Helping Aquatic Species at Risk

CARMINE SHINER

ALUS Canada
A Weston Family Initiative

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.

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.

The full series is available on ALUS.ca | Resources | Other Relevant Reports. https://alus.ca/resources/research/

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.

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: Carmine Shiner

NAME:
Carmine Shiner *(Notropis percobromus)*

STATUS:
Threatened (SARA, 2018). Definition: A species that is on the path to becoming endangered, unless threatening factors are removed.

DESCRIPTION
The Carmine Shiner is a long, slender minnow, measuring up to 6.7 cm in length at maturity. Its backbone is olive green in colour, with silvery sides and a white belly. Its cheeks and gill covers may have a rosy pink colouration. Its cone-shaped snout is as long as the diameter of its eye. In Manitoba, this species can live to 5 years of age.(1)

HABITAT
In summer, the Carmine Shiner is most frequently found in fast-flowing, moderately deep (less than 3m) creeks and streams. It prefers clear water with a sand, gravel or bedrock bottom, and avoids streams with a fine silty bottom. It can not survive for long in cloudy water with suspended particles. In winter, it sometimes moves into deeper waters, such as lakes, staying near the mouth of the stream.(2)

RANGE
The size of Carmine Shiner population in Canada is currently unknown. The northwestern boundary of its range extends from the US into southern Manitoba, where its presence has been recorded from the Red River to Lake Winnipeg.(1)

THREATS
Given the Carmine Shiner's relatively small population and limited range in Canada, the species may be significantly impacted by human-caused disturbances to its habitat in Manitoba.

• The primary threat is the continuing development of dams and/or water-control structures, specifically the dam outflows at Manitoba' Whitemouth Lake, which could directly impact its key habitat.(1)

• Increased industrial, agricultural, peat mine and commercial water use could also negatively impact the species by reducing river flow and limiting its habitat.

• Drought conditions have the potential to compound these problems.

AN ALUS RIPARIAN PROJECT IN ALBERTA, PART OF THE ALUS MOUNTAIN VIEW PROGRAM.

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

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

References and Cited

1 COSEWIC. 2018. COSEWIC assessment and status report on the Carmine Shiner *(Notropis percobromus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 42 pp. (http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1).

2 Fisheries and Oceans Canada. 2018. Action Plan for the Carmine Shiner *(Notropis percobromus)* in Canada. Species at Risk Act Action Plan Series. Fisheries and Oceans Canada, Ottawa. iv + 14 pp.

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