

Rideau Valley Conservation Authority

Fish Habitat Mapping Project

The **pugnose shiner**, the **bridle shiner** and the **river redhorse** are three local fish species that are in need of our help. These fish are “**species at risk**,” meaning they are in danger of becoming extinct. Species become “at risk” due to a number of reasons including habitat loss, pollution, changing land use activities and the spread of invasive species. The good news is that we can act now to protect and recover many of these species and safeguard Ontario’s biodiversity.

The **Rideau Valley Conservation Authority (RVCA)**, in cooperation with the **Ontario Ministry of Natural Resources**, is working to protect these fish by finding locations that could be improved to become more suitable fish habitat.

The RVCA has developed a habitat model that identifies the fish habitat that is essential to the pugnose shiner, the bridle shiner and the river redhorse. Technicians conduct field surveys at numerous watershed rivers, creeks and streams. Technicians survey watercourses in 50 metre sections to assess and verify those habitats generated from the habitat model. They observe, record and map each section’s unique natural features – what the river bed is like, what aquatic plants are present, if there are pools, riffles or channel barriers, if the shore is eroded or natural, etc. They also record man-made impacts such as culverts, weirs, hardened shorelines, etc. With this information in-hand the RVCA and its partners have a better understanding of existing conditions and will be able to direct on-the-ground stewardship activities to key areas to improve fish habitat and re-establish healthy fish communities.



maximum length 6.5 cm

Bridle Shiner

STATUS: SPECIAL CONCERN

HABITAT: (a) Non-turbid waters with an abundance of submerged vegetation (b) Open column of water above vegetation (spawning)

ECOLOGY/THREATS: (a) Food source for predatory fish (b) Sensitive to environmental disturbance (ie. nutrient loading, runoff)



maximum length 5.8 cm

Pugnose Shiner

STATUS: ENDANGERED

HABITAT: (a) Slow moving waters with abundant rooted vegetation (b) Densely vegetated habitats with water no deeper than two metres

ECOLOGY/THREATS: (a) Food source for predatory fish (b) Sensitive to changes in water turbidity



maximum length 77 cm

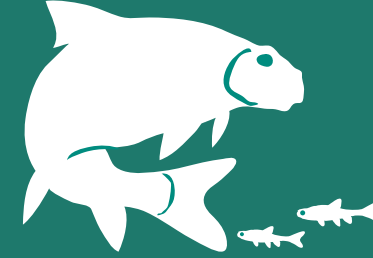
River Redhorse

STATUS: SPECIAL CONCERN

HABITAT: (a) Clear, fast flowing systems with predominate limestone/bedrock substrates and riffle habitat

ECOLOGY/THREATS: (a) Migrate upstream and typically require more than one male for successful spawning (b) Intolerant of high turbidity and siltation

- A species is classified as **endangered** if it lives in the wild in Ontario but is facing imminent extinction or extirpation.
- A species is classified as **special concern** if it lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
- A species is classified as **extirpated** if it lives somewhere in the world, and it at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.



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The RVCA will continue to do field surveys of various Rideau River and Ottawa River tributaries. For areas that are complete, next steps include:

1) Continued research and planning

- continued field surveys at local watercourses
- identify critical habitat
- confirm details of existing species (range, demographics) and develop a habitat suitability index for each species
- evaluate and minimize the presence of threats
- research the potential success for reintroduction of fish
- investigate variations of habitat based on seasonal changes

2) On-the-ground efforts

- consider riparian planting and bioengineering as ways to minimize siltation and runoff into local watercourses
- enhance fish habitat features
- remove obstructions to allow for movement of migratory species

To learn more about species at risk, visit: www.mnr.gov.on.ca



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