Redside dace schooling behind common shiners in the spring

Significance of the Species

In Canada, redside dace are a rare and unique minnow that exists only in southern Ontario. The presence of redside dace indicates a healthy stream and riparian habitat capable of supporting terrestrial insects and fish populations. The decline of local redside dace populations signals much broader concerns about both the health of our local watercourses and environmental quality in general. Many of the issues that surround the species' decline are known, the challenge is to overcome them.

Population Declines

The species has experienced declines in most of the river systems in Canada where it is found, and has actually disappeared from some watersheds in both Canada and the United States. The healthiest populations in Ontario are thought to be found in the Humber and Rouge Rivers, Duffins Creek and Sixteen Mile Creek. The loss of suitable habitat and habitat modification are likely the major factors contributing to the decline of the species in Ontario. In the Greater Toronto Area the two most imperiled local populations are thought to be found in the Don River and Carruthers Creek.

What you can do to help.

Citizen Scientists encourages Ontarians to protect river and stream habitats for redside dace by:

- Reducing runoff of fertilizers and pesticides from lawns by leaving 30 metres or more of natural area along rivers and streams when mowing the lawn, using fertilizers and pesticides only when needed and according to instructions.
- Reducing stormwater runoff into rivers and streams by using rain barrels and by disconnecting downspouts so that rain water infiltrates on your lawn.
- Reducing sediment, silt and pollution in rivers and streams by taking your car to a car wash instead of washing it in the driveway.
- Getting involved with local stewardship initiatives that undertake restoration, education and/or public outreach.

For more information on species at risk in Ontario and to download the redside dace recovery plan visit the Ministry of Natural Resources website at www.mnr.gov.on.ca.

For more information about Citizen Scientists visit www.citizenscientists.ca or email info@citizenscientists.ca.

References: COSEWIC 2007; Parker et al. 1988; Royal Ontario Museum Species at Risk; Toronto and Region Conservation Authority Aquatics Group.

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WATER'S ALIVE PROGRAM - FACT SHEET

Redside dace *(Clinostomus elongatus)*

Features

An adult redside dace is a colourful minnow, they usually have a dark coloured back, a thin gold stripe that runs along the sides from the snout to the tail and an orange or red band that extends from the gill cover to just beyond the dorsal fin. Their sides are sometimes dotted with dark scales and their fins are transparent and spineless. Redside dace have a pointed, somewhat triangular head, and a large slightly up-turned mouth, which helps them catch insects that fly low above the water's surface. Adult redside dace average 76 mm in length, but some are as large as 110 mm. The pectoral fins of males are longer than females which helps to tell the sexes apart.

Status in Canada and Ontario

Canada - COSEWIC and Species at Risk Act (SARA)

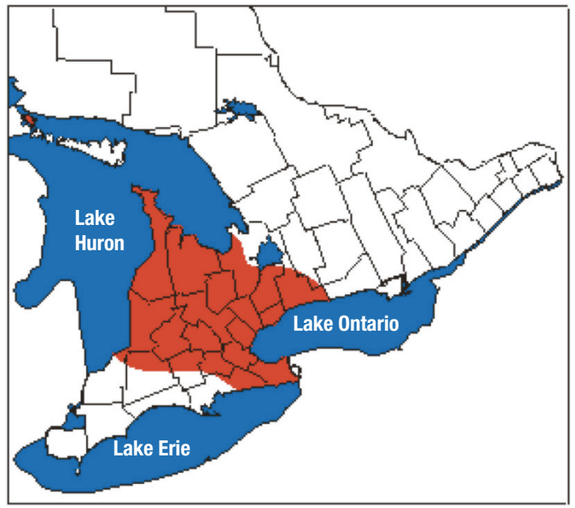
The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is an independent advisory organization that evaluates the country's wild species. The Committee is made up of conservation representatives and scientists from the private sector and the government (Federal, Provincial and Territorial). The status granted by COSEWIC has no legal authority; however, with the adoption of SARA in 2003, the Canadian Government decisions on whether or not to add species to the List of Wildlife Species at Risk are based on COSEWIC evaluations. In response to concerns about declining populations, COSEWIC recommended that the status of redside dace be raised to Endangered, meaning that the species is facing imminent extinction or extirpation in Canada.

Ontario - Provincial ESA and Redside Dace

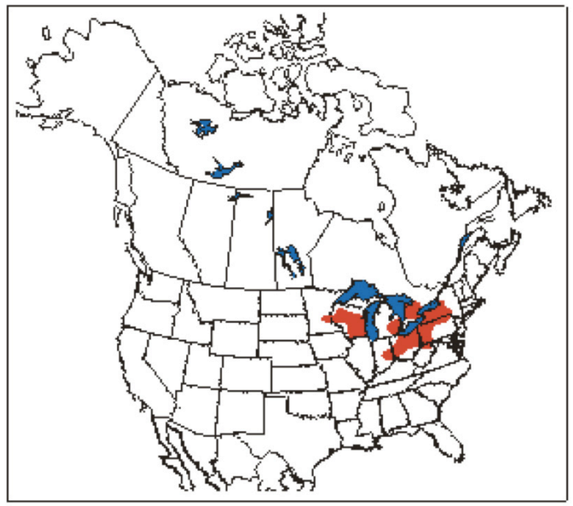
The Committee on the Status of Species at Risk in Ontario (COSSARO) performs a similar function as COSEWIC for Ontario's wildlife species and has also recommended that redside dace be listed as Endangered in Ontario. In addition to the listing, the Province of Ontario has established a Species Recovery Team which has developed a Species Recovery Plan for redside dace. The province has also recently protected the species habitat through the development of a habitat regulation, and a Draft Guidance document for Development Activities in Redside Dace Habitat.

Range of the Species within Ontario

In Canada, the redside dace is found only in southern Ontario streams that flow into Lake Ontario, Lake Erie and Lake Huron.



Ontario redside dace distribution modified from: Mandrak and Crossman 1992; Parker et al. 1988



North American redside dace distribution modified from: Page and Burr 1991

Habitat

Redside dace require cold to cool, relatively small, clear flowing headwater streams with well defined riffle-pool sequences. Redside dace live in calm pool habitats that have high water clarity and a smooth unbroken water surface. They exhibit a preference for deeper and more narrow pools and spawn in nearby riffles that are dominated by fine gravel. The stream banks and riparian habitat typically consist of meadows, pasture, shrub and/or sparsely treed overstory with an abundance of overhanging grasses, forbs and dogwoods.

Typical redside dace pool habitat and riparian edge

Feeding

Redside dace feed at or near the surface of pools and will leap several centimeters out of the water to capture aerial prey, such as flies and other terrestrial insects.

Biology

Redside dace are a relatively short-lived fish generally reaching a maximum age of four years, with most fish maturing at age two. Redside dace spawn in shallow riffles in mid- to late-May when water temperatures reach 16°C – 18°C. They lay non-adhesive eggs, which are deposited into the nests of co-habitating minnow species, the common shiner (*Luxilus cornutus*) or creek chub (*Semotilus atromaculatus*). Female redside dace lay anywhere from 409 – 1,971 eggs per year, and appear to prefer the nests of the common shiner (D. Lawrie pers comm., 2009).

Gravel spawning beds

Redside dace spawning with common shiners

Limiting factors and threats

Most of Canada's redside dace populations are found in the Golden Horseshoe region of Ontario, an area that is experiencing rapid urban growth. Urban development can alter stream flow and water quality in ways that degrade redside dace habitats and ultimately affect local populations. Increases in stormwater flow can increase stream erosion which can eliminate pool habitat over time, cause siltation, change the stream channel structure and water clarity, increase stream temperatures, eliminate riparian vegetation and/or result in pollutants entering the stream. Other threats to redside dace populations include intensive agricultural activities and introduction of non-indigenous species like brown trout (*Salmo trutta*).

Stormwater discharge from construction site

Sediment entering watercourse