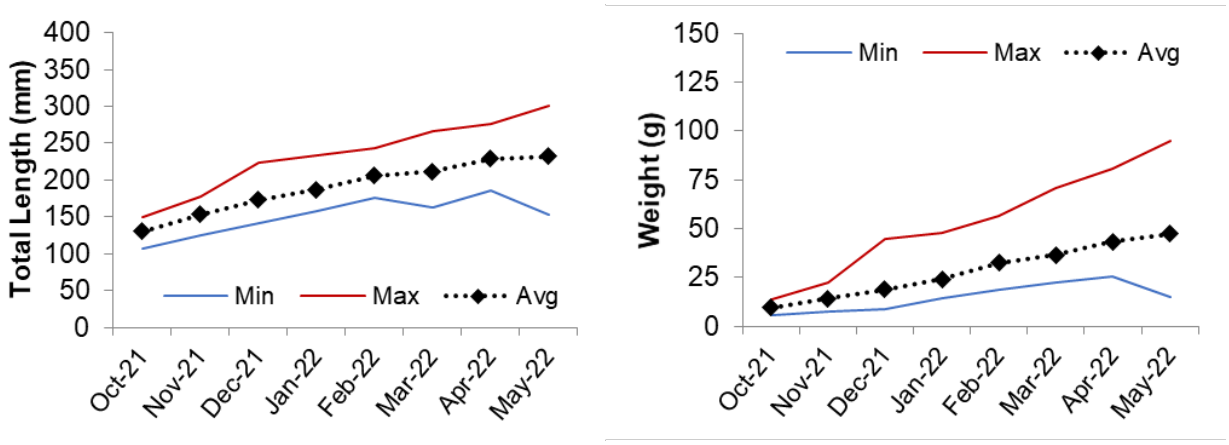


Figure 5: Average, minimum and maximum total length (mm) and weight (g) for Birthday Rapids sturgeon (2021 year-class) at GRFH from October 2021 to the end of May 2022

At the time of the spring stocking, yearlings had reached an overall average fork length of 201 mm (range: 133 to 258 mm), average total length of 232 mm (range: 153 to 301 mm) and average weight of 47.4 g (range: 14.8 to 94.7 g; Figure 5; Table A1-3).

2.3 STOCKING

2.3.1 SPRING

All Birthday Rapids sturgeon were marked with uniquely numbered Passive Integrated Transponder (PIT) tags (8 mm long x 1.4 mm diameter) by inserting the tag into the muscle along the fish's back. This was completed by GRFH staff between March 13-15, 2022 when fish were large enough to undergo the procedure. A PIT tag scanner held over the fish detects the tag and displays the unique number on a screen. This marking technique helps to identify hatchery-reared fish caught in the river and can be used to assess the movement and growth of individual fish following stocking.

Tissue samples (pectoral fin) were collected from 30 Birthday Rapids sturgeon on April 7, 2022 and sent to RPC Science & Engineering in Fredericton, New Brunswick. All samples tested negative for Namao Virus using a virus specific qPCR test. Yearlings were cleared by the provincial fish health officer for stocking.

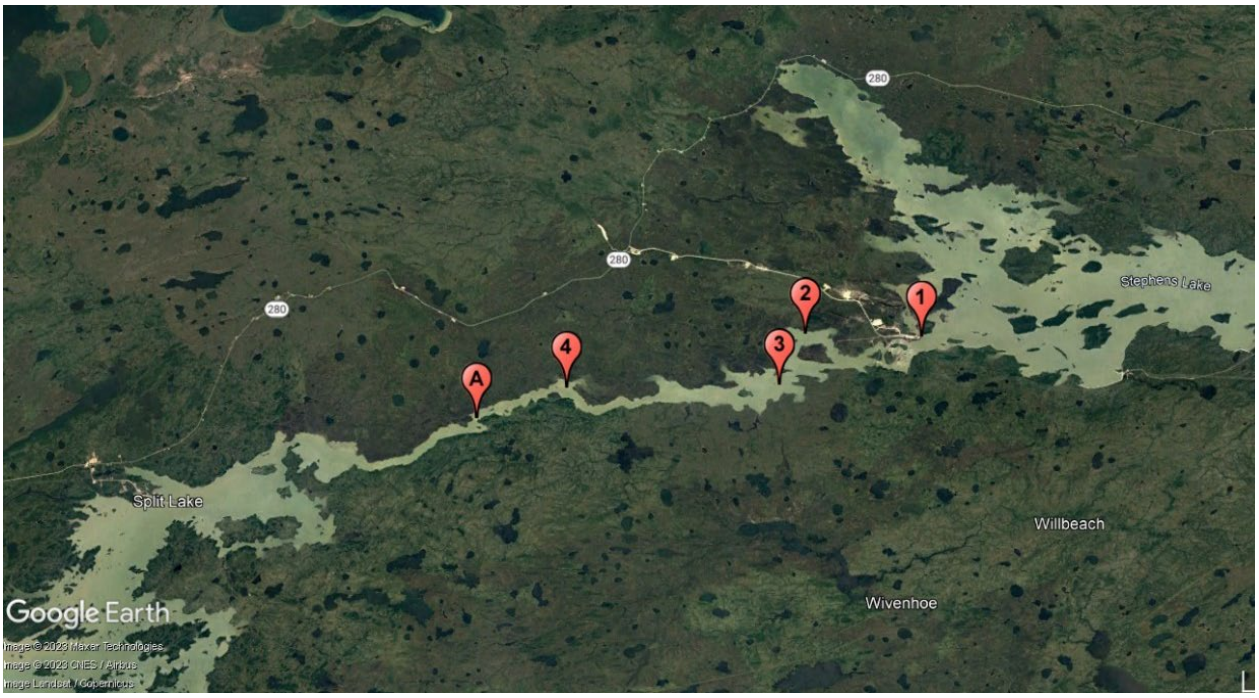
On May 30, 2022 a total of 400 sturgeon yearlings were transported by truck from the Grand Rapids Fish Hatchery to the Keeyask camp. Following a period of acclimation, the sturgeon were released from shore into Stephens Lake at site 1 (Map 2; Table 2; Table A1-4). The river temperature at shore was 6.5°C.

On June 2, another 400 sturgeon were transported by truck to the Keeyask camp. Following a period of acclimation, the sturgeon were released into the Keeyask reservoir at Site 2 and Site 3 with assistance from North South Consultants (Photo 4; Map 2; Table 2; Table A1-4). The river temperature was 7.0°C.

On June 24, Manitoba Hydro's boat patrol crew transferred two fish from the George Saunders Memorial School in York Landing by boat to North South Consultants (NSC) field staff working downstream of Birthday Rapids. NSC staff PIT tagged the two individuals and released the fish at Site 4 (Map 2; Table 2; Table A1-4). These fish had been at the school since September 28, 2021 as part of the Kischi Sipi Namao Committee's school aquarium program.

Table 2: Number of Birthday Rapids sturgeon (2021 year-class) released into the Keeyask area in spring 2022

Family	Stocking				
	Date	Number	Age (Mth)	Waterbody	Site ID
F1M3	30-May-22	200	11	Stephens Lake	1
F1M6	30-May-22	100	11	Stephens Lake	1
F1M8	30-May-22	100	11	Stephens Lake	1
Total (Site 1)		**400**			
F1M3	02-Jun-22	99	11	Keeyask reservoir	2
F1M6	02-Jun-22	41	11	Keeyask reservoir	2
F1M8	02-Jun-22	60	11	Keeyask reservoir	2
Total (Site 2)		**200**			
F1M3	02-Jun-22	99	11	Keeyask reservoir	3
F1M6	02-Jun-22	41	11	Keeyask reservoir	3
F1M8	02-Jun-22	60	11	Keeyask reservoir	3
Total (Site 3)		**200**			
F1M3	24-Jun-22	2	12	Keeyask reservoir	4
Total (Site 4)		**2**			



Map 2: **Stocking location for Birthday Rapids sturgeon (2021 year-class) released into the Keeyask area in spring 2022. Broodstock of yearlings were captured downstream of Birthday Rapids, marked 'A'**

Photo 4: **Releasing yearlings into the Keeyask reservoir on June 2, 2022**

3.0 BURNTWOOD RIVER POPULATION (2022 YEAR-CLASS)

3.1 SPAWN CAMP

3.1.1 BROODSTOCK COLLECTION

Lake Sturgeon adults were captured from the Burntwood River downstream of First Rapids (Map 3) with assistance from North South Consultants. One female was injected with a primer dose (20%) of Gonadotropin Releasing Hormone (GnRH; Product No. H-4070, Bachem Americas, Inc., Torrance, CA, USA) on June 10. The remaining dose (80%) was administered 12 hours later on June 11. Seven males were injected using a similar protocol; however, the amount of hormone used per kg was less than half that used for females (Table 3).

Table 3: Broodstock tag numbers, weight and GnRH dose used during gamete collection on the Burntwood River downstream of First Rapids, June 2022

Floy Tag ID	Hatchery ID	Body Mass (Kg)	Injection Date	Injection Time	Injection Temp (°C)	GnRH (µg/Kg)	Solution		
							GnRH (µl)[1]	Ringer's (µl)[2]	Total (µl)
Females									
119595	F1	30.5	10-Jun-22	18:54	11.0	4.0	122	488	610
			11-Jun-22	07:03	10.0	16.0	488	122	610
Males									
119594	M1	7.0	10-Jun-22	19:02	11.5	1.5	10.5	130	140
			11-Jun-22	07:10	10.5	6.0	42.0	200	242
123305	M2[3]	7.0	10-Jun-22	19:01	11.5	1.5	10.5	130	140
			11-Jun-22	07:08	10.5	6.0	42.0	200	242
114070	M3	9.0	10-Jun-22	19:06	11.5	1.5	13.5	167	180
			11-Jun-22	07:13	10.5	6.0	54.0	200	254
119579	M4[3]	6.0	10-Jun-22	19:05	11.5	1.5	9.0	111	120
			11-Jun-22	07:13	10.5	6.0	36.0	200	236
119576	M5[3]	7.0	10-Jun-22	19:04	11.5	1.5	10.5	130	140
			11-Jun-22	07:12	10.5	6.0	42.0	200	242
098902	M6	7.0	10-Jun-22	19:07	11.5	1.5	10.5	130	140
			11-Jun-22	07:06	10.5	6.0	42.0	200	242
119577	M7	6.0	10-Jun-22	19:00	11.5	1.5	9.0	111	120
			11-Jun-22	07:08	10.5	6.0	36.0	200	236

[1] GnRH solution = 1µg GnRH per µl
[2] Saline solution used to transport GnRH into fish muscle during injections
[3] Gametes not used in program

Administration of GnRH is useful for conservation aquaculture programs because it stimulates the production of sex steroids (estradiol and testosterone) necessary for maturation and production of eggs and milt. Research on the use of GnRH during Lake Sturgeon gamete collection suggests no lasting negative effects on broodstock health or human consumption complications (Genz et al. 2014).

Males and females were held separately using two tanks set up on shore (photo 5). Average water temperature from the time adults were first injected with hormone to the time of egg/milt collection was 11.7°C (range: 10.0 to 13.5°C) for the females and 11.8°C (range: 10.0 to 13.5°C) for the males.

Photo 5: Holding tanks at the Burntwood River spawn camp, June 2022

3.1.2 EGG AND MILT COLLECTION

Eggs were first observed at 04:00 June 12 slightly ahead of the expected timeline of 36 hours following first hormone injection.

Approximately 350 ml of eggs (unfertilized) were collected from F1 at 05:20. She was returned to the holding tank and field staff collected another 200 ml of eggs from her at 06:05. No abdominal incision was attempted. During egg collection damp towels were placed over the female's head to reduce stress and she was returned to the holding tank within 10 minutes.

Milt was collected at approximately 05:45 and stored on ice in separate containers until fertilization. All males expressed quality milt, but only milt from four males was used to fertilize eggs due to space constraints at GRFH.

Eggs from F1 were fertilized with the milt from four males at 07:00 to create four families (F1M1, F1M3, F1M6, F1M7). Milt was mixed with the eggs for approximately 90 seconds at a volume of 22 ml per liter of eggs (or 3 ml per 137 ml of eggs). The milt was first activated by mixing it with 350 ml river water. Eggs were then rinsed with fresh river water and mixed with bentonite clay for approximately 40 min to prevent egg clumping. They were bagged and placed in coolers by 09:00.

Eggs were transported by boat to the Orr Creek Boat launch. From there they were driven to Grand Rapids, arriving at GRFH by 15:00.

3.1.3 BROODSTOCK HEALTH

To ensure the short and long-term health of broodstock, field crew members discussed roles and responsibilities the day before egg and milt collection activities. For example, one individual timed how long the female was out of the water and called out to the other field staff every minute. A second individual was dedicated to female recovery efforts immediately following egg collection. Egg collection was kept to a maximum time of 10 min.

Netting and tarps were secured over the holding tanks (Photo 5) to prevent broodstock from jumping out onto the ground. This was in response to an incident which occurred in 2021 that resulted in the mortality of one male.

F1 recovered following egg collection and was actively swimming in the holding tank. All broodstock were released back into the river later that day.

Milt, ovarian fluid and fin tissue (pectoral) from broodstock were tested for Namao Virus. The Namao Virus has been detected in sturgeon throughout its range, including the Nelson and Burntwood rivers, and appears to be endemic (Clouthier et al. 2015). All samples tested negative for the virus, with the exception of M6. A Ct value of 32.10 was reported for the fin tissue of M6 while no virus was detected in the milt. No offspring tested positive for the virus (see Section 3.3.1).

Polypodium hydriforme, a sturgeon and paddlefish parasite (Raikova 2002), was observed within the eggs of Burntwood River broodstock in 2015 and 2017. There were no signs of this parasite in 2022.

3.2 PRODUCTION

3.2.1 EGG INCUBATION AND HATCH

There were an estimated 44,350 eggs from the F1 crosses with an average of 28 eggs/ml (M1 = 27, M3 = 28, M6 = 28, M7 = 28). Eggs were placed into McDonald hatching jars for incubation. The four family groups were incubated in separate hatching jars but distributed across two rearing troughs within Pickerel Place due to on-going site upgrades. Troughs were contained within the same water recirculation system (4000); however, water was UV disinfected prior to entering each trough. Well water was used exclusively during this stage and following hatch.

Five days after egg collection, egg viability was assessed. The proportion of viable eggs within a jar was calculated from three samples collected containing at least 100 eggs. The average proportion of viable eggs from each jar was then multiplied by the total egg volume of that jar to estimate hatch success. The overall percentage of viable eggs was estimated to be 84% (M1 = 91%, M3 = 84%, M6 = 88%, M7 = 71%) with an estimated hatch of 37,053 larvae. The first observed larvae hatched on June 21 with the majority hatching on June 23.

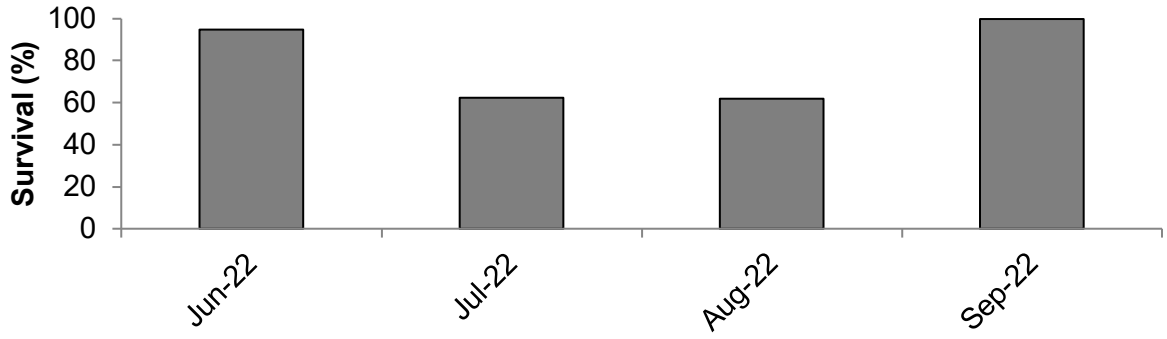


Figure 6: Monthly survival (%) of Burntwood River sturgeon (2022 year-class) at GRFH from June 21 to the end of September, 2022.

3.2.2 LARVAE AND FINGERLINGS

Monthly survival rates remained at or above 60% prior to the fall stocking (Figure 6; Table A2-1). The greatest number of mortalities occurred during the months of July and August, a period when fish were started on a diet of brine shrimp and later transitioned onto bloodworm.

Larvae were first introduced to brine shrimp on July 1, 2022 with the majority of sturgeon feeding by July 6. Chopped bloodworm was first offered on July 14 and whole bloodworm on August 10. Sturgeon were feeding on whole bloodworm exclusively by August 23. Fish were fed to satiation three times daily in the morning, afternoon and evening until September 21, at which time evening feedings were stopped.

Average tank temperature recorded during water quality assessments was 14.1°C (range: 9.7°C to 16.9°C) from hatch until the fall stocking activities (Figure 7). Average densities remained close to or below target levels from July to the end of September (Figure 8).

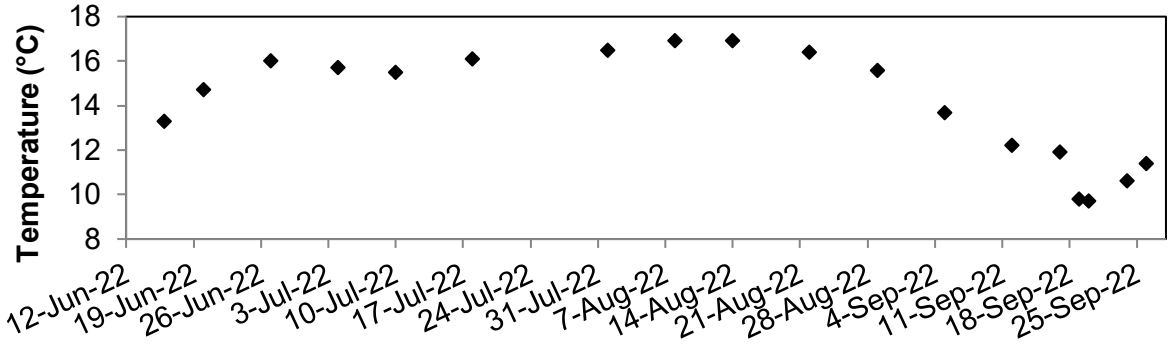


Figure 7: Water temperature (°C) in rearing troughs holding Burntwood River sturgeon (2022 year-class) at GRFH from June 12 to the end of September, 2022

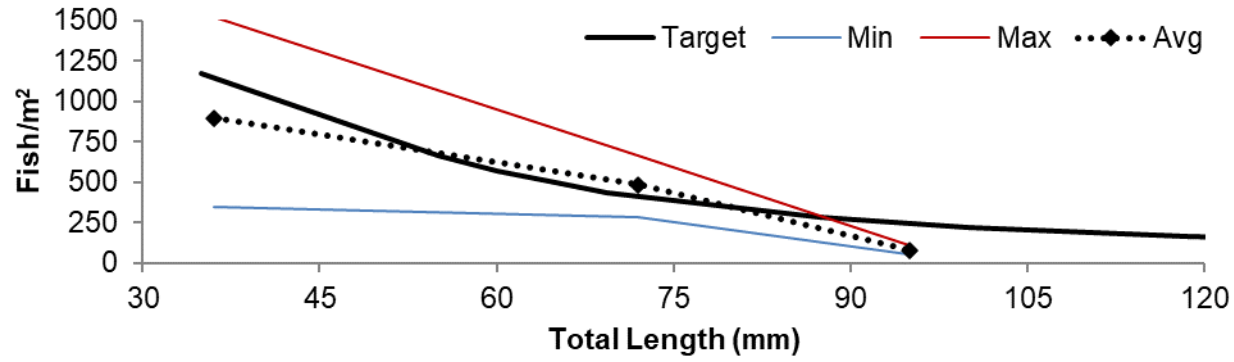


Figure 8: Average, minimum and maximum rearing density (fish per m²) of Burntwood River sturgeon (2022 year-class) at GRFH from the end of July to the end of September, 2022. Total Length at the end of July is based on an estimated value due to no measurements recorded.

Water quality samples were tested weekly (or more often, if needed) at a system level throughout summer. Parameters assessed included dissolved oxygen (DO), dissolved carbon dioxide (dCO2), pH, total ammonia nitrogen (TAN), un-ionized ammonia (UIA) and nitrite-nitrogen (NO2-N; refer to section 2.2.1 for methods).

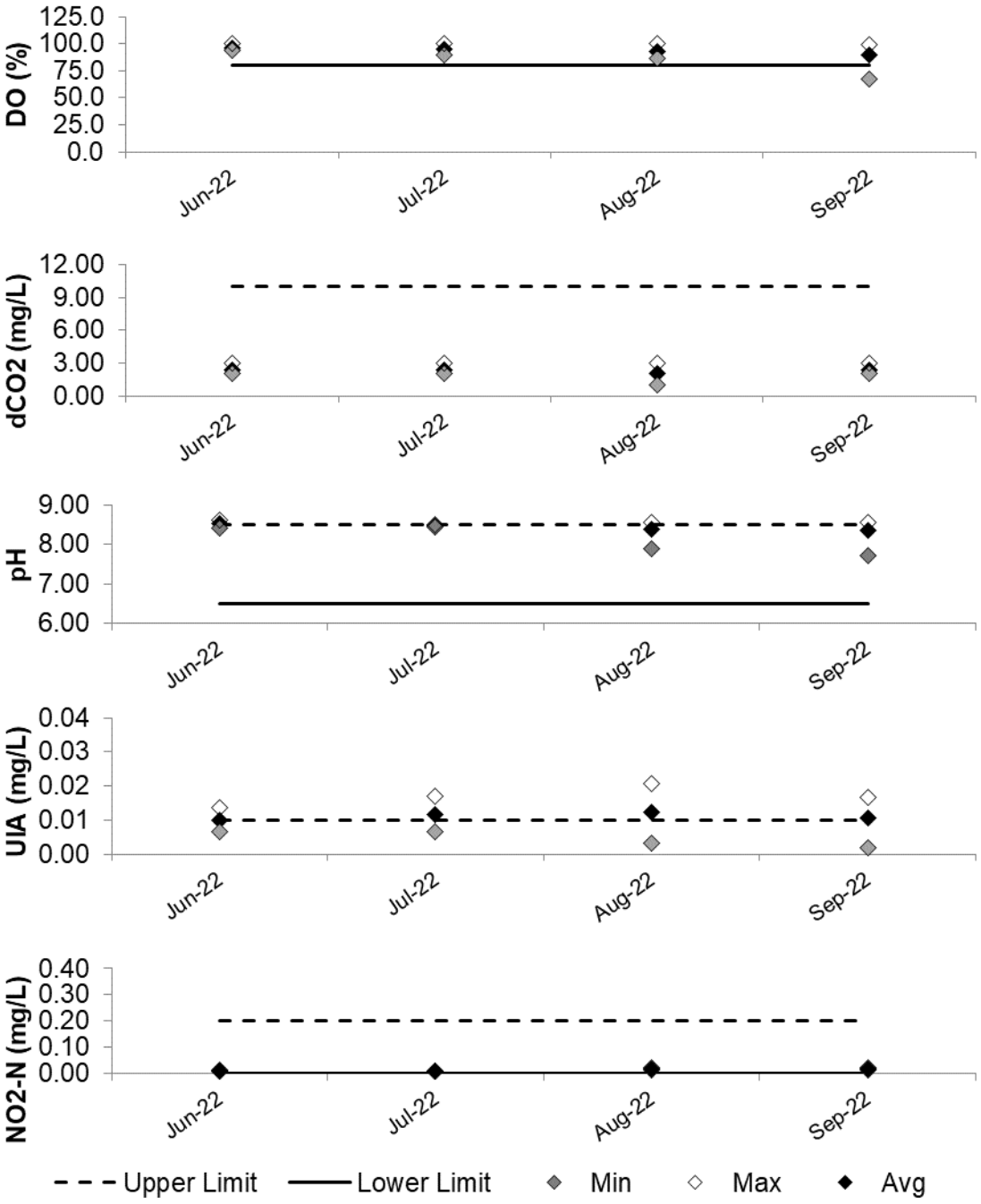


Figure 9: **Average, minimum and maximum monthly dissolved oxygen (DO), dissolved carbon dioxide (dCO2), pH, un-ionized ammonia (UIA) and nitrite-nitrogen (NO2-N) values in the rearing system holding Burntwood River sturgeon (2022 year-class) at GRFH from June 12 to the end of September, 2022**

Recommended threshold values for sturgeon production are listed in Table A3-1. Average monthly water quality values, with the exception of TAN, are plotted in Figure 9 and were at or within accepted limits for DO (>80%), dCO2 (<10 mg/L), pH (6.5 to 8.5) and NO2-N (<0.2 mg/L). UIA values exceeded recommended thresholds (<0.01 mg/L) on several occasions. Further upgrades to the hatchery's water treatment equipment are being completed to better manage issues associated with the source well water (e.g., iron and mineral build-up within the rearing systems). A detailed summary of monthly values is presented in Table A2-2.

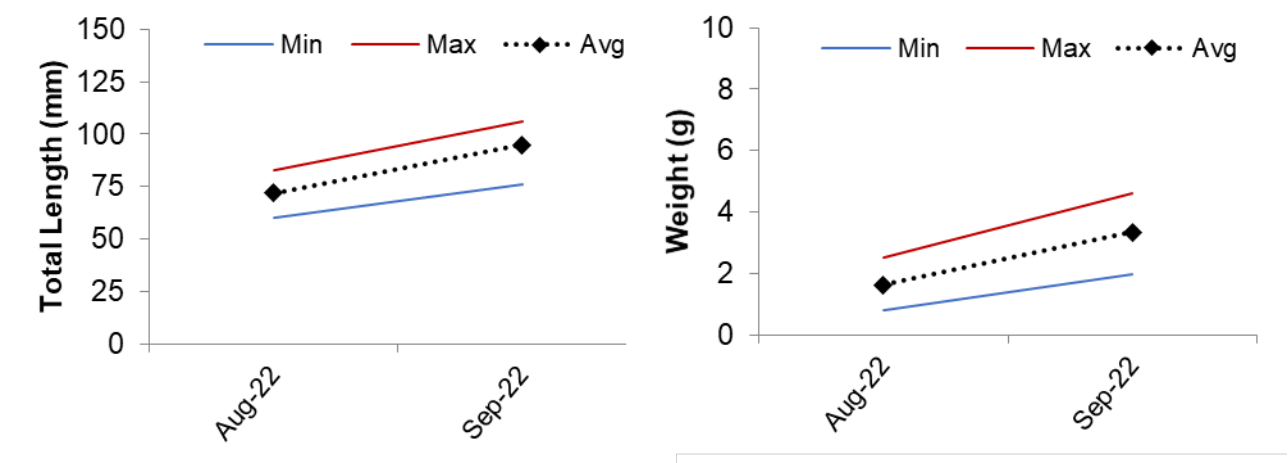


Figure 10: Average, minimum and maximum total length (mm) and weight (g) for Burntwood River sturgeon (2022 year-class) at GRFH from August to the end of September, 2022

When the Burntwood River sturgeon reached an appropriate size for handling, 15 fish were randomly selected and measured from each family group at the end the month. By the end of September fingerlings had reached an overall average total length of 95 mm (range: 76 to 106 mm) and average weight of 3.34 g (range: 1.97 to 4.62 g; Figure 10; Table A2-3).

3.3 STOCKING

3.3.1 FALL

On August 28, sixty whole body samples representing the four family groups (F1M1, F1M3, F1M6, F1M7) were collected and sent to RPC Science and Engineering in Fredericton, New Brunswick. All samples tested negative for Namao Virus using a virus specific qPCR test. Fingerlings were cleared by the provincial fish health officer for stocking.

On September 26, a total of 1,729 fingerlings were transported by truck to the Orr Creek boat launch. Following a period of acclimation, the fingerlings were moved by boat with assistance

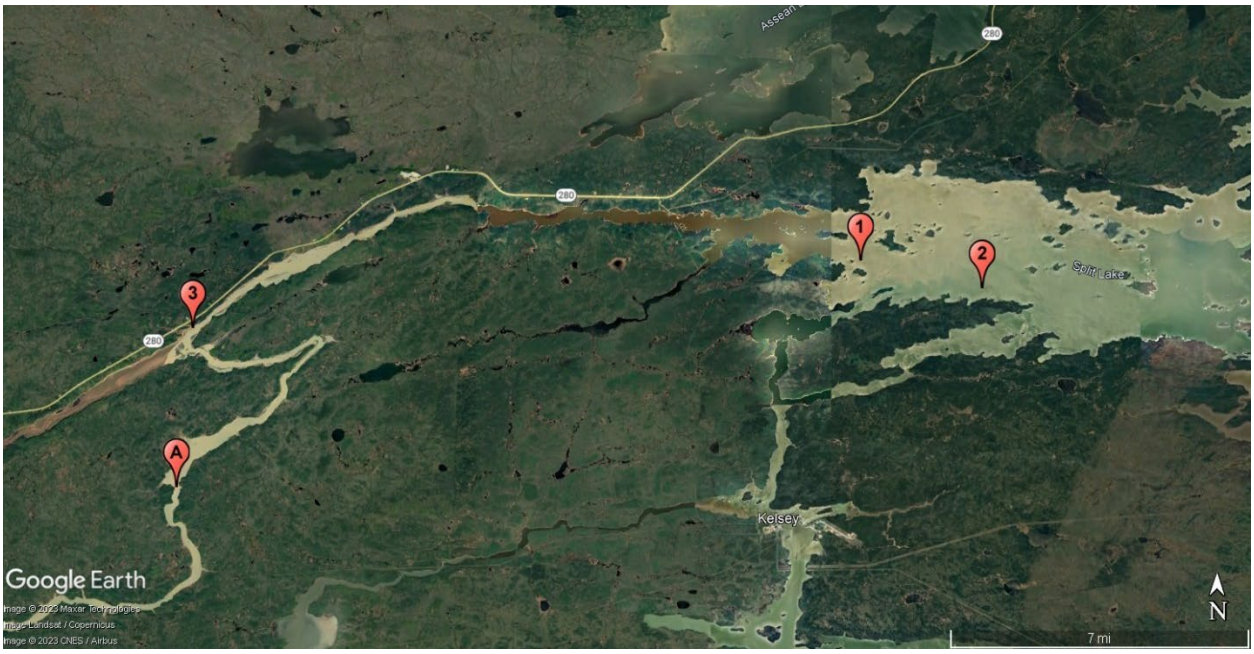
from Manitoba Hydro's boat patrol crews and released into Split Lake at Site 1 (Map 3; Table 4). The river temperature was 12.7°C.

On September 28, a total of 1,729 fingerlings were transported by truck to an access point closer to where the Burntwood River meets Split Lake. Following a period of acclimation, the fingerlings were moved by boat with assistance from Manitoba Hydro's boat patrol crews and released into Split Lake at Site 2 (Photo 6; Map 3; Table 4). The river temperature was 13.0°C.

On September 30, a total of 1,739 fingerlings were transported by truck to the Orr Creek boat launch. Following a period of acclimation, hatchery staff released the fingerlings from shore into the Burntwood River at Site 3 (Map 3; Table 4). The river temperature was 11.5°C.

Table 4: Number of Burntwood River sturgeon (2022 year-class) released into Burntwood River and upper Split Lake in fall 2022

Family	Stocking				
	Date	Number	Age (Mth)	Waterbody	Site ID
F1M1	26-Sep-22	426	3	Split Lake	1
F1M3	26-Sep-22	181	3	Split Lake	1
F1M6	26-Sep-22	1,032	3	Split Lake	1
F1M7	26-Sep-22	90	3	Split Lake	1
Total (Site 1)		**1,729**			
F1M1	28-Sep-22	426	3	Split Lake	2
F1M3	28-Sep-22	181	3	Split Lake	2
F1M6	28-Sep-22	1032	3	Split Lake	2
F1M7	28-Sep-22	90	3	Split Lake	2
Total (Site 2)		**1,729**			
F1M1	30-Sep-22	435	3	Burntwood River	3
F1M3	30-Sep-22	179	3	Burntwood River	3
F1M6	30-Sep-22	1,033	3	Burntwood River	3
F1M7	30-Sep-22	92	3	Burntwood River	3
Total (Site 3)		**1,739**			



Map 3: **Stocking locations for Burntwood River sturgeon (2022 year-class) released into the Burntwood River and upper Split Lake in fall 2022. Broodstock of fingerlings were captured downstream of First Rapids, marked 'A'**

Photo 6: **Fingerlings prior to being released in fall, 2022**

4.0 POST-STOCKING RECAPTURES

A total of 5,733 Age-1+ Lake Sturgeon have been stocked into the lower Nelson and Burntwood rivers since 2014 (Burntwood River = 2,119; Keeyask reservoir = 1,686; Stephens Lake = 1,928). PIT tags injected into the sturgeon prior to release has allowed identification of 705 hatchery-reared fish from post-stocking monitoring in the Keeyask Study Area since 2014 (Table 5).

Table 5: Number of PIT tagged hatchery-reared Lake Sturgeon stocked into the lower Nelson and Burntwood rivers and number recaptured between 2014 and 2022

Sample Year	Location[a]	Number Stocked	Number Recaptured									
			Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	TOTAL
2022	STL	400	6	0	1	42	2	12	0	9	0	**72**
	GL/KR	402	16	0	0	12	0	6	0	13	1	**48**
	BWR/SPL	0	0	0	9	0	19	0	1	0	6	**35**
2021	STL	0	0	0	51	0	9	0	9	0	n/a	**69**
	GL/KR	0	0	0	24	1	8	0	21	3	n/a	**57**
	BWR/SPL	188	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**
2020	STL	0	0	25	1	5	0	18	0	n/a	n/a	**49**
	GL/KR	0	0	17	0	12	0	6	1	n/a	n/a	**36**
	BWR/SPL	574	1	0	12	0	2	0	6	n/a	n/a	**21**
2019	STL	390	84	0	13	0	20	1	n/a	n/a	n/a	**118**
	GL/KR	398	27	1	16	0	12	1	n/a	n/a	n/a	**57**
	BWR/SPL	0	0	8	0	0	0	2	n/a	n/a	n/a	**10**
2018	STL	0	0	7	0	10	0	n/a	n/a	n/a	n/a	**17**
	GL/KR	0	1	8	0	8	1	n/a	n/a	n/a	n/a	**18**
	BWR/SPL	739	0	0	0	0	1	n/a	n/a	n/a	n/a	**1**
2017	STL	720	33	0	18	0	n/a	n/a	n/a	n/a	n/a	**51**
	GL/KR	463	9	0	11	1	n/a	n/a	n/a	n/a	n/a	**21**
	BWR/SPL	0	0	0	0	3	n/a	n/a	n/a	n/a	n/a	**3**
2016	STL	0	0	5	0	n/a	n/a	n/a	n/a	n/a	n/a	**5**
	GL/KR	0	0	7	0	n/a	n/a	n/a	n/a	n/a	n/a	**7**
	BWR/SPL	23	0	0	1	n/a	n/a	n/a	n/a	n/a	n/a	**1**
2015	STL	418	4	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**4**
	GL/KR	423	2	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**3**
	BWR/SPL	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0**
2014	STL	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0**
	GL/KR	0	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**1**
	BWR/SPL	595	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**1**
	TOTAL	**5,731**	**185**	**79**	**157**	**94**	**74**	**46**	**38**	**25**	**7**	**705**

[a] STL = Stephens Lake; GL/KR = Gull Lake/Keeyask reservoir; BWR/SPL = Burntwood River/Split Lake

The majority of hatchery-reared sturgeon have been recaptured in Stephens Lake (55%, n = 385). Of these fish, 310 sturgeon were originally stocked into Stephens Lake (2015 = 75; 2017 = 60, 2019 = 169, 2022 = 5) with 75 sturgeon having been stocked upstream. Of these 75 fish, 70 sturgeon were stocked into what is now the Keeyask reservoir (2015 = 18; 2017 = 19; 2019 = 32, 2022 = 1) and five sturgeon were stocked into the Burntwood River (2014 = 1; 2018 = 3, 2021 = 1). The stocking location of one hatchery-reared fish recaptured in Stephens Lake during the 2019 monitoring program is unknown and was either stocked into Stephens Lake or the Keeyask reservoir in 2019. Annual survival of hatchery-reared sturgeon stocked as yearlings in Stephens Lake is currently estimated to be 78% (Burnett et al. 2023).

The second most hatchery-reared fish have been recaptured in the Keeyask reservoir (35%, n = 248). Most of these fish were originally stocked in the Keeyask reservoir (2015 = 80; 2017 = 59; 2019 = 80, 2022 = 16), with the exception of 13 individuals that were stocked upstream in the Burntwood River (2014 = 10; 2018 = 3). Annual survival of hatchery-reared sturgeon stocked as yearlings in the Keeyask reservoir is currently estimated to be 95% (Burnett et al. 2023).

The least number of hatchery-reared fish recaptured to date has been in the Burntwood River and upper Split Lake area (10%, n = 72). All were stocked into the Burntwood River (2014 = 20; 2016 = 3; 2018 = 39; 2020 = 7, 2021 = 3). Annual survival of hatchery-reared sturgeon stocked as yearlings in the upper Split Lake area is estimated to be 92% (Burnett et al. 2023).

Individuals from all year-classes produced at the Grand Rapids Fish Hatchery (aged 1+) have been recaptured. Over the course of the monitoring program:

- 4% (n = 31) were from the 2013 year-class,
- 25% (n = 173) from the 2014 year-class,
- <1% (n = 3) from the 2015 year-class,
- 20% (n = 138) from the 2016 year-class,
- 6% (n = 45) from the 2017 year-class,
- 40% (n = 282) from the 2018 year class
- 2% (n = 11) from the 2019 year-class, and
- 3% (n = 22) from the 2021 year-class.

At the time of recapture:

- 26% (n = 185) were age-1,
- 11% (n = 79) were age-2,
- 22% (n = 157) were age-3,
- 13% (n = 94) were age-4,
- 10% (n = 74) were age-5,
- 7% (n = 46) were age-6,
- 5% (n = 38) were age-7,
- 4% (n = 25) were age-8, and
- 1% (n = 7) were age-9.

Additional information about recaptured hatchery-reared sturgeon can be found in Henderson et al. (2015), Burnett et al. (2016; 2017; 2018; 2021; 2022; 2023), and Burnett and Hrenchuk (2019; 2020).

5.0 PRODUCTION AND STOCKING ACTIVITIES IN 2022/23

A total of 800 Burntwood River fingerlings were kept for the 2022/23 winter grow-out period and are currently being held in Pickerel Place. Fish will be released as yearlings in spring 2023, pending provincial approval. Specific stocking locations will be determined at that time.

The new water recirculating systems in the main hatchery building were commissioned in fall 2021; however, issues with the source well water (e.g., iron and calcium scale) has prevented operations from moving back into the main hatchery building. Additional water treatment options were assessed by the project team over the course of 2022. Further upgrades including the installation of a hydrogen peroxide dosing system, water chillers and variable frequency drives (VFDs) on the blowers (i.e., air supply to biofilters) are planned to be completed by spring 2023.

GRFH will also be filling a new permanent position to support on-going maintenance of the facility's expanding infrastructure.

6.0 SUMMARY AND CONCLUSIONS

The Grand Rapids Fish Hatchery successfully produced Lake Sturgeon for the Keeyask Hydropower Limited Partnership in 2022. A total of 802 Birthday Rapids yearlings consisting of three family groups (F1M3, F1M6, F1M8) were released into the Keeyask area in the spring (Stephens Lake = 400 fish, Keeyask reservoir = 402 fish). Eggs were acquired and hatched from adults captured in the Burntwood River such that another 5,197 fingerlings consisting of four family groups (F1M1, F1M3, F1M6, F1M7) were released back into the Burntwood River and upper Split Lake area (Burntwood River = 1,739 fish, Split Lake = 3,458 fish). A total of 800 Burntwood River individuals were retained to be stocked as yearlings in spring 2023.

Stocking activities for the construction and operation of the Keeyask Generating Station will continue until self-sustaining populations are present in the Keeyask and upper Split Lake areas. Assessment of the program is on-going in order to meet this objective. Results from juvenile monitoring programs indicate high survival of the hatchery-reared sturgeon stocked as yearlings but there is little evidence to support survival of the released fingerlings. As such the program will continue to focus on the production and release of yearlings.

Upgrades to the Grand Rapids Fish Hatchery is on-going with a completion date expected spring 2023. Once completed, there will be capacity to produce greater numbers of yearlings for stocking.

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APPENDIX 1:
BIRTHDAY RAPIDS (2021 YEAR-CLASS)

Table A1-1: Survival (%) of Birthday Rapids sturgeon (2021 year-class) at GRFH from October 1, 2021 to June 2, 2022

LOT	Tanks	Month-Year	Start of Month Total	Mortality			Transfer		Recount Adjustment	End of Month Total	Monthly Survival (%)
				Natural	Accidental	Euthanized	Stocking	Other			
LKST-BDR-21	2[a]	Oct-21	799	2	0	0	0	0	0	797	99.7
LKST-BDR-21	2[a]	Nov-21	797	1	0	0	0	0	0	796	99.9
LKST-BDR-21	2[a]	Dec-21	796	0	0	3[d]	0	0	0	793	99.6
LKST-BDR-21	2[b]	Jan-22	793	0	0	0	0	0	0	793	100.0
LKST-BDR-21	2[b]	Feb-22	793	1	0	0	0	0	0	792	99.9
LKST-BDR-21	2[b]	Mar-22	792	0	0	2[d]	0	0	10(+)	800	99.7
LKST-BDR-21	2[c]	Apr-22	800	0	0	0	0	0	0	800	100.0
LKST-BDR-21	2[c]	May-22	800	0	0	0	400[e]	0	0	400	100.0
LKST-BDR-21	2[c]	Jun-22	400	0	0	0	400[f]	0	0	0	100.0
Total (BDR-21)			**799**	**4**	**0**	**5**	**800**	**0**	**10(+)**	**0**	**98.9**

a. Pickerel Place: PP3 (B/C: F1M3), PP4 (B: F1M6, C/D: F1M8)

b. Pickerel Place: PP3 (A/B: F1M3), PP4 (B: F1M6, C/D: F1M8)

c. Pickerel Place: PP3 (A/B: F1M3), PP4 (A/B: F1M6, C/D: F1M8)

d. Euthanized due to fish health concerns (e.g., white spots, deformity)

e. Stocked into Stephens Lake

f. Stocked into Keeyask Reservoir

Table A1-2: Monthly average (±SD), minimum and maximum Dissolved Oxygen (%), Dissolved Carbon Dioxide (mg/L), pH, Total Ammonia-Nitrogen (mg/L), Un-Ionized Ammonia (mg/L) and Nitrite Nitrogen (mg/L) values for Birthday Rapids (2021 year-class) reared at Grand Rapids Fish Hatchery

Parameter	Mth-Yr	N[a]	Mean	±SD	Min	Max
Dissolved O_2 (%)	Oct-21	4	93.90	5.56	88.80	99.20
	Nov-21	5	95.86	7.51	86.10	101.70
	Dec-21	4	95.45	4.61	90.80	101.70
	Jan-22	4	89.13	9.31	80.20	99.20
	Feb-22	4	97.15	5.38	90.70	102.80
	Mar-22	4	98.08	3.58	92.90	101.00
	Apr-22	4	95.73	5.65	91.60	104.00
	May-22	4	93.23	8.04	83.50	101.00
	Jun-22	1	98.60			
Dissolved CO_2 (mg/L)	Oct-21	4	1.25	0.50	1.00	2.00
	Nov-21	5	1.80	0.45	1.00	2.00
	Dec-21	4	1.50	0.58	1.00	2.00
	Jan-22	4	1.75	0.50	1.00	2.00
	Feb-22	4	2.25	0.96	1.00	3.00
	Mar-22	4	2.00	0.82	1.00	3.00
	Apr-22	4	2.00	0.82	1.00	3.00
	May-22	5	3.60	2.70	1.00	8.00
	Jun-22	1	4.00			
pH	Oct-21	4	8.71	0.04	8.66	8.74
	Nov-21	5	8.66	0.07	8.57	8.77
	Dec-21	4	8.68	0.05	8.62	8.73
	Jan-22	4	8.69	0.02	8.65	8.70
	Feb-22	4	8.63	0.15	8.47	8.76
	Mar-22	4	8.59	0.07	8.53	8.68
	Apr-22	4	8.62	0.08	8.52	8.70
	May-22	5	8.44	0.26	8.06	8.70
	Jun-22	1	7.85			
Total Ammonia (mg/L)	Oct-21	4	0.030	0.014	0.010	0.040
	Nov-21	5	0.070	0.048	0.030	0.150
	Dec-21	4	0.030	0.000	0.030	0.030
	Jan-22	4	0.043	0.022	0.010	0.060
	Feb-22	4	0.048	0.025	0.020	0.080
	Mar-22	4	0.110	0.029	0.080	0.150
	Apr-22	4	0.155	0.021	0.130	0.180
	May-22	5	0.164	0.074	0.040	0.220
	Jun-22	1	0.150			

Parameter	Mth-Yr	N[a]	Mean	±SD	Min	Max
UIA (mg/L)	Oct-21	4	0.004	0.002	0.002	0.006
	Nov-21	5	0.008	0.005	0.003	0.017
	Dec-21	4	0.004	0.001	0.003	0.004
	Jan-22	4	0.006	0.003	0.001	0.008
	Feb-22	4	0.004	0.002	0.003	0.006
	Mar-22	4	0.010	0.005	0.006	0.018
	Apr-22	4	0.015	0.003	0.012	0.019
	May-22	5	0.009	0.005	0.004	0.018
	Jun-22	1	0.002			
Nitrite Nitrogen (mg/L)	Oct-21	4	0.01	0.01	0.00	0.01
	Nov-21	5	0.01	0.01	0.00	0.01
	Dec-21	4	0.01	0.00	0.01	0.01
	Jan-22	4	0.01	0.01	0.00	0.01
	Feb-22	4	0.01	0.00	0.01	0.01
	Mar-22	4	0.01	0.00	0.01	0.01
	Apr-22	4	0.01	0.01	0.00	0.02
	May-22	5	0.01	0.01	0.01	0.02
	Jun-22	0				

a Number of water samples tested per month

Table A1-3: Monthly average (±SD), minimum and maximum fork length (mm), total length (mm) and weight (g) for Birthday Rapids Lake Sturgeon (2021 year-class) reared at Grand Rapids Fish Hatchery

Measurement	Mth-Yr	n[a]	Avg	±SD	Min	Max
Fork Length (mm)	Oct-21	45	111	8	92	129
	Nov-21	45	132	10	105	154
	Dec-21	45	150	15	120	190
	Jan-22	45	161	15	136	200
	Feb-22	45	178	17	152	214
	Mar-22	45	183	18	138	227
	Apr-22	45	199	15	163	239
	May-22	800	201	17	133	258
Total Length (mm)	Oct-21	45	130	9	107	149
	Nov-21	45	153	11	125	178
	Dec-21	45	173	17	141	223
	Jan-22	45	187	18	157	233
	Feb-22	45	206	19	176	243
	Mar-22	45	212	21	162	267
	Apr-22	45	229	17	185	276
	May-22	800	232	20	153	301
Weight (g)	Oct-21	45	9.36	1.79	5.50	13.78
	Nov-21	45	14.07	3.23	7.55	22.45
	Dec-21	45	18.89	7.56	8.59	44.64
	Jan-22	45	23.89	6.92	14.05	47.52
	Feb-22	45	32.55	9.50	18.52	56.40
	Mar-22	45	36.34	10.99	22.35	70.82
	Apr-22	45	43.11	10.23	25.22	80.32
	May-22	800	47.35	12.47	14.76	94.72

a. Number of fish measured

Table A1-4: Biological and PIT tag information for hatchery-reared Lake Sturgeon yearlings released into the Keeyask area in 2022, including final hatchery measurements and stocking information.

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000238197	PP4-C	BDR21_F1M8	05.20.2022	215	250	52.77	06.02.2022	Keeyask reservoir	2
900.043000238509	PP3-A	BDR21_F1M3	05.21.2022	218	256	64.30	06.02.2022	Keeyask reservoir	2
900.043000238519	PP4-A	BDR21_F1M6	05.20.2022	202	234	37.92	05.30.2022	Stephens Lake	1
900.043000238521	PP3-A	BDR21_F1M3	05.21.2022	196	225	41.62	06.02.2022	Keeyask reservoir	2
900.043000238569	PP4-A	BDR21_F1M6	05.20.2022	235	273	67.29	06.02.2022	Keeyask reservoir	3
900.043000238579	PP3-A	BDR21_F1M3	05.21.2022	170	198	40.47	06.02.2022	Keeyask reservoir	2
900.043000238582	PP3-A	BDR21_F1M3	05.21.2022	205	237	50.56	06.02.2022	Keeyask reservoir	3
900.043000238586	PP4-C	BDR21_F1M8	05.20.2022	193	221	42.41	05.30.2022	Stephens Lake	1
900.043000238848	PP4-C	BDR21_F1M8	05.20.2022	192	224	39.45	06.02.2022	Keeyask reservoir	2
900.043000238854	PP4-C	BDR21_F1M8	05.20.2022	158	203	31.32	06.02.2022	Keeyask reservoir	3
900.043000238871	PP4-C	BDR21_F1M8	05.20.2022	174	205	29.12	06.02.2022	Keeyask reservoir	2
900.043000238887	PP4-C	BDR21_F1M8	05.20.2022	187	218	37.53	05.30.2022	Stephens Lake	1
900.043000238891	PP4-C	BDR21_F1M8	05.20.2022	155	180	30.51	05.30.2022	Stephens Lake	1
900.043000238900	PP4-C	BDR21_F1M8	05.20.2022	182	205	29.03	06.02.2022	Keeyask reservoir	3
900.043000238901	PP4-C	BDR21_F1M8	05.20.2022	204	238	46.82	06.02.2022	Keeyask reservoir	2
900.043000238902	PP4-C	BDR21_F1M8	05.20.2022	203	238	48.21	06.02.2022	Keeyask reservoir	2
900.043000238903	PP4-C	BDR21_F1M8	05.20.2022	190	216	39.52	05.30.2022	Stephens Lake	1
900.043000238904	PP4-C	BDR21_F1M8	05.20.2022	216	250	55.13	05.30.2022	Stephens Lake	1
900.043000238905	PP4-C	BDR21_F1M8	05.20.2022	201	229	49.27	05.30.2022	Stephens Lake	1
900.043000238906	PP4-C	BDR21_F1M8	05.20.2022	190	223	45.30	06.02.2022	Keeyask reservoir	3
900.043000238907	PP4-C	BDR21_F1M8	05.20.2022	201	233	42.80	06.02.2022	Keeyask reservoir	2
900.043000238908	PP4-C	BDR21_F1M8	05.20.2022	192	218	41.06	06.02.2022	Keeyask reservoir	2
900.043000238909	PP4-C	BDR21_F1M8	05.20.2022	197	224	46.17	05.30.2022	Stephens Lake	1
900.043000238910	PP4-C	BDR21_F1M8	05.20.2022	196	228	42.98	06.02.2022	Keeyask reservoir	2
900.043000238911	PP4-C	BDR21_F1M8	05.20.2022	193	223	41.02	06.02.2022	Keeyask reservoir	3
900.043000238912	PP4-C	BDR21_F1M8	05.20.2022	196	230	43.26	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000238913	PP4-C	BDR21_F1M8	05.20.2022	186	217	38.84	05.30.2022	Stephens Lake	1
900.043000238914	PP4-C	BDR21_F1M8	05.20.2022	194	224	43.96	05.30.2022	Stephens Lake	1
900.043000238915	PP4-C	BDR21_F1M8	05.20.2022	180	207	28.83	05.30.2022	Stephens Lake	1
900.043000238916	PP4-C	BDR21_F1M8	05.20.2022	187	220	42.14	06.02.2022	Keeyask reservoir	2
900.043000238917	PP4-C	BDR21_F1M8	05.20.2022	178	207	34.23	05.30.2022	Stephens Lake	1
900.043000238918	PP4-C	BDR21_F1M8	05.20.2022	190	224	38.29	06.02.2022	Keeyask reservoir	2
900.043000238919	PP4-C	BDR21_F1M8	05.20.2022	186	212	35.77	06.02.2022	Keeyask reservoir	3
900.043000238920	PP4-C	BDR21_F1M8	05.20.2022	210	247	51.27	06.02.2022	Keeyask reservoir	3
900.043000238921	PP4-C	BDR21_F1M8	05.20.2022	202	233	42.40	05.30.2022	Stephens Lake	1
900.043000238922	PP4-C	BDR21_F1M8	05.20.2022	195	227	51.26	06.02.2022	Keeyask reservoir	3
900.043000238923	PP4-C	BDR21_F1M8	05.20.2022	174	203	30.87	05.30.2022	Stephens Lake	1
900.043000238924	PP4-C	BDR21_F1M8	05.20.2022	190	215	37.32	06.02.2022	Keeyask reservoir	3
900.043000238925	PP4-C	BDR21_F1M8	05.20.2022	172	203	32.41	05.30.2022	Stephens Lake	1
900.043000238926	PP4-C	BDR21_F1M8	05.20.2022	180	208	31.79	06.02.2022	Keeyask reservoir	3
900.043000238927	PP4-C	BDR21_F1M8	05.20.2022	183	210	33.91	05.30.2022	Stephens Lake	1
900.043000238928	PP4-C	BDR21_F1M8	05.20.2022	210	236	52.07	05.30.2022	Stephens Lake	1
900.043000238929	PP4-C	BDR21_F1M8	05.20.2022	190	219	34.95	06.02.2022	Keeyask reservoir	2
900.043000238930	PP4-C	BDR21_F1M8	05.20.2022	188	214	35.55	06.02.2022	Keeyask reservoir	3
900.043000238931	PP4-C	BDR21_F1M8	05.20.2022	198	225	47.50	05.30.2022	Stephens Lake	1
900.043000238932	PP4-C	BDR21_F1M8	05.20.2022	224	257	70.21	06.02.2022	Keeyask reservoir	3
900.043000238933	PP4-C	BDR21_F1M8	05.20.2022	192	223	37.13	06.02.2022	Keeyask reservoir	3
900.043000238934	PP4-C	BDR21_F1M8	05.20.2022	190	216	37.39	06.02.2022	Keeyask reservoir	3
900.043000238935	PP4-C	BDR21_F1M8	05.20.2022	177	203	32.09	06.02.2022	Keeyask reservoir	3
900.043000238936	PP4-C	BDR21_F1M8	05.20.2022	180	207	31.65	05.30.2022	Stephens Lake	1
900.043000238937	PP4-C	BDR21_F1M8	05.20.2022	178	206	31.82	05.30.2022	Stephens Lake	1
900.043000238938	PP4-C	BDR21_F1M8	05.20.2022	180	207	29.56	06.02.2022	Keeyask reservoir	3
900.043000238939	PP4-C	BDR21_F1M8	05.20.2022	195	225	43.96	06.02.2022	Keeyask reservoir	3
900.043000238940	PP4-C	BDR21_F1M8	05.20.2022	192	223	42.61	06.02.2022	Keeyask reservoir	2

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000238941	PP4-C	BDR21_F1M8	05.20.2022	200	228	47.44	06.02.2022	Keeyask reservoir	3
900.043000238942	PP4-C	BDR21_F1M8	05.20.2022	177	205	31.63	06.02.2022	Keeyask reservoir	3
900.043000238943	PP4-C	BDR21_F1M8	05.20.2022	193	227	41.10	05.30.2022	Stephens Lake	1
900.043000238944	PP4-C	BDR21_F1M8	05.20.2022	182	207	34.89	06.02.2022	Keeyask reservoir	2
900.043000238945	PP4-C	BDR21_F1M8	05.20.2022	210	243	48.32	06.02.2022	Keeyask reservoir	2
900.043000238946	PP4-C	BDR21_F1M8	05.20.2022	198	232	43.15	06.02.2022	Keeyask reservoir	3
900.043000238947	PP4-C	BDR21_F1M8	05.20.2022	193	224	38.62	06.02.2022	Keeyask reservoir	2
900.043000238948	PP4-C	BDR21_F1M8	05.20.2022	210	245	52.70	06.02.2022	Keeyask reservoir	2
900.043000238949	PP4-C	BDR21_F1M8	05.20.2022	195	226	39.35	06.02.2022	Keeyask reservoir	2
900.043000238950	PP4-C	BDR21_F1M8	05.20.2022	233	267	65.12	06.02.2022	Keeyask reservoir	2
900.043000238951	PP4-C	BDR21_F1M8	05.20.2022	177	203	29.74	05.30.2022	Stephens Lake	1
900.043000238952	PP4-C	BDR21_F1M8	05.20.2022	186	211	35.10	05.30.2022	Stephens Lake	1
900.043000238953	PP4-C	BDR21_F1M8	05.20.2022	200	228	42.01	05.30.2022	Stephens Lake	1
900.043000238954	PP4-C	BDR21_F1M8	05.20.2022	184	212	41.89	05.30.2022	Stephens Lake	1
900.043000238955	PP4-C	BDR21_F1M8	05.20.2022	187	217	38.15	05.30.2022	Stephens Lake	1
900.043000238956	PP4-C	BDR21_F1M8	05.20.2022	190	221	37.01	06.02.2022	Keeyask reservoir	3
900.043000238957	PP4-C	BDR21_F1M8	05.20.2022	163	188	25.80	06.02.2022	Keeyask reservoir	2
900.043000238958	PP4-C	BDR21_F1M8	05.20.2022	196	223	41.52	06.02.2022	Keeyask reservoir	3
900.043000238959	PP4-C	BDR21_F1M8	05.20.2022	182	208	37.27	05.30.2022	Stephens Lake	1
900.043000238960	PP4-C	BDR21_F1M8	05.20.2022	202	228	46.32	06.02.2022	Keeyask reservoir	2
900.043000238961	PP4-C	BDR21_F1M8	05.20.2022	190	216	36.60	05.30.2022	Stephens Lake	1
900.043000238963	PP4-C	BDR21_F1M8	05.20.2022	200	228	49.67	06.02.2022	Keeyask reservoir	3
900.043000238964	PP4-C	BDR21_F1M8	05.20.2022	176	197	28.59	06.02.2022	Keeyask reservoir	3
900.043000238965	PP4-C	BDR21_F1M8	05.20.2022	192	222	46.00	05.30.2022	Stephens Lake	1
900.043000238966	PP4-C	BDR21_F1M8	05.20.2022	207	240	51.48	05.30.2022	Stephens Lake	1
900.043000238967	PP4-C	BDR21_F1M8	05.20.2022	177	198	30.08	05.30.2022	Stephens Lake	1
900.043000238968	PP4-C	BDR21_F1M8	05.20.2022	200	232	47.42	06.02.2022	Keeyask reservoir	3
900.043000238969	PP4-C	BDR21_F1M8	05.20.2022	166	193	34.00	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000238970	PP4-C	BDR21_F1M8	05.20.2022	213	243	53.19	06.02.2022	Keeyask reservoir	2
900.043000238971	PP4-C	BDR21_F1M8	05.20.2022	183	212	36.24	06.02.2022	Keeyask reservoir	3
900.043000238972	PP4-C	BDR21_F1M8	05.20.2022	187	214	33.70	06.02.2022	Keeyask reservoir	2
900.043000238973	PP4-C	BDR21_F1M8	05.20.2022	182	205	32.33	06.02.2022	Keeyask reservoir	2
900.043000238974	PP4-C	BDR21_F1M8	05.20.2022	193	222	40.25	05.30.2022	Stephens Lake	1
900.043000238975	PP4-C	BDR21_F1M8	05.20.2022	176	203	30.54	06.02.2022	Keeyask reservoir	3
900.043000238976	PP4-C	BDR21_F1M8	05.20.2022	178	204	27.93	05.30.2022	Stephens Lake	1
900.043000238977	PP4-C	BDR21_F1M8	05.20.2022	173	198	32.27	05.30.2022	Stephens Lake	1
900.043000238978	PP4-C	BDR21_F1M8	05.20.2022	173	200	29.33	06.02.2022	Keeyask reservoir	2
900.043000238979	PP4-C	BDR21_F1M8	05.20.2022	202	233	45.34	05.30.2022	Stephens Lake	1
900.043000238980	PP4-C	BDR21_F1M8	05.20.2022	200	230	44.68	05.30.2022	Stephens Lake	1
900.043000238982	PP4-C	BDR21_F1M8	05.20.2022	190	218	41.36	06.02.2022	Keeyask reservoir	3
900.043000238983	PP4-C	BDR21_F1M8	05.20.2022	232	266	77.31	05.30.2022	Stephens Lake	1
900.043000238984	PP4-C	BDR21_F1M8	05.20.2022	202	233	45.44	06.02.2022	Keeyask reservoir	2
900.043000238986	PP4-C	BDR21_F1M8	05.20.2022	194	225	43.16	05.30.2022	Stephens Lake	1
900.043000238987	PP4-C	BDR21_F1M8	05.20.2022	187	204	37.29	06.02.2022	Keeyask reservoir	2
900.043000238988	PP4-C	BDR21_F1M8	05.20.2022	203	242	48.78	06.02.2022	Keeyask reservoir	2
900.043000238989	PP4-C	BDR21_F1M8	05.20.2022	220	254	51.26	05.30.2022	Stephens Lake	1
900.043000238990	PP4-C	BDR21_F1M8	05.20.2022	200	231	42.01	05.30.2022	Stephens Lake	1
900.043000238991	PP4-C	BDR21_F1M8	05.20.2022	200	231	46.00	05.30.2022	Stephens Lake	1
900.043000238992	PP4-C	BDR21_F1M8	05.20.2022	185	214	35.26	06.02.2022	Keeyask reservoir	3
900.043000238993	PP4-C	BDR21_F1M8	05.20.2022	218	248	61.33	05.30.2022	Stephens Lake	1
900.043000238994	PP4-C	BDR21_F1M8	05.20.2022	198	222	48.55	06.02.2022	Keeyask reservoir	2
900.043000238995	PP4-C	BDR21_F1M8	05.20.2022	185	208	32.00	05.30.2022	Stephens Lake	1
900.043000238996	PP4-C	BDR21_F1M8	05.20.2022	192	222	41.12	06.02.2022	Keeyask reservoir	2
900.043000238997	PP4-C	BDR21_F1M8	05.20.2022	175	203	29.69	05.30.2022	Stephens Lake	1
900.043000238998	PP4-C	BDR21_F1M8	05.20.2022	175	206	24.05	05.30.2022	Stephens Lake	1
900.043000238999	PP4-C	BDR21_F1M8	05.20.2022	202	234	47.33	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239000	PP4-C	BDR21_F1M8	05.20.2022	185	213	36.84	05.30.2022	Stephens Lake	1
900.043000239001	PP4-C	BDR21_F1M8	05.20.2022	174	198	30.61	06.02.2022	Keeyask reservoir	2
900.043000239002	PP4-C	BDR21_F1M8	05.20.2022	178	203	31.26	05.30.2022	Stephens Lake	1
900.043000239003	PP4-C	BDR21_F1M8	05.20.2022	195	224	41.80	05.30.2022	Stephens Lake	1
900.043000239004	PP4-C	BDR21_F1M8	05.20.2022	193	221	40.20	06.02.2022	Keeyask reservoir	3
900.043000239005	PP4-C	BDR21_F1M8	05.20.2022	221	251	54.99	06.02.2022	Keeyask reservoir	2
900.043000239006	PP4-C	BDR21_F1M8	05.20.2022	204	241	47.11	06.02.2022	Keeyask reservoir	3
900.043000239007	PP4-C	BDR21_F1M8	05.20.2022	188	219	39.53	06.02.2022	Keeyask reservoir	3
900.043000239008	PP4-C	BDR21_F1M8	05.20.2022	184	213	36.43	05.30.2022	Stephens Lake	1
900.043000239009	PP4-C	BDR21_F1M8	05.20.2022	187	218	37.10	06.02.2022	Keeyask reservoir	2
900.043000239010	PP4-C	BDR21_F1M8	05.20.2022	196	221	41.03	05.30.2022	Stephens Lake	1
900.043000239011	PP4-C	BDR21_F1M8	05.20.2022	182	212	35.78	05.30.2022	Stephens Lake	1
900.043000239012	PP4-C	BDR21_F1M8	05.20.2022	226	248	59.02	06.02.2022	Keeyask reservoir	2
900.043000239013	PP4-C	BDR21_F1M8	05.20.2022	189	212	36.72	05.30.2022	Stephens Lake	1
900.043000239014	PP4-C	BDR21_F1M8	05.20.2022	200	232	46.47	05.30.2022	Stephens Lake	1
900.043000239015	PP4-C	BDR21_F1M8	05.20.2022	183	216	34.87	06.02.2022	Keeyask reservoir	3
900.043000239016	PP4-C	BDR21_F1M8	05.20.2022	243	282	85.18	06.02.2022	Keeyask reservoir	2
900.043000239017	PP4-C	BDR21_F1M8	05.20.2022	201	237	50.22	06.02.2022	Keeyask reservoir	2
900.043000239018	PP4-C	BDR21_F1M8	05.20.2022	167	192	25.22	05.30.2022	Stephens Lake	1
900.043000239019	PP4-C	BDR21_F1M8	05.20.2022	177	206	32.16	06.02.2022	Keeyask reservoir	3
900.043000239020	PP4-C	BDR21_F1M8	05.20.2022	195	224	40.07	06.02.2022	Keeyask reservoir	2
900.043000239021	PP4-C	BDR21_F1M8	05.20.2022	170	196	31.82	06.02.2022	Keeyask reservoir	3
900.043000239022	PP4-C	BDR21_F1M8	05.20.2022	197	225	39.70	06.02.2022	Keeyask reservoir	3
900.043000239023	PP4-C	BDR21_F1M8	05.20.2022	192	223	42.62	06.02.2022	Keeyask reservoir	2
900.043000239024	PP4-C	BDR21_F1M8	05.20.2022	220	256	62.05	05.30.2022	Stephens Lake	1
900.043000239025	PP4-c	BDR21_F1M8	05.20.2022	192	223	41.46	06.02.2022	Keeyask reservoir	2
900.043000239026	PP4-C	BDR21_F1M8	05.20.2022	185	218	40.37	05.30.2022	Stephens Lake	1
900.043000239027	PP4-C	BDR21_F1M8	05.20.2022	193	224	40.51	05.30.2022	Stephens Lake	1

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900.043000239028	PP4-C	BDR21_F1M8	05.20.2022	196	227	37.80	06.02.2022	Keeyask reservoir	3
900.043000239029	PP4-C	BDR21_F1M8	05.20.2022	216	253	61.66	05.30.2022	Stephens Lake	1
900.043000239030	PP4-C	BDR21_F1M8	05.20.2022	205	237	49.13	06.02.2022	Keeyask reservoir	3
900.043000239031	PP4-C	BDR21_F1M8	05.20.2022	163	187	24.69	05.30.2022	Stephens Lake	1
900.043000239032	PP4-C	BDR21_F1M8	05.20.2022	190	218	38.34	05.30.2022	Stephens Lake	1
900.043000239033	PP4-C	BDR21_F1M8	05.20.2022	190	218	36.45	05.30.2022	Stephens Lake	1
900.043000239034	PP4-C	BDR21_F1M8	05.20.2022	193	223	40.11	06.02.2022	Keeyask reservoir	3
900.043000239035	PP4-C	BDR21_F1M8	05.20.2022	180	203	34.45	05.30.2022	Stephens Lake	1
900.043000239036	PP4-C	BDR21_F1M8	05.20.2022	185	211	33.66	06.02.2022	Keeyask reservoir	3
900.043000239037	PP4-C	BDR21_F1M8	05.20.2022	194	224	38.47	05.30.2022	Stephens Lake	1
900.043000239038	PP4-C	BDR21_F1M8	05.20.2022	197	227	43.09	05.30.2022	Stephens Lake	1
900.043000239039	PP4-C	BDR21_F1M8	05.20.2022	190	221	40.96	06.02.2022	Keeyask reservoir	3
900.043000239040	PP4-C	BDR21_F1M8	05.20.2022	214	246	55.39	06.02.2022	Keeyask reservoir	2
900.043000239041	PP4-C	BDR21_F1M8	05.20.2022	180	210	33.16	06.02.2022	Keeyask reservoir	3
900.043000239042	PP4-C	BDR21_F1M8	05.20.2022	230	267	71.10	06.02.2022	Keeyask reservoir	2
900.043000239043	PP4-C	BDR21_F1M8	05.20.2022	190	219	45.62	06.02.2022	Keeyask reservoir	3
900.043000239044	PP4-C	BDR21_F1M8	05.20.2022	202	237	46.00	06.02.2022	Keeyask reservoir	2
900.043000239045	PP4-C	BDR21_F1M8	05.20.2022	195	226	43.55	06.02.2022	Keeyask reservoir	2
900.043000239046	PP4-C	BDR21_F1M8	05.20.2022	202	223	43.60	05.30.2022	Stephens Lake	1
900.043000239047	PP4-C	BDR21_F1M8	05.20.2022	222	257	63.37	06.02.2022	Keeyask reservoir	3
900.043000239048	PP4-C	BDR21_F1M8	05.20.2022	190	214	39.25	06.02.2022	Keeyask reservoir	2
900.043000239049	PP4-C	BDR21_F1M8	05.20.2022	175	201	32.00	05.30.2022	Stephens Lake	1
900.043000239050	PP4-C	BDR21_F1M8	05.20.2022	173	207	30.73	05.30.2022	Stephens Lake	1
900.043000239051	PP4-C	BDR21_F1M8	05.20.2022	202	232	45.79	06.02.2022	Keeyask reservoir	2
900.043000239052	PP4-C	BDR21_F1M8	05.20.2022	203	232	48.11	05.30.2022	Stephens Lake	1
900.043000239053	PP4-C	BDR21_F1M8	05.20.2022	204	237	51.79	05.30.2022	Stephens Lake	1
900.043000239054	PP4-C	BDR21_F1M8	05.20.2022	202	237	49.44	05.30.2022	Stephens Lake	1
900.043000239055	PP4-C	BDR21_F1M8	05.20.2022	200	228	42.12	06.02.2022	Keeyask reservoir	2

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900.043000239056	PP4-C	BDR21_F1M8	05.20.2022	176	205	34.13	06.02.2022	Keeyask reservoir	3
900.043000239057	PP4-C	BDR21_F1M8	05.20.2022	212	238	46.70	05.30.2022	Stephens Lake	1
900.043000239058	PP4-C	BDR21_F1M8	05.20.2022	193	228	43.47	06.02.2022	Keeyask reservoir	2
900.043000239059	PP4-C	BDR21_F1M8	05.20.2022	190	220	37.31	06.02.2022	Keeyask reservoir	3
900.043000239060	PP4-C	BDR21_F1M8	05.20.2022	190	221	38.24	05.30.2022	Stephens Lake	1
900.043000239061	PP4-C	BDR21_F1M8	05.20.2022	202	231	50.63	05.30.2022	Stephens Lake	1
900.043000239062	PP4-C	BDR21_F1M8	05.20.2022	164	198	25.64	06.02.2022	Keeyask reservoir	2
900.043000239063	PP4-C	BDR21_F1M8	05.20.2022	215	248	64.01	06.02.2022	Keeyask reservoir	3
900.043000239064	PP4-c	BDR21_F1M8	05.20.2022	205	237	48.26	06.02.2022	Keeyask reservoir	2
900.043000239065	PP4-C	BDR21_F1M8	05.20.2022	201	226	43.60	05.30.2022	Stephens Lake	1
900.043000239066	PP4-C	BDR21_F1M8	05.20.2022	190	217	35.25	05.30.2022	Stephens Lake	1
900.043000239067	PP4-C	BDR21_F1M8	05.20.2022	202	234	43.06	06.02.2022	Keeyask reservoir	2
900.043000239068	PP4-C	BDR21_F1M8	05.20.2022	207	242	53.02	05.30.2022	Stephens Lake	1
900.043000239069	PP4-C	BDR21_F1M8	05.20.2022	175	202	29.76	06.02.2022	Keeyask reservoir	3
900.043000239070	PP4-C	BDR21_F1M8	05.20.2022	152	173	22.23	06.02.2022	Keeyask reservoir	2
900.043000239072	PP4-C	BDR21_F1M8	05.20.2022	172	202	27.79	06.02.2022	Keeyask reservoir	2
900.043000239073	PP4-C	BDR21_F1M8	05.20.2022	178	205	31.40	05.30.2022	Stephens Lake	1
900.043000239074	PP4-C	BDR21_F1M8	05.20.2022	185	212	34.76	06.02.2022	Keeyask reservoir	3
900.043000239075	PP4-C	BDR21_F1M8	05.20.2022	200	233	45.61	05.30.2022	Stephens Lake	1
900.043000239076	PP4-C	BDR21_F1M8	05.20.2022	236	270	76.35	05.30.2022	Stephens Lake	1
900.043000239077	PP4-C	BDR21_F1M8	05.20.2022	215	248	51.14	05.30.2022	Stephens Lake	1
900.043000239078	PP4-c	BDR21_F1M8	05.20.2022	210	242	46.55	06.02.2022	Keeyask reservoir	3
900.043000239079	PP4-C	BDR21_F1M8	05.20.2022	182	210	32.86	05.30.2022	Stephens Lake	1
900.043000239080	PP4-C	BDR21_F1M8	05.20.2022	193	227	41.44	06.02.2022	Keeyask reservoir	3
900.043000239081	PP4-C	BDR21_F1M8	05.20.2022	202	232	46.27	06.02.2022	Keeyask reservoir	2
900.043000239082	PP4-C	BDR21_F1M8	05.20.2022	187	217	36.70	05.30.2022	Stephens Lake	1
900.043000239083	PP4-C	BDR21_F1M8	05.20.2022	196	227	40.06	05.30.2022	Stephens Lake	1
900.043000239084	PP4-C	BDR21_F1M8	05.20.2022	187	213	39.63	06.02.2022	Keeyask reservoir	3

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900.043000239085	PP4-C	BDR21_F1M8	05.20.2022	187	220	37.27	06.02.2022	Keeyask reservoir	3
900.043000239086	PP4-C	BDR21_F1M8	05.20.2022	188	222	35.61	06.02.2022	Keeyask reservoir	2
900.043000239087	PP4-C	BDR21_F1M8	05.20.2022	222	249	58.31	05.30.2022	Stephens Lake	1
900.043000239088	PP4-C	BDR21_F1M8	05.20.2022	182	214	35.25	05.30.2022	Stephens Lake	1
900.043000239089	PP4-C	BDR21_F1M8	05.20.2022	197	228	39.65	06.02.2022	Keeyask reservoir	3
900.043000239090	PP4-C	BDR21_F1M8	05.20.2022	195	227	43.05	06.02.2022	Keeyask reservoir	2
900.043000239091	PP4-C	BDR21_F1M8	05.20.2022	180	205	34.19	06.02.2022	Keeyask reservoir	2
900.043000239092	PP4-C	BDR21_F1M8	05.20.2022	204	237	45.13	06.02.2022	Keeyask reservoir	3
900.043000239093	PP4-C	BDR21_F1M8	05.20.2022	187	215	37.15	06.02.2022	Keeyask reservoir	3
900.043000239094	PP4-C	BDR21_F1M8	05.20.2022	188	217	40.65	06.02.2022	Keeyask reservoir	3
900.043000239095	PP4-C	BDR21_F1M8	05.20.2022	206	240	47.08	06.02.2022	Keeyask reservoir	2
900.043000239096	PP4-C	BDR21_F1M8	05.20.2022	192	223	34.71	05.30.2022	Stephens Lake	1
900.043000239097	PP4-C	BDR21_F1M8	05.20.2022	198	227	38.14	05.30.2022	Stephens Lake	1
900.043000239098	PP4-C	BDR21_F1M8	05.20.2022	175	203	29.82	06.02.2022	Keeyask reservoir	3
900.043000239099	PP4-C	BDR21_F1M8	05.20.2022	182	213	34.13	05.30.2022	Stephens Lake	1
900.043000239100	PP4-A	BDR21_F1M6	05.20.2022	210	248	46.79	05.30.2022	Stephens Lake	1
900.043000239101	PP4-A	BDR21_F1M6	05.20.2022	218	255	56.33	06.02.2022	Keeyask reservoir	2
900.043000239102	PP4-A	BDR21_F1M6	05.20.2022	226	262	63.14	05.30.2022	Stephens Lake	1
900.043000239103	PP4-A	BDR21_F1M6	05.20.2022	215	244	51.06	05.30.2022	Stephens Lake	1
900.043000239104	PP4-A	BDR21_F1M6	05.20.2022	237	270	72.15	05.30.2022	Stephens Lake	1
900.043000239105	PP4-A	BDR21_F1M6	05.20.2022	227	259	60.93	06.02.2022	Keeyask reservoir	3
900.043000239106	PP4-A	BDR21_F1M6	05.20.2022	207	242	46.60	05.30.2022	Stephens Lake	1
900.043000239107	PP4-A	BDR21_F1M6	05.20.2022	222	263	56.64	05.30.2022	Stephens Lake	1
900.043000239108	PP4-A	BDR21_F1M6	05.20.2022	222	261	61.30	06.02.2022	Keeyask reservoir	3
900.043000239109	PP4-A	BDR21_F1M6	05.20.2022	227	257	64.92	05.30.2022	Stephens Lake	1
900.043000239110	PP4-A	BDR21_F1M6	05.20.2022	217	250	52.74	05.30.2022	Stephens Lake	1
900.043000239111	PP4-A	BDR21_F1M6	05.20.2022	208	243	49.47	06.02.2022	Keeyask reservoir	3
900.043000239112	PP4-A	BDR21_F1M6	05.20.2022	213	246	50.72	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239113	PP4-A	BDR21_F1M6	05.20.2022	210	243	51.15	06.02.2022	Keeyask reservoir	3
900.043000239114	PP4-A	BDR21_F1M6	05.20.2022	204	233	45.52	05.30.2022	Stephens Lake	1
900.043000239115	PP4-A	BDR21_F1M6	05.20.2022	195	226	40.16	06.02.2022	Keeyask reservoir	3
900.043000239116	PP4-A	BDR21_F1M6	05.20.2022	213	244	53.86	06.02.2022	Keeyask reservoir	2
900.043000239117	PP4-A	BDR21_F1M6	05.20.2022	188	218	34.72	05.30.2022	Stephens Lake	1
900.043000239118	PP4-A	BDR21_F1M6	05.20.2022	195	227	39.01	06.02.2022	Keeyask reservoir	2
900.043000239119	PP4-A	BDR21_F1M6	05.20.2022	207	242	48.09	05.30.2022	Stephens Lake	1
900.043000239120	PP4-A	BDR21_F1M6	05.20.2022	199	227	40.94	05.30.2022	Stephens Lake	1
900.043000239121	PP4-A	BDR21_F1M6	05.20.2022	201	230	46.77	06.02.2022	Keeyask reservoir	3
900.043000239122	PP4-A	BDR21_F1M6	05.20.2022	216	247	53.98	05.30.2022	Stephens Lake	1
900.043000239123	PP4-A	BDR21_F1M6	05.20.2022	237	273	74.42	05.30.2022	Stephens Lake	1
900.043000239124	PP4-A	BDR21_F1M6	05.20.2022	224	259	64.77	06.02.2022	Keeyask reservoir	2
900.043000239125	PP4-A	BDR21_F1M6	05.20.2022	258	296	93.32	05.30.2022	Stephens Lake	1
900.043000239126	PP4-A	BDR21_F1M6	05.20.2022	243	279	81.92	05.30.2022	Stephens Lake	1
900.043000239127	PP4-A	BDR21_F1M6	05.20.2022	210	243	47.51	06.02.2022	Keeyask reservoir	3
900.043000239128	PP4-A	BDR21_F1M6	05.20.2022	240	278	70.90	06.02.2022	Keeyask reservoir	3
900.043000239129	PP4-A	BDR21_F1M6	05.20.2022	214	244	46.58	05.30.2022	Stephens Lake	1
900.043000239130	PP4-A	BDR21_F1M6	05.20.2022	248	283	78.50	05.30.2022	Stephens Lake	1
900.043000239131	PP4-A	BDR21_F1M6	05.20.2022	212	245	46.29	06.02.2022	Keeyask reservoir	2
900.043000239132	PP4-A	BDR21_F1M6	05.20.2022	237	271	74.12	06.02.2022	Keeyask reservoir	2
900.043000239133	PP4-A	BDR21_F1M6	05.20.2022	217	252	50.45	05.30.2022	Stephens Lake	1
900.043000239134	PP4-A	BDR21_F1M6	05.20.2022	258	301	92.34	05.30.2022	Stephens Lake	1
900.043000239135	PP4-A	BDR21_F1M6	05.20.2022	218	253	60.85	05.30.2022	Stephens Lake	1
900.043000239136	PP4-A	BDR21_F1M6	05.20.2022	212	247	50.67	06.02.2022	Keeyask reservoir	3
900.043000239137	PP4-A	BDR21_F1M6	05.20.2022	245	279	90.91	05.30.2022	Stephens Lake	1
900.043000239138	PP4-A	BDR21_F1M6	05.20.2022	243	278	81.55	05.30.2022	Stephens Lake	1
900.043000239139	PP4-A	BDR21_F1M6	05.20.2022	205	233	42.19	05.30.2022	Stephens Lake	1
900.043000239140	PP4-A	BDR21_F1M6	05.20.2022	205	238	44.32	06.02.2022	Keeyask reservoir	3

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239141	PP4-A	BDR21_F1M6	05.20.2022	196	227	42.98	05.30.2022	Stephens Lake	1
900.043000239142	PP4-A	BDR21_F1M6	05.20.2022	192	223	47.13	06.02.2022	Keeyask reservoir	3
900.043000239143	PP4-A	BDR21_F1M6	05.20.2022	220	256	60.35	06.02.2022	Keeyask reservoir	3
900.043000239144	PP4-A	BDR21_F1M6	05.20.2022	217	252	56.14	06.02.2022	Keeyask reservoir	2
900.043000239145	PP4-A	BDR21_F1M6	05.20.2022	210	246	50.92	05.30.2022	Stephens Lake	1
900.043000239146	PP4-A	BDR21_F1M6	05.20.2022	204	236	45.16	05.30.2022	Stephens Lake	1
900.043000239147	PP4-A	BDR21_F1M6	05.20.2022	226	258	61.51	05.30.2022	Stephens Lake	1
900.043000239148	PP4-A	BDR21_F1M6	05.20.2022	210	239	52.37	06.02.2022	Keeyask reservoir	2
900.043000239149	PP4-A	BDR21_F1M6	05.20.2022	188	220	42.30	05.30.2022	Stephens Lake	1
900.043000239150	PP4-A	BDR21_F1M6	05.20.2022	207	234	46.24	05.30.2022	Stephens Lake	1
900.043000239151	PP4-A	BDR21_F1M6	05.20.2022	218	250	61.25	06.02.2022	Keeyask reservoir	2
900.043000239152	PP4-A	BDR21_F1M6	05.20.2022	206	240	29.10	05.30.2022	Stephens Lake	1
900.043000239153	PP4-A	BDR21_F1M6	05.20.2022	133	153	14.76	06.02.2022	Keeyask reservoir	2
900.043000239154	PP4-A	BDR21_F1M6	05.20.2022	217	247	54.58	05.30.2022	Stephens Lake	1
900.043000239155	PP4-A	BDR21_F1M6	05.20.2022	238	271	71.57	06.02.2022	Keeyask reservoir	2
900.043000239156	PP4-A	BDR21_F1M6	05.20.2022	238	272	71.16	05.30.2022	Stephens Lake	1
900.043000239157	PP4-A	BDR21_F1M6	05.20.2022	197	231	40.34	05.30.2022	Stephens Lake	1
900.043000239158	PP4-A	BDR21_F1M6	05.20.2022	223	255	64.22	05.30.2022	Stephens Lake	1
900.043000239159	PP4-A	BDR21_F1M6	05.20.2022	198	231	39.36	05.30.2022	Stephens Lake	1
900.043000239160	PP4-A	BDR21_F1M6	05.20.2022	181	211	38.93	05.30.2022	Stephens Lake	1
900.043000239161	PP4-A	BDR21_F1M6	05.20.2022	215	252	52.83	05.30.2022	Stephens Lake	1
900.043000239162	PP4-A	BDR21_F1M6	05.20.2022	223	262	57.13	05.30.2022	Stephens Lake	1
900.043000239163	PP4-A	BDR21_F1M6	05.20.2022	214	249	50.19	06.02.2022	Keeyask reservoir	2
900.043000239164	PP4-A	BDR21_F1M6	05.20.2022	227	254	63.47	05.30.2022	Stephens Lake	1
900.043000239165	PP4-A	BDR21_F1M6	05.20.2022	215	244	51.89	06.02.2022	Keeyask reservoir	2
900.043000239166	PP4-A	BDR21_F1M6	05.20.2022	221	254	61.27	05.30.2022	Stephens Lake	1
900.043000239167	PP4-A	BDR21_F1M6	05.20.2022	239	277	75.23	05.30.2022	Stephens Lake	1
900.043000239168	PP4-A	BDR21_F1M6	05.20.2022	225	261	60.05	06.02.2022	Keeyask reservoir	2

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900.043000239169	PP4-A	BDR21_F1M6	05.20.2022	210	238	50.45	05.30.2022	Stephens Lake	1
900.043000239170	PP4-A	BDR21_F1M6	05.20.2022	197	229	41.87	05.30.2022	Stephens Lake	1
900.043000239171	PP4-A	BDR21_F1M6	05.20.2022	227	260	58.88	06.02.2022	Keeyask reservoir	2
900.043000239172	PP4-A	BDR21_F1M6	05.20.2022	256	297	92.17	06.02.2022	Keeyask reservoir	2
900.043000239173	PP4-A	BDR21_F1M6	05.20.2022	250	289	87.99	06.02.2022	Keeyask reservoir	2
900.043000239174	PP4-A	BDR21_F1M6	05.20.2022	234	272	65.47	05.30.2022	Stephens Lake	1
900.043000239175	PP4-A	BDR21_F1M6	05.20.2022	225	260	66.82	05.30.2022	Stephens Lake	1
900.043000239176	PP4-A	BDR21_F1M6	05.20.2022	202	229	50.82	05.30.2022	Stephens Lake	1
900.043000239177	PP4-A	BDR21_F1M6	05.20.2022	195	225	39.60	05.30.2022	Stephens Lake	1
900.043000239178	PP4-A	BDR21_F1M6	05.20.2022	216	249	58.79	06.02.2022	Keeyask reservoir	3
900.043000239179	PP4-A	BDR21_F1M6	05.20.2022	218	257	58.77	05.30.2022	Stephens Lake	1
900.043000239181	PP4-A	BDR21_F1M6	05.20.2022	216	249	54.29	05.30.2022	Stephens Lake	1
900.043000239182	PP4-A	BDR21_F1M6	05.20.2022	202	233	42.67	06.02.2022	Keeyask reservoir	3
900.043000239183	PP4-A	BDR21_F1M6	05.20.2022	198	228	38.74	05.30.2022	Stephens Lake	1
900.043000239184	PP4-A	BDR21_F1M6	05.20.2022	210	244	51.14	06.02.2022	Keeyask reservoir	2
900.043000239185	PP4-A	BDR21_F1M6	05.20.2022	212	243	53.96	05.30.2022	Stephens Lake	1
900.043000239186	PP4-A	BDR21_F1M6	05.20.2022	220	244	51.76	05.30.2022	Stephens Lake	1
900.043000239187	PP4-A	BDR21_F1M6	05.20.2022	201	232	44.68	06.02.2022	Keeyask reservoir	2
900.043000239188	PP4-A	BDR21_F1M6	05.20.2022	248	283	88.04	05.30.2022	Stephens Lake	1
900.043000239189	PP4-A	BDR21_F1M6	05.20.2022	200	233	43.77	06.02.2022	Keeyask reservoir	3
900.043000239190	PP4-A	BDR21_F1M6	05.20.2022	202	237	40.42	05.30.2022	Stephens Lake	1
900.043000239191	PP4-A	BDR21_F1M6	05.20.2022	237	272	73.96	05.30.2022	Stephens Lake	1
900.043000239192	PP4-A	BDR21_F1M6	05.20.2022	236	272	66.47	06.02.2022	Keeyask reservoir	3
900.043000239193	PP4-A	BDR21_F1M6	05.20.2022	191	220	38.96	05.30.2022	Stephens Lake	1
900.043000239194	PP4-A	BDR21_F1M6	05.20.2022	215	250	56.31	05.30.2022	Stephens Lake	1
900.043000239195	PP4-A	BDR21_F1M6	05.20.2022	226	262	60.92	06.02.2022	Keeyask reservoir	2
900.043000239196	PP4-A	BDR21_F1M6	05.20.2022	215	249	57.30	06.02.2022	Keeyask reservoir	2
900.043000239197	PP4-A	BDR21_F1M6	05.20.2022	218	254	53.16	05.30.2022	Stephens Lake	1

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900.043000239198	PP4-A	BDR21_F1M6	05.20.2022	216	253	53.76	05.30.2022	Stephens Lake	1
900.043000239199	PP4-A	BDR21_F1M6	05.20.2022	218	252	55.15	05.30.2022	Stephens Lake	1
900.043000239200	PP4-A	BDR21_F1M6	05.20.2022	202	233	45.87	05.30.2022	Stephens Lake	1
900.043000239201	PP4-A	BDR21_F1M6	05.20.2022	202	233	41.26	06.02.2022	Keeyask reservoir	2
900.043000239202	PP4-A	BDR21_F1M6	05.20.2022	200	228	43.35	06.02.2022	Keeyask reservoir	2
900.043000239203	PP4-A	BDR21_F1M6	05.20.2022	210	242	47.53	06.02.2022	Keeyask reservoir	2
900.043000239204	PP4-A	BDR21_F1M6	05.20.2022	216	242	57.72	05.30.2022	Stephens Lake	1
900.043000239205	PP4-C	BDR21_F1M8	05.20.2022	172	198	25.82	05.30.2022	Stephens Lake	1
900.043000239206	PP4-A	BDR21_F1M6	05.20.2022	226	263	64.47	05.30.2022	Stephens Lake	1
900.043000239207	PP4-A	BDR21_F1M6	05.20.2022	214	248	51.97	05.30.2022	Stephens Lake	1
900.043000239208	PP4-A	BDR21_F1M6	05.20.2022	218	255	60.35	05.30.2022	Stephens Lake	1
900.043000239209	PP4-C	BDR21_F1M8	05.20.2022	180	205	32.89	06.02.2022	Keeyask reservoir	3
900.043000239210	PP4-A	BDR21_F1M6	05.20.2022	212	251	53.78	05.30.2022	Stephens Lake	1
900.043000239211	PP4-A	BDR21_F1M6	05.20.2022	217	247	56.61	06.02.2022	Keeyask reservoir	3
900.043000239212	PP4-C	BDR21_F1M8	05.20.2022	212	247	54.15	06.02.2022	Keeyask reservoir	3
900.043000239213	PP4-A	BDR21_F1M6	05.20.2022	220	256	56.05	06.02.2022	Keeyask reservoir	2
900.043000239214	PP4-A	BDR21_F1M6	05.20.2022	204	238	48.67	05.30.2022	Stephens Lake	1
900.043000239215	PP4-A	BDR21_F1M6	05.20.2022	218	249	53.51	05.30.2022	Stephens Lake	1
900.043000239216	PP4-C	BDR21_F1M8	05.20.2022	205	238	47.39	05.30.2022	Stephens Lake	1
900.043000239217	PP4-A	BDR21_F1M6	05.20.2022	209	241	49.86	06.02.2022	Keeyask reservoir	2
900.043000239218	PP4-C	BDR21_F1M8	05.20.2022	198	230	43.66	05.30.2022	Stephens Lake	1
900.043000239219	PP4-C	BDR21_F1M8	05.20.2022	215	248	52.89	05.30.2022	Stephens Lake	1
900.043000239220	PP4-C	BDR21_F1M8	05.20.2022	195	223	40.46	05.30.2022	Stephens Lake	1
900.043000239221	PP4-A	BDR21_F1M6	05.20.2022	220	252	55.89	06.02.2022	Keeyask reservoir	3
900.043000239222	PP4-A	BDR21_F1M6	05.20.2022	219	248	59.97	06.02.2022	Keeyask reservoir	3
900.043000239223	PP4-A	BDR21_F1M6	05.20.2022	228	261	56.75	06.02.2022	Keeyask reservoir	3
900.043000239224	PP4-C	BDR21_F1M8	05.20.2022	172	197	27.93	05.30.2022	Stephens Lake	1
900.043000239225	PP4-A	BDR21_F1M6	05.20.2022	222	253	57.00	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239226	PP4-C	BDR21_F1M8	05.20.2022	175	201	32.53	05.30.2022	Stephens Lake	1
900.043000239227	PP4-A	BDR21_F1M6	05.20.2022	212	243	50.92	06.02.2022	Keeyask reservoir	2
900.043000239228	PP4-A	BDR21_F1M6	05.20.2022	200	237	45.96	06.02.2022	Keeyask reservoir	3
900.043000239229	PP4-A	BDR21_F1M6	05.20.2022	218	253	54.01	06.02.2022	Keeyask reservoir	2
900.043000239230	PP4-A	BDR21_F1M6	05.20.2022	216	247	52.23	05.30.2022	Stephens Lake	1
900.043000239231	PP4-C	BDR21_F1M8	05.20.2022	180	208	32.21	06.02.2022	Keeyask reservoir	2
900.043000239232	PP4-A	BDR21_F1M6	05.20.2022	234	270	70.26	06.02.2022	Keeyask reservoir	3
900.043000239233	PP4-A	BDR21_F1M6	05.20.2022	241	277	79.31	06.02.2022	Keeyask reservoir	2
900.043000239234	PP4-A	BDR21_F1M6	05.20.2022	188	218	39.14	05.30.2022	Stephens Lake	1
900.043000239235	PP4-A	BDR21_F1M6	05.20.2022	218	253	53.10	05.30.2022	Stephens Lake	1
900.043000239236	PP4-A	BDR21_F1M6	05.20.2022	220	254	54.81	05.30.2022	Stephens Lake	1
900.043000239237	PP4-A	BDR21_F1M6	05.20.2022	194	227	43.11	06.02.2022	Keeyask reservoir	2
900.043000239238	PP4-A	BDR21_F1M6	05.20.2022	210	241	46.48	05.30.2022	Stephens Lake	1
900.043000239239	PP4-A	BDR21_F1M6	05.20.2022	205	238	47.12	06.02.2022	Keeyask reservoir	3
900.043000239240	PP4-A	BDR21_F1M6	05.20.2022	193	220	39.55	06.02.2022	Keeyask reservoir	3
900.043000239241	PP4-C	BDR21_F1M8	05.20.2022	192	223	40.66	05.30.2022	Stephens Lake	1
900.043000239242	PP4-A	BDR21_F1M6	05.20.2022	220	253	52.40	06.02.2022	Keeyask reservoir	3
900.043000239243	PP4-A	BDR21_F1M6	05.20.2022	200	230	53.60	05.30.2022	Stephens Lake	1
900.043000239244	PP4-A	BDR21_F1M6	05.20.2022	216	251	57.03	05.30.2022	Stephens Lake	1
900.043000239245	PP4-A	BDR21_F1M6	05.20.2022	213	243	45.23	06.02.2022	Keeyask reservoir	2
900.043000239246	PP4-A	BDR21_F1M6	05.20.2022	230	263	65.48	06.02.2022	Keeyask reservoir	3
900.043000239247	PP4-A	BDR21_F1M6	05.20.2022	226	257	62.73	05.30.2022	Stephens Lake	1
900.043000239248	PP4-A	BDR21_F1M6	05.20.2022	195	225	39.92	06.02.2022	Keeyask reservoir	2
900.043000239249	PP4-A	BDR21_F1M6	05.20.2022	187	217	36.72	05.30.2022	Stephens Lake	1
900.043000239250	PP4-A	BDR21_F1M6	05.20.2022	188	217	39.05	05.30.2022	Stephens Lake	1
900.043000239251	PP4-A	BDR21_F1M6	05.20.2022	207	253	55.20	06.02.2022	Keeyask reservoir	3
900.043000239252	PP4-A	BDR21_F1M6	05.20.2022	217	253	56.08	05.30.2022	Stephens Lake	1
900.043000239253	PP4-A	BDR21_F1M6	05.20.2022	223	255	64.40	06.02.2022	Keeyask reservoir	3

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900.043000239254	PP4-A	BDR21_F1M6	05.20.2022	222	251	62.03	05.30.2022	Stephens Lake	1
900.043000239255	PP4-A	BDR21_F1M6	05.20.2022	165	195	33.63	05.30.2022	Stephens Lake	1
900.043000239256	PP4-A	BDR21_F1M6	05.20.2022	206	238	45.21	05.30.2022	Stephens Lake	1
900.043000239257	PP4-A	BDR21_F1M6	05.20.2022	226	262	64.94	05.30.2022	Stephens Lake	1
900.043000239259	PP4-A	BDR21_F1M6	05.20.2022	233	269	71.13	06.02.2022	Keeyask reservoir	3
900.043000239260	PP4-A	BDR21_F1M6	05.20.2022	198	233	41.81	05.30.2022	Stephens Lake	1
900.043000239261	PP4-A	BDR21_F1M6	05.20.2022	233	272	73.16	05.30.2022	Stephens Lake	1
900.043000239262	PP4-A	BDR21_F1M6	05.20.2022	201	232	45.32	06.02.2022	Keeyask reservoir	3
900.043000239263	PP4-A	BDR21_F1M6	05.20.2022	204	232	44.67	06.02.2022	Keeyask reservoir	2
900.043000239264	PP4-A	BDR21_F1M6	05.20.2022	209	241	51.88	06.02.2022	Keeyask reservoir	2
900.043000239265	PP4-C	BDR21_F1M8	05.20.2022	215	243	57.66	06.02.2022	Keeyask reservoir	2
900.043000239266	PP4-A	BDR21_F1M6	05.20.2022	197	228	44.52	06.02.2022	Keeyask reservoir	3
900.043000239267	PP4-A	BDR21_F1M6	05.20.2022	216	248	56.60	06.02.2022	Keeyask reservoir	3
900.043000239268	PP4-A	BDR21_F1M6	05.20.2022	224	254	51.91	06.02.2022	Keeyask reservoir	3
900.043000239269	PP4-A	BDR21_F1M6	05.20.2022	235	270	73.92	06.02.2022	Keeyask reservoir	2
900.043000239270	PP4-A	BDR21_F1M6	05.20.2022	214	242	49.95	06.02.2022	Keeyask reservoir	2
900.043000239271	PP4-C	BDR21_F1M8	05.20.2022	228	258	64.54	06.02.2022	Keeyask reservoir	2
900.043000239272	PP4-A	BDR21_F1M6	05.20.2022	221	251	54.08	06.02.2022	Keeyask reservoir	2
900.043000239274	PP4-A	BDR21_F1M6	05.20.2022	205	238	49.09	06.02.2022	Keeyask reservoir	2
900.043000239275	PP4-C	BDR21_F1M8	05.20.2022	207	238	46.88	06.02.2022	Keeyask reservoir	3
900.043000239276	PP4-A	BDR21_F1M6	05.20.2022	197	228	37.64	05.30.2022	Stephens Lake	1
900.043000239277	PP4-A	BDR21_F1M6	05.20.2022	201	232	44.19	06.02.2022	Keeyask reservoir	3
900.043000239278	PP4-A	BDR21_F1M6	05.20.2022	218	253	58.55	06.02.2022	Keeyask reservoir	2
900.043000239279	PP4-A	BDR21_F1M6	05.20.2022	199	232	40.92	05.30.2022	Stephens Lake	1
900.043000239280	PP4-A	BDR21_F1M6	05.20.2022	243	283	83.16	05.30.2022	Stephens Lake	1
900.043000239281	PP4-A	BDR21_F1M6	05.20.2022	212	246	50.09	05.30.2022	Stephens Lake	1
900.043000239282	PP4-A	BDR21_F1M6	05.20.2022	198	231	42.93	06.02.2022	Keeyask reservoir	2
900.043000239283	PP4-C	BDR21_F1M8	05.20.2022	181	210	33.17	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239284	PP4-A	BDR21_F1M6	05.20.2022	217	250	53.67	05.30.2022	Stephens Lake	1
900.043000239285	PP4-A	BDR21_F1M6	05.20.2022	216	255	53.58	05.30.2022	Stephens Lake	1
900.043000239286	PP4-A	BDR21_F1M6	05.20.2022	216	249	54.37	06.02.2022	Keeyask reservoir	3
900.043000239287	PP4-C	BDR21_F1M8	05.20.2022	183	212	40.21	05.30.2022	Stephens Lake	1
900.043000239288	PP4-A	BDR21_F1M6	05.20.2022	199	236	40.23	06.02.2022	Keeyask reservoir	3
900.043000239289	PP4-A	BDR21_F1M6	05.20.2022	215	259	58.09	06.02.2022	Keeyask reservoir	3
900.043000239290	PP4-C	BDR21_F1M8	05.20.2022	201	232	41.96	06.02.2022	Keeyask reservoir	2
900.043000239291	PP4-A	BDR21_F1M6	05.20.2022	222	253	58.40	06.02.2022	Keeyask reservoir	3
900.043000239292	PP4-A	BDR21_F1M6	05.20.2022	229	263	61.02	05.30.2022	Stephens Lake	1
900.043000239293	PP4-A	BDR21_F1M6	05.20.2022	177	200	28.15	05.30.2022	Stephens Lake	1
900.043000239294	PP4-A	BDR21_F1M6	05.20.2022	229	269	65.94	06.02.2022	Keeyask reservoir	3
900.043000239295	PP4-A	BDR21_F1M6	05.20.2022	228	263	76.95	06.02.2022	Keeyask reservoir	2
900.043000239296	PP4-A	BDR21_F1M6	05.20.2022	220	259	59.72	06.02.2022	Keeyask reservoir	3
900.043000239297	PP4-A	BDR21_F1M6	05.20.2022	220	256	56.12	05.30.2022	Stephens Lake	1
900.043000239298	PP4-A	BDR21_F1M6	05.20.2022	205	235	46.27	05.30.2022	Stephens Lake	1
900.043000239299	PP4-A	BDR21_F1M6	05.20.2022	220	253	57.17	05.30.2022	Stephens Lake	1
900.043000239300	PP3-A	BDR21_F1M3	05.21.2022	200	228	48.62	06.02.2022	Keeyask reservoir	2
900.043000239301	PP3-A	BDR21_F1M3	05.21.2022	186	217	40.14	06.02.2022	Keeyask reservoir	2
900.043000239302	PP3-A	BDR21_F1M3	05.21.2022	207	233	52.09	06.02.2022	Keeyask reservoir	2
900.043000239303	PP3-A	BDR21_F1M3	05.22.2022	196	225	39.78	05.30.2022	Stephens Lake	1
900.043000239305	PP3-A	BDR21_F1M3	05.22.2022	177	204	37.36	05.30.2022	Stephens Lake	1
900.043000239307	PP3-A	BDR21_F1M3	05.21.2022	185	209	33.77	06.02.2022	Keeyask reservoir	2
900.043000239308	PP3-A	BDR21_F1M3	05.21.2022	218	240	70.33	05.30.2022	Stephens Lake	1
900.043000239309	PP3-A	BDR21_F1M3	05.21.2022	207	237	46.61	06.02.2022	Keeyask reservoir	2
900.043000239310	PP3-A	BDR21_F1M3	05.21.2022	192	222	38.72	05.30.2022	Stephens Lake	1
900.043000239311	PP3-A	BDR21_F1M3	05.22.2022	193	223	41.80	06.02.2022	Keeyask reservoir	2
900.043000239312	PP3-A	BDR21_F1M3	05.22.2022	180	211	37.10	05.30.2022	Stephens Lake	1
900.043000239313	PP3-A	BDR21_F1M3	05.21.2022	192	220	42.10	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239314	PP3-A	BDR21_F1M3	05.21.2022	181	207	33.97	05.30.2022	Stephens Lake	1
900.043000239315	PP3-A	BDR21_F1M3	05.21.2022	190	218	38.64	06.02.2022	Keeyask reservoir	3
900.043000239317	PP3-A	BDR21_F1M3	05.22.2022	205	235	45.66	05.30.2022	Stephens Lake	1
900.043000239318	PP3-A	BDR21_F1M3	05.21.2022	186	212	41.90	05.30.2022	Stephens Lake	1
900.043000239319	PP3-A	BDR21_F1M3	05.21.2022	203	232	43.51	06.02.2022	Keeyask reservoir	3
900.043000239320	PP3-A	BDR21_F1M3	05.21.2022	187	221	43.05	06.02.2022	Keeyask reservoir	2
900.043000239321	PP3-A	BDR21_F1M3	05.21.2022	165	193	45.01	05.30.2022	Stephens Lake	1
900.043000239323	PP3-A	BDR21_F1M3	05.22.2022	252	283	92.44	06.02.2022	Keeyask reservoir	2
900.043000239324	PP3-A	BDR21_F1M3	05.22.2022	170	196	27.93	05.30.2022	Stephens Lake	1
900.043000239325	PP3-A	BDR21_F1M3	05.21.2022	192	226	39.24	06.02.2022	Keeyask reservoir	3
900.043000239326	PP3-A	BDR21_F1M3	05.21.2022	200	228	44.39	06.02.2022	Keeyask reservoir	3
900.043000239327	PP3-A	BDR21_F1M3	05.21.2022	228	268	71.50	06.02.2022	Keeyask reservoir	2
900.043000239328	PP3-A	BDR21_F1M3	05.21.2022	210	240	58.26	06.02.2022	Keeyask reservoir	3
900.043000239329	PP3-A	BDR21_F1M3	05.21.2022	203	233	45.17	05.30.2022	Stephens Lake	1
900.043000239330	PP3-A	BDR21_F1M3	05.21.2022	195	218	43.48	06.02.2022	Keeyask reservoir	3
900.043000239331	PP3-A	BDR21_F1M3	05.21.2022	206	243	53.15	05.30.2022	Stephens Lake	1
900.043000239332	PP3-A	BDR21_F1M3	05.22.2022	189	220	38.27	05.30.2022	Stephens Lake	1
900.043000239333	PP3-A	BDR21_F1M3	05.22.2022	192	222	40.72	05.30.2022	Stephens Lake	1
900.043000239334	PP3-A	BDR21_F1M3	05.21.2022	218	253	60.05	06.02.2022	Keeyask reservoir	2
900.043000239335	PP3-A	BDR21_F1M3	05.21.2022	205	237	42.88	05.30.2022	Stephens Lake	1
900.043000239336	PP3-A	BDR21_F1M3	05.21.2022	192	223	37.67	06.02.2022	Keeyask reservoir	3
900.043000239337	PP3-A	BDR21_F1M3	05.21.2022	228	263	63.95	05.30.2022	Stephens Lake	1
900.043000239338	PP3-A	BDR21_F1M3	05.21.2022	193	223	41.80	06.02.2022	Keeyask reservoir	3
900.043000239339	PP3-A	BDR21_F1M3	05.21.2022	195	222	42.95	06.02.2022	Keeyask reservoir	2
900.043000239340	PP3-A	BDR21_F1M3	05.21.2022	182	208	33.61	06.02.2022	Keeyask reservoir	3
900.043000239341	PP3-A	BDR21_F1M3	05.21.2022	193	222	41.84	05.30.2022	Stephens Lake	1
900.043000239342	PP3-A	BDR21_F1M3	05.22.2022	187	217	45.17	05.30.2022	Stephens Lake	1
900.043000239343	PP3-A	BDR21_F1M3	05.21.2022	200	230	44.43	06.02.2022	Keeyask reservoir	3

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900.043000239344	PP3-A	BDR21_F1M3	05.21.2022	200	228	48.44	05.30.2022	Stephens Lake	1
900.043000239345	PP3-A	BDR21_F1M3	05.21.2022	184	213	33.68	06.02.2022	Keeyask reservoir	3
900.043000239346	PP3-A	BDR21_F1M3	05.21.2022	197	223	48.14	06.02.2022	Keeyask reservoir	3
900.043000239347	PP3-A	BDR21_F1M3	05.21.2022	196	225	47.83	05.30.2022	Stephens Lake	1
900.043000239348	PP3-A	BDR21_F1M3	05.21.2022	197	228	44.57	06.02.2022	Keeyask reservoir	2
900.043000239349	PP3-A	BDR21_F1M3	05.21.2022	228	263	73.45	05.30.2022	Stephens Lake	1
900.043000239350	PP3-A	BDR21_F1M3	05.21.2022	204	234	46.05	06.02.2022	Keeyask reservoir	2
900.043000239351	PP3-A	BDR21_F1M3	05.22.2022	178	208	34.25	05.30.2022	Stephens Lake	1
900.043000239352	PP3-A	BDR21_F1M3	05.21.2022	175	203	37.92	06.02.2022	Keeyask reservoir	2
900.043000239353	PP3-A	BDR21_F1M3	05.21.2022	197	228	46.49	06.02.2022	Keeyask reservoir	3
900.043000239354	PP3-A	BDR21_F1M3	05.21.2022	225	257	63.72	05.30.2022	Stephens Lake	1
900.043000239355	PP3-A	BDR21_F1M3	05.21.2022	226	266	73.26	06.02.2022	Keeyask reservoir	3
900.043000239356	PP3-A	BDR21_F1M3	05.21.2022	218	247	61.39	05.30.2022	Stephens Lake	1
900.043000239357	PP3-A	BDR21_F1M3	05.21.2022	196	223	41.14	05.30.2022	Stephens Lake	1
900.043000239358	PP3-A	BDR21_F1M3	05.22.2022	172	202	45.86	06.02.2022	Keeyask reservoir	2
900.043000239359	PP3-A	BDR21_F1M3	05.21.2022	170	193	29.11	05.30.2022	Stephens Lake	1
900.043000239360	PP3-A	BDR21_F1M3	05.22.2022	215	253	62.18	06.02.2022	Keeyask reservoir	3
900.043000239361	PP3-A	BDR21_F1M3	05.21.2022	182	208	30.61	05.30.2022	Stephens Lake	1
900.043000239362	PP3-A	BDR21_F1M3	05.21.2022	193	220	46.68	05.30.2022	Stephens Lake	1
900.043000239363	PP3-A	BDR21_F1M3	05.21.2022	203	237	43.35	06.02.2022	Keeyask reservoir	2
900.043000239364	PP3-A	BDR21_F1M3	05.22.2022	212	243	49.92	05.30.2022	Stephens Lake	1
900.043000239365	PP3-A	BDR21_F1M3	05.21.2022	193	221	40.79	06.02.2022	Keeyask reservoir	3
900.043000239366	PP3-A	BDR21_F1M3	05.21.2022	192	225	47.76	06.02.2022	Keeyask reservoir	3
900.043000239367	PP3-A	BDR21_F1M3	05.21.2022	184	210	36.39	06.02.2022	Keeyask reservoir	3
900.043000239368	PP3-A	BDR21_F1M3	05.21.2022	190	222	41.52	05.30.2022	Stephens Lake	1
900.043000239369	PP3-A	BDR21_F1M3	05.21.2022	224	262	71.36	05.30.2022	Stephens Lake	1
900.043000239370	PP3-A	BDR21_F1M3	05.21.2022	200	231	47.52	06.02.2022	Keeyask reservoir	3
900.043000239371	PP3-A	BDR21_F1M3	05.21.2022	219	251	64.68	06.02.2022	Keeyask reservoir	3

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900.043000239372	PP3-A	BDR21_F1M3	05.22.2022	210	243	54.58	05.30.2022	Stephens Lake	1
900.043000239373	PP3-A	BDR21_F1M3	05.21.2022	215	253	60.13	06.02.2022	Keeyask reservoir	2
900.043000239374	PP3-A	BDR21_F1M3	05.22.2022	182	208	35.86	06.02.2022	Keeyask reservoir	2
900.043000239375	PP3-A	BDR21_F1M3	05.21.2022	185	217	36.75	05.30.2022	Stephens Lake	1
900.043000239376	PP3-A	BDR21_F1M3	05.21.2022	216	248	57.03	05.30.2022	Stephens Lake	1
900.043000239377	PP3-A	BDR21_F1M3	05.21.2022	215	253	60.32	05.30.2022	Stephens Lake	1
900.043000239378	PP3-A	BDR21_F1M3	05.22.2022	180	207	33.23	05.30.2022	Stephens Lake	1
900.043000239379	PP3-A	BDR21_F1M3	05.21.2022	207	238	53.24	05.30.2022	Stephens Lake	1
900.043000239380	PP3-A	BDR21_F1M3	05.21.2022	220	253	66.55	05.30.2022	Stephens Lake	1
900.043000239381	PP3-A	BDR21_F1M3	05.21.2022	210	244	54.55	06.02.2022	Keeyask reservoir	2
900.043000239382	PP3-A	BDR21_F1M3	05.21.2022	190	217	43.37	05.30.2022	Stephens Lake	1
900.043000239383	PP3-A	BDR21_F1M3	05.21.2022	192	222	43.82	05.30.2022	Stephens Lake	1
900.043000239384	PP3-A	BDR21_F1M3	05.21.2022	210	244	52.74	06.02.2022	Keeyask reservoir	3
900.043000239385	PP3-A	BDR21_F1M3	05.21.2022	180	208	32.89	06.02.2022	Keeyask reservoir	2
900.043000239386	PP3-A	BDR21_F1M3	05.21.2022	183	213	39.18	05.30.2022	Stephens Lake	1
900.043000239387	PP3-A	BDR21_F1M3	05.21.2022	212	245	58.88	06.02.2022	Keeyask reservoir	3
900.043000239388	PP3-A	BDR21_F1M3	05.21.2022	235	265	76.48	06.02.2022	Keeyask reservoir	2
900.043000239389	PP3-A	BDR21_F1M3	05.21.2022	190	220	42.36	06.02.2022	Keeyask reservoir	2
900.043000239390	PP3-A	BDR21_F1M3	05.21.2022	194	224	42.27	06.02.2022	Keeyask reservoir	2
900.043000239391	PP3-A	BDR21_F1M3	05.21.2022	175	197	29.81	05.30.2022	Stephens Lake	1
900.043000239392	PP3-A	BDR21_F1M3	05.22.2022	183	213	37.10	05.30.2022	Stephens Lake	1
900.043000239393	PP3-A	BDR21_F1M3	05.21.2022	195	225	47.10	06.02.2022	Keeyask reservoir	3
900.043000239394	PP3-A	BDR21_F1M3	05.22.2022	192	223	47.02	06.02.2022	Keeyask reservoir	3
900.043000239395	PP3-A	BDR21_F1M3	05.21.2022	220	258	61.96	06.02.2022	Keeyask reservoir	3
900.043000239396	PP3-A	BDR21_F1M3	05.21.2022	215	247	57.19	06.02.2022	Keeyask reservoir	2
900.043000239397	PP3-A	BDR21_F1M3	05.21.2022	180	203	30.67	05.30.2022	Stephens Lake	1
900.043000239398	PP3-A	BDR21_F1M3	05.21.2022	185	212	36.02	06.02.2022	Keeyask reservoir	3
900.043000239399	PP3-A	BDR21_F1M3	05.21.2022	180	210	35.13	06.02.2022	Keeyask reservoir	2

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900.043000239400	PP3-A	BDR21_F1M3	05.21.2022	202	228	47.82	05.30.2022	Stephens Lake	1
900.043000239401	PP3-A	BDR21_F1M3	05.22.2022	178	204	32.04	05.30.2022	Stephens Lake	1
900.043000239402	PP3-A	BDR21_F1M3	05.22.2022	192	223	40.32	06.02.2022	Keeyask reservoir	2
900.043000239403	PP3-A	BDR21_F1M3	05.22.2022	216	247	63.04	06.02.2022	Keeyask reservoir	3
900.043000239404	PP3-A	BDR21_F1M3	05.22.2022	180	210	29.64	06.02.2022	Keeyask reservoir	2
900.043000239405	PP3-A	BDR21_F1M3	05.22.2022	192	217	39.22	06.02.2022	Keeyask reservoir	2
900.043000239406	PP3-A	BDR21_F1M3	05.21.2022	187	216	36.05	05.30.2022	Stephens Lake	1
900.043000239407	PP3-A	BDR21_F1M3	05.21.2022	198	230	44.30	05.30.2022	Stephens Lake	1
900.043000239408	PP3-A	BDR21_F1M3	05.22.2022	185	219	33.71	06.02.2022	Keeyask reservoir	3
900.043000239409	PP3-A	BDR21_F1M3	05.21.2022	194	221	42.63	05.30.2022	Stephens Lake	1
900.043000239410	PP3-A	BDR21_F1M3	05.22.2022	204	242	47.38	06.02.2022	Keeyask reservoir	3
900.043000239411	PP3-A	BDR21_F1M3	05.22.2022	198	230	45.64	06.02.2022	Keeyask reservoir	2
900.043000239412	PP3-A	BDR21_F1M3	05.21.2022	192	218	40.43	06.02.2022	Keeyask reservoir	2
900.043000239413	PP3-A	BDR21_F1M3	05.22.2022	200	234	51.51	06.02.2022	Keeyask reservoir	3
900.043000239414	PP3-A	BDR21_F1M3	05.21.2022	220	251	56.52	06.02.2022	Keeyask reservoir	2
900.043000239415	PP3-A	BDR21_F1M3	05.22.2022	155	178	20.17	06.02.2022	Keeyask reservoir	3
900.043000239416	PP3-A	BDR21_F1M3	05.21.2022	220	256	60.29	06.02.2022	Keeyask reservoir	2
900.043000239417	PP3-A	BDR21_F1M3	05.21.2022	192	218	39.74	06.02.2022	Keeyask reservoir	2
900.043000239418	PP3-A	BDR21_F1M3	05.21.2022	198	228	40.18	05.30.2022	Stephens Lake	1
900.043000239419	PP3-A	BDR21_F1M3	05.22.2022	200	227	45.20	05.30.2022	Stephens Lake	1
900.043000239420	PP3-A	BDR21_F1M3	05.21.2022	187	214	38.52	06.02.2022	Keeyask reservoir	3
900.043000239421	PP3-A	BDR21_F1M3	05.21.2022	202	231	46.10	06.02.2022	Keeyask reservoir	3
900.043000239422	PP3-A	BDR21_F1M3	05.21.2022	183	212	37.14	05.30.2022	Stephens Lake	1
900.043000239423	PP3-A	BDR21_F1M3	05.22.2022	175	200	31.12	06.02.2022	Keeyask reservoir	2
900.043000239424	PP3-A	BDR21_F1M3	05.21.2022	175	202	31.77	06.02.2022	Keeyask reservoir	3
900.043000239425	PP3-A	BDR21_F1M3	05.22.2022	197	229	44.19	06.02.2022	Keeyask reservoir	2
900.043000239426	PP3-A	BDR21_F1M3	05.21.2022	203	232	47.39	05.30.2022	Stephens Lake	1
900.043000239427	PP3-A	BDR21_F1M3	05.22.2022	185	217	38.11	06.02.2022	Keeyask reservoir	2

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239428	PP3-A	BDR21_F1M3	05.21.2022	218	255	58.29	05.30.2022	Stephens Lake	1
900.043000239429	PP3-A	BDR21_F1M3	05.21.2022	201	232	43.77	05.30.2022	Stephens Lake	1
900.043000239430	PP3-A	BDR21_F1M3	05.21.2022	194	222	41.67	05.30.2022	Stephens Lake	1
900.043000239431	PP3-A	BDR21_F1M3	05.21.2022	218	253	65.74	06.02.2022	Keeyask reservoir	2
900.043000239433	PP3-A	BDR21_F1M3	05.21.2022	207	232	51.03	05.30.2022	Stephens Lake	1
900.043000239434	PP3-A	BDR21_F1M3	05.21.2022	160	180	23.02	05.30.2022	Stephens Lake	1
900.043000239435	PP3-A	BDR21_F1M3	05.21.2022	214	244	53.52	06.02.2022	Keeyask reservoir	3
900.043000239436	PP3-A	BDR21_F1M3	05.22.2022	215	247	60.79	05.30.2022	Stephens Lake	1
900.043000239437	PP3-A	BDR21_F1M3	05.22.2022	197	233	46.75	06.02.2022	Keeyask reservoir	2
900.043000239438	PP3-A	BDR21_F1M3	05.21.2022	193	225	42.05	05.30.2022	Stephens Lake	1
900.043000239439	PP3-A	BDR21_F1M3	05.21.2022	185	215	35.49	06.02.2022	Keeyask reservoir	2
900.043000239440	PP3-A	BDR21_F1M3	05.21.2022	212	247	57.41	06.02.2022	Keeyask reservoir	3
900.043000239441	PP3-A	BDR21_F1M3	05.21.2022	190	214	39.89	05.30.2022	Stephens Lake	1
900.043000239442	PP3-A	BDR21_F1M3	05.21.2022	187	215	34.25	05.30.2022	Stephens Lake	1
900.043000239443	PP3-A	BDR21_F1M3	05.21.2022	192	221	43.50	06.02.2022	Keeyask reservoir	3
900.043000239444	PP3-A	BDR21_F1M3	05.21.2022	182	210	34.58	06.02.2022	Keeyask reservoir	3
900.043000239445	PP3-A	BDR21_F1M3	05.22.2022	185	214	33.54	06.02.2022	Keeyask reservoir	3
900.043000239446	PP3-A	BDR21_F1M3	05.21.2022	210	244	56.42	05.30.2022	Stephens Lake	1
900.043000239447	PP3-A	BDR21_F1M3	05.22.2022	182	216	35.05	06.02.2022	Keeyask reservoir	2
900.043000239448	PP3-A	BDR21_F1M3	05.21.2022	228	255	81.73	05.30.2022	Stephens Lake	1
900.043000239449	PP3-A	BDR21_F1M3	05.21.2022	215	252	56.59	05.30.2022	Stephens Lake	1
900.043000239450	PP3-A	BDR21_F1M3	05.21.2022	205	237	49.72	05.30.2022	Stephens Lake	1
900.043000239451	PP3-A	BDR21_F1M3	05.22.2022	190	219	40.02	06.02.2022	Keeyask reservoir	2
900.043000239452	PP3-A	BDR21_F1M3	05.21.2022	217	252	60.54	06.02.2022	Keeyask reservoir	2
900.043000239453	PP3-A	BDR21_F1M3	05.21.2022	180	212	39.56	06.02.2022	Keeyask reservoir	2
900.043000239454	PP3-A	BDR21_F1M3	05.21.2022	214	247	55.22	05.30.2022	Stephens Lake	1
900.043000239455	PP3-A	BDR21_F1M3	05.21.2022	202	233	43.45	05.30.2022	Stephens Lake	1
900.043000239456	PP3-A	BDR21_F1M3	05.22.2022	207	237	52.47	06.02.2022	Keeyask reservoir	2

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239457	PP3-A	BDR21_F1M3	05.21.2022	190	220	33.78	06.02.2022	Keeyask reservoir	2
900.043000239458	PP3-A	BDR21_F1M3	05.21.2022	177	203	35.40	06.02.2022	Keeyask reservoir	2
900.043000239459	PP3-A	BDR21_F1M3	05.21.2022	208	242	46.60	06.02.2022	Keeyask reservoir	2
900.043000239460	PP3-A	BDR21_F1M3	05.22.2022	213	244	62.93	05.30.2022	Stephens Lake	1
900.043000239461	PP3-A	BDR21_F1M3	05.22.2022	200	234	49.47	05.30.2022	Stephens Lake	1
900.043000239462	PP3-A	BDR21_F1M3	05.22.2022	187	222	41.67	06.02.2022	Keeyask reservoir	2
900.043000239463	PP3-A	BDR21_F1M3	05.21.2022	202	233	54.18	05.30.2022	Stephens Lake	1
900.043000239464	PP3-A	BDR21_F1M3	05.21.2022	190	220	42.25	06.02.2022	Keeyask reservoir	3
900.043000239465	PP3-A	BDR21_F1M3	05.22.2022	185	213	36.81	05.30.2022	Stephens Lake	1
900.043000239466	PP3-A	BDR21_F1M3	05.21.2022	208	240	51.26	06.02.2022	Keeyask reservoir	2
900.043000239467	PP3-A	BDR21_F1M3	05.21.2022	212	243	57.18	05.30.2022	Stephens Lake	1
900.043000239468	PP3-A	BDR21_F1M3	05.21.2022	204	233	47.40	05.30.2022	Stephens Lake	1
900.043000239469	PP3-A	BDR21_F1M3	05.22.2022	183	207	35.72	05.30.2022	Stephens Lake	1
900.043000239470	PP3-A	BDR21_F1M3	05.21.2022	208	243	49.91	05.30.2022	Stephens Lake	1
900.043000239471	PP3-A	BDR21_F1M3	05.22.2022	192	223	36.62	06.02.2022	Keeyask reservoir	2
900.043000239472	PP3-A	BDR21_F1M3	05.21.2022	188	222	39.64	06.02.2022	Keeyask reservoir	3
900.043000239473	PP3-A	BDR21_F1M3	05.21.2022	200	233	45.46	06.02.2022	Keeyask reservoir	2
900.043000239474	PP3-A	BDR21_F1M3	05.22.2022	180	205	35.34	05.30.2022	Stephens Lake	1
900.043000239475	PP3-A	BDR21_F1M3	05.21.2022	204	233	46.53	05.30.2022	Stephens Lake	1
900.043000239476	PP3-A	BDR21_F1M3	05.21.2022	182	208	33.85	06.02.2022	Keeyask reservoir	3
900.043000239477	PP3-A	BDR21_F1M3	05.21.2022	193	224	35.77	06.02.2022	Keeyask reservoir	3
900.043000239478	PP3-A	BDR21_F1M3	05.21.2022	200	233	46.47	05.30.2022	Stephens Lake	1
900.043000239479	PP3-A	BDR21_F1M3	05.22.2022	225	258	71.67	06.02.2022	Keeyask reservoir	3
900.043000239480	PP3-A	BDR21_F1M3	05.21.2022	202	231	43.76	05.30.2022	Stephens Lake	1
900.043000239481	PP3-A	BDR21_F1M3	05.21.2022	190	220	38.51	05.30.2022	Stephens Lake	1
900.043000239482	PP3-A	BDR21_F1M3	05.21.2022	192	218	42.78	06.02.2022	Keeyask reservoir	3
900.043000239483	PP3-A	BDR21_F1M3	05.22.2022	206	240	48.21	05.30.2022	Stephens Lake	1
900.043000239484	PP3-A	BDR21_F1M3	05.21.2022	197	233	49.90	05.30.2022	Stephens Lake	1

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900.043000239485	PP3-A	BDR21_F1M3	05.22.2022	195	224	38.36	06.02.2022	Keeyask reservoir	3
900.043000239486	PP3-A	BDR21_F1M3	05.22.2022	200	237	47.47	06.02.2022	Keeyask reservoir	3
900.043000239487	PP3-A	BDR21_F1M3	05.21.2022	182	212	35.18	05.30.2022	Stephens Lake	1
900.043000239488	PP3-A	BDR21_F1M3	05.22.2022	200	233	44.31	05.30.2022	Stephens Lake	1
900.043000239489	PP3-A	BDR21_F1M3	05.21.2022	195	228	42.78	05.30.2022	Stephens Lake	1
900.043000239490	PP3-A	BDR21_F1M3	05.21.2022	204	236	45.13	06.02.2022	Keeyask reservoir	2
900.043000239491	PP3-A	BDR21_F1M3	05.21.2022	194	222	44.35	06.02.2022	Keeyask reservoir	2
900.043000239492	PP3-A	BDR21_F1M3	05.21.2022	216	247	58.64	06.02.2022	Keeyask reservoir	2
900.043000239493	PP3-A	BDR21_F1M3	05.21.2022	204	235	46.82	06.02.2022	Keeyask reservoir	3
900.043000239494	PP3-A	BDR21_F1M3	05.21.2022	195	223	42.03	06.02.2022	Keeyask reservoir	3
900.043000239495	PP3-A	BDR21_F1M3	05.21.2022	195	213	38.14	06.02.2022	Keeyask reservoir	2
900.043000239496	PP3-A	BDR21_F1M3	05.21.2022	212	240	52.85	05.30.2022	Stephens Lake	1
900.043000239497	PP3-A	BDR21_F1M3	05.21.2022	218	254	58.85	06.02.2022	Keeyask reservoir	3
900.043000239498	PP3-A	BDR21_F1M3	05.21.2022	221	251	66.04	06.02.2022	Keeyask reservoir	2
900.043000239499	PP3-A	BDR21_F1M3	05.22.2022	195	227	41.54	05.30.2022	Stephens Lake	1
900.043000239500	PP3-A	BDR21_F1M3	05.21.2022	195	227	41.79	06.02.2022	Keeyask reservoir	3
900.043000239501	PP3-A	BDR21_F1M3	05.21.2022	200	232	47.48	05.30.2022	Stephens Lake	1
900.043000239502	PP3-A	BDR21_F1M3	05.21.2022	193	223	45.31	05.30.2022	Stephens Lake	1
900.043000239503	PP3-A	BDR21_F1M3	05.22.2022	206	242	49.36	05.30.2022	Stephens Lake	1
900.043000239504	PP3-A	BDR21_F1M3	05.22.2022	220	253	58.46	05.30.2022	Stephens Lake	1
900.043000239505	PP3-A	BDR21_F1M3	05.22.2022	193	226	37.22	05.30.2022	Stephens Lake	1
900.043000239506	PP3-A	BDR21_F1M3	05.21.2022	183	212	31.06	06.02.2022	Keeyask reservoir	3
900.043000239507	PP3-A	BDR21_F1M3	05.21.2022	197	227	42.25	06.02.2022	Keeyask reservoir	2
900.043000239508	PP3-A	BDR21_F1M3	05.22.2022	200	227	50.26	06.02.2022	Keeyask reservoir	2
900.043000239509	PP3-A	BDR21_F1M3	05.21.2022	200	228	43.32	05.30.2022	Stephens Lake	1
900.043000239510	PP3-A	BDR21_F1M3	05.21.2022	180	213	47.01	06.02.2022	Keeyask reservoir	3
900.043000239511	PP3-A	BDR21_F1M3	05.21.2022	197	230	42.56	06.02.2022	Keeyask reservoir	3
900.043000239512	PP3-A	BDR21_F1M3	05.21.2022	208	238	53.01	06.02.2022	Keeyask reservoir	3

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900.043000239513	PP3-A	BDR21_F1M3	05.21.2022	210	240	55.38	06.02.2022	Keeyask reservoir	3
900.043000239514	PP3-A	BDR21_F1M3	05.21.2022	217	252	64.51	05.30.2022	Stephens Lake	1
900.043000239515	PP3-A	BDR21_F1M3	05.21.2022	220	251	68.71	05.30.2022	Stephens Lake	1
900.043000239516	PP3-A	BDR21_F1M3	05.21.2022	197	230	47.72	05.30.2022	Stephens Lake	1
900.043000239517	PP3-A	BDR21_F1M3	05.21.2022	212	238	56.15	06.02.2022	Keeyask reservoir	2
900.043000239518	PP3-A	BDR21_F1M3	05.22.2022	216	252	62.05	05.30.2022	Stephens Lake	1
900.043000239519	PP3-A	BDR21_F1M3	05.21.2022	190	213	38.80	06.02.2022	Keeyask reservoir	3
900.043000239520	PP3-A	BDR21_F1M3	05.21.2022	181	207	33.06	05.30.2022	Stephens Lake	1
900.043000239521	PP3-A	BDR21_F1M3	05.22.2022	210	248	52.89	05.30.2022	Stephens Lake	1
900.043000239522	PP3-A	BDR21_F1M3	05.21.2022	177	198	31.40	06.02.2022	Keeyask reservoir	3
900.043000239523	PP3-A	BDR21_F1M3	05.21.2022	205	240	54.53	05.30.2022	Stephens Lake	1
900.043000239524	PP3-A	BDR21_F1M3	05.21.2022	197	226	41.17	05.30.2022	Stephens Lake	1
900.043000239525	PP3-A	BDR21_F1M3	05.21.2022	224	262	74.23	05.30.2022	Stephens Lake	1
900.043000239526	PP3-A	BDR21_F1M3	05.21.2022	235	277	78.15	05.30.2022	Stephens Lake	1
900.043000239527	PP3-A	BDR21_F1M3	05.21.2022	197	228	48.10	06.02.2022	Keeyask reservoir	2
900.043000239528	PP3-A	BDR21_F1M3	05.21.2022	190	226	39.92	06.02.2022	Keeyask reservoir	2
900.043000239529	PP3-A	BDR21_F1M3	05.22.2022	205	240	48.50	05.30.2022	Stephens Lake	1
900.043000239530	PP3-A	BDR21_F1M3	05.21.2022	192	222	33.78	05.30.2022	Stephens Lake	1
900.043000239531	PP3-A	BDR21_F1M3	05.22.2022	202	233	49.62	06.02.2022	Keeyask reservoir	2
900.043000239532	PP3-A	BDR21_F1M3	05.21.2022	182	214	43.90	06.02.2022	Keeyask reservoir	2
900.043000239533	PP3-A	BDR21_F1M3	05.21.2022	203	221	39.65	06.02.2022	Keeyask reservoir	2
900.043000239534	PP3-A	BDR21_F1M3	05.21.2022	218	253	60.68	05.30.2022	Stephens Lake	1
900.043000239535	PP3-A	BDR21_F1M3	05.21.2022	198	227	48.56	05.30.2022	Stephens Lake	1
900.043000239536	PP3-A	BDR21_F1M3	05.21.2022	182	213	37.44	06.02.2022	Keeyask reservoir	3
900.043000239537	PP3-A	BDR21_F1M3	05.21.2022	180	210	33.50	05.30.2022	Stephens Lake	1
900.043000239538	PP3-A	BDR21_F1M3	05.21.2022	215	243	55.12	06.02.2022	Keeyask reservoir	3
900.043000239539	PP3-A	BDR21_F1M3	05.22.2022	186	217	37.82	06.02.2022	Keeyask reservoir	2
900.043000239540	PP3-A	BDR21_F1M3	05.22.2022	195	230	43.15	06.02.2022	Keeyask reservoir	3

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900.043000239541	PP3-A	BDR21_F1M3	05.21.2022	185	210	35.58	05.30.2022	Stephens Lake	1
900.043000239542	PP3-A	BDR21_F1M3	05.21.2022	188	225	44.76	06.02.2022	Keeyask reservoir	2
900.043000239543	PP3-A	BDR21_F1M3	05.21.2022	210	247	65.70	05.30.2022	Stephens Lake	1
900.043000239544	PP3-A	BDR21_F1M3	05.21.2022	245	285	92.44	05.30.2022	Stephens Lake	1
900.043000239545	PP3-A	BDR21_F1M3	05.21.2022	180	208	31.00	05.30.2022	Stephens Lake	1
900.043000239546	PP3-A	BDR21_F1M3	05.22.2022	182	207	32.87	06.02.2022	Keeyask reservoir	2
900.043000239547	PP3-A	BDR21_F1M3	05.21.2022	210	243	53.43	06.02.2022	Keeyask reservoir	2
900.043000239548	PP3-A	BDR21_F1M3	05.21.2022	193	224	38.79	05.30.2022	Stephens Lake	1
900.043000239549	PP3-A	BDR21_F1M3	05.21.2022	163	184	24.39	05.30.2022	Stephens Lake	1
900.043000239550	PP3-A	BDR21_F1M3	05.22.2022	165	193	28.48	05.30.2022	Stephens Lake	1
900.043000239551	PP3-A	BDR21_F1M3	05.21.2022	218	253	58.66	05.30.2022	Stephens Lake	1
900.043000239552	PP3-A	BDR21_F1M3	05.21.2022	208	243	53.54	05.30.2022	Stephens Lake	1
900.043000239553	PP3-A	BDR21_F1M3	05.22.2022	230	265	73.55	05.30.2022	Stephens Lake	1
900.043000239554	PP3-A	BDR21_F1M3	05.21.2022	205	237	48.20	06.02.2022	Keeyask reservoir	2
900.043000239555	PP3-A	BDR21_F1M3	05.21.2022	194	224	43.29	06.02.2022	Keeyask reservoir	2
900.043000239556	PP3-A	BDR21_F1M3	05.21.2022	193	222	41.48	05.30.2022	Stephens Lake	1
900.043000239557	PP3-A	BDR21_F1M3	05.22.2022	178	205	29.60	05.30.2022	Stephens Lake	1
900.043000239558	PP3-A	BDR21_F1M3	05.21.2022	207	240	51.72	06.02.2022	Keeyask reservoir	3
900.043000239559	PP3-A	BDR21_F1M3	05.22.2022	193	228	43.36	06.02.2022	Keeyask reservoir	3
900.043000239560	PP3-A	BDR21_F1M3	05.21.2022	196	227	38.47	06.02.2022	Keeyask reservoir	3
900.043000239561	PP3-A	BDR21_F1M3	05.21.2022	198	228	41.75	05.30.2022	Stephens Lake	1
900.043000239562	PP3-A	BDR21_F1M3	05.21.2022	195	226	42.50	06.02.2022	Keeyask reservoir	3
900.043000239563	PP3-A	BDR21_F1M3	05.21.2022	182	214	40.33	06.02.2022	Keeyask reservoir	2
900.043000239564	PP3-A	BDR21_F1M3	05.22.2022	205	237	41.73	06.02.2022	Keeyask reservoir	2
900.043000239565	PP3-A	BDR21_F1M3	05.21.2022	213	248	50.46	06.02.2022	Keeyask reservoir	3
900.043000239566	PP3-A	BDR21_F1M3	05.22.2022	200	235	51.29	05.30.2022	Stephens Lake	1
900.043000239567	PP3-A	BDR21_F1M3	05.21.2022	192	218	38.27	05.30.2022	Stephens Lake	1
900.043000239568	PP3-A	BDR21_F1M3	05.21.2022	188	218	37.45	06.02.2022	Keeyask reservoir	3

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900.043000239569	PP3-A	BDR21_F1M3	05.21.2022	207	241	57.13	05.30.2022	Stephens Lake	1
900.043000239570	PP3-A	BDR21_F1M3	05.21.2022	190	220	33.48	05.30.2022	Stephens Lake	1
900.043000239571	PP3-A	BDR21_F1M3	05.21.2022	198	230	46.83	06.02.2022	Keeyask reservoir	2
900.043000239572	PP3-A	BDR21_F1M3	05.21.2022	197	228	40.66	06.02.2022	Keeyask reservoir	3
900.043000239573	PP3-A	BDR21_F1M3	05.21.2022	208	242	58.04	05.30.2022	Stephens Lake	1
900.043000239574	PP3-A	BDR21_F1M3	05.21.2022	210	238	54.35	06.02.2022	Keeyask reservoir	2
900.043000239575	PP3-A	BDR21_F1M3	05.22.2022	224	262	58.71	06.02.2022	Keeyask reservoir	3
900.043000239576	PP3-A	BDR21_F1M3	05.22.2022	184	211	39.36	06.02.2022	Keeyask reservoir	3
900.043000239577	PP3-A	BDR21_F1M3	05.21.2022	182	210	33.03	06.02.2022	Keeyask reservoir	3
900.043000239578	PP3-A	BDR21_F1M3	05.21.2022	203	235	47.75	05.30.2022	Stephens Lake	1
900.043000239579	PP3-A	BDR21_F1M3	05.21.2022	193	225	39.03	05.30.2022	Stephens Lake	1
900.043000239580	PP3-A	BDR21_F1M3	05.21.2022	216	246	55.42	06.02.2022	Keeyask reservoir	3
900.043000239581	PP3-A	BDR21_F1M3	05.21.2022	195	227	49.44	05.30.2022	Stephens Lake	1
900.043000239582	PP3-A	BDR21_F1M3	05.21.2022	190	218	33.83	05.30.2022	Stephens Lake	1
900.043000239583	PP3-A	BDR21_F1M3	05.21.2022	212	236	54.46	05.30.2022	Stephens Lake	1
900.043000239584	PP3-A	BDR21_F1M3	05.21.2022	222	257	61.67	06.02.2022	Keeyask reservoir	3
900.043000239585	PP3-A	BDR21_F1M3	05.21.2022	193	222	41.13	05.30.2022	Stephens Lake	1
900.043000239586	PP3-A	BDR21_F1M3	05.21.2022	180	208	24.52	06.02.2022	Keeyask reservoir	2
900.043000239587	PP3-A	BDR21_F1M3	05.21.2022	205	238	54.90	05.30.2022	Stephens Lake	1
900.043000239588	PP3-A	BDR21_F1M3	05.22.2022	168	193	27.00	06.02.2022	Keeyask reservoir	2
900.043000239589	PP3-A	BDR21_F1M3	05.22.2022	215	252	52.90	06.02.2022	Keeyask reservoir	2
900.043000239590	PP3-A	BDR21_F1M3	05.21.2022	188	230	45.16	06.02.2022	Keeyask reservoir	3
900.043000239591	PP3-A	BDR21_F1M3	05.21.2022	206	235	55.19	05.30.2022	Stephens Lake	1
900.043000239592	PP3-A	BDR21_F1M3	05.21.2022	190	219	40.37	05.30.2022	Stephens Lake	1
900.043000239593	PP3-A	BDR21_F1M3	05.21.2022	213	247	55.30	05.30.2022	Stephens Lake	1
900.043000239594	PP3-A	BDR21_F1M3	05.22.2022	185	214	44.40	05.30.2022	Stephens Lake	1
900.043000239595	PP3-A	BDR21_F1M3	05.21.2022	194	223	45.28	05.30.2022	Stephens Lake	1
900.043000239596	PP3-A	BDR21_F1M3	05.21.2022	203	237	46.96	06.02.2022	Keeyask reservoir	3

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239597	PP3-A	BDR21_F1M3	05.21.2022	203	233	46.70	06.02.2022	Keeyask reservoir	2
900.043000239598	PP3-A	BDR21_F1M3	05.21.2022	202	237	45.59	06.02.2022	Keeyask reservoir	2
900.043000239599	PP3-A	BDR21_F1M3	05.21.2022	192	222	36.08	05.30.2022	Stephens Lake	1
900.043000239600	PP3-A	BDR21_F1M3	05.21.2022	222	255	56.13	05.30.2022	Stephens Lake	1
900.043000239601	PP3-A	BDR21_F1M3	05.21.2022	188	217	39.11	05.30.2022	Stephens Lake	1
900.043000239602	PP3-A	BDR21_F1M3	05.22.2022	207	237	50.37	05.30.2022	Stephens Lake	1
900.043000239603	PP3-A	BDR21_F1M3	05.21.2022	205	235	57.78	06.02.2022	Keeyask reservoir	3
900.043000239604	PP3-A	BDR21_F1M3	05.21.2022	201	231	45.42	06.02.2022	Keeyask reservoir	3
900.043000239605	PP3-A	BDR21_F1M3	05.21.2022	222	254	61.02	06.02.2022	Keeyask reservoir	2
900.043000239606	PP3-A	BDR21_F1M3	05.21.2022	195	226	42.05	06.02.2022	Keeyask reservoir	3
900.043000239607	PP3-A	BDR21_F1M3	05.21.2022	210	237	51.74	06.02.2022	Keeyask reservoir	3
900.043000239608	PP3-A	BDR21_F1M3	05.21.2022	215	247	59.55	05.30.2022	Stephens Lake	1
900.043000239609	PP3-A	BDR21_F1M3	05.21.2022	183	213	37.66	06.02.2022	Keeyask reservoir	2
900.043000239610	PP3-A	BDR21_F1M3	05.21.2022	203	234	47.82	06.02.2022	Keeyask reservoir	3
900.043000239611	PP3-A	BDR21_F1M3	05.21.2022	200	227	42.96	05.30.2022	Stephens Lake	1
900.043000239612	PP3-A	BDR21_F1M3	05.21.2022	245	285	89.50	05.30.2022	Stephens Lake	1
900.043000239613	PP3-A	BDR21_F1M3	05.21.2022	190	220	35.22	06.02.2022	Keeyask reservoir	3
900.043000239614	PP3-A	BDR21_F1M3	05.21.2022	203	237	50.40	06.02.2022	Keeyask reservoir	2
900.043000239615	PP3-A	BDR21_F1M3	05.22.2022	190	218	40.16	06.02.2022	Keeyask reservoir	2
900.043000239616	PP3-A	BDR21_F1M3	05.22.2022	224	258	66.74	06.02.2022	Keeyask reservoir	3
900.043000239617	PP3-A	BDR21_F1M3	05.22.2022	196	227	42.54	06.02.2022	Keeyask reservoir	3
900.043000239618	PP3-A	BDR21_F1M3	05.21.2022	188	216	36.13	05.30.2022	Stephens Lake	1
900.043000239619	PP3-A	BDR21_F1M3	05.22.2022	200	233	47.65	06.02.2022	Keeyask reservoir	3
900.043000239620	PP3-A	BDR21_F1M3	05.21.2022	200	234	41.60	05.30.2022	Stephens Lake	1
900.043000239621	PP3-A	BDR21_F1M3	05.21.2022	217	253	65.21	05.30.2022	Stephens Lake	1
900.043000239622	PP3-A	BDR21_F1M3	05.21.2022	197	228	46.10	06.02.2022	Keeyask reservoir	2
900.043000239623	PP3-A	BDR21_F1M3	05.22.2022	214	245	53.74	05.30.2022	Stephens Lake	1
900.043000239624	PP3-A	BDR21_F1M3	05.22.2022	197	232	39.98	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239625	PP3-A	BDR21_F1M3	05.22.2022	215	243	50.08	06.02.2022	Keeyask reservoir	3
900.043000239626	PP3-A	BDR21_F1M3	05.21.2022	207	238	50.45	05.30.2022	Stephens Lake	1
900.043000239627	PP3-A	BDR21_F1M3	05.21.2022	208	242	53.16	05.30.2022	Stephens Lake	1
900.043000239628	PP3-A	BDR21_F1M3	05.21.2022	196	224	49.61	06.02.2022	Keeyask reservoir	3
900.043000239629	PP3-A	BDR21_F1M3	05.21.2022	185	213	41.36	05.30.2022	Stephens Lake	1
900.043000239630	PP3-A	BDR21_F1M3	05.21.2022	208	238	52.78	05.30.2022	Stephens Lake	1
900.043000239631	PP3-A	BDR21_F1M3	05.22.2022	214	242	47.54	06.02.2022	Keeyask reservoir	3
900.043000239632	PP3-A	BDR21_F1M3	05.21.2022	223	253	60.79	06.02.2022	Keeyask reservoir	2
900.043000239633	PP3-A	BDR21_F1M3	05.21.2022	180	208	32.54	05.30.2022	Stephens Lake	1
900.043000239634	PP3-A	BDR21_F1M3	05.22.2022	235	272	69.24	05.30.2022	Stephens Lake	1
900.043000239635	PP3-A	BDR21_F1M3	05.22.2022	213	245	46.41	06.02.2022	Keeyask reservoir	3
900.043000239636	PP3-A	BDR21_F1M3	05.21.2022	200	233	42.51	06.02.2022	Keeyask reservoir	2
900.043000239637	PP3-A	BDR21_F1M3	05.21.2022	218	257	60.09	06.02.2022	Keeyask reservoir	3
900.043000239638	PP3-A	BDR21_F1M3	05.21.2022	210	242	54.66	06.02.2022	Keeyask reservoir	2
900.043000239639	PP3-A	BDR21_F1M3	05.21.2022	215	249	55.83	06.02.2022	Keeyask reservoir	2
900.043000239641	PP3-A	BDR21_F1M3	05.21.2022	198	233	46.12	05.30.2022	Stephens Lake	1
900.043000239642	PP3-A	BDR21_F1M3	05.22.2022	208	240	59.43	05.30.2022	Stephens Lake	1
900.043000239643	PP3-A	BDR21_F1M3	05.22.2022	185	217	37.22	06.02.2022	Keeyask reservoir	2
900.043000239644	PP3-A	BDR21_F1M3	05.21.2022	225	257	61.78	05.30.2022	Stephens Lake	1
900.043000239645	PP3-A	BDR21_F1M3	05.22.2022	200	228	38.77	06.02.2022	Keeyask reservoir	2
900.043000239646	PP3-A	BDR21_F1M3	05.21.2022	247	283	78.72	05.30.2022	Stephens Lake	1
900.043000239647	PP3-A	BDR21_F1M3	05.21.2022	190	215	37.67	05.30.2022	Stephens Lake	1
900.043000239648	PP3-A	BDR21_F1M3	05.21.2022	200	232	55.24	05.30.2022	Stephens Lake	1
900.043000239649	PP3-A	BDR21_F1M3	05.21.2022	218	249	61.44	05.30.2022	Stephens Lake	1
900.043000239650	PP3-A	BDR21_F1M3	05.21.2022	195	222	44.21	05.30.2022	Stephens Lake	1
900.043000239651	PP3-A	BDR21_F1M3	05.21.2022	227	265	68.55	05.30.2022	Stephens Lake	1
900.043000239652	PP3-A	BDR21_F1M3	05.21.2022	195	224	67.26	05.30.2022	Stephens Lake	1
900.043000239653	PP3-A	BDR21_F1M3	05.21.2022	217	250	60.62	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239654	PP3-A	BDR21_F1M3	05.22.2022	202	232	48.72	05.30.2022	Stephens Lake	1
900.043000239655	PP3-A	BDR21_F1M3	05.21.2022	147	172	18.61	05.30.2022	Stephens Lake	1
900.043000239656	PP3-A	BDR21_F1M3	05.21.2022	212	242	51.20	05.30.2022	Stephens Lake	1
900.043000239657	PP3-A	BDR21_F1M3	05.21.2022	202	232	49.40	06.02.2022	Keeyask reservoir	2
900.043000239658	PP3-A	BDR21_F1M3	05.21.2022	203	232	56.31	05.30.2022	Stephens Lake	1
900.043000239659	PP3-A	BDR21_F1M3	05.21.2022	204	240	52.08	05.30.2022	Stephens Lake	1
900.043000239660	PP3-A	BDR21_F1M3	05.21.2022	198	230	42.74	05.30.2022	Stephens Lake	1
900.043000239661	PP3-A	BDR21_F1M3	05.21.2022	212	246	53.49	05.30.2022	Stephens Lake	1
900.043000239662	PP3-A	BDR21_F1M3	05.21.2022	216	254	64.14	06.02.2022	Keeyask reservoir	3
900.043000239663	PP3-A	BDR21_F1M3	05.21.2022	225	261	72.46	06.02.2022	Keeyask reservoir	2
900.043000239664	PP3-A	BDR21_F1M3	05.21.2022	198	230	44.28	05.30.2022	Stephens Lake	1
900.043000239665	PP3-A	BDR21_F1M3	05.22.2022	186	214	35.20	05.30.2022	Stephens Lake	1
900.043000239666	PP3-A	BDR21_F1M3	05.22.2022	207	237	52.16	05.30.2022	Stephens Lake	1
900.043000239667	PP3-A	BDR21_F1M3	05.22.2022	205	242	52.32	06.02.2022	Keeyask reservoir	3
900.043000239668	PP3-A	BDR21_F1M3	05.22.2022	200	227	41.35	05.30.2022	Stephens Lake	1
900.043000239669	PP3-A	BDR21_F1M3	05.21.2022	213	244	57.06	06.02.2022	Keeyask reservoir	3
900.043000239670	PP3-A	BDR21_F1M3	05.21.2022	212	247	52.07	05.30.2022	Stephens Lake	1
900.043000239671	PP3-A	BDR21_F1M3	05.21.2022	198	230	45.84	05.30.2022	Stephens Lake	1
900.043000239672	PP3-A	BDR21_F1M3	05.21.2022	196	228	45.20	05.30.2022	Stephens Lake	1
900.043000239673	PP3-A	BDR21_F1M3	05.21.2022	228	264	73.42	06.02.2022	Keeyask reservoir	2
900.043000239674	PP3-A	BDR21_F1M3	05.21.2022	187	213	34.92	05.30.2022	Stephens Lake	1
900.043000239675	PP3-A	BDR21_F1M3	05.21.2022	182	212	34.41	05.30.2022	Stephens Lake	1
900.043000239676	PP3-A	BDR21_F1M3	05.21.2022	190	222	38.17	05.30.2022	Stephens Lake	1
900.043000239677	PP3-A	BDR21_F1M3	05.21.2022	205	235	47.82	06.02.2022	Keeyask reservoir	2
900.043000239678	PP3-A	BDR21_F1M3	05.21.2022	204	233	49.23	05.30.2022	Stephens Lake	1
900.043000239679	PP3-A	BDR21_F1M3	05.21.2022	197	224	45.27	06.02.2022	Keeyask reservoir	3
900.043000239680	PP3-A	BDR21_F1M3	05.22.2022	168	192	29.48	06.02.2022	Keeyask reservoir	2
900.043000239681	PP3-A	BDR21_F1M3	05.22.2022	210	243	55.82	05.30.2022	Stephens Lake	1

DEC Tag ID	Tank	Lot Family	Date	Fork Length (mm)	Total Length (mm)	Weight (g)	Date	Waterbody	Site
900.043000239682	PP3-A	BDR21_F1M3	05.21.2022	212	247	53.16	05.30.2022	Stephens Lake	1
900.043000239683	PP3-A	BDR21_F1M3	05.21.2022	216	249	62.60	06.02.2022	Keeyask reservoir	3
900.043000239684	PP3-A	BDR21_F1M3	05.21.2022	215	234	48.44	05.30.2022	Stephens Lake	1
900.043000239685	PP3-A	BDR21_F1M3	05.21.2022	167	192	27.03	06.02.2022	Keeyask reservoir	3
900.043000239686	PP3-A	BDR21_F1M3	05.21.2022	210	242	53.70	06.02.2022	Keeyask reservoir	3
900.043000239687	PP3-A	BDR21_F1M3	05.21.2022	208	241	47.97	05.30.2022	Stephens Lake	1
900.043000239688	PP3-A	BDR21_F1M3	05.21.2022	220	254	66.65	05.30.2022	Stephens Lake	1
900.043000239689	PP3-A	BDR21_F1M3	05.22.2022	198	227	45.44	05.30.2022	Stephens Lake	1
900.043000239690	PP3-A	BDR21_F1M3	05.21.2022	192	223	41.73	05.30.2022	Stephens Lake	1
900.043000239691	PP3-A	BDR21_F1M3	05.21.2022	182	207	36.95	06.02.2022	Keeyask reservoir	2
900.043000239692	PP3-A	BDR21_F1M3	05.21.2022	186	213	33.91	05.30.2022	Stephens Lake	1
900.043000239693	PP3-A	BDR21_F1M3	05.21.2022	218	248	55.09	06.02.2022	Keeyask reservoir	3
900.043000239694	PP3-A	BDR21_F1M3	05.22.2022	220	257	59.88	05.30.2022	Stephens Lake	1
900.043000239695	PP3-A	BDR21_F1M3	05.22.2022	215	248	64.20	05.30.2022	Stephens Lake	1
900.043000239696	PP3-A	BDR21_F1M3	05.21.2022	255	281	94.72	06.02.2022	Keeyask reservoir	3
900.043000239697	PP3-A	BDR21_F1M3	05.21.2022	202	235	45.17	05.30.2022	Stephens Lake	1
900.043000239698	PP3-A	BDR21_F1M3	05.21.2022	183	210	33.33	05.30.2022	Stephens Lake	1
900.043000239699	PP3-A	BDR21_F1M3	05.21.2022	190	218	40.03	05.30.2022	Stephens Lake	1
900.226001224037	Aquarium	BDR21_F1M3	06.24.2022	265	301	275.00	06.24.2022	Keeyask reservoir	4
900.226001227509	Aquarium	BDR21_F1M3	06.24.2022	242	276	250.00	06.24.2022	Keeyask reservoir	4

APPENDIX 2:
BURNTWOOD RIVER (2022 YEAR-CLASS)

Table A2-1: Survival (%) of Burntwood River sturgeon (2022 year-class) at GRFH from June 21 (hatch) to September 30, 2022. Monthly survivals do not include recount adjustments.

LOT	Tanks	Month-Year	Start of Month Total	Mortality			Transfer		Recount Adjustment	End of Month Total	Monthly Survival (%)
				Natural	Accidental	Euthanized	Stocking	Other			
LKST-BWR-22	2[a]	Jun-22	37,053	1,967	0	0	0	0	0	35,086	94.7
LKST-BWR-22	2[a]	Jul-22	35,086	13,211	0	0	0	0	10,160(-)	11,715	62.3
LKST-BWR-22	2[b]	Aug-22	11,715	4,481	0	0	0	0	0	7,234	61.7
LKST-BWR-22	2[c]	Sep-22	7,234	6	0	0	5,197[d]	0	1,231(-)	800	99.9
Total (BWR-22)			**37,053**	**19,665**	**0**	**0**	**5,197**	**0**	**11,391**	**800**	**46.9**

a. Pickerel Place: PP1 (B: F1M1, D: F1M3), PP2 (B: F1M6, D: F1M7)

b. Pickerel Place: PP1 (A/B: F1M1, D: F1M3), PP2 (A/B: F1M6, D: F1M7)

c. Pickerel Place: PP1 (A/B: F1M1, D: F1M3), PP2 (A/B/C: F1M6, D: F1M7)

d. Stocked into Burntwood River and upper Split Lake

Table A2-2: Monthly average (±SD), minimum and maximum Dissolved Oxygen (%), Dissolved Carbon Dioxide (mg/L), pH, Total Ammonia-Nitrogen (mg/L), Un-Ionized Ammonia (mg/L) and Nitrite Nitrogen (mg/L) values for Burntwood River sturgeon (2022 year-class) reared at Grand Rapids Fish Hatchery

Parameter	Mth-Yr	N[a]	Mean	±SD	Min	Max
Dissolved O_2 (%)	Jun-22	3	96.07	4.10	93.60	100.80
	Jul-22	3	95.17	5.75	89.30	100.80
	Aug-22	5	93.04	4.75	86.90	100.00
	Sep-22	8	89.58	10.31	67.70	99.30
Dissolved CO_2 (mg/L)	Jun-22	3	2.33	0.58	2.00	3.00
	Jul-22	3	2.33	0.58	2.00	3.00
	Aug-22	5	2.00	0.71	1.00	3.00
	Sep-22	5	2.40	0.55	2.00	3.00
pH	Jun-22	3	8.54	0.11	8.42	8.62
	Jul-22	3	8.48	0.04	8.44	8.51
	Aug-22	5	8.39	0.28	7.90	8.56
	Sep-22	9	8.34	0.26	7.71	8.57
Total Ammonia (mg/L)	Jun-22	3	0.117	0.031	0.090	0.150
	Jul-22	3	0.143	0.061	0.090	0.210
	Aug-22	5	0.154	0.035	0.110	0.200
	Sep-22	9	0.224	0.065	0.150	0.360
UIA (mg/L)	Jun-22	3	0.010	0.004	0.007	0.014
	Jul-22	3	0.012	0.005	0.007	0.017
	Aug-22	5	0.012	0.006	0.003	0.021
	Sep-22	9	0.011	0.004	0.002	0.017
Nitrite Nitrogen (mg/L)	Jun-22	3	0.01	0.00	0.01	0.01
	Jul-22	3	0.01	0.00	0.01	0.01
	Aug-22	5	0.02	0.00	0.01	0.02
	Sep-22	7	0.02	0.00	0.01	0.02

a Number of water samples tested per month

Table A2-3: Monthly average (±SD), minimum and maximum fork length (mm), total length (mm) and weight (g) for Burntwood River sturgeon (2022 year-class) reared at Grand Rapids Fish Hatchery

Measurement	Mth-Yr	n[a]	Avg	±SD	Min	Max
Fork Length (mm)	Aug-22	60	63	5	52	74
	Sep-22	60	84	5	67	95
Total Length (mm)	Aug-22	60	72	6	60	83
	Sep-22	60	95	6	76	106
Weight (g)	Aug-22	60	1.62	0.39	0.81	2.51
	Sep-22	60	3.34	0.51	1.97	4.62

a. Number of fish measured

APPENDIX 3:
WATER QUALITY THRESHOLDS

Table A3-1: Reported Lake Sturgeon threshold values for Dissolved Oxygen, Dissolved Carbon Dioxide, pH, Ammonia-Nitrogen and Nitrite Nitrogen

Parameter	Threshold Values	References
Dissolved O_2 (%)	> 80	Yoon et al 2019[1]
	> 60	Chebanov and Galich 2011[2]
Dissolved O_2 (mg/L)	> 6.0	Hochleithner and Gessner 2012[3]
	> 4.0	Chebanov and Galich 2011
	> 5.0	Mims et al 2002[4]
	> 6.0	Dettlaff et al 1993[5]
Dissolved CO_2 (mg/L)	< 10.0	Hochleithner and Gessner 2012
	< 10.0	Chebanov and Galich 2011
pH	6.5 to 8.0	Hochleithner and Gessner 2012
	6.5 to 7.5	Chebanov and Galich 2011
	6.5 to 8.5	Mims et al 2002
	6.5 to 8.0	Dettlaff et al 1993
Ammonia NH_3-N (mg/L)	< 0.010	Hochleithner and Gessner 2012
	< 0.003	Chebanov and Galich 2011
	< 0.010	Mims et al 2002
Nitrite Nitrogen (mg/L)	0.1 to 0.2	Chebanov and Galich 2011
	< 0.1	Mims et al 2002

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