

Helping Aquatic Species at Risk

LAKE STURGEON



ALUS Projects Produce Ecosystem Services

Cleaner Water: ALUS riparian projects help farmers and ranchers produce cleaner water, critical for fish spawning areas.

Flood and Drought-Mitigation: ALUS wetland and riparian projects help farmers and ranchers store water on their land. This reduces flooding downstream during extreme rainfall events, while providing much-needed moisture during periods of drought.

Biodiversity: ALUS wetland and riparian projects allow farmers and ranchers to support numerous bird, insect, plant, mammal and aquatic species.

What are Aquatic Species at Risk?

Canada is world-renowned for its majestic landscapes, copious freshwater lakes and wild rivers teeming with fish. And Canadians want to keep it that way. ALUS Canada helps farmers and ranchers steward their land for future generations, ensuring wildlife has the habitat it needs to thrive. With support from Fisheries and Oceans Canada (DFO), and through a strong collaboration with regional partners, local leaders and agricultural producers, the ALUS program will help multiple aquatic species at risk through practical solutions on farms and ranches in the southern Prairies.

How Can Agriculture Help?

Not surprisingly, water quality is a key factor for the survival of fish and other aquatic species. But did you know that healthy riparian areas are essential for healthy aquatic ecosystems? Crumbling riverbanks and soil erosion have a negative impact on what biologists term “critical habitat”: the habitat that is vital to the survival or recovery of an aquatic species, such as an identified breeding site, nursery area or feeding ground that can make all the difference to a species at risk.

Riparian areas are typically harmed by recreational overuse, municipal waste, urban construction activities, mining and other industrial practices, as well as by agriculture. When herds of cattle and livestock regularly drink from a river, they damage the banks and foul the water.

But ALUS Canada helps farmers and ranchers provide alternative watering systems for their livestock, and wildlife-friendly fencing on both sides of the streams and rivers crossing their land. This protects the riverbank while also benefitting the livestock.

ALUS Canada also helps farmers and ranchers enhance these protected riparian areas by planting the appropriate native species of trees, shrubs, flowering plants and grasses.

This is an effective way to produce cleaner water and to enhance wildlife habitat, including fish habitat.

In addition to their ALUS projects, agricultural producers can also use Beneficial Management Practices (BMPs) to help protect habitats for aquatic species at risk.

Benefits of ALUS Riparian Projects

- ALUS riparian projects act as filters to prevent soil sediment and agricultural nutrients from flowing into waterways.
- Deep-rooted riparian vegetation helps maintain bank structure and prevent erosion.
- Trees and shrubs planted in ALUS riparian projects drop branches, leaves and organic debris. This provides habitat for aquatic insects and an important food source for aquatic species, while helping to create shelter, pools, riffles and runs for fish.
- ALUS riparian projects provide shade over a stream, to help regulate water temperature and provide shady areas for fish.



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The full series is available on [ALUS.ca](https://alus.ca/resources/research/) | Resources | Other Relevant Reports. <https://alus.ca/resources/research/>



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canada

ALUS CANADA THANKS THE CANADA NATURE FUND FOR AQUATIC SPECIES AT RISK (CNFASAR) PROGRAM AT FISHERIES AND OCEANS CANADA FOR \$983,000 IN FUNDING FOR ALUS PROJECTS IN EIGHT ALUS COMMUNITIES IN MANITOBA, SASKATCHEWAN AND ALBERTA, WHERE 32 FARMERS AND RANCHERS ARE MANAGING 1,325 ACRES OF RIPARIAN PROJECTS TO IMPROVE AQUATIC HABITAT IN THE SOUTHERN PRAIRIES REGION, AND FOR SUPPORTING AN AWARENESS-RAISING CAMPAIGN IN THESE COMMUNITIES.



ILLUSTRATION BY JOE TOMELLERI, USED BY PERMISSION.

Fact File: Lake Sturgeon

NAME:

Lake Sturgeon (*Acipenser fulvescens*)

STATUS:

Four of Canada's Lake Sturgeon populations are listed in the 2017 COSEWIC Assessment and Status Update Report:

Endangered: The Western Hudson Bay and the Saskatchewan-Nelson River populations of Lake Sturgeon (COSEWIC, 2017). Definition: facing imminent extirpation or extinction. Not listed under the Species at Risk Act.

Special Concern: The Southern Hudson Bay-James Bay population of Lake Sturgeon. Definition: May become threatened or endangered, because of a combination of biological characteristics and identified threats.

Threatened: The Great Lakes-Upper St. Lawrence population of Lake Sturgeon. Definition: A species that is on the path to becoming endangered, unless threatening factors are removed.

DESCRIPTION

Lake Sturgeon is a large, bottom-dwelling, ancient freshwater fish species with a unique appearance, marked by a pointed snout and fleshy whiskers (sensory barbels) in front of its mouth. Its leathery skin lacks scales but features a row of sharp, bony plates (scutes) down its back, giving it an armoured appearance.

It is one of the largest freshwater fish in the South Saskatchewan River watershed, with a record-breaking specimen found in Alberta that weighed 47.7 kg and measured 154.9 cm in length. Its imposing size is matched by an impressive life span of more than 80 years. Females reach sexual maturity at 15 to 30 years; males at 12 to 20 years. ^(1, 3)

HABITAT

The Lake Sturgeon requires a variety of different aquatic habitats during its life cycle. For spawning, it needs fast-flowing, aerated water, such as that found near the base of waterfalls or dams. After hatching, its young larvae bury into a gravel river bottom where they develop further. When mature, the Lake Sturgeon inhabits a range of habitats, from wide meandering Prairie rivers to the Great Lakes. It prefers overwintering in the deeper portions of lakes and rivers.

RANGE

Populations of Lake Sturgeon can be found across central Canada, from Alberta to Quebec. In the Prairies, ALUS projects will affect the Saskatchewan-Nelson River population. This population occurs in Alberta, Saskatchewan, Manitoba and Ontario, specifically in the English, Red-Assiniboine, Saskatchewan, Nelson and Rainy Rivers, and in Lake Winnipeg and Lake of the Woods. ⁽¹⁾

THREATS

The entire species was nearly driven to extinction in the 1940s due to overharvesting. Lake Sturgeon fishing is now heavily regulated, requiring a special license. In the Prairies, recovery has been slow, due to a combination of biological factors (delayed reproductive age, intermittent spawning, specific spawning needs), and human activities that are impacting Prairie river ecosystems. ⁽²⁾ Key factors affecting the recovery of the Lake Sturgeon in the Canadian Prairies include the following threats to their aquatic habitat:

- Habitat fragmentation: Dams and water-control structures can form physical barriers blocking this species from accessing the full range of habitats it needs in its life cycle—for spawning, rearing, foraging and overwintering. ⁽³⁾
- Irrigation, industrial and commercial water usage also negatively impact this species. In the Prairies, these industries draw significant amounts of water from the Saskatchewan River basin, which reduces water flow and river depth, shrinking the deep pools that are critical habitat for Lake Sturgeon. ⁽²⁾

How can you help this unique species?

Through ALUS, farmers and ranchers can dramatically improve riparian areas on their land, which helps ensure that the water is cleaner when it joins streams, rivers and lakes downstream. In this way, ALUS projects help improve the region's overall aquatic ecosystem, for the benefit of local communities, the environment and wildlife, including aquatic species at risk.

Through ALUS, you can:

- Create riparian buffer zones between waterbodies and croplands
- Regenerate riparian vegetation on your land
- Protect riparian areas with wildlife-friendly fencing
- Install remote watering systems for cattle and livestock
- Manage riparian areas differently, as a unique pasture

References and Cited

¹ COSEWIC. 2017. COSEWIC assessment and status report on the Lake Sturgeon (*Acipenser fulvescens*), Western Hudson Bay populations, Saskatchewan-Nelson River populations, Southern Hudson Bay-James Bay populations and Great Lakes-Upper St. Lawrence populations in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxx + 153 pp. (<http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1>).

² Alberta Lake Sturgeon Recovery Team. 2011. Alberta Lake Sturgeon Recovery Plan, 2011-2016. Alberta Environment and Sustainable Resource Development, Alberta Species at Risk Recovery Plan No. 22. Edmonton, AB. 98 pp.

³ Winkler, L.A. 2000. Survey of the Lake Sturgeon (*Acipenser fulvescens*) Fishery on the South Saskatchewan River, Alberta. Alberta Sustainable Resource Development, Fisheries and Wildlife Management Division, Alberta Species at Risk Report No. 9, Edmonton, AB. 12 pp.

Interested in putting ALUS on your land?

Contact your local ALUS program to find out how you could help aquatic species at risk on your farm or ranch. ALUS will help you plan the projects, organize the work, and share the establishment costs. It will also provide an annual, per-acre payment to manage and maintain your ALUS projects over the duration of your contract.

For more information, please contact your closest ALUS Program Coordinator. Info: <https://alus.ca/contact-us/>

About ALUS Canada

ALUS Canada, A Weston Family Initiative, is a national program helping farmers and ranchers enhance wetlands, windbreaks, riparian buffer zones and habitat for pollinators and other wildlife. ALUS projects are independently monitored, verified and audited to ensure they are producing valuable ecosystem services, such as cleaner air, cleaner water and increased wildlife habitat that benefit Canadian communities. For more information, please visit [ALUS.ca](https://alus.ca)



A Weston Family Initiative