Keeyask Generation Project

Fisheries Offsetting and Mitigation Plan

Lake Sturgeon Production and Stocking Report

FOMP-2016-01

KEEYASK

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2015 - 2016

KEEYASK GENERATION PROJECT

FISHERIES OFFSETTING AND MITIGATION PLAN

REPORT #FOMP-2016-01

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

SEPTEMBER 2014 TO SEPTEMBER 2015
YEAR 2 KEEYASK CONSTRUCTION

Prepared for

Manitoba Hydro

By

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SUMMARY

BACKGROUND

Construction of the Keeyask Generation Project at Gull Rapids began in July 2014. Before the government allowed construction to begin, the owner, 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 plan also explained how the proposed activities would be completed and monitored.

Activities directed at Lake Sturgeon were included in the plan because 1) they are important to local people, 2) their current population numbers are low, and 3) the generating station will change or destroy important habitat that they need to survive and reproduce. To increase Lake Sturgeon populations, the KHLP has made a commitment to produce and release hatchery-reared sturgeon into the Burntwood River and the lower Nelson River until there is a self-sustaining population.

This summary describes the hatchery production and stocking activities from September 2014 to September 2015.

LAKE STURGEON 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, although surface water from the Saskatchewan River is added on occasion to improve water quality. Fish are started on a diet of newly hatched brine shrimp and later transitioned to frozen bloodworm.

Lake Sturgeon are released as larvae (less than 1 month old) and fingerlings (3 to 4 months old) when lack of space limits fish growth. At these stages, fish are not large enough to be marked. Instead, tissue samples from individuals representing each family group are preserved to provide a genetic “fingerprint”, allowing future identification of stocked individuals from this family. Each year some of the fingerlings are kept over winter at GRFH and released as yearlings (12 to 15 months old). 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. Stocking locations are chosen to ensure that the hatchery-reared sturgeon have a genetically similar background to the existing wild population.

GRFH operates under provincially issued Live Fish Handling Permits. Stocking approvals are granted by Manitoba Conservation and Water Stewardship (Fisheries Branch).

BIRTHDAY RAPIDS POPULATION (2014 YEAR-CLASS)

HATCHERY PRODUCTION

Eggs and milt were collected in spring 2014 from spawning adults captured downstream of Birthday Rapids. A total of 896 fingerlings were maintained at GRFH to grow over the winter of 2014/15 following the fall release of 4,656 fingerlings into Gull Lake. Survival was 94% from the beginning of October 2014 until the spring stocking event in June 2015.

Following the spring stocking event, a total of 402 yearlings remained at GRFH for release in fall. To facilitate further growth, fish were moved out of early rearing troughs to larger indoor and outdoor tanks. Survival was 100% from the end of June 2015 until the end of September 2015.

STOCKING

On June 22, 2015 a total of 439 Lake Sturgeon yearlings were transported by truck to the Keeyask camp. Of those, 221 individuals were released by boat among two locations in Gull Lake (Site 1 and 2, see map below). A float plane was used to transport the remaining sturgeon to a single location in Stephens Lake (Site 3, see map below). Yearlings had an average total length of 27.4 cm and an average weight of 68.1 g at the time of stocking.

Spring (sites 1-3) and fall (sites 4-7) stocking locations for Birthday Rapids Lake Sturgeon (2014 year-class) released in Gull and Stephens Lakes in 2015

On September 14, 2015 a total of 200 Lake Sturgeon yearlings were transported by truck to the Keeyask camp and released by boat among two locations in Stephens Lake (Site 4 and 5, see map above). Two days later on September 16, a total of 202 Lake Sturgeon were transported by truck to Gull Lake and released by boat among two locations (Site 6 and 7, see map on previous page). Yearlings had an average total length of 35.7 cm and an average weight of 161.5 g at the time of stocking.

Stocking sites were selected based on locations where juveniles have been previously captured.

Source: Grand Rapids Fish Hatchery

Field crew transporting Lake Sturgeon yearlings to a stocking site on Stephens Lake, September 2015

BURNTWOOD RIVER POPULATION (2015 YEAR-CLASS)

SPAWN CAMP

Wild Lake Sturgeon were captured using gill nets below First Rapids in early June, 2015. Adults identified as spawning fish were maintained in tanks along the shore of the Burntwood River for several days, during which time selected spawning adults received a small dose of a hormone

that provides a natural trigger for the release of eggs and milt which helps to coordinate egg fertilization activities at the spawn camp.

On June 8, the milt of four males was mixed with the eggs of one female. The total number of eggs collected was estimated to be 51,825. Fertilized eggs were then driven from the spawn camp to GRFH.

HATCHERY PRODUCTION

Prior to entering GRFH, the sturgeon eggs were disinfected to kill any potential pathogens (e.g., viruses) that may have attached to the surface of the egg during fertilization and/or transportation. Hatch began on June 16 and resulted in less than 100 larvae.

From the point of hatch to the end of July, survival was 28%. Of the 25 sturgeon that remained at the start of August, 23 sturgeon survived to the end of September (92%). It is unclear why so few Lake Sturgeon hatched (< 1%), and subsequently survived; however, field staff did note that the female and eggs were smaller than that of broodstock collected at other Lake Sturgeon spawn camps in the province.

Due to the low number of hatched sturgeon, no fish from the Burntwood River population were stocked in 2015 and all were retained at GRFH to grow over the winter.

FUTURE ACTIVITIES

Hatchery-reared sturgeon from the Burntwood River population will be released as yearlings into the Burntwood River in 2016. Egg and milt collection from wild adults will take place in the lower Nelson River at Birthday Rapids in spring 2016.

ACKNOWLEDGEMENTS

Keeyask Hydropower Limited Partnership is thanked for the resources to produce and stock Lake Sturgeon from the Birthday Rapids and Burntwood River populations.

North South Consultants are thanked for their field assistance in setting up spawn camps, collecting gametes and stocking fish. Joe Hunter (Sustainable Sturgeon Culture) provided valuable expertise during Lake Sturgeon gamete collection.

The collection of Lake Sturgeon broodstock and release of their offspring described in this report was authorized by Manitoba Conservation and Water Stewardship (Fisheries Branch) under the terms of Live Fish Handling Permits.

LAKE STURGEON PRODUCTION AND STOCKING TEAM

Grand Rapids Fish Hatchery

Yhana Michaluk, Supervisor

Meagan Alexander, Senior Staff

Jerry Cook, Staff

Morgan Blacksmith, Staff

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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 (MW) 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.

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.

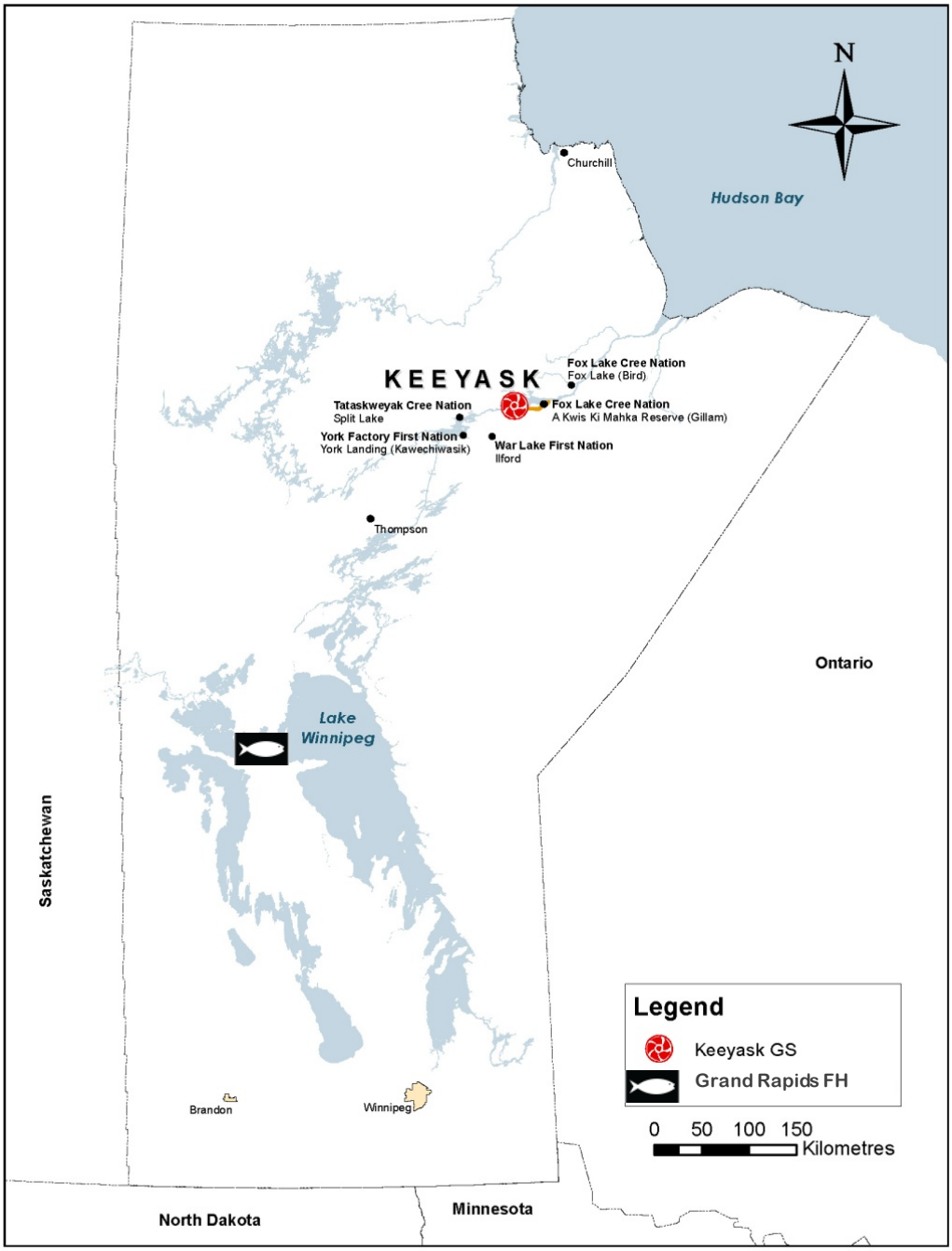
To mitigate impacts of the Project, the KHLP has developed a strategy that involves several components, including:

- management measures during construction to avoid mortality of sturgeon;
- stocking of sturgeon into Stephens Lake during construction to offset potential effects of reduced spawning in Gull Rapids;
- spawning habitat creation in the tailrace of the GS;
- alterations 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 to the overall plan amid concerns that the current population may be too low to recover unaided, even in absence of GS construction. Therefore, a conservation stocking plan for the lower Nelson River was designed to address:

- existing low population numbers due to historic effects, in particular a commercial fishery that closed in 1992;
- 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 ten year stocking plan has been developed and described in the Fisheries Offsetting and Mitigation Plan (FOMP). The Keeyask Fisheries Regulatory Review Committee (which will

undertake the role of the Lake Sturgeon Advisory Committee 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 River began in 2014 and 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.

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 2014 and 2015.

2.0 GRAND RAPIDS FISH HATCHERY

The Grand Rapids Fish Hatchery (GRFH) is located in the community of Grand Rapids, MB (Figure 1). 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 upper Nelson River populations.

Manitoba Hydro purchased GRFH in 2007 and the facility was operated in partnership with Manitoba Conservation and Water Stewardship (Fisheries Branch) through a Joint Management Committee. At the end of 2012, Manitoba Hydro assumed full operation of the hatchery employing six permanent and two seasonal staff. Staffing and building maintenance are currently under the direction of the Grand Rapids Generating Station. Fish production and regulatory matters are overseen by Manitoba Hydro's Environmental Licensing and Protection Department.

Since 2012, GRFH has focused its production efforts exclusively on Lake Sturgeon and Walleye. In addition to producing Lake Sturgeon for the Nelson River Sturgeon Board, GRFH began producing Lake Sturgeon for the Keeyask Generation Project in 2013. All production and stocking activities are conducted under the terms of Live Fish Handling Permits issued by Manitoba Conservation and Water Stewardship (Fisheries Branch).

The existing infrastructure at GRFH includes three 140 jar batteries for egg incubation, 16 gray fiberglass rearing troughs (4.6 m x 0.55 m x 0.25 m), and 8 blue rearing troughs (4.2 m x 0.41 m x 0.26 m). Total usable rearing area is approximately 50 m^2. The grey troughs have been configured to permit the use of both well water and surface water (Saskatchewan River); however, due to the threat of pathogens, surface water is used minimally. Concrete floor tanks, originally used for fish production, now serve as water reservoirs in a simple sump pump operated water re-circulation system. Water temperature is managed using ambient room temperatures and submersible water heaters. Well and surface water can also be blended to achieve desired water temperatures, but the addition of surface water is avoided unless absolutely necessary.

The first phase of facility upgrades managed by Manitoba Hydro's Power Projects Department was completed in late 2015. In March 2014, a facility assessment was completed through contract with HDR Inc. (an engineering firm with expertise in hatchery design) which concluded that the existing infrastructure cannot meet projected Lake Sturgeon production commitments. Upgrades are also necessary to reach national and provincial biosecurity standards. Planning for infrastructure upgrades and expansion of GRFH began at the end of 2014 and is managed by Manitoba Hydro's Major Projects Department.

3.0 BIRTHDAY RAPIDS POPULATION (2014 YEAR-CLASS)

3.1 PAST PRODUCTION AND STOCKING (2014)

Wild Lake Sturgeon adults from the lower Nelson River were captured below Birthday Rapids in early June, 2014. On June 12, the milt from two males was mixed with the eggs from one female. The total number of eggs collected was estimated to be 250,450, of which an estimated 184,520 larvae hatched (74%).

From the point of hatch to the end of July, survival was approximately 87%. Due to space constraints at GRFH, an estimated 153,000 sturgeon larvae were released downstream of Birthday Rapids on July 29. At the time of release fish had an average total length of 31 mm and an average body mass of 0.10 g.

Roughly 8,000 sturgeon were kept over summer at GRFH. Survival from July 30 to the end of September was approximately 74%. On September 25 and 27, a total of 4,656 fingerlings were released into Gull Lake. At the time of release fingerlings had an average total length of 89 mm and an average body mass of 2.87 g.

Following the fall stocking event, a total of 896 fingerlings were kept at GRFH to be released as yearlings.

Klassen (2014) provides additional detail on the past production and stocking events for the Birthday Rapids 2014 year-class.

3.2 WINTER GROW-OUT (2014/15)

Following the fall 2014 stocking event, a total of 896 fingerlings were kept at GRFH to be released as yearlings. Fingerlings were transitioned from surface water to re-circulated well water on October 31, 2014. Mean rearing temperature was 14.7°C (range: 9.1 to 19.2°C) from October 1 to the spring stocking events in late June (Table 3.1-1). Throughout the winter grow-out period sturgeon were fed bloodworm twice daily at 08:00 and 13:00. Overall survival was 94% (54 mortalities) from October 1 to the spring stocking event at the end of June. Sturgeon from family F1xM1 had slightly greater survival (98%) than family F1xM2 (91%; Table 3.2-1).

Over half of the mortalities among the F1xM2 family occurred in April and May, following the movement of some fish to a concrete floor tank (FT#4; 4.6 x 1.2 x 1.2 m) in an effort to reduce crowding. The cause of mortality among fish transferred to FT#4 may have been due to the change in rearing environment. Individuals transferred to FT#4 were subjected to flow-through well water because the surface water remained below 4°C and the tank is not plumbed into the

re-circulation system. However, it is unlikely that water source alone was the sole cause for the increased mortalities, as water quality parameters tested at the time were similar to other rearing tanks at GRFH.

Interestingly, a group of F1xM1 sturgeon were moved to a second concrete floor tank (FT#3) of similar size in mid-May, but did not experience any mortality. By mid-May surface water was warm enough to mix with the well water and the F1xM1 group was only briefly exposed to a flow-through well water environment (< 5 days).

Table 3.2-1: Overall survival (%) of Birthday Rapids sturgeon (2014 year-class) at GRFH from October 1, 2014 to June 30, 2015.

Family	Start of Oct (2014)	Recount (+/-)	# Fish Removed			End of Jun (2015)	Survival (%)
			Mortality	Transfer	Release		
F1xM1	396	0	10	0	181	205	97.5
F1xM2	400	99	44	0	258	197	91.2
Total	796	99	54	0	439	402	94.0

Water quality samples were taken weekly from each rearing tank throughout the winter. Parameters assessed include dissolved oxygen (DO; Table A1-1), dissolved carbon dioxide (dCO_2; Table A1-2), pH (Table A1-3), total ammonia nitrogen (TAN; Table A1-4), un-ionized ammonia (UIA; Table A1-5) and nitrite-nitrogen (NO_2-N). A summary of mean monthly water quality values is included in Table A1-6, and suggested threshold values for sturgeon production are listed in Table A1-7.

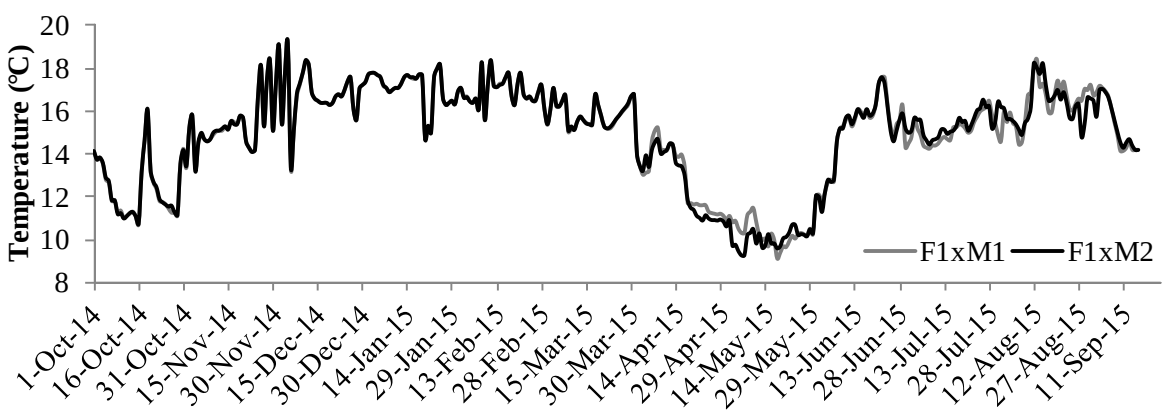


Figure 3.2-1 Mean daily water temperature (°C) in rearing tanks holding Birthday Rapids sturgeon (2014 year-class) at GRFH from October 1, 2014 to September 16, 2015.

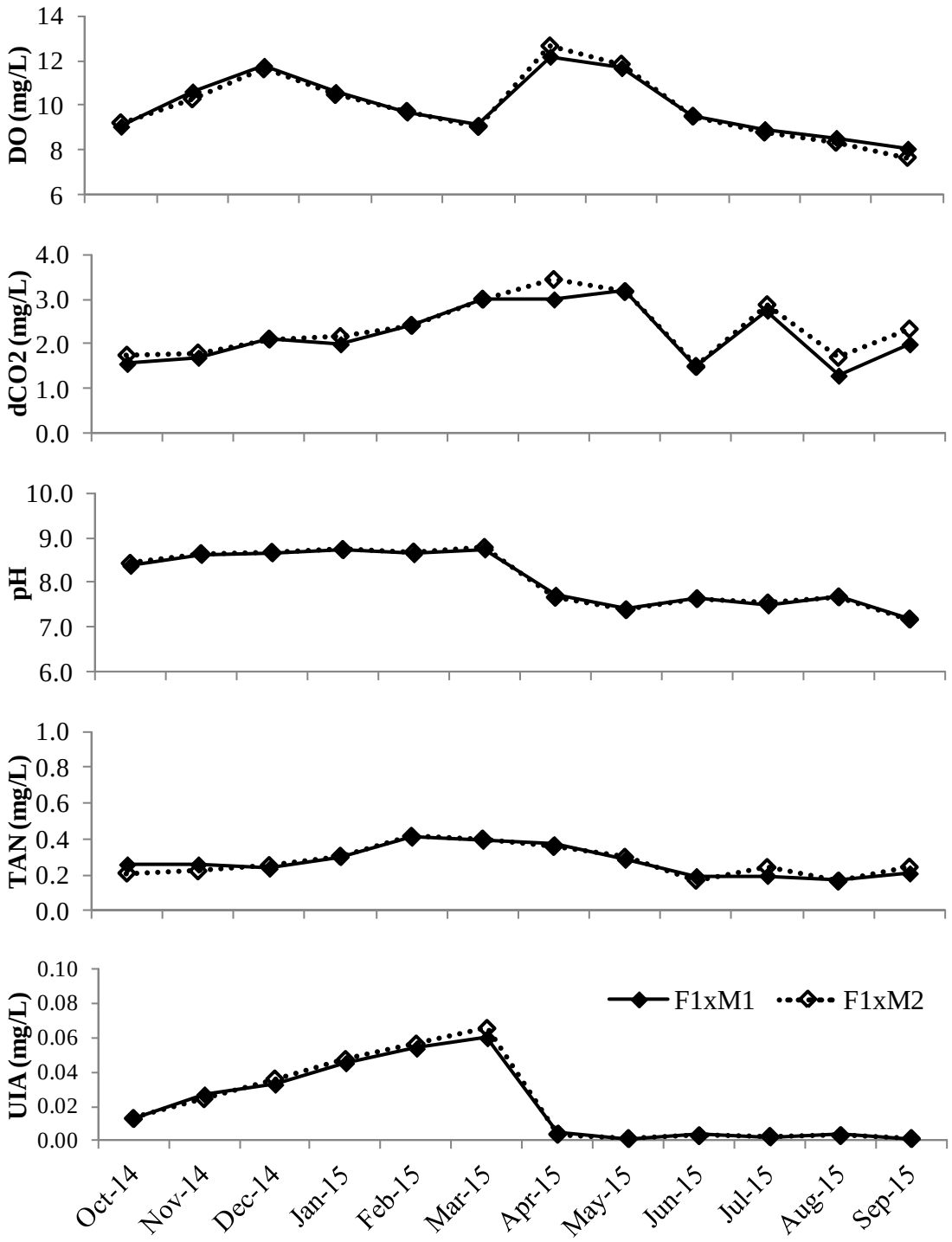


Figure 3.2-2: Mean monthly dissolved oxygen (DO), dissolved carbon dioxide (dCO2), pH, total ammonia nitrogen (TAN) and un-ionized ammonia (UIA) values for tanks holding Birthday Rapids sturgeon (2014 year-class) at GRFH from October 1, 2014 to September 16, 2015.

Monthly mean values were within acceptable limits for DO, dCO_2, pH and NO_2-N (≤ 0.05 mg/L). The mean monthly value for the toxic form of ammonia (UIA) was at or above the suggested threshold of 0.01 mg/L between October 2014 and April 2015 (Figure 3.2-2). With the current set-up at GRFH, ammonia levels often exceed the suggested threshold during the fall and winter months as make-up well water is minimized to maintain high water temperatures and fish become increasingly crowded due to overwinter growth. Spreading fish across additional rearing tanks, increasing the volume of make-up water and lowering water temperatures beginning in April reduced the toxic form of ammonia (UIA) considerably (Figure 3.2-2).

Tissue samples (pectoral fin) were collected from 30 Birthday Rapids sturgeon on April 5, 2015 and sent to RPC Science and Engineering in Fredericton, New Brunswick. All samples tested negative for Numao virus using a virus specific qPCR test, and yearlings were cleared by the local fish health officer for stocking.

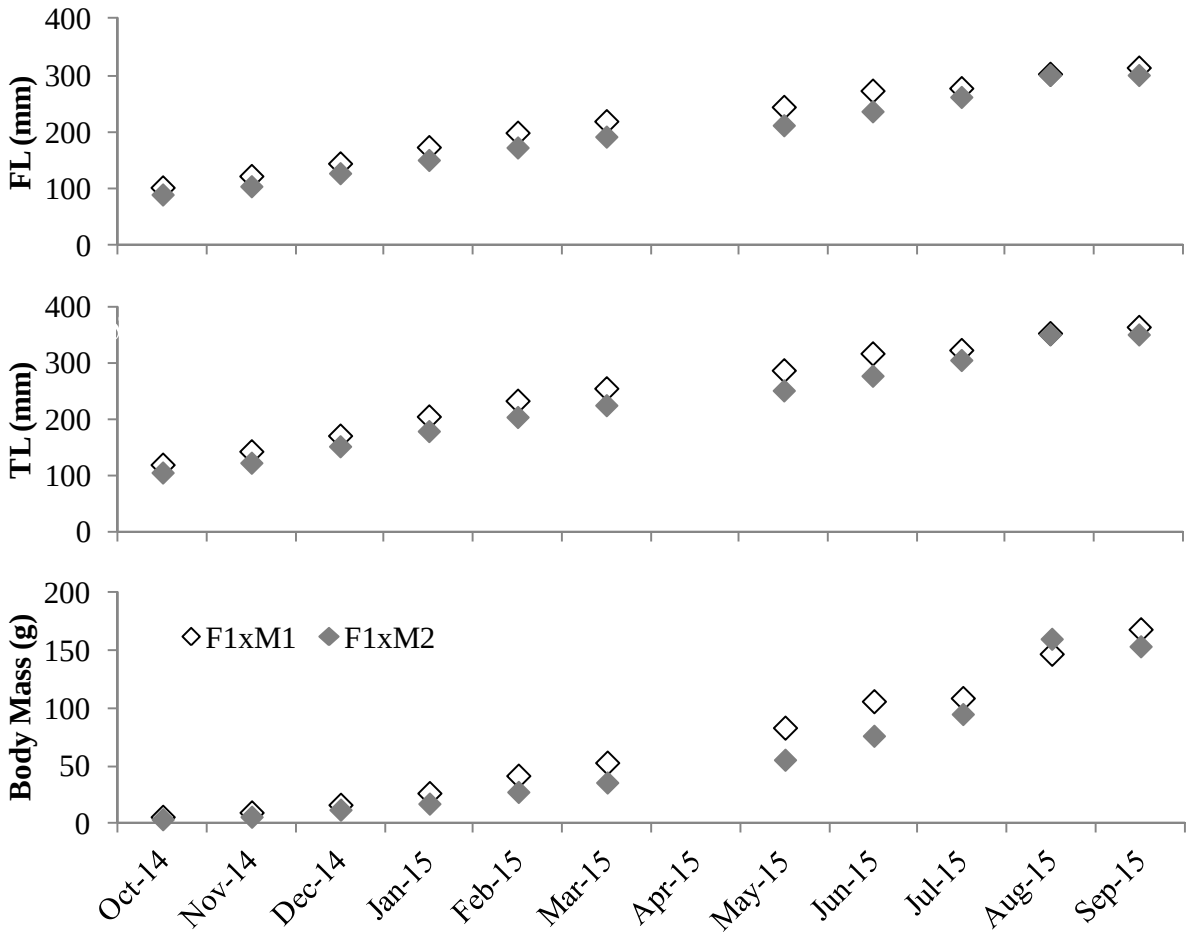


Figure 3.2-3: Mean fork length (FL), total length (TL) and body mass for Birthday Rapids sturgeon (2014 year-class) at month end measurements. Values represent 15 randomly selected individuals from each active rearing trough except in September when all fish were measured prior to release.

On June 20, 2015 thirty yearlings were randomly selected for final measurements prior to the spring stocking event. They had a mean fork length of 233 mm (range: 183 to 277 mm), mean total length of 274 mm (range: 217 to 326 mm) and mean body mass of 68.1 g (range: 32.0 to 102.0 g)

Mean size of the F1xM2 family was consistently smaller than the F1xM1 family group throughout the winter grow-out (Figure 3.2-3), a trend that was also observed during the first summer grow-out (Klassen 2015). During the winter grow-out it is likely that the size discrepancy was due to higher rearing densities among the F1xM2 families (Figure 3.2-4), as both families experienced the same mean water temperature (14.7°C; Figure 3.2-1) and water quality values were similar across rearing tanks (Figure 3.2-2).

Lake Sturgeon were implanted with a passive integrated transponder (PIT) tag between March 11 and 15, 2015, allowing them to be individually identified at a later date.

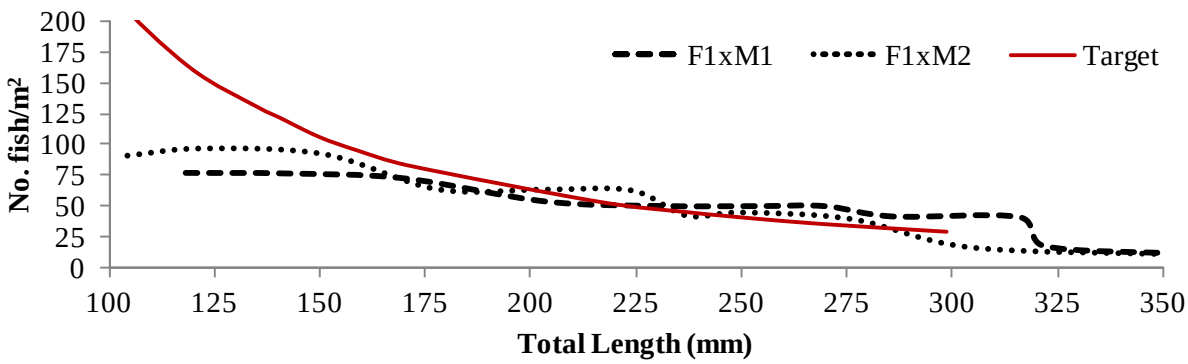


Figure 3.2-4: Mean rearing density (number of fish per m²) of Birthday Rapids sturgeon (2014 year-class) at total length (mm).

3.3 SPRING YEARLING STOCKING (2015)

Conditions were not conducive for stocking yearlings at Gull Lake and Stephens Lake in early June as planned. River temperatures were approximately 4°C and both the upstream and downstream boat launches at the Keeyask construction camp were inaccessible. Due to space constraints at GRFH, yearlings scheduled to be stocked in spring were moved to two outdoor circular tanks (6 m dia. x 1.2 m) on June 1.

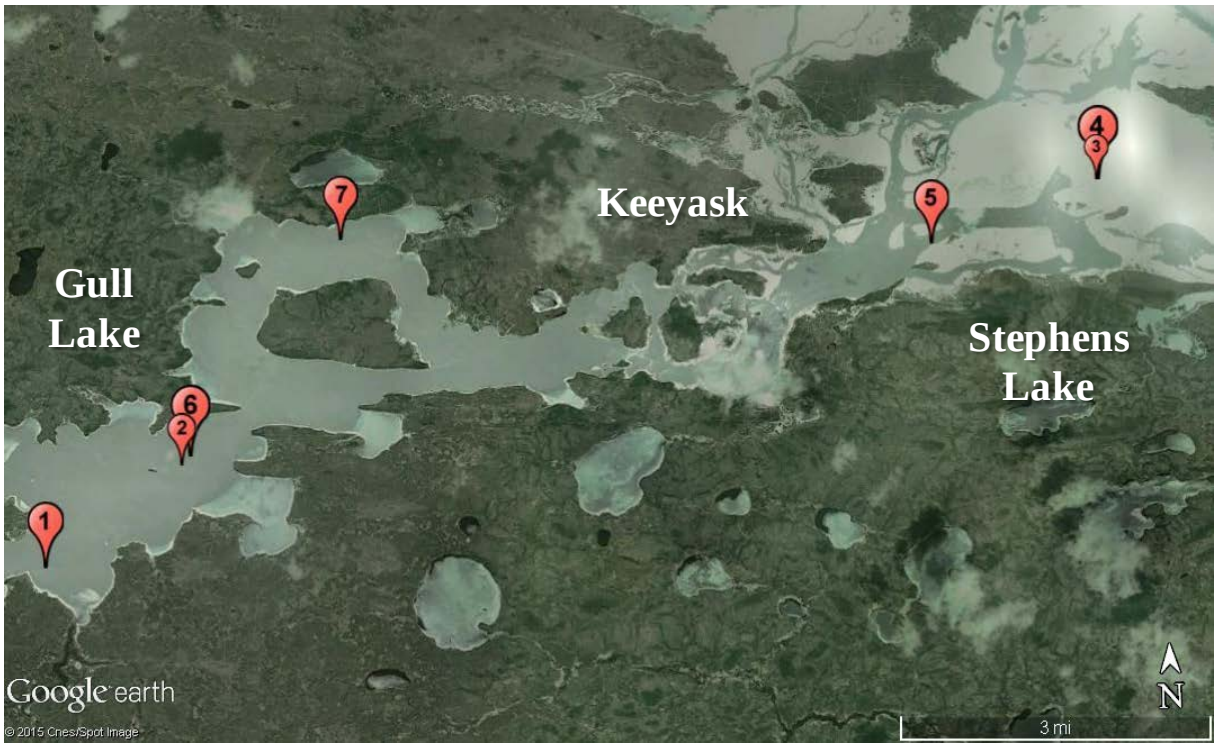
On June 22, 2015 a total of 439 yearlings were transported by hatchery staff to the Keeyask construction camp using a truck and hatchery trailer. With the help of North South Consultants, 221 yearlings were released into Gull Lake by boat at site 1 (n = 102) and site 2 (n = 119) following a period of acclimation (Map 3.3-1, Table 3.3-1, Table A2-1).

The boat launch at Stephens Lake was still inaccessible at the time of stocking, therefore the remaining sturgeon were flown downstream by float plane and released with the help of North

South Consultants at site 3 (n = 218) following a period of acclimation (Map 3.3-1, Table 3.3-1, Table A2-1). The water temperature in the hatchery was gradually adjusted prior to stocking, to ensure it was similar to the river water temperature of 15°C at the time of stocking. Stocking sites were selected based on locations where juveniles have been previously captured.

Table 3.3-1: Lake Sturgeon stocking summary for the Keeyask Hydropower Limited Partnership in 2014.

Lot ID	Population	Family	Date	Number	Age	Location (Site ID)
LKST-14-BDR	Birthday Rapids	F1XM1	22-Jun-15	49	12 months	Gull Lake (1)
LKST-14-BDR	Birthday Rapids	F1XM1	22-Jun-15	41	12 months	Gull Lake (2)
LKST-14-BDR	Birthday Rapids	F1XM1	22-Jun-15	91	12 months	Stephens Lake (3)
LKST-14-BDR	Birthday Rapids	F1xM2	22-Jun-15	53	12 months	Gull Lake (1)
LKST-14-BDR	Birthday Rapids	F1xM2	22-Jun-15	78	12 months	Gull Lake (2)
LKST-14-BDR	Birthday Rapids	F1xM2	22-Jun-15	127	12 months	Stephens Lake (3)
spring yearlings = 439						
LKST-14-BDR	Birthday Rapids	F1XM1	14-Sep-15	50	15 months	Stephens Lake (4)
LKST-14-BDR	Birthday Rapids	F1xM1	14-Sep-15	50	15 months	Stephens Lake (5)
LKST-14-BDR	Birthday Rapids	F1xM2	14-Sep-15	50	15 months	Stephens Lake (4)
LKST-14-BDR	Birthday Rapids	F1xM2	14-Sep-15	50	15 months	Stephens Lake (5)
LKST-14-BDR	Birthday Rapids	F1XM1	16-Sep-15	53	15 months	Gull Lake (6)
LKST-14-BDR	Birthday Rapids	F1xM1	16-Sep-15	52	15 months	Gull Lake (7)
LKST-14-BDR	Birthday Rapids	F1xM2	16-Sep-15	48	15 months	Gull Lake (6)
LKST-14-BDR	Birthday Rapids	F1xM2	16-Sep-15	49	15 months	Gull Lake (7)
fall yearlings = 402						



Map 2 Stocking locations for Birthday Rapids Lake Sturgeon (2014 year-class) released in 2015.

3.4 SUMMER GROW-OUT (2015)

A total of 402 Birthday Rapids yearlings (F1xM1 = 205, F1xM2 = 197) were retained at GRFH for further grow-out. Each family was kept separate throughout the summer grow-out period and were maintained in one of two concrete floor tanks (4.6 x 1.2 x 1.2 m). To avoid overcrowding, 100 sturgeon from each family were moved to one of two outdoor circular tanks (6 m dia. x 1.2 m) on July 7, 2015.

From June 23 to September 16, sturgeon were exposed to a flow-through surface/well water mix and mean temperature was 15.7°C (range: 14.2 to 18.5°C; Figure 3.2-1). Fish were fed bloodworm to satiation twice daily at 8:00 and 13:00. There were no mortalities during the summer grow-out period (Table 3.4-1).

Water quality was taken weekly throughout the summer and mean values for all parameters tested (including NO_2-N, ≤ 0.05 mg/L) were within the acceptable limits (Figure 3.2-2; Table A1-6, A1-7).

Tissue samples (pectoral fin) were collected from 48 Birthday Rapids sturgeon on August 20 and sent to RPC Science and Engineering in Fredericton, New Brunswick. All samples tested negative for Numao virus using a virus specific qPCR test, and yearlings were cleared by the local fish health officer for stocking.

Prior to the fall stocking, yearlings had an overall mean total length of 357 mm (range: 270 to 448 mm) and a mean body mass of 162 g (range: 74 to 314 g). Although mean total length and body mass remained higher among the F1xM1 family (total length = 363 mm; body mass = 168.7 g) compared to the F1xM2 family (total length = 350 mm; body mass = 154 g), the large size range was primarily the result of rearing environment. Mean total length and body mass was higher among yearlings held in the indoor floor tanks (total length = 372 mm; body mass = 178 g; Figure 3.4-1) than the outdoor circular tanks (total length = 341 mm; body mass = 145 g). As mean temperatures were similar between rearing tanks following the movement of sturgeon outdoors on July 7 (outdoor = 15.8°C; indoor = 16.0°C) and mean densities were lower in the outdoor circular tanks (outdoor = 3.4 fish/m^2; indoor = 21.1 fish/m^2), the greater growth among fish maintained indoors was unexpected.

Source: Evan Hancox

Figure 3.4-1: Birthday Rapids Lake Sturgeon yearlings held in indoor concrete floor tanks prior to fall stocking

Table 3.4-1: Overall survival (%) of Birthday Rapids sturgeon (2014 year-class) at GRFH from July 1 to September 16, 2015.

Family	Start of Jul (2015)	Recount (+ / -)	# Fish Removed			End of Sep (2015)	Survival (%)
			Mortality	Transfer	Release		
F1xM1	205	0	0	0	205	0	100
F1xM2	197	0	0	0	197	0	100
Total	402	0	0	0	402	0	100

3.5 FALL YEARLING STOCKING (2015)

A total of 402 Birthday Rapids yearlings were transported by hatchery staff using truck and trailer to the lower Nelson River in September for release by boat. With the help of North South Consultants, 200 yearlings were released into Stephens Lake on September 14 at site 4 (n = 100) and site 5 (n = 100) following a period of acclimation (Map 3.3-1, Table 3.3-1, Table A2-2). River temperature was 14.5°C.

North South Consultants assisted with the release of 202 yearlings into Gull Lake on September 16 at site 6 (n = 101) and site 7 (n = 101) following a period of acclimation (Map 3.3-1, Table 3.3-1, Table A2-2). River temperature was 12.0°C.

Care was taken to distribute both families evenly at each targeted stocking site. Stocking sites were selected based on locations where juveniles have been previously captured.

4.0 BURNTWOOD RIVER POPULATION (2015 YEAR-CLASS)

4.1 GAMETE COLLECTION (2015)

Lake Sturgeon broodstock were collected at the base of First Rapids in the Burntwood River, in collaboration with North South Consultants. One female and four males were injected with a Gonadotropin Releasing Hormone (GnRH; Bachem Americas, Inc., Torrance, CA, USA) on June 6 and 7 (Table 4.1-1). Two males were not given a primer dose of GnRH on June 6 because milt was already being expressed. 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).

Table 4.1-1: Tag numbers, body mass and GnRH dose used during gamete collection for Lake Sturgeon broodstock collected in Burntwood River, June 2015.

Floy Tag ID	Hatchery ID	Body Mass (Kg)	Injection Date	Injection Time	GnRH (µg/Kg)	Solution		
						GnRH (µl)[1]	Ringer's (µl)[2]	Total (µl)
Females								
NSC89071	F1	15.7	6-Jun	20:59	3.0	4.7	309.3	314.0
			7-Jun	08:59	13.0	20.4	294.0	314.4
Males								
NSC94498	M1	8.0	6-Jun	21:02	1.5	1.2	158.0	160.0
			7-Jun	21:05	6.0	4.8	155.0	159.8
NSC82334/ NSC82335	M2	12.7	6-Jun	Not injected				
			7-Jun	09:02	3.0	3.8	250.0	253.8
NSC89872	M3	10.7	6-Jun	Not injected				
			7-Jun	09:03	3.0	3.2	211.0	214.2
NSC91166	M4	8.2	6-Jun	21:04	1.5	1.2	162.0	164.0
			7-Jun	09:06	6.0	4.9	159.0	163.9

[1] GnRH solution = 10µg GnRH per µl

[2] Saline solution used to transport GnRH into fish muscle during injections

On June 8, eggs were first observed in the tank holding the female at approximately 05:00. Mean tank temperature was 13.3°C (range: 12.3 to 14.4°C) from initial GnRH dose to the first sign of eggs. A total of 425 ml of eggs were collected from the female at 06:45.

Milt from all four males was collected at roughly 06:00 on the same day and held on ice until fertilization. Mean temperature was 13.5°C (range: 12.5 to 14.4°C) in the tank holding the males between initial GnRH dose to milt collection.

Egg fertilization took place at approximately 07:00, followed by egg de-adhesion using bentonite clay (Figure 4.1-1). Four family groups were created by splitting the volume of eggs evenly (i.e., F1xM1, F1xM2, F1xM3 and F1xM4).

Source: Don Macdonald

Figure 4.1-1: Egg de-adhesion requires immediate addition of clay to fertilized eggs. Following approximately 40 minutes of mixing, eggs are no longer sticky and can be transported to the hatchery.

Following fertilization, eggs from the four families were placed in separate shipping bags with river water at a temperature of 12.8°C. Eggs were then transported to GRFH in insulated containers by truck. Eggs arrived at GRFH by 13:30 at a temperature of 13.3°C and were immediately surface disinfected using Ovadine (Syndel Laboratories Ltd., Nanaimo, BC) prior to entering the hatchery (100 ppm for 10 min, as per Standard Operating Procedures and manufactures recommendation).

Broodstock were held at the spawn camp for an additional 24 hours before being released. Prior to release, tissue samples (pectoral fin) were collected and preserved for virus testing. A second fin clip was taken from all broodstock for future genetic reference of Lake Sturgeon families produced at GRFH.

4.2 HATCH (2015)

There was estimated to be 51,825 eggs on arrival at GRFH. Eggs were placed into McDonald hatching jars for incubation. Mean incubation temperature was 12.7°C (range: 11.4 to 13.4°C) and hatch occurred from June 16 – 18. Well water was used exclusively during this period and following hatch. Well water is typically 5°C and not conducive for hatch. Therefore, higher temperatures were attained by re-circulating tank water, using submersible water heaters and adding minimal make-up water to the re-circulation system.

Five days after egg collection, fertilization rate was assessed and there were few viable eggs (< 1%). Intensive sorting to separate viable from unviable eggs led to the hatch of nearly 100 larvae. The majority of larvae were from the F1xM3 family and no larvae survived from the F1xM2 family (Table 4.2-1). On June 23, all remaining larvae were combined into a single tank

Table 4.2-1: Family survival (%) of Burntwood River sturgeon (2015 year-class) at GRFH from June 18 to 23, 2015.

Family	18-Jun	Recount (+/-)	# Fish Removed			23-Jun	Survival (%)
			Mortality	Transfer	Release		
F1xM1	8	0	2	0	0	6	75.0
F1xM2	12	0	12	0	0	0	0.0
F1xM3	46	0	10	0	0	36	78.3
F1xM4	25	0	14	0	0	11	44.0
Total	**91**	**0**	**38**	**0**	**0**	**53**	**58.2**

The Burntwood River Lake Sturgeon hatch of 2015 was similar to that of the 2013 year-class (Klassen 2015). In 2013, poor hatch was attributed to unusually hot and sunny weather during fertilization and/or the rough driving conditions along PR 280 while transporting eggs to GRFH. Despite the cooler weather and better road conditions, extra caution was taken in 2015. For instance, shade was provided during fertilization and egg shipping containers were placed on foam mats to absorb shock during travel. Therefore, it remains unclear why success is limited at Burntwood River despite using techniques that result in high hatch rates among other targeted populations within the province (e.g., Landing River, Birthday Rapids). However, field staff did note that the female and eggs were smaller than that of broodstock collected at other Lake Sturgeon spawn camps in northern Manitoba.

4.3 SUMMER GROW-OUT (2015)

Of the roughly 100 larvae that hatched, survival was approximately 25% by the end of September (Table 4.3-1). The majority of mortalities occurred prior to July 10.

Table 4.3-1: Overall survival (%) of Burntwood River sturgeon (2015 year-class) at GRFH from June 18 to September 30, 2015.

Mth-Yr	Start of Month Total	Recount (+/-)	# Fish Removed			End of Month Total	Survival (%)
			Mortality	Transfer	Release		
Jun-15	91	0	46	0	0	45	49.5
Jul-15	45	0	20	0	0	25	55.6
Aug-15	25	0	1	0	0	24	96.0
Sep-15	24	0	1	0	0	23	95.8
Total	**91**	**0**	**68**	**0**	**0**	**23**	**25.3**

Brine shrimp was first offered to the sturgeon on June 27 and chopped bloodworm was introduced July 14. All sturgeon were feeding on whole bloodworm by August 8 when fish had a mean total length greater than 41 mm and mean body mass greater than 0.33 g. Fish were fed to satiation three times daily at 08:00, 13:00 and 17:00.

From June 23 to August 17, sturgeon were maintained in a small bin (0.37 x 0.36 m) placed within a standard grey fibreglass trough. After August 17, sturgeon were kept in the upstream end of one grey fibreglass trough using a divider (0.56 x 1.55 m). Given the small number of surviving sturgeon, densities remained well below the target (Figure 4.3-1).

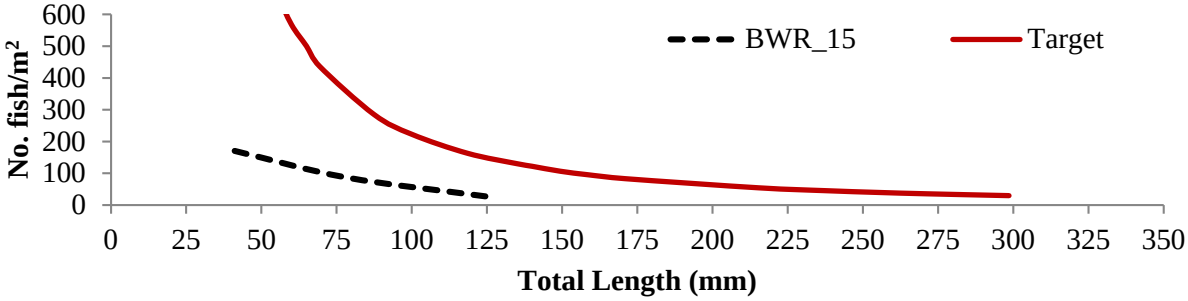


Figure 4.3-1: Mean rearing density (number of fish per m2) of Burntwood River sturgeon (2015 year-class) at total length (mm).

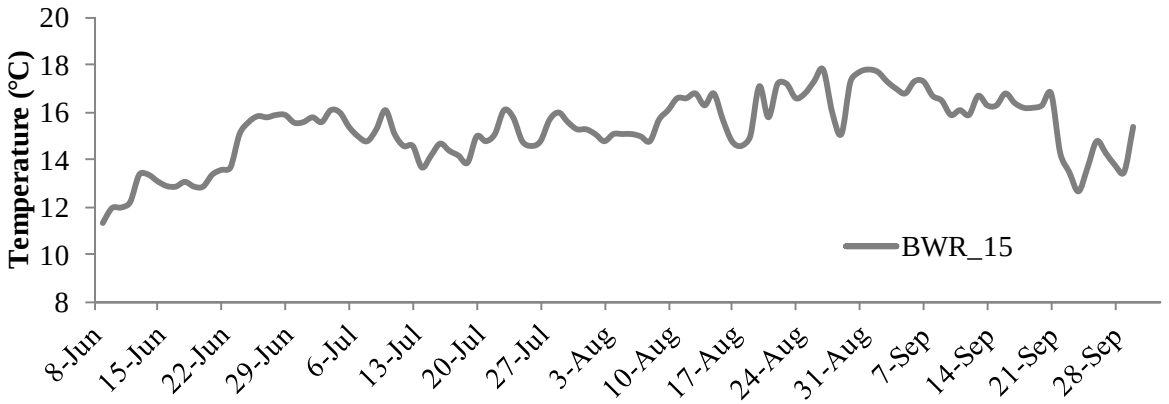


Figure 4.3-2: Mean daily water temperature (°C) in rearing tanks holding Burntwood River sturgeon (2015 year-class) at GRFH from June 8 to September 30, 2015.

Unlike previous years, the 2015 year-class was maintained in 100% well water throughout the summer grow-out. Using well water reduces the risk of introducing pathogens (e.g., virus) that could be present in river water. From June 19 to September 30, mean water temperature was 15.6°C (range 12.7 to 17.8°C; Figure 4.3-2). By the end of September fingerlings had an overall mean total length of 124 mm (range: 112 to 147 mm) and mean body mass of 8.6 g (range: 7.1 to 12.3 g; Figure 4.3-3).

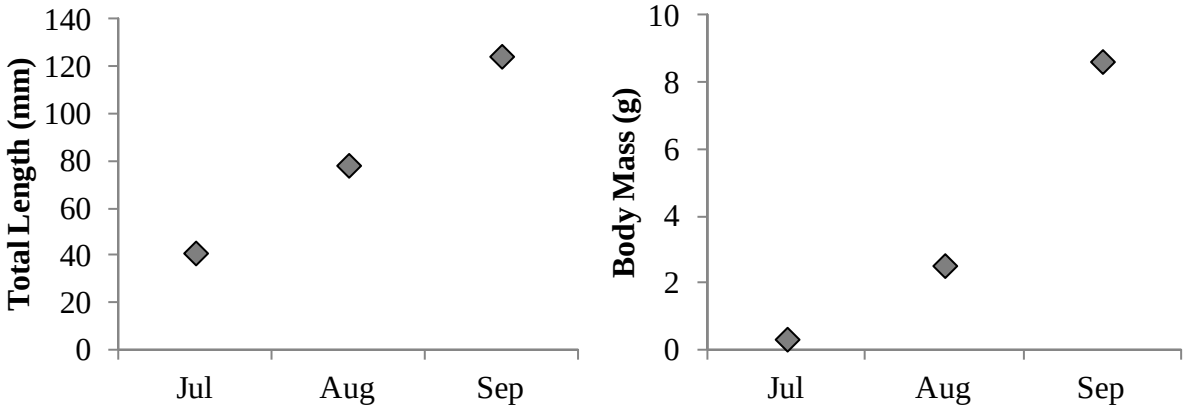


Figure 4.3-3: Total length (mm) and body mass (g) for Burntwood River sturgeon (2015 year-class) at month end measurements. Values represent 15 randomly selected individuals.

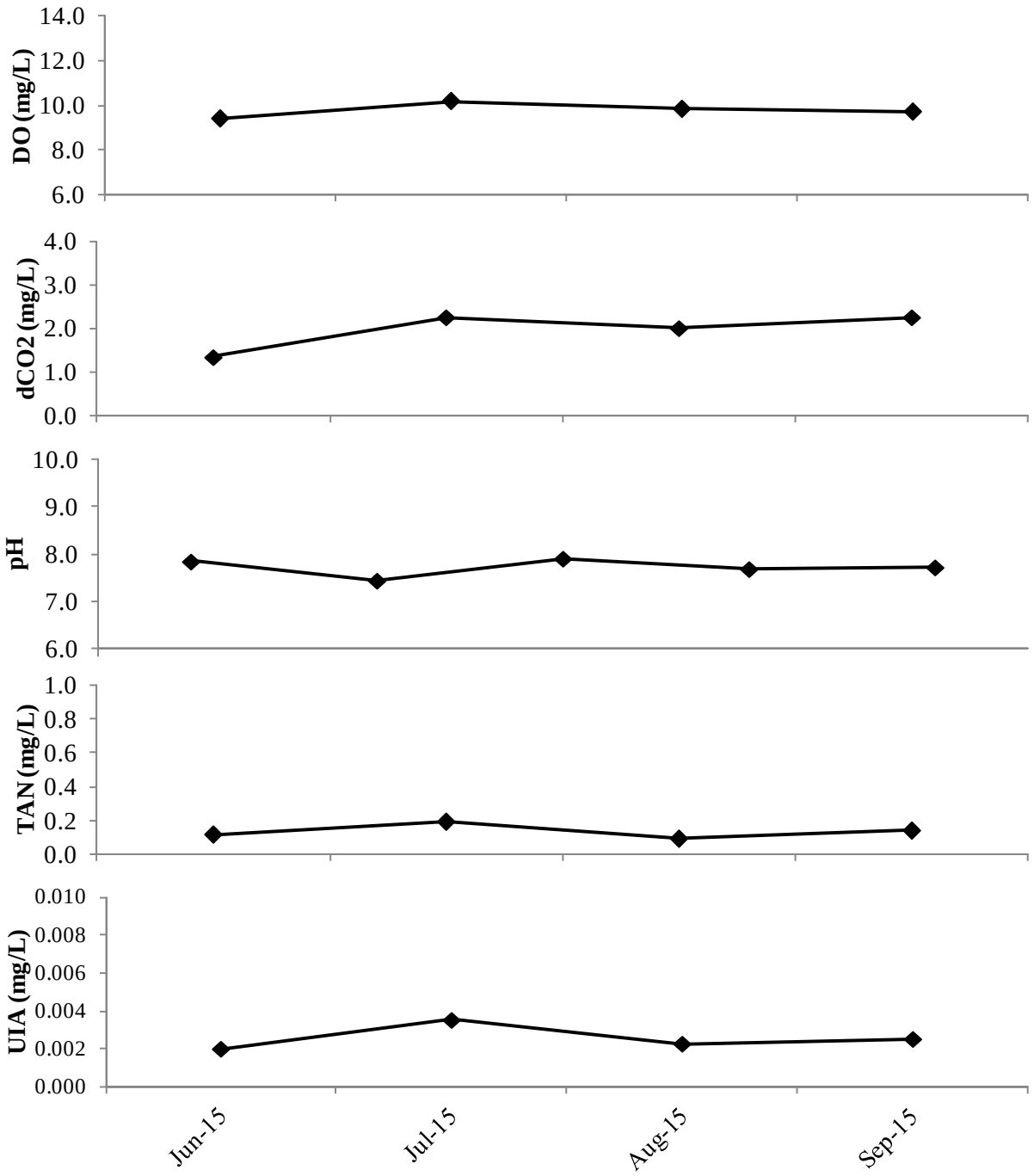


Figure 4.3-4: Mean monthly dissolved oxygen (DO), dissolved carbon dioxide (dCO2), pH, total ammonia nitrogen (TAN) and un-ionized ammonia (UIA) values for tanks holding Burntwood River sturgeon (2015 year-class) at GRFH from June 10 to September 28, 2015.

Water quality was assessed weekly from June 10 to September 28. Dissolved oxygen, dissolved carbon dioxide, pH, total ammonia-nitrogen, un-ionized ammonia and nitrite nitrogen values were assessed from water samples collected directly from the rearing tank. Mean

monthly values for all parameters, including nitrite nitrogen (≤ 0.05 mg/L) were within acceptable ranges (Figure 4.3-4, Table A1-6, Table A1-7)

No Burntwood River fingerlings were released in fall 2015.

5.0 PRODUCTION AND STOCKING ACTIVITIES IN 2015/16

A total of 23 Burntwood River Lake Sturgeon fingerlings were retained for the 2015/16 winter grow-out period. Fish will be released as yearlings into the Burntwood River during spring 2016, pending virus test results. Specific stocking locations have yet to be determined.

Lake Sturgeon will be reared in re-circulated well water throughout the winter. Additional water heaters have been purchased to increase heating capacity without compromising water quality. Feeding rates, holding densities and rearing temperatures continue to be assessed internally, as needed.

In partnership with Gary Anderson (University of Manitoba), research on Lake Sturgeon conservation aquaculture production methods will commence spring 2016.

In collaboration with North South Consultants, Lake Sturgeon broodstock capture and gamete collection will take place in the lower Nelson River at Birthday Rapids during spring 2016.

6.0 LITERATURE CITED

Genz, J., McDougall, C.A., Burnett, D., Arcinas, L., Khetoo, S. and Anderson, W.G. 2014. Induced spawning of wild-caught adult Lake Sturgeon: assessment of hormonal and stress responses, gamete quality, and survival. Journal of Applied Ichthyology 30, 1565-1577.

Klassen, C.N. 2015. Production and stocking summary for Burntwood River and Birthday Rapids Lake Sturgeon populations, June 2013 to September 2014: Year 1 Construction. A report prepared for Manitoba Hydro. January 2015. 56pp.

Appendices

APPENDIX 1: WATER QUALITY

Table A1-1: Mean (± SD), minimum and maximum Dissolved Oxygen[1] (mg/L) levels for Birthday Rapids Lake Sturgeon (2014 year-class) reared at Grand Rapids Fish Hatchery.

Production Period	Mth-Yr	F1xM1					F1xM2				
		N[2]	Mean	SD[3]	Min	Max	N	Mean	SD	Min	Max
First Winter	Oct-14	8	9.07	0.48	8.26	9.52	8	9.23	0.52	8.48	9.86
	Nov-14	10	10.63	1.71	8.49	12.92	10	10.29	1.71	8.24	12.24
	Dec-14	9	11.78	0.69	10.47	12.30	9	11.63	0.74	10.26	12.29
	Jan-15	12	10.61	0.34	10.23	11.27	12	10.48	0.34	10.09	11.38
	Feb-15	12	9.70	0.79	8.67	10.81	12	9.74	0.83	8.52	11.03
	Mar-15	15	9.14	0.60	8.30	10.14	15	9.06	0.42	8.54	9.67
	Apr-15	12	12.19	0.88	10.93	13.62	16	12.65	0.86	11.08	13.99
	May-15	5	11.68	0.49	10.97	12.08	6	11.84	0.23	11.44	12.15
	Jun-15	3	9.55	2.36	6.83	11.03	3	9.52	2.47	6.67	10.98
	Total	**86**	**10.45**	**1.44**	**6.83**	**13.62**	**91**	**10.57**	**1.56**	**6.67**	**13.99**
Second Summer	Jul-15	4	8.96	0.26	8.69	9.22	4	8.81	0.11	8.70	8.92
	Aug-15	10	8.56	0.34	7.99	9.17	10	8.35	0.34	7.69	8.73
	Sep-15	3	8.08	0.76	7.39	8.89	3	7.68	0.97	6.96	8.78
	Total	**17**	**8.57**	**0.48**	**7.39**	**9.22**	**17**	**8.34**	**0.57**	**6.96**	**8.92**

1 Exstik II DO600, Extech Instruments, Nashua, New Hampshire

2 Number of water samples analyzed

3 Standard Deviation

Table A1-2: Mean (± SD), minimum and maximum Dissolved Carbon Dioxide[1] (mg/L) levels for Birthday Rapids Lake Sturgeon (2014 year-class) reared at Grand Rapids Fish Hatchery.

Production Period	Mth-Yr	F1xM1					F1xM2				
		N[2]	Mean	SD[3]	Min	Max	N	Mean	SD	Min	Max
First Winter	Oct-14	8	1.56	0.50	1.00	2.00	8	1.75	0.46	1.00	2.00
	Nov-14	10	1.70	0.48	1.00	2.00	10	1.80	0.63	1.00	3.00
	Dec-14	9	2.11	0.33	2.00	3.00	9	2.11	0.33	2.00	3.00
	Jan-15	12	2.00	0.00	2.00	2.00	12	2.17	0.39	2.00	3.00
	Feb-15	12	2.42	0.51	2.00	3.00	12	2.42	0.51	2.00	3.00
	Mar-15	15	3.00	0.00	3.00	3.00	15	3.00	0.00	3.00	3.00
	Apr-15	12	3.00	0.00	3.00	3.00	16	3.44	1.21	2.00	7.00
	May-15	5	3.20	0.45	3.00	4.00	6	3.17	0.98	2.00	5.00
	Jun-15	4	1.50	1.00	1.00	3.00	4	1.50	1.00	1.00	3.00
	Total	**87**	**2.35**	**0.69**	**1.00**	**4.00**	**92**	**2.51**	**0.92**	**1.00**	**7.00**
Second Summer	Jul-15	8	2.75	0.46	2.00	3.00	8	2.88	0.35	2.00	3.00
	Aug-15	10	1.30	0.67	1.00	3.00	10	1.70	0.48	1.00	2.00
	Sep-15	3	2.00	1.00	1.00	3.00	3	2.33	0.58	2.00	3.00
	Total	**21**	**1.95**	**0.22**	**1.00**	**3.00**	**21**	**2.24**	**0.70**	**1.00**	**3.00**

1 GO2P, Oxygaurd International, Farum, Denmark

2 Number of water samples analyzed

3 Standard Deviation

Table A1-3: Mean (± SD), minimum and maximum pH[1] values for Birthday Rapids Lake Sturgeon (2014 year-class) reared at Grand Rapids Fish Hatchery.

Production Period	Mth-Yr	F1xM1					F1xM2				
		N[2]	Mean	SD[3]	Min	Max	N	Mean	SD	Min	Max
First Winter	Oct-14	8	8.38	0.10	8.25	8.51	8	8.43	0.08	8.30	8.51
	Nov-14	10	8.62	0.06	8.54	8.70	10	8.65	0.05	8.57	8.71
	Dec-14	9	8.66	0.08	8.52	8.75	9	8.67	0.08	8.54	8.77
	Jan-15	12	8.73	0.08	8.63	8.82	12	8.74	0.07	8.65	8.82
	Feb-15	12	8.64	0.23	8.18	8.91	12	8.68	0.19	8.36	8.91
	Mar-15	15	8.75	0.23	8.40	9.21	15	8.78	0.20	8.57	9.21
	Apr-15	12	7.74	0.12	7.58	7.95	16	7.67	0.20	7.24	8.00
	May-15	5	7.41	0.13	7.22	7.57	6	7.39	0.35	6.72	7.69
	Jun-15	4	7.65	0.36	7.16	7.98	4	7.64	0.34	7.21	7.95
	Total	**87**	**8.41**	**0.48**	**7.16**	**9.21**	**92**	**8.37**	**0.53**	**6.72**	**9.21**
Second Summer	Jul-15	8	7.50	0.36	6.73	7.95	8	7.55	0.28	6.96	7.86
	Aug-15	10	7.68	0.25	7.42	8.14	10	7.68	0.25	7.35	8.13
	Sep-15	3	7.18	0.49	6.73	7.71	3	7.19	0.43	6.79	7.64
	Total	**21**	**7.54**	**0.36**	**6.73**	**8.14**	**21**	**7.56**	**0.32**	**6.79**	**8.13**

1 HI98128, Hana Instruments, Woonsocket, Rhode Island

2 Number of water samples analyzed

3 Standard Deviation

Table A1-4: Mean (± SD), minimum and maximum Total Ammonia-Nitrogen[1] (mg/L) levels for Birthday Rapids Lake Sturgeon (2014 year-class) reared at Grand Rapids Fish Hatchery.

Production Period	Mth-Yr	F1xM1					F1xM2				
		N[2]	Mean	SD[3]	Min	Max	N	Mean	SD	Min	Max
First Winter	Oct-14	8	0.26	0.05	0.21	0.36	8	0.21	0.02	0.17	0.24
	Nov-14	10	0.26	0.07	0.20	0.43	10	0.22	0.03	0.17	0.27
	Dec-14	9	0.24	0.05	0.17	0.30	9	0.25	0.07	0.18	0.43
	Jan-15	12	0.30	0.06	0.20	0.39	12	0.30	0.06	0.20	0.40
	Feb-15	12	0.41	0.05	0.34	0.51	12	0.42	0.05	0.34	0.52
	Mar-15	15	0.39	0.04	0.32	0.46	15	0.40	0.05	0.33	0.49
	Apr-15	12	0.37	0.11	0.29	0.66	16	0.36	0.12	0.16	0.62
	May-15	5	0.29	0.23	0.04	0.50	6	0.30	0.20	0.07	0.53
	Jun-15	4	0.20	0.06	0.13	0.27	4	0.17	0.06	0.12	0.25
	Total	**87**	**0.32**	**0.10**	**0.04**	**0.66**	**92**	**0.32**	**0.11**	**0.07**	**0.62**
Second Summer	Jul-15	8	0.20	0.04	0.16	0.26	8	0.24	0.02	0.21	0.27
	Aug-15	10	0.18	0.06	0.08	0.26	10	0.17	0.06	0.03	0.26
	Sep-15	3	0.21	0.04	0.18	0.26	3	0.24	0.04	0.20	0.28
	Total	**21**	**0.19**	**0.05**	**0.08**	**0.26**	**21**	**0.21**	**0.06**	**0.03**	**0.28**

1 HI96700C Low Range Portable Photometer, Hanna Instruments, Woonsocket, Rhode Island

2 Number of water samples analyzed

3 Standard Deviation

Table A1-5: Mean (± SD), minimum and maximum Un-ionized Ammonia[1] (mg/L) levels for Birthday Rapids Lake Sturgeon (2014 year-class) reared at Grand Rapids Fish Hatchery.

Production Period	Mth-Yr	F1xM1					F1xM2				
		N[2]	Mean	SD[3]	Min	Max	N	Mean	SD	Min	Max
First Winter	Oct-14	8	0.013	0.005	0.007	0.019	8	0.013	0.003	0.009	0.018
	Nov-14	10	0.027	0.007	0.018	0.039	10	0.025	0.006	0.016	0.034
	Dec-14	9	0.033	0.011	0.022	0.053	9	0.036	0.017	0.023	0.076
	Jan-15	12	0.045	0.014	0.024	0.062	12	0.047	0.015	0.024	0.071
	Feb-15	12	0.054	0.026	0.021	0.107	12	0.056	0.022	0.030	0.095
	Mar-15	15	0.060	0.025	0.030	0.111	15	0.066	0.030	0.037	0.120
	Apr-15	12	0.005	0.002	0.003	0.011	16	0.004	0.002	0.000	0.006
	May-15	5	0.001	0.001	0.000	0.002	6	0.001	0.001	0.000	0.003
	Jun-15	4	0.004	0.003	0.000	0.008	4	0.003	0.003	0.000	0.006
	Total	**87**	**0.033**	**0.026**	**0.000**	**0.111**	**92**	**0.032**	**0.029**	**0.000**	**0.120**
Second Summer	Jul-15	8	0.002	0.001	0.001	0.004	8	0.003	0.001	0.001	0.005
	Aug-15	10	0.004	0.004	0.001	0.012	10	0.003	0.003	0.000	0.009
	Sep-15	3	0.001	0.001	0.001	0.003	3	0.001	0.001	0.001	0.003
	Total	**21**	**0.003**	**0.003**	**0.001**	**0.012**	**21**	**0.003**	**0.002**	**0.000**	**0.009**

1 Calculation

2 Number of water samples analyzed

3 Standard Deviation

Table A1-6: Mean (± SD), minimum and maximum Dissolved Oxygen (mg/L), Dissolved Carbon Dioxide (mg/L), pH, Total Ammonia-Nitrogen (mg/L) and Un-ionized Ammonia (mg/L) values for Burntwood River Lake Sturgeon (2015 year-class) reared at Grand Rapids Fish Hatchery.

Parameter	Mth-Yr	N[1]	Mean	SD[2]	Min	Max
Dissolved O_2 (mg/L)	Jun-15	2	9.41	3.93	6.63	12.19
	Jul-15	2	10.19	0.28	9.99	10.39
	Aug-15	5	9.84	0.42	9.21	10.40
	Sep-15	4	9.72	0.46	9.33	10.38
	Total	**13**	**9.79**	**1.21**	**6.63**	**12.19**
Dissolved CO_2 (mg/L)	Jun-15	3	1.33	0.58	1.00	2.00
	Jul-15	4	2.25	0.96	1.00	3.00
	Aug-15	5	2.00	0.00	2.00	2.00
	Sep-15	4	2.25	0.50	2.00	3.00
	Total	**16**	**2.00**	**0.63**	**1.00**	**3.00**
pH	Jun-15	3	7.85	0.19	7.64	8.02
	Jul-15	4	7.45	0.24	7.13	7.71
	Aug-15	5	7.91	0.12	7.77	8.03
	Sep-15	4	7.70	0.34	7.21	8.00
	Total	**16**	**7.73**	**0.28**	**7.13**	**8.03**
Total Ammonia (mg/L)	Jun-15	3	0.12	0.03	0.09	0.14
	Jul-15	4	0.19	0.05	0.14	0.23
	Aug-15	5	0.09	0.02	0.06	0.12
	Sep-15	4	0.14	0.04	0.10	0.20
	Total	**16**	**0.13**	**0.05**	**0.06**	**0.23**
Un-ionized Ammonia (mg/L)	Jun-15	3	0.002	0.001	0.001	0.003
	Jul-15	4	0.004	0.002	0.001	0.007
	Aug-15	5	0.002	0.001	0.001	0.004
	Sep-15	4	0.003	0.002	0.001	0.006
	Total	**16**	**0.003**	**0.002**	**0.001**	**0.007**

1 Number of water samples analyzed

2 Standard Deviation

Table A1-7 Reported Lake Sturgeon threshold values for Dissolved Oxygen, Dissolved Carbon Dioxide, pH, Ammonia-Nitrogen and Nitrite Nitrogen

Parameter	Threshold Values	References
Dissolved O_2 (mg/L)	> 6.0	Hochleithner and Gessner 2012
	> 4.0	Chebanov and Galich 2011
	> 5.0	Mims et al 2002
	> 6.0	Dettlaff et al 1993
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)	< 0.01	Hochleithner and Gessner 2012
	< 0.003	Chebanov and Galich 2011
	< 0.01	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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APPENDIX 2: LAKE STURGEON STOCKING

Table A2-1: Biological and PIT tag information for hatchery-reared Lake Sturgeon yearlings released into the lower Nelson River, June 2015. Description of release sites are provided in section 3.3 of report.

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055001	F1 x M2	20-May-15	185	217	35.23	22-Jun-15	2
900067000055002	F1 x M2	20-May-15	214	251	64.03	22-Jun-15	2
900067000055004	F1 x M2	20-May-15	201	235	43.25	22-Jun-15	1
900067000055005	F1 x M2	20-May-15	196	230	41.44	22-Jun-15	2
900067000055006	F1 x M2	20-May-15	219	255	61.82	22-Jun-15	1
900067000055007	F1 x M2	20-May-15	217	252	54.67	22-Jun-15	1
900067000055009	F1 x M2	20-May-15	189	220	39.41	22-Jun-15	2
900067000055010	F1 x M2	20-May-15	213	247	51.91	22-Jun-15	2
900067000055012	F1 x M2	20-May-15	197	230	44.17	22-Jun-15	2
900067000055014	F1 x M2	20-May-15	189	218	35.75	22-Jun-15	2
900067000055015	F1 x M2	20-May-15	224	261	61.36	22-Jun-15	2
900067000055016	F1 x M2	20-May-15	183	214	32.45	22-Jun-15	1
900067000055018	F1 x M2	20-May-15	193	277	40.78	22-Jun-15	1
900067000055019	F1 x M2	20-May-15	214	247	51.05	22-Jun-15	2
900067000055020	F1 x M2	20-May-15	208	245	49.28	22-Jun-15	2
900067000055021	F1 x M1	20-May-15	231	269	66.71	22-Jun-15	3
900067000055022	F1 x M2	20-May-15	182	213	36.57	22-Jun-15	1
900067000055023	F1 x M2	20-May-15	208	245	50.10	22-Jun-15	2
900067000055024	F1 x M2	20-Jun-15	263	305	91.00	22-Jun-15	1
900067000055027	F1 x M2	20-May-15	250	292	95.94	22-Jun-15	2
900067000055028	F1 x M1	20-May-15	215	249	49.96	22-Jun-15	3
900067000055029	F1 x M2	20-May-15	179	209	35.29	22-Jun-15	2
900067000055030	F1 x M2	20-May-15	216	253	55.06	22-Jun-15	1
900067000055033	F1 x M1	20-May-15	254	294	84.52	22-Jun-15	3
900067000055035	F1 x M2	20-May-15	186	217	38.84	22-Jun-15	1
900067000055036	F1 x M2	20-May-15	194	230	43.61	22-Jun-15	2
900067000055037	F1 x M2	20-May-15	197	232	45.43	22-Jun-15	1
900067000055038	F1 x M2	20-May-15	214	252	54.96	22-Jun-15	1
900067000055039	F1 x M2	20-May-15	214	248	55.11	22-Jun-15	2
900067000055040	F1 x M2	20-May-15	233	271	78.04	22-Jun-15	2
900067000055041	F1 x M2	20-May-15	186	220	33.43	22-Jun-15	1
900067000055042	F1 x M1	20-May-15	255	296	85.67	22-Jun-15	3
900067000055043	F1 x M1	20-May-15	248	287	75.20	22-Jun-15	3
900067000055044	F1 x M2	20-May-15	209	247	53.10	22-Jun-15	1
900067000055045	F1 x M2	20-May-15	187	220	37.31	22-Jun-15	1

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055046	F1 x M2	20-May-15	223	265	60.88	22-Jun-15	1
900067000055047	F1 x M2	20-May-15	225	262	69.78	22-Jun-15	2
900067000055049	F1 x M2	20-May-15	205	244	46.64	22-Jun-15	2
900067000055050	F1 x M2	20-May-15	176	202	34.09	22-Jun-15	2
900067000055051	F1 x M2	20-May-15	224	268	65.41	22-Jun-15	1
900067000055052	F1 x M2	20-May-15	193	224	41.11	22-Jun-15	1
900067000055053	F1 x M2	20-May-15	197	235	46.82	22-Jun-15	2
900067000055054	F1 x M2	20-May-15	235	279	78.99	22-Jun-15	1
900067000055056	F1 x M2	20-May-15	215	250	55.24	22-Jun-15	2
900067000055057	F1 x M2	20-May-15	195	229	39.73	22-Jun-15	1
900067000055058	F1 x M2	20-May-15	159	185	25.33	22-Jun-15	1
900067000055059	F1 x M2	20-May-15	198	232	45.46	22-Jun-15	2
900067000055060	F1 x M2	20-May-15	201	238	46.85	22-Jun-15	2
900067000055062	F1 x M2	20-May-15	197	230	42.88	22-Jun-15	2
900067000055063	F1 x M1	20-May-15	210	241	48.45	22-Jun-15	3
900067000055064	F1 x M2	20-May-15	201	234	41.45	22-Jun-15	2
900067000055066	F1 x M2	20-May-15	168	196	25.89	22-Jun-15	2
900067000055067	F1 x M2	20-May-15	235	274	78.20	22-Jun-15	2
900067000055070	F1 x M2	20-May-15	204	240	47.56	22-Jun-15	1
900067000055071	F1 x M1	20-May-15	228	267	62.91	22-Jun-15	3
900067000055072	F1 x M2	20-May-15	163	188	24.46	22-Jun-15	2
900067000055074	F1 x M2	20-May-15	182	217	35.08	22-Jun-15	2
900067000055077	F1 x M1	20-May-15	233	269	63.50	22-Jun-15	3
900067000055078	F1 x M2	20-May-15	211	246	49.65	22-Jun-15	1
900067000055079	F1 x M1	20-May-15	225	259	60.57	22-Jun-15	3
900067000055082	F1 x M2	21-May-15	220	255	64.00	22-Jun-15	3
900067000055083	F1 x M2	20-May-15	168	195	26.56	22-Jun-15	1
900067000055084	F1 x M2	20-May-15	205	236	46.93	22-Jun-15	1
900067000055086	F1 x M2	20-May-15	203	240	42.98	22-Jun-15	2
900067000055088	F1 x M2	20-May-15	202	234	48.89	22-Jun-15	1
900067000055089	F1 x M2	20-May-15	192	221	33.82	22-Jun-15	2
900067000055091	F1 x M2	20-May-15	207	247	51.53	22-Jun-15	2
900067000055093	F1 x M2	20-May-15	227	270	61.14	22-Jun-15	1
900067000055095	F1 x M2	20-May-15	199	231	45.15	22-Jun-15	2
900067000055097	F1 x M2	20-May-15	179	210	31.33	22-Jun-15	2
900067000055099	F1 x M2	20-May-15	199	235	45.84	22-Jun-15	1
900067000055100	F1 x M2	20-May-15	194	255	40.19	22-Jun-15	1
900067000055101	F1 x M2	20-May-15	217	256	56.01	22-Jun-15	2
900067000055102	F1 x M2	20-May-15	202	236	48.85	22-Jun-15	2

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055103	F1 x M2	20-May-15	184	219	39.35	22-Jun-15	2
900067000055105	F1 x M2	20-May-15	207	245	50.97	22-Jun-15	2
900067000055106	F1 x M2	20-May-15	214	253	56.24	22-Jun-15	2
900067000055107	F1 x M2	20-May-15	214	253	55.97	22-Jun-15	1
900067000055108	F1 x M1	20-May-15	220	256	57.20	22-Jun-15	3
900067000055109	F1 x M1	20-May-15	241	279	75.27	22-Jun-15	3
900067000055111	F1 x M2	20-May-15	190	221	36.03	22-Jun-15	2
900067000055112	F1 x M2	21-May-15	205	241	42.31	22-Jun-15	3
900067000055113	F1 x M2	20-May-15	186	216	33.91	22-Jun-15	2
900067000055114	F1 x M2	20-May-15	190	227	36.17	22-Jun-15	2
900067000055115	F1 x M2	20-May-15	214	252	54.43	22-Jun-15	2
900067000055116	F1 x M2	20-May-15	216	256	57.69	22-Jun-15	2
900067000055117	F1 x M2	20-May-15	204	243	51.14	22-Jun-15	1
900067000055118	F1 x M2	20-May-15	199	232	41.56	22-Jun-15	2
900067000055119	F1 x M2	20-May-15	200	229	44.24	22-Jun-15	2
900067000055120	F1 x M2	20-May-15	220	257	62.35	22-Jun-15	1
900067000055123	F1 x M2	20-May-15	224	267	63.20	22-Jun-15	1
900067000055124	F1 x M2	20-May-15	250	277	90.84	22-Jun-15	2
900067000055131	F1 x M2	20-May-15	206	245	51.56	22-Jun-15	2
900067000055132	F1 x M2	20-May-15	189	222	41.08	22-Jun-15	2
900067000055133	F1 x M2	20-May-15	208	243	51.95	22-Jun-15	1
900067000055134	F1 x M2	20-May-15	178	211	35.32	22-Jun-15	2
900067000055135	F1 x M2	21-May-15	221	264	59.97	22-Jun-15	3
900067000055138	F1 x M2	20-May-15	237	282	75.36	22-Jun-15	2
900067000055140	F1 x M2	20-May-15	186	220	37.10	22-Jun-15	2
900067000055141	F1 x M2	20-May-15	197	232	41.83	22-Jun-15	2
900067000055142	F1 x M2	20-May-15	209	242	55.48	22-Jun-15	2
900067000055143	F1 x M1	20-May-15	220	254	63.77	22-Jun-15	3
900067000055144	F1 x M2	20-May-15	243	283	77.35	22-Jun-15	1
900067000055145	F1 x M2	20-May-15	204	235	49.92	22-Jun-15	2
900067000055146	F1 x M2	20-May-15	201	233	43.89	22-Jun-15	2
900067000055147	F1 x M1	20-May-15	245	285	76.81	22-Jun-15	3
900067000055149	F1 x M2	20-May-15	221	255	59.15	22-Jun-15	2
900067000055151	F1 x M2	20-May-15	193	227	40.73	22-Jun-15	1
900067000055152	F1 x M2	20-May-15	219	256	54.05	22-Jun-15	1
900067000055153	F1 x M2	20-May-15	187	221	38.67	22-Jun-15	2
900067000055154	F1 x M2	20-May-15	210	248	52.06	22-Jun-15	2
900067000055155	F1 x M2	20-May-15	216	257	55.72	22-Jun-15	1
900067000055156	F1 x M2	20-May-15	187	220	36.61	22-Jun-15	1

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055157	F1 x M2	20-May-15	225	266	64.60	22-Jun-15	2
900067000055159	F1 x M2	20-May-15	211	247	49.58	22-Jun-15	2
900067000055160	F1 x M2	20-May-15	226	266	60.06	22-Jun-15	2
900067000055161	F1 x M2	20-May-15	203	233	42.24	22-Jun-15	2
900067000055162	F1 x M2	20-May-15	214	253	56.55	22-Jun-15	1
900067000055163	F1 x M1	20-May-15	245	287	78.75	22-Jun-15	3
900067000055164	F1 x M2	20-May-15	196	226	45.87	22-Jun-15	1
900067000055165	F1 x M2	20-May-15	215	249	50.62	22-Jun-15	2
900067000055166	F1 x M1	20-May-15	218	254	55.33	22-Jun-15	3
900067000055167	F1 x M2	20-May-15	189	223	37.59	22-Jun-15	1
900067000055169	F1 x M2	20-May-15	227	269	68.77	22-Jun-15	2
900067000055171	F1 x M2	20-May-15	238	275	71.49	22-Jun-15	1
900067000055172	F1 x M2	20-May-15	193	229	40.46	22-Jun-15	1
900067000055173	F1 x M2	21-May-15	217	249	59.06	22-Jun-15	3
900067000055175	F1 x M2	20-May-15	209	244	49.73	22-Jun-15	1
900067000055176	F1 x M2	20-May-15	197	231	46.12	22-Jun-15	1
900067000055177	F1 x M2	20-May-15	177	205	28.56	22-Jun-15	2
900067000055178	F1 x M1	20-May-15	219	250	54.31	22-Jun-15	3
900067000055183	F1 x M2	20-May-15	214	255	56.82	22-Jun-15	2
900067000055184	F1 x M2	21-May-15	210	245	49.90	22-Jun-15	3
900067000055185	F1 x M2	20-May-15	211	250	50.50	22-Jun-15	2
900067000055186	F1 x M1	20-May-15	219	256	58.41	22-Jun-15	3
900067000055187	F1 x M2	20-May-15	198	230	41.84	22-Jun-15	2
900067000055188	F1 x M2	20-May-15	230	267	66.39	22-Jun-15	1
900067000055189	F1 x M2	21-May-15	223	269	60.72	22-Jun-15	3
900067000055190	F1 x M2	20-May-15	184	219	41.97	22-Jun-15	1
900067000055192	F1 x M2	20-May-15	238	275	78.19	22-Jun-15	2
900067000055193	F1 x M2	20-May-15	229	266	70.67	22-Jun-15	1
900067000055194	F1 x M1	20-May-15	216	250	54.72	22-Jun-15	3
900067000055195	F1 x M1	20-May-15	247	285	86.19	22-Jun-15	3
900067000055196	F1 x M2	20-May-15	179	212	31.05	22-Jun-15	1
900067000055198	F1 x M2	20-May-15	198	236	46.02	22-Jun-15	1
900067000055199	F1 x M2	21-May-15	215	251	50.48	22-Jun-15	3
900067000055201	F1 x M2	21-May-15	229	271	64.48	22-Jun-15	3
900067000055203	F1 x M2	21-May-15	232	271	70.48	22-Jun-15	3
900067000055204	F1 x M2	21-May-15	217	250	52.68	22-Jun-15	3
900067000055205	F1 x M2	21-May-15	226	263	63.86	22-Jun-15	3
900067000055206	F1 x M2	21-May-15	229	273	63.22	22-Jun-15	3
900067000055209	F1 x M2	21-May-15	218	257	59.98	22-Jun-15	3

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055211	F1 x M2	21-May-15	208	243	52.01	22-Jun-15	3
900067000055217	F1 x M2	21-May-15	189	223	35.23	22-Jun-15	3
900067000055218	F1 x M2	21-May-15	192	224	45.67	22-Jun-15	3
900067000055219	F1 x M2	21-May-15	200	234	44.23	22-Jun-15	3
900067000055224	F1 x M2	21-May-15	223	261	64.02	22-Jun-15	3
900067000055226	F1 x M2	21-May-15	245	294	84.86	22-Jun-15	3
900067000055228	F1 x M2	21-May-15	223	260	55.89	22-Jun-15	3
900067000055229	F1 x M2	21-May-15	209	244	49.23	22-Jun-15	3
900067000055231	F1 x M2	21-May-15	192	220	37.64	22-Jun-15	3
900067000055232	F1 x M2	21-May-15	227	267	75.62	22-Jun-15	3
900067000055234	F1 x M2	21-May-15	219	255	58.74	22-Jun-15	3
900067000055236	F1 x M2	21-May-15	255	294	95.53	22-Jun-15	3
900067000055237	F1 x M2	21-May-15	242	287	76.91	22-Jun-15	3
900067000055238	F1 x M2	21-May-15	205	219	44.34	22-Jun-15	3
900067000055239	F1 x M2	21-May-15	191	220	38.34	22-Jun-15	3
900067000055242	F1 x M2	21-May-15	227	264	65.54	22-Jun-15	3
900067000055244	F1 x M2	21-May-15	216	253	53.23	22-Jun-15	3
900067000055247	F1 x M2	21-May-15	197	234	40.78	22-Jun-15	3
900067000055249	F1 x M2	21-May-15	199	237	43.66	22-Jun-15	3
900067000055250	F1 x M2	21-May-15	223	261	56.78	22-Jun-15	3
900067000055251	F1 x M2	21-May-15	246	289	75.02	22-Jun-15	3
900067000055252	F1 x M2	21-May-15	213	251	51.54	22-Jun-15	3
900067000055255	F1 x M2	21-May-15	166	191	29.98	22-Jun-15	3
900067000055256	F1 x M2	21-May-15	226	265	64.85	22-Jun-15	3
900067000055257	F1 x M2	21-May-15	248	280	82.95	22-Jun-15	3
900067000055261	F1 x M2	21-May-15	218	248	50.31	22-Jun-15	3
900067000055262	F1 x M2	21-May-15	224	262	53.66	22-Jun-15	3
900067000055264	F1 x M2	21-May-15	208	242	46.90	22-Jun-15	3
900067000055266	F1 x M2	21-May-15	254	300	93.49	22-Jun-15	3
900067000055267	F1 x M2	21-May-15	203	240	51.71	22-Jun-15	3
900067000055268	F1 x M2	21-May-15	213	249	47.78	22-Jun-15	3
900067000055271	F1 x M2	21-May-15	191	217	40.93	22-Jun-15	3
900067000055272	F1 x M2	21-May-15	248	289	82.09	22-Jun-15	3
900067000055274	F1 x M2	21-May-15	235	265	58.19	22-Jun-15	3
900067000055275	F1 x M2	21-May-15	247	289	81.11	22-Jun-15	3
900067000055276	F1 x M2	21-May-15	225	262	66.93	22-Jun-15	3
900067000055277	F1 x M2	21-May-15	188	220	35.54	22-Jun-15	3
900067000055278	F1 x M2	21-May-15	255	300	80.36	22-Jun-15	3
900067000055280	F1 x M2	21-May-15	230	269	71.97	22-Jun-15	3

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055282	F1 x M2	21-May-15	204	237	44.50	22-Jun-15	3
900067000055283	F1 x M2	21-May-15	244	288	82.84	22-Jun-15	3
900067000055286	F1 x M2	21-May-15	238	277	75.23	22-Jun-15	3
900067000055287	F1 x M2	21-May-15	210	246	47.72	22-Jun-15	3
900067000055290	F1 x M2	21-May-15	210	240	47.08	22-Jun-15	3
900067000055291	F1 x M2	21-May-15	219	257	58.56	22-Jun-15	3
900067000055295	F1 x M2	21-May-15	219	255	53.51	22-Jun-15	3
900067000055296	F1 x M2	21-May-15	209	241	58.50	22-Jun-15	3
900067000055298	F1 x M2	21-May-15	235	271	66.06	22-Jun-15	3
900067000055305	F1 x M2	21-May-15	219	257	61.01	22-Jun-15	3
900067000055307	F1 x M2	21-May-15	186	220	35.76	22-Jun-15	3
900067000055308	F1 x M2	21-May-15	226	264	61.61	22-Jun-15	3
900067000055309	F1 x M2	21-May-15	193	225	43.14	22-Jun-15	3
900067000055312	F1 x M2	21-May-15	196	230	37.66	22-Jun-15	3
900067000055314	F1 x M2	21-May-15	237	284	71.56	22-Jun-15	3
900067000055316	F1 x M2	21-May-15	214	250	55.62	22-Jun-15	3
900067000055317	F1 x M2	21-May-15	189	222	36.88	22-Jun-15	3
900067000055318	F1 x M2	21-May-15	193	223	37.83	22-Jun-15	3
900067000055319	F1 x M2	21-May-15	220	259	61.96	22-Jun-15	3
900067000055320	F1 x M2	21-May-15	213	251	47.68	22-Jun-15	3
900067000055322	F1 x M2	21-May-15	225	265	65.52	22-Jun-15	3
900067000055323	F1 x M2	21-May-15	220	257	58.28	22-Jun-15	3
900067000055326	F1 x M2	21-May-15	198	231	46.13	22-Jun-15	3
900067000055327	F1 x M2	21-May-15	228	269	64.45	22-Jun-15	3
900067000055328	F1 x M2	21-May-15	222	263	58.59	22-Jun-15	3
900067000055329	F1 x M2	21-May-15	202	236	39.96	22-Jun-15	3
900067000055330	F1 x M2	21-May-15	201	236	44.89	22-Jun-15	3
900067000055331	F1 x M2	21-May-15	248	292	84.36	22-Jun-15	3
900067000055332	F1 x M2	21-May-15	179	210	35.02	22-Jun-15	3
900067000055336	F1 x M2	21-May-15	196	228	40.36	22-Jun-15	3
900067000055338	F1 x M2	21-May-15	157	183	43.51	22-Jun-15	3
900067000055339	F1 x M2	21-May-15	188	217	39.49	22-Jun-15	3
900067000055341	F1 x M2	21-May-15	225	264	62.98	22-Jun-15	3
900067000055345	F1 x M2	21-May-15	244	287	90.83	22-Jun-15	3
900067000055346	F1 x M2	21-May-15	262	313	105.41	22-Jun-15	3
900067000055348	F1 x M2	21-May-15	241	284	76.79	22-Jun-15	3
900067000055349	F1 x M2	21-May-15	215	252	55.99	22-Jun-15	3
900067000055353	F1 x M2	21-May-15	215	254	60.82	22-Jun-15	3
900067000055354	F1 x M2	21-May-15	174	205	28.28	22-Jun-15	3

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055355	F1 x M2	21-May-15	194	230	36.51	22-Jun-15	3
900067000055357	F1 x M2	21-May-15	191	218	37.27	22-Jun-15	3
900067000055358	F1 x M2	21-May-15	219	256	60.61	22-Jun-15	3
900067000055359	F1 x M2	21-May-15	174	200	31.41	22-Jun-15	3
900067000055361	F1 x M2	21-May-15	236	279	75.08	22-Jun-15	3
900067000055362	F1 x M2	21-May-15	208	243	54.06	22-Jun-15	3
900067000055363	F1 x M2	21-May-15	211	250	49.97	22-Jun-15	3
900067000055365	F1 x M2	21-May-15	218	257	58.14	22-Jun-15	3
900067000055366	F1 x M2	21-May-15	232	269	66.28	22-Jun-15	3
900067000055367	F1 x M2	21-May-15	213	251	50.08	22-Jun-15	3
900067000055368	F1 x M2	21-May-15	217	261	54.49	22-Jun-15	3
900067000055370	F1 x M2	21-May-15	238	281	71.07	22-Jun-15	3
900067000055371	F1 x M2	21-May-15	233	260	61.79	22-Jun-15	3
900067000055375	F1 x M2	21-May-15	214	254	56.68	22-Jun-15	3
900067000055377	F1 x M2	21-May-15	203	235	44.25	22-Jun-15	3
900067000055379	F1 x M2	21-May-15	198	236	43.48	22-Jun-15	3
900067000055381	F1 x M2	21-May-15	213	250	54.58	22-Jun-15	3
900067000055382	F1 x M2	21-May-15	225	264	65.82	22-Jun-15	3
900067000055384	F1 x M2	21-May-15	203	233	45.01	22-Jun-15	3
900067000055388	F1 x M2	21-May-15	210	245	47.88	22-Jun-15	3
900067000055389	F1 x M2	21-May-15	180	309	33.32	22-Jun-15	3
900067000055390	F1 x M2	21-May-15	234	280	75.40	22-Jun-15	3
900067000055391	F1 x M2	21-May-15	203	239	44.82	22-Jun-15	3
900067000055394	F1 x M2	21-May-15	201	258	61.49	22-Jun-15	3
900067000055396	F1 x M2	21-May-15	180	214	32.94	22-Jun-15	3
900067000055398	F1 x M2	21-May-15	223	262	65.24	22-Jun-15	3
900067000055399	F1 x M2	21-May-15	207	245	47.00	22-Jun-15	3
900067000055403	F1 x M2	21-May-15	234	270	71.43	22-Jun-15	3
900067000055436	F1 x M2	20-May-15	273	325	130.00	22-Jun-15	2
900067000055440	F1 x M2	21-May-15	225	258	58.49	22-Jun-15	3
900067000055447	F1 x M2	20-May-15	257	298	92.93	22-Jun-15	1
900067000055458	F1 x M2	21-May-15	213	250	56.98	22-Jun-15	3
900067000055470	F1 x M2	20-Jun-15	266	319	100.00	22-Jun-15	2
900067000055480	F1 x M2	20-May-15	226	267	63.53	22-Jun-15	2
900067000055492	F1 x M2	21-May-15	229	265	63.51	22-Jun-15	3
900067000055523	F1 x M2	21-May-15	214	250	55.16	22-Jun-15	3
900067000055526	F1 x M2	21-May-15	221	258	56.63	22-Jun-15	3
900067000055535	F1 x M2	20-May-15	251	295	94.05	22-Jun-15	1
900067000055538	F1 x M2	20-May-15	248	291	85.65	22-Jun-15	1

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055579	F1 x M2	21-May-15	238	280	73.78	22-Jun-15	3
900067000055591	F1 x M2	20-May-15	233	272	73.90	22-Jun-15	2
900067000055595	F1 x M2	21-May-15	233	274	69.25	22-Jun-15	3
900067000055628	F1 x M2	20-May-15	215	255	54.65	22-Jun-15	2
900067000055679	F1 x M2	20-May-15	241	281	76.69	22-Jun-15	2
900067000055692	F1 x M2	20-May-15	193	222	40.39	22-Jun-15	2
900067000055747	F1 x M2	21-May-15	236	255	52.25	22-Jun-15	3
900067000055755	F1 x M2	20-May-15	144	167	17.41	22-Jun-15	2
900067000058401	F1 x M1	19-May-15	253	296	95.98	22-Jun-15	1
900067000058402	F1 x M1	19-May-15	225	265	68.77	22-Jun-15	1
900067000058403	F1 x M1	20-May-15	145	167	25.38	22-Jun-15	3
900067000058405	F1 x M1	20-May-15	223	253	58.22	22-Jun-15	3
900067000058406	F1 x M1	19-May-15	206	239	51.91	22-Jun-15	2
900067000058407	F1 x M1	20-May-15	216	250	60.19	22-Jun-15	3
900067000058408	F1 x M1	20-May-15	211	244	51.21	22-Jun-15	3
900067000058409	F1 x M1	19-May-15	228	265	68.01	22-Jun-15	2
900067000058410	F1 x M1	19-May-15	187	219	36.20	22-Jun-15	2
900067000058413	F1 x M1	20-May-15	240	280	74.78	22-Jun-15	3
900067000058414	F1 x M1	19-May-15	195	226	39.08	22-Jun-15	1
900067000058415	F1 x M1	20-May-15	225	271	64.66	22-Jun-15	3
900067000058416	F1 x M1	19-May-15	261	304	100.81	22-Jun-15	2
900067000058419	F1 x M1	20-May-15	250	294	91.16	22-Jun-15	3
900067000058420	F1 x M1	19-May-15	231	264	70.64	22-Jun-15	2
900067000058424	F1 x M1	19-May-15	241	285	92.92	22-Jun-15	2
900067000058426	F1 x M1	19-May-15	236	273	72.05	22-Jun-15	2
900067000058427	F1 x M1	19-May-15	215	252	56.12	22-Jun-15	1
900067000058428	F1 x M1	20-May-15	244	282	81.27	22-Jun-15	3
900067000058429	F1 x M1	19-May-15	243	286	92.30	22-Jun-15	1
900067000058430	F1 x M1	20-May-15	270	316	104.17	22-Jun-15	3
900067000058431	F1 x M1	19-May-15	230	275	71.07	22-Jun-15	1
900067000058432	F1 x M1	19-May-15	229	267	70.26	22-Jun-15	2
900067000058434	F1 x M1	20-May-15	237	274	74.57	22-Jun-15	3
900067000058435	F1 x M1	20-May-15	251	292	87.91	22-Jun-15	3
900067000058437	F1 x M1	20-May-15	250	289	89.03	22-Jun-15	3
900067000058438	F1 x M1	19-May-15	240	280	82.58	22-Jun-15	2
900067000058439	F1 x M1	20-May-15	230	260	57.06	22-Jun-15	3
900067000058440	F1 x M1	20-May-15	259	298	89.89	22-Jun-15	3
900067000058441	F1 x M1	19-May-15	215	250	56.63	22-Jun-15	2
900067000058443	F1 x M1	19-May-15	224	263	66.22	22-Jun-15	2

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058444	F1 x M1	19-May-15	257	302	95.68	22-Jun-15	2
900067000058445	F1 x M1	20-May-15	236	274	75.56	22-Jun-15	3
900067000058446	F1 x M1	20-May-15	255	296	99.76	22-Jun-15	3
900067000058448	F1 x M1	20-May-15	235	274	71.76	22-Jun-15	3
900067000058449	F1 x M1	20-May-15	250	289	87.30	22-Jun-15	3
900067000058451	F1 x M1	20-May-15	230	269	71.81	22-Jun-15	3
900067000058453	F1 x M1	20-May-15	240	283	76.35	22-Jun-15	3
900067000058455	F1 x M1	19-May-15	240	281	83.99	22-Jun-15	1
900067000058456	F1 x M1	19-May-15	248	290	86.78	22-Jun-15	1
900067000058457	F1 x M1	19-May-15	252	296	87.46	22-Jun-15	1
900067000058458	F1 x M1	20-May-15	250	296	87.65	22-Jun-15	3
900067000058459	F1 x M1	20-May-15	200	238	48.19	22-Jun-15	3
900067000058460	F1 x M1	20-May-15	229	266	65.54	22-Jun-15	3
900067000058461	F1 x M1	20-May-15	260	300	97.13	22-Jun-15	3
900067000058462	F1 x M1	19-May-15	225	265	73.56	22-Jun-15	1
900067000058464	F1 x M1	19-May-15	230	267	62.90	22-Jun-15	1
900067000058465	F1 x M1	19-May-15	246	288	81.63	22-Jun-15	2
900067000058466	F1 x M1	19-May-15	219	254	64.81	22-Jun-15	1
900067000058467	F1 x M1	19-May-15	235	272	72.34	22-Jun-15	1
900067000058468	F1 x M1	20-May-15	218	251	58.58	22-Jun-15	3
900067000058469	F1 x M1	20-May-15	249	289	80.84	22-Jun-15	3
900067000058471	F1 x M1	19-May-15	235	273	67.87	22-Jun-15	1
900067000058473	F1 x M1	20-May-15	250	290	76.98	22-Jun-15	3
900067000058475	F1 x M1	19-May-15	242	285	79.00	22-Jun-15	2
900067000058476	F1 x M1	20-May-15	240	281	77.11	22-Jun-15	3
900067000058477	F1 x M1	20-May-15	225	259	61.88	22-Jun-15	3
900067000058478	F1 x M1	20-May-15	215	251	57.49	22-Jun-15	3
900067000058479	F1 x M1	20-May-15	232	266	68.53	22-Jun-15	3
900067000058480	F1 x M1	19-May-15	230	268	72.13	22-Jun-15	2
900067000058481	F1 x M1	20-May-15	234	265	68.36	22-Jun-15	3
900067000058483	F1 x M1	20-May-15	250	292	93.62	22-Jun-15	3
900067000058484	F1 x M1	20-May-15	230	270	64.52	22-Jun-15	3
900067000058485	F1 x M1	19-May-15	254	295	89.07	22-Jun-15	1
900067000058487	F1 x M1	20-May-15	229	272	70.00	22-Jun-15	3
900067000058488	F1 x M1	19-May-15	234	275	69.81	22-Jun-15	1
900067000058489	F1 x M1	19-May-15	230	270	65.84	22-Jun-15	2
900067000058491	F1 x M1	19-May-15	245	287	82.92	22-Jun-15	1
900067000058492	F1 x M1	19-May-15	238	276	74.72	22-Jun-15	1
900067000058492	F1 x M1	20-May-15	229	265	67.56	22-Jun-15	3

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058494	F1 x M1	20-May-15	226	263	68.12	22-Jun-15	3
900067000058495	F1 x M1	19-May-15	227	266	64.46	22-Jun-15	1
900067000058498	F1 x M1	20-May-15	220	254	58.43	22-Jun-15	3
900067000058499	F1 x M1	19-May-15	236	279	77.09	22-Jun-15	1
900067000058502	F1 x M1	20-May-15	238	275	73.20	22-Jun-15	3
900067000058503	F1 x M1	20-May-15	230	269	70.60	22-Jun-15	3
900067000058504	F1 x M1	20-May-15	235	271	71.96	22-Jun-15	3
900067000058505	F1 x M1	20-May-15	245	281	75.71	22-Jun-15	3
900067000058506	F1 x M1	19-May-15	253	296	87.34	22-Jun-15	1
900067000058507	F1 x M1	19-May-15	215	254	54.98	22-Jun-15	2
900067000058508	F1 x M1	19-May-15	215	249	60.05	22-Jun-15	1
900067000058509	F1 x M1	20-May-15	244	285	84.46	22-Jun-15	3
900067000058510	F1 x M1	19-May-15	206	244	50.48	22-Jun-15	2
900067000058511	F1 x M1	19-May-15	251	299	90.34	22-Jun-15	1
900067000058512	F1 x M1	20-May-15	250	290	83.74	22-Jun-15	3
900067000058514	F1 x M1	20-May-15	250	289	84.36	22-Jun-15	3
900067000058515	F1 x M1	19-May-15	200	230	44.65	22-Jun-15	2
900067000058516	F1 x M1	20-May-15	255	294	86.00	22-Jun-15	3
900067000058519	F1 x M1	19-May-15	209	242	49.52	22-Jun-15	1
900067000058521	F1 x M1	19-May-15	270	315	119.54	22-Jun-15	1
900067000058522	F1 x M1	19-May-15	200	237	46.49	22-Jun-15	1
900067000058523	F1 x M1	19-May-15	255	301	93.46	22-Jun-15	2
900067000058525	F1 x M1	19-May-15	211	249	54.54	22-Jun-15	2
900067000058526	F1 x M1	19-May-15	236	277	69.63	22-Jun-15	2
900067000058527	F1 x M1	19-May-15	229	267	71.65	22-Jun-15	1
900067000058531	F1 x M1	20-May-15	240	281	77.05	22-Jun-15	3
900067000058533	F1 x M1	19-May-15	205	243	47.86	22-Jun-15	2
900067000058534	F1 x M1	19-May-15	250	290	81.51	22-Jun-15	2
900067000058536	F1 x M1	19-May-15	240	282	81.85	22-Jun-15	1
900067000058537	F1 x M1	19-May-15	217	250	61.61	22-Jun-15	2
900067000058539	F1 x M1	20-May-15	254	294	84.80	22-Jun-15	3
900067000058540	F1 x M1	19-May-15	226	267	66.97	22-Jun-15	2
900067000058541	F1 x M1	19-May-15	216	257	56.89	22-Jun-15	2
900067000058542	F1 x M1	20-May-15	270	313	103.13	22-Jun-15	3
900067000058543	F1 x M1	19-May-15	225	265	62.75	22-Jun-15	1
900067000058544	F1 x M1	20-May-15	266	314	96.20	22-Jun-15	3
900067000058546	F1 x M1	19-May-15	222	261	62.62	22-Jun-15	2
900067000058548	F1 x M1	19-May-15	208	245	53.62	22-Jun-15	1
900067000058549	F1 x M1	20-May-15	224	260	69.69	22-Jun-15	3

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058550	F1 x M1	20-May-15	210	242	50.59	22-Jun-15	3
900067000058552	F1 x M1	19-May-15	225	269	57.63	22-Jun-15	1
900067000058553	F1 x M1	20-May-15	260	306	99.03	22-Jun-15	3
900067000058554	F1 x M1	20-May-15	214	247	53.07	22-Jun-15	3
900067000058555	F1 x M1	20-May-15	235	276	69.61	22-Jun-15	3
900067000058556	F1 x M1	20-May-15	255	295	96.40	22-Jun-15	3
900067000058557	F1 x M1	20-May-15	211	248	49.11	22-Jun-15	3
900067000058558	F1 x M1	20-May-15	225	260	63.73	22-Jun-15	3
900067000058560	F1 x M1	20-May-15	218	250	56.30	22-Jun-15	3
900067000058561	F1 x M1	19-May-15	242	285	81.82	22-Jun-15	1
900067000058562	F1 x M1	19-May-15	198	234	48.43	22-Jun-15	2
900067000058566	F1 x M1	19-May-15	245	287	68.80	22-Jun-15	1
900067000058567	F1 x M1	19-May-15	221	258	60.76	22-Jun-15	1
900067000058568	F1 x M1	20-May-15	228	262	61.73	22-Jun-15	3
900067000058569	F1 x M1	20-May-15	258	297	95.31	22-Jun-15	3
900067000058570	F1 x M1	20-May-15	250	294	85.59	22-Jun-15	3
900067000058572	F1 x M1	19-May-15	206	242	50.84	22-Jun-15	2
900067000058573	F1 x M1	19-May-15	232	270	70.75	22-Jun-15	2
900067000058574	F1 x M1	19-May-15	216	250	60.85	22-Jun-15	2
900067000058575	F1 x M1	20-May-15	224	260	65.66	22-Jun-15	3
900067000058576	F1 x M1	19-May-15	232	270	69.67	22-Jun-15	1
900067000058577	F1 x M1	20-May-15	269	310	102.93	22-Jun-15	3
900067000058579	F1 x M1	19-May-15	258	299	99.42	22-Jun-15	1
900067000058580	F1 x M1	20-May-15	213	251	52.50	22-Jun-15	3
900067000058581	F1 x M1	20-May-15	240	275	67.80	22-Jun-15	3
900067000058586	F1 x M1	20-May-15	248	290	80.87	22-Jun-15	3
900067000058587	F1 x M1	20-May-15	260	305	83.77	22-Jun-15	3
900067000058589	F1 x M1	20-May-15	227	261	59.56	22-Jun-15	3
900067000058590	F1 x M1	19-May-15	200	228	46.54	22-Jun-15	1
900067000058591	F1 x M1	19-May-15	218	255	54.23	22-Jun-15	2
900067000058594	F1 x M1	20-May-15	220	255	60.62	22-Jun-15	3
900067000058595	F1 x M1	19-May-15	242	285	85.21	22-Jun-15	1
900067000058597	F1 x M1	20-May-15	240	280	72.19	22-Jun-15	3
900067000058598	F1 x M1	20-May-15	246	284	84.07	22-Jun-15	3
900067000058603	F1 x M1	19-May-15	235	275	73.75	22-Jun-15	1
900067000058608	F1 x M1	19-May-15	208	242	48.54	22-Jun-15	2
900067000058628	F1 x M1	19-May-15	235	275	68.35	22-Jun-15	1
900067000058648	F1 x M1	19-May-15	232	271	74.66	22-Jun-15	2
900067000058658	F1 x M1	19-May-15	260	307	106.30	22-Jun-15	2

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058666	F1 x M1	19-May-15	238	277	70.27	22-Jun-15	1
900067000058675	F1 x M1	19-May-15	230	267	65.48	22-Jun-15	2
900067000058697	F1 x M1	19-May-15	228	272	69.05	22-Jun-15	1
900067000058699	F1 x M1	19-May-15	242	285	82.03	22-Jun-15	1
900067000058706	F1 x M1	19-May-15	246	287	88.02	22-Jun-15	2
900067000058715	F1 x M1	19-May-15	231	271	67.28	22-Jun-15	1
900067000058740	F1 x M1	19-May-15	236	273	71.71	22-Jun-15	1
900067000058742	F1 x M1	19-May-15	202	239	50.25	22-Jun-15	1
900067000058761	F1 x M1	19-May-15	251	296	85.46	22-Jun-15	2
900067000058763	F1 x M1	19-May-15	250	293	86.37	22-Jun-15	2
900067000058764	F1 x M1	19-May-15	246	287	85.92	22-Jun-15	1
900067000058765	F1 x M1	19-May-15	261	305	117.00	22-Jun-15	1
900067000058774	F1 x M1	19-May-15	243	287	80.15	22-Jun-15	2
900067000058787	F1 x M1	19-May-15	225	267	61.75	22-Jun-15	1

Table A2-2: Biological and PIT tag information for hatchery-reared Lake Sturgeon yearlings released into the lower Nelson River, September 2015. Description of release sites are provided in section 3.5 of report.

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055000	F1xM2	10-Sep-15	316	375	161.00	16-Sep-15	6
900067000055008	F1xM2	10-Sep-15	315	360	162.00	16-Sep-15	6
900067000055011	F1xM1	10-Sep-15	295	343	151.00	14-Sep-15	5
900067000055013	F1xM2	11-Sep-15	313	364	191.00	14-Sep-15	4
900067000055017	F1xM2	10-Sep-15	316	362	176.00	16-Sep-15	7
900067000055025	F1xM2	11-Sep-15	280	330	125.00	14-Sep-15	4
900067000055026	F1xM2	11-Sep-15	295	342	155.00	14-Sep-15	4
900067000055031	F1xM1	7-Sep-15	328	380	180.00	16-Sep-15	6
900067000055032	F1xM2	10-Sep-15	286	340	121.00	16-Sep-15	6
900067000055034	F1xM2	10-Sep-15	300	350	160.00	16-Sep-15	7
900067000055048	F1xM2	10-Sep-15	278	320	107.00	16-Sep-15	6
900067000055055	F1xM1	7-Sep-15	320	372	169.00	16-Sep-15	7
900067000055061	F1xM2	10-Sep-15	316	370	175.00	16-Sep-15	7
900067000055068	F1xM2	10-Sep-15	310	365	164.00	16-Sep-15	6
900067000055069	F1xM2	11-Sep-15	265	306	102.00	14-Sep-15	4
900067000055073	F1xM2	11-Sep-15	311	356	180.00	14-Sep-15	4
900067000055075	F1xM2	10-Sep-15	305	343	141.00	16-Sep-15	6
900067000055076	F1xM2	11-Sep-15	298	344	140.00	14-Sep-15	4
900067000055081	F1xM1	10-Sep-15	288	333	130.00	14-Sep-15	5
900067000055085	F1xM2	11-Sep-15	288	336	136.00	14-Sep-15	5
900067000055087	F1xM2	10-Sep-15	290	335	119.00	16-Sep-15	7
900067000055094	F1xM2	10-Sep-15	305	350	146.00	16-Sep-15	7
900067000055096	F1xM1	7-Sep-15	300	350	150.00	16-Sep-15	6
900067000055098	F1xM1	10-Sep-15	295	337	163.00	14-Sep-15	4
900067000055104	F1xM1	7-Sep-15	325	378	190.00	16-Sep-15	7
900067000055110	F1xM1	7-Sep-15	325	375	170.00	16-Sep-15	7
900067000055121	F1xM2	10-Sep-15	348	406	211.00	16-Sep-15	7
900067000055122	F1xM2	10-Sep-15	275	315	109.00	16-Sep-15	7
900067000055125	F1xM2	11-Sep-15	263	302	108.00	14-Sep-15	4
900067000055126	F1xM2	10-Sep-15	301	346	155.00	16-Sep-15	7
900067000055127	F1xM2	10-Sep-15	320	366	161.00	16-Sep-15	7
900067000055128	F1xM2	11-Sep-15	270	313	99.00	14-Sep-15	4
900067000055129	F1xM1	7-Sep-15	355	410	240.00	16-Sep-15	6
900067000055130	F1xM2	10-Sep-15	311	355	160.00	16-Sep-15	7
900067000055136	F1xM1	10-Sep-15	330	380	208.00	14-Sep-15	5

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055137	F1xM1	10-Sep-15	310	360	174.00	14-Sep-15	4
900067000055139	F1xM2	10-Sep-15	330	388	181.00	16-Sep-15	6
900067000055148	F1xM2	11-Sep-15	240	280	80.00	14-Sep-15	5
900067000055150	F1xM2	11-Sep-15	298	345	160.00	14-Sep-15	4
900067000055158	F1xM2	11-Sep-15	298	354	163.00	14-Sep-15	4
900067000055168	F1xM2	10-Sep-15	296	337	135.00	16-Sep-15	6
900067000055170	F1xM2	10-Sep-15	350	400	248.00	16-Sep-15	6
900067000055179	F1xM2	11-Sep-15	300	346	165.00	14-Sep-15	4
900067000055180	F1xM1	10-Sep-15	293	337	135.00	14-Sep-15	4
900067000055181	F1xM2	11-Sep-15	292	345	140.00	14-Sep-15	5
900067000055182	F1xM2	10-Sep-15	293	331	125.00	16-Sep-15	6
900067000055191	F1xM2	10-Sep-15	298	341	145.00	16-Sep-15	7
900067000055197	F1xM2	10-Sep-15	280	321	105.00	16-Sep-15	7
900067000055200	F1xM1	7-Sep-15	350	406	234.00	16-Sep-15	7
900067000055202	F1xM1	7-Sep-15	325	378	210.00	16-Sep-15	7
900067000055207	F1xM2	10-Sep-15	301	355	144.00	16-Sep-15	6
900067000055208	F1xM1	10-Sep-15	286	330	141.00	14-Sep-15	5
900067000055210	F1xM2	11-Sep-15	274	317	123.00	14-Sep-15	5
900067000055212	F1xM1	7-Sep-15	342	391	220.00	16-Sep-15	7
900067000055213	F1xM1	7-Sep-15	318	367	169.00	16-Sep-15	7
900067000055214	F1xM2	11-Sep-15	266	295	105.00	14-Sep-15	5
900067000055215	F1xM1	10-Sep-15	315	366	179.00	14-Sep-15	5
900067000055216	F1xM2	10-Sep-15	305	350	154.00	16-Sep-15	7
900067000055221	F1xM1	7-Sep-15	350	405	250.00	16-Sep-15	6
900067000055222	F1xM2	11-Sep-15	279	335	142.00	14-Sep-15	4
900067000055223	F1xM1	10-Sep-15	298	341	139.00	14-Sep-15	5
900067000055225	F1xM2	10-Sep-15	300	347	149.00	16-Sep-15	6
900067000055227	F1xM2	10-Sep-15	313	361	156.00	16-Sep-15	7
900067000055230	F1xM1	10-Sep-15	330	344	142.00	14-Sep-15	5
900067000055233	F1xM1	7-Sep-15	340	398	210.00	16-Sep-15	6
900067000055240	F1xM2	11-Sep-15	304	346	156.00	14-Sep-15	4
900067000055241	F1xM1	7-Sep-15	345	404	213.00	16-Sep-15	6
900067000055243	F1xM2	10-Sep-15	330	390	219.00	16-Sep-15	7
900067000055245	F1xM1	10-Sep-15	321	375	193.00	14-Sep-15	5
900067000055246	F1xM1	7-Sep-15	335	387	199.00	16-Sep-15	7
900067000055248	F1xM1	7-Sep-15	305	355	141.00	16-Sep-15	7
900067000055253	F1xM2	11-Sep-15	291	334	123.00	14-Sep-15	4
900067000055254	F1xM1	7-Sep-15	343	396	235.00	16-Sep-15	7
900067000055259	F1xM2	10-Sep-15	291	335	144.00	16-Sep-15	6

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055260	F1xM1	10-Sep-15	299	350	152.00	14-Sep-15	5
900067000055263	F1xM1	10-Sep-15	290	339	141.00	14-Sep-15	4
900067000055265	F1xM1	10-Sep-15	308	357	150.00	14-Sep-15	5
900067000055269	F1xM1	7-Sep-15	281	324	119.00	16-Sep-15	7
900067000055270	F1xM1	10-Sep-15	315	363	185.00	14-Sep-15	4
900067000055273	F1xM2	11-Sep-15	310	362	171.00	14-Sep-15	5
900067000055279	F1xM1	10-Sep-15	325	345	148.00	14-Sep-15	5
900067000055281	F1xM1	10-Sep-15	315	372	181.00	14-Sep-15	4
900067000055284	F1xM1	7-Sep-15	350	406	252.00	16-Sep-15	6
900067000055285	F1xM1	10-Sep-15	301	345	149.00	14-Sep-15	5
900067000055288	F1xM2	11-Sep-15	308	362	171.00	14-Sep-15	4
900067000055289	F1xM1	10-Sep-15	310	363	164.00	14-Sep-15	5
900067000055293	F1xM1	7-Sep-15	310	356	145.00	16-Sep-15	7
900067000055297	F1xM1	7-Sep-15	315	364	170.00	16-Sep-15	6
900067000055299	F1xM2	11-Sep-15	315	365	188.00	14-Sep-15	5
900067000055300	F1xM2	10-Sep-15	320	366	184.00	16-Sep-15	7
900067000055301	F1xM1	10-Sep-15	325	378	200.00	14-Sep-15	5
900067000055302	F1xM2	10-Sep-15	299	348	136.00	16-Sep-15	6
900067000055303	F1xM1	7-Sep-15	325	381	165.00	16-Sep-15	7
900067000055304	F1xM2	11-Sep-15	285	330	137.00	14-Sep-15	5
900067000055306	F1xM2	11-Sep-15	256	291	94.00	14-Sep-15	4
900067000055310	F1xM1	10-Sep-15	295	347	138.00	14-Sep-15	4
900067000055311	F1xM1	7-Sep-15	324	370	171.00	16-Sep-15	6
900067000055313	F1xM2	11-Sep-15	276	323	126.00	14-Sep-15	5
900067000055315	F1xM1	7-Sep-15	340	392	205.00	16-Sep-15	6
900067000055321	F1xM2	10-Sep-15	306	351	155.00	16-Sep-15	7
900067000055324	F1xM1	7-Sep-15	315	362	175.00	16-Sep-15	6
900067000055325	F1xM2	10-Sep-15	316	365	169.00	16-Sep-15	7
900067000055333	F1xM2	11-Sep-15	291	340	140.00	14-Sep-15	5
900067000055334	F1xM2	10-Sep-15	301	346	149.00	16-Sep-15	7
900067000055335	F1xM2	11-Sep-15	305	350	145.00	14-Sep-15	4
900067000055337	F1xM1	10-Sep-15	295	344	151.00	14-Sep-15	4
900067000055340	F1xM1	10-Sep-15	335	388	196.00	14-Sep-15	5
900067000055342	F1xM1	10-Sep-15	310	365	164.00	14-Sep-15	4
900067000055344	F1xM2	11-Sep-15	285	335	130.00	14-Sep-15	5
900067000055347	F1xM2	10-Sep-15	330	389	186.00	16-Sep-15	6
900067000055350	F1xM2	11-Sep-15	306	350	158.00	14-Sep-15	4
900067000055351	F1xM1	7-Sep-15	318	365	155.00	16-Sep-15	7
900067000055352	F1xM2	11-Sep-15	280	325	119.00	14-Sep-15	5

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055356	F1xM1	7-Sep-15	321	372	240.00	16-Sep-15	6
900067000055360	F1xM2	11-Sep-15	250	283	76.00	14-Sep-15	5
900067000055364	F1xM2	11-Sep-15	259	297	93.00	14-Sep-15	5
900067000055369	F1xM2	11-Sep-15	280	330	125.00	14-Sep-15	5
900067000055373	F1xM1	10-Sep-15	320	367	196.00	14-Sep-15	4
900067000055374	F1xM2	10-Sep-15	315	369	179.00	16-Sep-15	6
900067000055376	F1xM1	10-Sep-15	268	307	100.00	14-Sep-15	5
900067000055378	F1xM2	11-Sep-15	295	348	145.00	14-Sep-15	5
900067000055383	F1xM1	7-Sep-15	355	411	215.00	16-Sep-15	7
900067000055385	F1xM1	7-Sep-15	350	400	225.00	16-Sep-15	6
900067000055386	F1xM1	10-Sep-15	292	336	155.00	14-Sep-15	4
900067000055387	F1xM1	10-Sep-15	275	315	115.00	14-Sep-15	4
900067000055392	F1xM1	10-Sep-15	285	320	133.00	14-Sep-15	4
900067000055393	F1xM1	7-Sep-15	320	372	150.00	16-Sep-15	6
900067000055395	F1xM2	11-Sep-15	294	340	160.00	14-Sep-15	5
900067000055397	F1xM1	10-Sep-15	288	336	121.00	14-Sep-15	5
900067000055400	F1xM1	7-Sep-15	310	363	169.00	16-Sep-15	7
900067000055401	F1xM2	10-Sep-15	320	367	187.00	16-Sep-15	6
900067000055402	F1xM2	11-Sep-15	270	312	107.00	14-Sep-15	4
900067000055404	F1xM2	11-Sep-15	260	306	115.00	14-Sep-15	5
900067000055405	F1xM2	10-Sep-15	297	344	130.00	16-Sep-15	6
900067000055406	F1xM1	7-Sep-15	321	371	167.00	16-Sep-15	7
900067000055407	F1xM1	10-Sep-15	295	346	153.00	14-Sep-15	4
900067000055408	F1xM1	7-Sep-15	285	330	115.00	16-Sep-15	6
900067000055409	F1xM1	7-Sep-15	351	405	221.00	16-Sep-15	6
900067000055410	F1xM1	10-Sep-15	275	316	115.00	14-Sep-15	4
900067000055411	F1xM1	7-Sep-15	333	382	178.00	16-Sep-15	7
900067000055412	F1xM2	10-Sep-15	252	401	221.00	16-Sep-15	7
900067000055413	F1xM1	7-Sep-15	335	390	185.00	16-Sep-15	7
900067000055414	F1xM1	10-Sep-15	315	367	170.00	14-Sep-15	4
900067000055415	F1xM2	11-Sep-15	270	308	110.00	14-Sep-15	5
900067000055416	F1xM2	11-Sep-15	305	356	163.00	14-Sep-15	5
900067000055417	F1xM2	11-Sep-15	320	372	190.00	14-Sep-15	5
900067000055418	F1xM2	10-Sep-15	311	358	170.00	16-Sep-15	6
900067000055419	F1xM2	10-Sep-15	325	372	159.00	16-Sep-15	7
900067000055420	F1xM1	10-Sep-15	283	329	126.00	14-Sep-15	4
900067000055421	F1xM2	11-Sep-15	303	362	160.00	14-Sep-15	4
900067000055422	F1xM1	10-Sep-15	325	378	180.00	14-Sep-15	5
900067000055423	F1xM1	7-Sep-15	315	357	165.00	16-Sep-15	7

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055424	F1xM2	10-Sep-15	340	399	210.00	16-Sep-15	7
900067000055425	F1xM1	7-Sep-15	356	410	210.00	16-Sep-15	7
900067000055426	F1xM2	10-Sep-15	301	345	141.00	16-Sep-15	7
900067000055427	F1xM2	10-Sep-15	290	330	121.00	16-Sep-15	7
900067000055428	F1xM1	7-Sep-15	322	377	184.00	16-Sep-15	6
900067000055429	F1xM2	11-Sep-15	245	350	150.00	14-Sep-15	4
900067000055430	F1xM1	10-Sep-15	328	383	230.00	14-Sep-15	4
900067000055431	F1xM2	10-Sep-15	318	365	170.00	16-Sep-15	6
900067000055432	F1xM2	10-Sep-15	304	349	150.00	16-Sep-15	6
900067000055433	F1xM2	10-Sep-15	332	380	190.00	16-Sep-15	7
900067000055434	F1xM2	11-Sep-15	300	340	140.00	14-Sep-15	5
900067000055435	F1xM2	11-Sep-15	310	360	163.00	14-Sep-15	4
900067000055437	F1xM2	11-Sep-15	295	343	125.00	14-Sep-15	5
900067000055438	F1xM2	10-Sep-15	338	390	220.00	16-Sep-15	6
900067000055439	F1xM2	10-Sep-15	335	389	198.00	16-Sep-15	7
900067000055441	F1xM2	10-Sep-15	322	369	176.00	16-Sep-15	6
900067000055442	F1xM2	11-Sep-15	301	340	153.00	14-Sep-15	4
900067000055443	F1xM1	10-Sep-15	298	342	154.00	14-Sep-15	5
900067000055444	F1xM2	11-Sep-15	295	343	136.00	14-Sep-15	5
900067000055445	F1xM2	11-Sep-15	337	395	233.00	14-Sep-15	4
900067000055446	F1xM1	7-Sep-15	306	355	140.00	16-Sep-15	7
900067000055449	F1xM2	10-Sep-15	322	367	175.00	16-Sep-15	6
900067000055450	F1xM1	10-Sep-15	276	314	115.00	14-Sep-15	5
900067000055451	F1xM2	11-Sep-15	310	354	164.00	14-Sep-15	4
900067000055452	F1xM1	10-Sep-15	315	370	190.00	14-Sep-15	5
900067000055453	F1xM1	10-Sep-15	306	354	143.00	14-Sep-15	4
900067000055454	F1xM2	10-Sep-15	385	447	314.00	16-Sep-15	6
900067000055455	F1xM1	10-Sep-15	285	330	122.00	14-Sep-15	4
900067000055456	F1xM1	7-Sep-15	360	414	279.00	16-Sep-15	6
900067000055457	F1xM2	11-Sep-15	320	374	195.00	14-Sep-15	5
900067000055459	F1xM1	7-Sep-15	330	377	191.00	16-Sep-15	7
900067000055460	F1xM1	7-Sep-15	330	380	160.00	16-Sep-15	7
900067000055461	F1xM2	10-Sep-15	295	343	136.00	16-Sep-15	6
900067000055462	F1xM2	11-Sep-15	280	320	125.00	14-Sep-15	4
900067000055463	F1xM1	7-Sep-15	310	361	170.00	16-Sep-15	7
900067000055464	F1xM2	10-Sep-15	302	349	134.00	16-Sep-15	6
900067000055465	F1xM1	10-Sep-15	279	318	120.00	14-Sep-15	4
900067000055467	F1xM2	10-Sep-15	306	340	150.00	16-Sep-15	7
900067000055468	F1xM2	11-Sep-15	307	356	168.00	14-Sep-15	5

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055469	F1xM1	7-Sep-15	343	395	200.00	16-Sep-15	7
900067000055471	F1xM1	7-Sep-15	352	406	210.00	16-Sep-15	6
900067000055472	F1xM2	11-Sep-15	295	345	138.00	14-Sep-15	4
900067000055473	F1xM2	11-Sep-15	270	311	100.00	14-Sep-15	4
900067000055474	F1xM2	10-Sep-15	310	358	148.00	16-Sep-15	6
900067000055475	F1xM2	10-Sep-15	270	308	110.00	16-Sep-15	6
900067000055476	F1xM1	10-Sep-15	307	361	174.00	14-Sep-15	5
900067000055477	F1xM1	10-Sep-15	325	373	194.00	14-Sep-15	5
900067000055478	F1xM1	10-Sep-15	296	340	130.00	14-Sep-15	5
900067000055479	F1xM2	10-Sep-15	334	398	204.00	16-Sep-15	6
900067000055481	F1xM1	7-Sep-15	295	349	140.00	16-Sep-15	7
900067000055482	F1xM1	10-Sep-15	306	347	152.00	14-Sep-15	5
900067000055483	F1xM1	7-Sep-15	322	377	181.00	16-Sep-15	7
900067000055484	F1xM2	10-Sep-15	313	365	170.00	16-Sep-15	7
900067000055485	F1xM1	10-Sep-15	296	350	155.00	14-Sep-15	4
900067000055486	F1xM1	10-Sep-15	280	325	120.00	14-Sep-15	4
900067000055487	F1xM2	11-Sep-15	282	323	125.00	14-Sep-15	4
900067000055488	F1xM1	10-Sep-15	274	317	110.00	14-Sep-15	5
900067000055489	F1xM1	7-Sep-15	315	366	170.00	16-Sep-15	6
900067000055490	F1xM1	7-Sep-15	322	378	164.00	16-Sep-15	6
900067000055491	F1xM2	11-Sep-15	270	315	100.00	14-Sep-15	5
900067000055493	F1xM2	11-Sep-15	293	339	145.00	14-Sep-15	4
900067000055494	F1xM1	7-Sep-15	335	386	180.00	16-Sep-15	7
900067000055495	F1xM1	10-Sep-15	288	331	124.00	14-Sep-15	5
900067000055496	F1xM2	11-Sep-15	250	296	78.00	14-Sep-15	4
900067000055497	F1xM2	11-Sep-15	265	307	94.00	14-Sep-15	5
900067000055498	F1xM1	10-Sep-15	389	336	140.00	14-Sep-15	4
900067000055499	F1xM1	10-Sep-15	310	360	126.00	14-Sep-15	4
900067000055500	F1xM1	7-Sep-15	325	367	165.00	16-Sep-15	6
900067000055501	F1xM2	10-Sep-15	260	300	89.00	16-Sep-15	7
900067000055502	F1xM2	11-Sep-15	319	364	185.00	14-Sep-15	5
900067000055503	F1xM2	11-Sep-15	293	342	139.00	14-Sep-15	5
900067000055504	F1xM1	7-Sep-15	315	364	155.00	16-Sep-15	6
900067000055505	F1xM2	11-Sep-15	275	320	125.00	14-Sep-15	4
900067000055506	F1xM1	10-Sep-15	295	334	145.00	14-Sep-15	4
900067000055507	F1xM1	10-Sep-15	314	360	180.00	14-Sep-15	4
900067000055508	F1xM2	11-Sep-15	268	310	110.00	14-Sep-15	5
900067000055509	F1xM2	10-Sep-15	316	361	165.00	16-Sep-15	7
900067000055510	F1xM2	10-Sep-15	325	387	175.00	16-Sep-15	6

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055511	F1xM1	7-Sep-15	300	345	125.00	16-Sep-15	6
900067000055512	F1xM1	10-Sep-15	335	390	220.00	14-Sep-15	4
900067000055513	F1xM1	10-Sep-15	290	340	131.00	14-Sep-15	5
900067000055514	F1xM2	11-Sep-15	267	310	102.00	14-Sep-15	4
900067000055515	F1xM2	11-Sep-15	281	330	126.00	14-Sep-15	5
900067000055516	F1xM1	10-Sep-15	280	327	115.00	14-Sep-15	4
900067000055517	F1xM1	7-Sep-15	335	382	170.00	16-Sep-15	6
900067000055518	F1xM2	10-Sep-15	319	367	174.00	16-Sep-15	7
900067000055519	F1xM1	7-Sep-15	332	383	190.00	16-Sep-15	7
900067000055520	F1xM1	10-Sep-15	280	325	114.00	14-Sep-15	5
900067000055521	F1xM1	10-Sep-15	283	324	140.00	14-Sep-15	4
900067000055522	F1xM1	7-Sep-15	310	360	151.00	16-Sep-15	7
900067000055524	F1xM1	7-Sep-15	310	356	155.00	16-Sep-15	6
900067000055525	F1xM2	10-Sep-15	340	390	220.00	16-Sep-15	7
900067000055527	F1xM1	10-Sep-15	308	355	160.00	14-Sep-15	4
900067000055528	F1xM2	10-Sep-15	325	370	184.00	16-Sep-15	7
900067000055529	F1xM2	10-Sep-15	320	371	185.00	16-Sep-15	6
900067000055530	F1xM2	10-Sep-15	323	374	171.00	16-Sep-15	6
900067000055531	F1xM1	7-Sep-15	318	371	160.00	16-Sep-15	6
900067000055532	F1xM2	11-Sep-15	288	335	137.00	14-Sep-15	5
900067000055533	F1xM1	7-Sep-15	325	375	208.00	16-Sep-15	7
900067000055534	F1xM1	10-Sep-15	289	331	130.00	14-Sep-15	4
900067000055536	F1xM2	10-Sep-15	320	366	184.00	16-Sep-15	6
900067000055537	F1xM1	7-Sep-15	330	385	170.00	16-Sep-15	7
900067000055539	F1xM2	11-Sep-15	309	366	175.00	14-Sep-15	5
900067000055540	F1xM1	10-Sep-15	295	348	135.00	14-Sep-15	5
900067000055541	F1xM1	10-Sep-15	293	339	135.00	14-Sep-15	4
900067000055542	F1xM1	10-Sep-15	334	385	200.00	14-Sep-15	4
900067000055543	F1xM2	10-Sep-15	300	350	137.00	16-Sep-15	6
900067000055545	F1xM2	11-Sep-15	304	351	150.00	14-Sep-15	4
900067000055546	F1xM2	11-Sep-15	275	321	118.00	14-Sep-15	5
900067000055547	F1xM2	11-Sep-15	310	359	183.00	14-Sep-15	4
900067000055548	F1xM1	7-Sep-15	322	377	165.00	16-Sep-15	6
900067000055549	F1xM2	11-Sep-15	303	355	155.00	14-Sep-15	4
900067000055550	F1xM2	10-Sep-15	320	365	175.00	16-Sep-15	7
900067000055551	F1xM1	7-Sep-15	360	420	241.00	16-Sep-15	6
900067000055553	F1xM2	11-Sep-15	310	364	180.00	14-Sep-15	5
900067000055554	F1xM2	10-Sep-15	340	389	215.00	16-Sep-15	7
900067000055555	F1xM1	7-Sep-15	311	371	151.00	16-Sep-15	6

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055556	F1xM2	11-Sep-15	300	353	139.00	14-Sep-15	4
900067000055557	F1xM2	10-Sep-15	295	340	150.00	16-Sep-15	6
900067000055558	F1xM1	7-Sep-15	350	402	270.00	16-Sep-15	6
900067000055559	F1xM2	10-Sep-15	324	368	155.00	16-Sep-15	7
900067000055560	F1xM2	10-Sep-15	310	358	161.00	16-Sep-15	6
900067000055561	F1xM2	11-Sep-15	265	308	97.00	14-Sep-15	4
900067000055562	F1xM2	11-Sep-15	315	365	170.00	14-Sep-15	5
900067000055563	F1xM2	11-Sep-15	254	286	99.00	14-Sep-15	5
900067000055564	F1xM1	7-Sep-15	336	390	210.00	16-Sep-15	7
900067000055565	F1xM1	10-Sep-15	314	363	154.00	14-Sep-15	5
900067000055566	F1xM2	11-Sep-15	335	395	224.00	14-Sep-15	5
900067000055567	F1xM2	10-Sep-15	333	379	208.00	16-Sep-15	7
900067000055568	F1xM1	10-Sep-15	298	347	156.00	14-Sep-15	5
900067000055569	F1xM1	10-Sep-15	330	382	210.00	14-Sep-15	5
900067000055570	F1xM2	11-Sep-15	305	354	156.00	14-Sep-15	5
900067000055571	F1xM2	10-Sep-15	331	387	230.00	16-Sep-15	7
900067000055572	F1xM2	11-Sep-15	335	392	220.00	14-Sep-15	4
900067000055573	F1xM1	10-Sep-15	300	353	146.00	14-Sep-15	4
900067000055574	F1xM2	11-Sep-15	301	351	160.00	14-Sep-15	4
900067000055575	F1xM1	7-Sep-15	340	402	200.00	16-Sep-15	7
900067000055576	F1xM1	10-Sep-15	298	344	141.00	14-Sep-15	5
900067000055577	F1xM1	10-Sep-15	293	335	139.00	14-Sep-15	4
900067000055578	F1xM1	7-Sep-15	320	371	175.00	16-Sep-15	6
900067000055580	F1xM2	11-Sep-15	317	365	180.00	14-Sep-15	4
900067000055581	F1xM1	7-Sep-15	335	382	191.00	16-Sep-15	7
900067000055582	F1xM2	11-Sep-15	265	310	114.00	14-Sep-15	5
900067000055583	F1xM2	11-Sep-15	270	312	107.00	14-Sep-15	4
900067000055584	F1xM1	10-Sep-15	295	335	148.00	14-Sep-15	5
900067000055585	F1xM2	11-Sep-15	287	330	134.00	14-Sep-15	4
900067000055587	F1xM2	10-Sep-15	304	355	141.00	16-Sep-15	7
900067000055588	F1xM2	11-Sep-15	263	303	97.00	14-Sep-15	4
900067000055589	F1xM2	10-Sep-15	331	380	191.00	16-Sep-15	6
900067000055590	F1xM2	10-Sep-15	383	448	292.00	16-Sep-15	7
900067000055592	F1xM2	10-Sep-15	348	403	225.00	16-Sep-15	6
900067000055593	F1xM1	10-Sep-15	285	325	130.00	14-Sep-15	5
900067000055594	F1xM1	7-Sep-15	295	346	161.00	16-Sep-15	7
900067000055597	F1xM2	10-Sep-15	321	366	174.00	16-Sep-15	6
900067000055598	F1xM2	11-Sep-15	286	323	134.00	14-Sep-15	4
900067000055600	F1xM2	11-Sep-15	285	335	136.00	14-Sep-15	5

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000055604	F1xM2	11-Sep-15	279	323	126.00	14-Sep-15	5
900067000055610	F1xM2	11-Sep-15	290	339	134.00	14-Sep-15	5
900067000055620	F1xM2	10-Sep-15	292	333	131.00	16-Sep-15	6
900067000055624	F1xM2	11-Sep-15	285	333	133.00	14-Sep-15	5
900067000055634	F1xM2	11-Sep-15	298	345	154.00	14-Sep-15	4
900067000055643	F1xM2	11-Sep-15	290	338	126.00	14-Sep-15	4
900067000055650	F1xM2	10-Sep-15	367	422	277.00	16-Sep-15	6
900067000055655	F1xM2	11-Sep-15	237	270	75.00	14-Sep-15	5
900067000055656	F1xM2	10-Sep-15	333	384	205.00	16-Sep-15	6
900067000055658	F1xM2	10-Sep-15	341	395	223.00	16-Sep-15	6
900067000055669	F1xM2	10-Sep-15	315	371	167.00	16-Sep-15	6
900067000055670	F1xM2	11-Sep-15	315	367	180.00	14-Sep-15	4
900067000055675	F1xM2	10-Sep-15	271	315	106.00	16-Sep-15	6
900067000055677	F1xM2	10-Sep-15	300	343	141.00	16-Sep-15	7
900067000055687	F1xM2	10-Sep-15	305	347	154.00	16-Sep-15	7
900067000055689	F1xM2	10-Sep-15	318	366	165.00	16-Sep-15	6
900067000055691	F1xM2	10-Sep-15	346	406	217.00	16-Sep-15	7
900067000055698	F1xM2	11-Sep-15	299	346	144.00	14-Sep-15	4
900067000055712	F1xM2	10-Sep-15	294	337	134.00	16-Sep-15	7
900067000055721	F1xM2	10-Sep-15	334	387	200.00	16-Sep-15	6
900067000055726	F1xM2	11-Sep-15	290	336	135.00	14-Sep-15	5
900067000055748	F1xM2	11-Sep-15	306	353	145.00	14-Sep-15	5
900067000055752	F1xM2	10-Sep-15	310	363	169.00	16-Sep-15	7
900067000055759	F1xM2	11-Sep-15	265	316	93.00	14-Sep-15	5
900067000055762	F1xM2	11-Sep-15	288	331	131.00	14-Sep-15	4
900067000055774	F1xM2	10-Sep-15	290	328	121.00	16-Sep-15	7
900067000055782	F1xM2	11-Sep-15	288	336	130.00	14-Sep-15	5
900067000055784	F1xM2	10-Sep-15	285	323	120.00	16-Sep-15	7
900067000055788	F1xM2	10-Sep-15	360	416	235.00	16-Sep-15	7
900067000055795	F1xM2	10-Sep-15	330	381	189.00	16-Sep-15	7
900067000058400	F1xM1	10-Sep-15	308	360	180.00	14-Sep-15	4
900067000058404	F1xM1	10-Sep-15	290	333	144.00	14-Sep-15	4
900067000058411	F1xM1	7-Sep-15	320	362	155.00	16-Sep-15	7
900067000058412	F1xM1	7-Sep-15	310	356	145.00	16-Sep-15	6
900067000058417	F1xM1	7-Sep-15	360	418	223.00	16-Sep-15	7
900067000058418	F1xM1	10-Sep-15	290	342	116.00	14-Sep-15	5
900067000058421	F1xM1	7-Sep-15	345	398	205.00	16-Sep-15	6
900067000058422	F1xM1	10-Sep-15	270	310	110.00	14-Sep-15	5
900067000058423	F1xM1	7-Sep-15	341	391	210.00	16-Sep-15	6

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058425	F1xM1	7-Sep-15	345	402	215.00	16-Sep-15	6
900067000058433	F1xM1	10-Sep-15	310	365	174.00	14-Sep-15	5
900067000058436	F1xM1	7-Sep-15	333	384	200.00	16-Sep-15	6
900067000058442	F1xM1	7-Sep-15	320	371	150.00	16-Sep-15	7
900067000058447	F1xM1	7-Sep-15	342	391	220.00	16-Sep-15	7
900067000058450	F1xM1	7-Sep-15	311	360	164.00	16-Sep-15	6
900067000058452	F1xM1	7-Sep-15	340	395	211.00	16-Sep-15	6
900067000058454	F1xM1	7-Sep-15	310	355	147.00	16-Sep-15	6
900067000058463	F1xM1	7-Sep-15	330	378	193.00	16-Sep-15	6
900067000058470	F1xM1	10-Sep-15	240	284	74.00	14-Sep-15	5
900067000058472	F1xM1	7-Sep-15	325	377	195.00	16-Sep-15	7
900067000058474	F1xM1	10-Sep-15	277	322	118.00	14-Sep-15	5
900067000058482	F1xM1	7-Sep-15	348	402	228.00	16-Sep-15	7
900067000058486	F1xM1	10-Sep-15	284	327	114.00	14-Sep-15	4
900067000058490	F1xM1	7-Sep-15	355	412	238.00	16-Sep-15	6
900067000058496	F1xM1	7-Sep-15	338	395	207.00	16-Sep-15	6
900067000058497	F1xM1	7-Sep-15	320	374	165.00	16-Sep-15	7
900067000058500	F1xM1	7-Sep-15	330	382	183.00	16-Sep-15	6
900067000058501	F1xM1	10-Sep-15	280	323	110.00	14-Sep-15	4
900067000058513	F1xM1	10-Sep-15	269	315	100.00	14-Sep-15	5
900067000058517	F1xM1	10-Sep-15	287	329	123.00	14-Sep-15	4
900067000058518	F1xM1	10-Sep-15	285	335	126.00	14-Sep-15	5
900067000058520	F1xM1	7-Sep-15	305	360	150.00	16-Sep-15	6
900067000058524	F1xM1	10-Sep-15	320	376	198.00	14-Sep-15	5
900067000058528	F1xM1	7-Sep-15	321	366	168.00	16-Sep-15	6
900067000058529	F1xM1	10-Sep-15	315	366	180.00	14-Sep-15	5
900067000058530	F1xM1	7-Sep-15	340	392	200.00	16-Sep-15	7
900067000058532	F1xM1	7-Sep-15	335	388	186.00	16-Sep-15	7
900067000058535	F1xM1	10-Sep-15	296	353	140.00	14-Sep-15	4
900067000058538	F1xM1	10-Sep-15	310	360	165.00	14-Sep-15	4
900067000058547	F1xM1	7-Sep-15	340	400	226.00	16-Sep-15	6
900067000058551	F1xM1	10-Sep-15	287	335	130.00	14-Sep-15	5
900067000058559	F1xM1	10-Sep-15	322	375	204.00	14-Sep-15	4
900067000058563	F1xM1	10-Sep-15	287	333	135.00	14-Sep-15	4
900067000058564	F1xM1	10-Sep-15	295	340	157.00	14-Sep-15	4
900067000058565	F1xM1	7-Sep-15	330	385	185.00	16-Sep-15	7
900067000058571	F1xM1	7-Sep-15	355	410	243.00	16-Sep-15	7
900067000058578	F1xM1	7-Sep-15	325	381	189.00	16-Sep-15	6
900067000058582	F1xM1	10-Sep-15	310	360	157.00	14-Sep-15	4

Lake Sturgeon		Final Hatchery Measurement				Stocking Activity	
PIT Tag ID	Family	Date	Fork Length (mm)	Total Length (mm)	Body Mass (g)	Date	Site ID
900067000058583	F1xM1	7-Sep-15	310	355	142.00	16-Sep-15	7
900067000058584	F1xM1	7-Sep-15	310	356	166.00	16-Sep-15	6
900067000058585	F1xM1	7-Sep-15	352	406	248.00	16-Sep-15	6
900067000058588	F1xM1	10-Sep-15	290	333	143.00	14-Sep-15	4
900067000058592	F1xM1	10-Sep-15	300	346	148.00	14-Sep-15	5
900067000058593	F1xM1	10-Sep-15	310	360	158.00	14-Sep-15	5
900067000058596	F1xM1	7-Sep-15	355	415	218.00	16-Sep-15	6
900067000058607	F1xM1	10-Sep-15	330	381	195.00	14-Sep-15	4
900067000058629	F1xM1	10-Sep-15	305	356	160.00	14-Sep-15	4
900067000058636	F1xM1	7-Sep-15	310	362	170.00	16-Sep-15	7
900067000058647	F1xM1	10-Sep-15	283	331	119.00	14-Sep-15	5
900067000058691	F1xM1	7-Sep-15	321	375	175.00	16-Sep-15	7
900067000058712	F1xM1	7-Sep-15	311	361	148.00	16-Sep-15	7
900067000058726	F1xM1	7-Sep-15	325	375	170.00	16-Sep-15	6
900067000058735	F1xM1	7-Sep-15	331	390	188.00	16-Sep-15	6
900067000058780	F1xM1	10-Sep-15	298	349	160.00	14-Sep-15	5

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