



Lake Sturgeon

Memorandum of Understanding between
Government of Manitoba and Manitoba Hydro

Annual Report 2015/2016



MEMORANDUM OF UNDERSTANDING — RESPECTING LAKE STURGEON ANNUAL REPORT 2015/2016

Manitoba Sustainable Development and Manitoba Hydro have a shared interest in the protection and recovery of Lake Sturgeon in Manitoba. This joint interest was formally recognized in a Memorandum of Understanding signed in December 2013, which included a commitment from Manitoba Hydro to provide up to \$50,000 annually for the costs of cooperative research projects completed through the MOU over five years (starting in 2014/2015). In the second year (2015/2016), the two organizations collaborated on three Lake Sturgeon projects, including a population monitoring study at Lac du Bonnet, a study to assess the juvenile population in the Saskatchewan River and completion of aging analysis on fin rays previously collected in the Winnipeg, Saskatchewan and Nelson rivers.

WINNIPEG RIVER POPULATION MONITORING AT LAC DU BONNET

Recent surveys of Lake Sturgeon populations completed in the Lac du Bonnet (MU7) and Nutimik/Numao (MU6) stretches of the Winnipeg River have resolved differing population structures, which may indicate differing stages of stock recovery (or lack thereof). The Manitoba Sustainable Development Fisheries Branch (Eastern Region) has been conducting a long-term Lake Sturgeon monitoring program in the MU6 reach of the Winnipeg River since 1983. This year marked the beginning of a similar monitoring program in the MU7 region of the Winnipeg River that will be conducted biennially, with MU6 being sampled on alternate years. From June 8-25, 2015, 48 gill nets were set in known Lake Sturgeon habitat resulting in a total of 219 Lake Sturgeon captures, and a CPUE (Catch Per Unit Effort, total fish per net per night) of 4.56. CPUE was evenly distributed across size classes, with a juvenile (<600mm) CPUE of 1.85, a sub-adult (600-850mm) CPUE of 1.19 and an adult (>850mm) CPUE of 1.52. Eleven Lake Sturgeon were recaptured; one previously tagged with a

Passive Integrated Transponder (PIT) tag in this reach in 2013, and ten that were previously Floy tagged (new PIT tags were applied). Tagging fish allows monitoring of fish movements through the river, as well as the development of long term population estimates and trajectories.



Field crews weigh and measure an adult Lake Sturgeon on the shores of the Winnipeg River.

SASKATCHEWAN RIVER JUVENILE LAKE STURGEON POPULATION ASSESSMENT

This study was designed to develop and standardize juvenile Lake Sturgeon sampling methods within the Manitoba and Saskatchewan sections of the Saskatchewan River, and was completed in cooperation with the Saskatchewan River Sturgeon Management Board. The addition of standardized juvenile assessment techniques to the long term adult population monitoring in this stretch of the river will provide information on juvenile habitat use and movements, cohort strength and long term survival estimates. During fall 2015, local fishers from Cumberland House Cree Nation and Opaskwayak

Cree Nation worked with North South Consultants to set gill nets in the Saskatchewan River from EB Campbell Hydro Station to Cedar Lake, at deep water areas which have been shown to be preferred habitat for juvenile Lake Sturgeon. A total of 149 Lake Sturgeon were captured and measured for length and weight. The left pectoral fin ray from each fish was collected for aging analysis, and a fin clip from the left pelvic fin was removed for future genetic analysis. Floy and/or PIT tags were applied to 142 of the captured sturgeon, giving each fish a unique number to allow for identification and



Juvenile Lake Sturgeon are weighed and measured for length before release.



estimation of population size. One fish was identified as a recapture from 2012 (based on PIT tag) and grew 105 mm (fork length) and 0.72 kg in the 3.25 years since it was first sampled. In general, there appears to be a healthy population of Lake Sturgeon in this reach of the Saskatchewan River with successful spawning and recruitment of juveniles and abundant rearing habitat. Data collected from this study can be compiled with previous and future information to continue to monitor the movement and population of Lake Sturgeon in this reach of the Saskatchewan River.

LAKE STURGEON AGEING ANALYSIS

Manitoba Fisheries Branch had approximately 1,500 Lake Sturgeon pectoral spines collected during index netting projects on the Winnipeg, Saskatchewan and Nelson rivers between 2012 and 2014. Projects on the Saskatchewan River were in partnership with the Saskatchewan River Sturgeon Management Board and on the Nelson River were in partnership with the Nelson River Sturgeon Board. These pectoral spines were not aged due to time and funding constraints, and a backlog of ageing structures developed. In 2014/15 the MOU provided funding to address some of this backlog by tendering a contract to process and age the spines. Additional funds were provided in 2015/16 to age the remainder of samples as well as samples collected in 2015. The completion of this project brings all of the ageing for sturgeon sampling programs up to current. The information from these programs is important for understanding changes in sturgeon stocks as they recover. It is particularly valuable to the management boards that collected the ageing structures.



Fin Rays from the Lake Sturgeon are cross sectioned and aged (like counting tree rings).





For more information please contact LakeSturgeon@hydro.mb.ca