

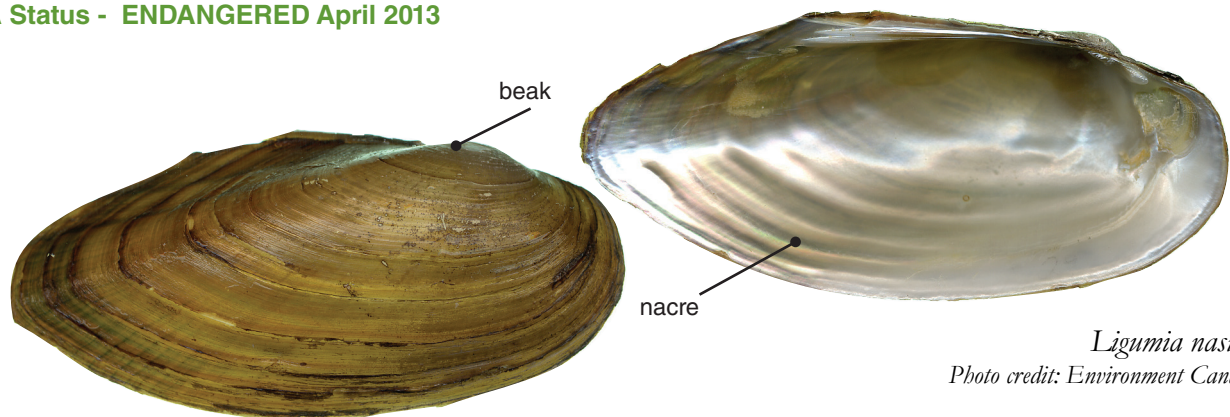
Aquatic Species at Risk



The Eastern Pondmussel ... a Species at Risk in Canada

COSEWIC Status - ENDANGERED April 2007

SARA Status - ENDANGERED April 2013



Ligumia nasuta

Photo credit: Environment Canada

This species has been assessed as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). It is listed under the *Species at Risk Act* (SARA) as Endangered, and was afforded protection under the Act as of

April 2013. Additional protection is also afforded through Ontario's *Endangered Species Act, 2007*. As required under SARA, a recovery strategy and an action plan are being prepared for this species.

General description

The Eastern Pondmussel (*Ligumia nasuta*) was once among the most common species of freshwater mussels in the lower Great Lakes of Ontario. It is a medium-sized mussel (average length is 7 cm) and a member of the family Unionidae. It has the following features:

- shell is thin, but strong, narrow and long;
- shell colour ranges from yellowish- or greenish-black (juveniles) to dark brown or black (adults);
- inside of the shell (nacre) can be purple, pink or silvery white;
- raised part (beak) is located in the back quarter of the shell and is low and slightly raised above the hinge line;
- back (posterior) ridge is well-developed, distinct and angled near the beak; back end has a distinct blunt point;
- front (anterior) end is rounded; bottom edge of the shell (ventral margin) is broadly curved;
- females have a swelling along the back bottom edge that is lacking in males; and
- shell surface is rough with concentric wrinkles and visible growth lines.

Freshwater mussels are molluscs, soft-bodied animals without a skeleton (invertebrates), that live on the bottom of streams, rivers, lakes and ponds. They use a muscular foot to burrow and crawl and have a pair of hinged shells. Mussels are filter feeders — nature's water purifiers — and are food for other wildlife like fishes, otters, mink, muskrats and some birds. They are also among the most endangered creatures in the world.



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Distribution

The Eastern Pondmussel, as its name suggests, is found only in eastern North America. In the United States, the range of the Eastern Pondmussel is limited to the lower Great Lakes through New York to New Hampshire and in coastal rivers to South Carolina. In Canada, this mussel species has only ever been found in Ontario. It is believed that this mussel has been lost from more than 90 per cent of its historical Canadian range in the Great Lakes and their larger connecting channels. Remaining populations are small, declining and limited to the St. Clair River delta, Lyn Creek (near Brockville) and Long Point Bay (Lake Erie), though recently, several small populations have been found within the coastal wetland habitats bordering Lake Ontario.

Habitat and life history

The preferred habitat of the Eastern Pondmussel is nearshore, sheltered areas of lakes or slow-moving streams and rivers in substrates of fine sand and mud at depths up to 4.5 m. Spawning likely occurs in late summer and the glochidia (larvae) are released the following spring. Like most other freshwater mussels, the glochidia are parasitic on fish. In this case, the female Eastern Pondmussel attracts a host fish with special tissues on her body called “mantle lures” that look like food, such as fish, leeches or amphipods (shrimp-like crustaceans). When a fish strikes at the lure, the female mussel releases glochidia into its mouth. The glochidia then attach to the host fish as they flow through its gills. Here they will remain until they reach their juvenile, free-living stage and drop off into the substrate below. Adult mussels are essentially sessile and may move only a few meters along the substrate.

The known host fishes for this species in Canada are the Brook Stickleback (*Culaea inconstans*), Pumpkinseed (*Lepomis gibbosus*) and Yellow Perch (*Perca flavescens*).

Diet

Like all species of freshwater mussels, the Eastern Pondmussel filters its food from the water. Bacteria and algae are its primary food sources.

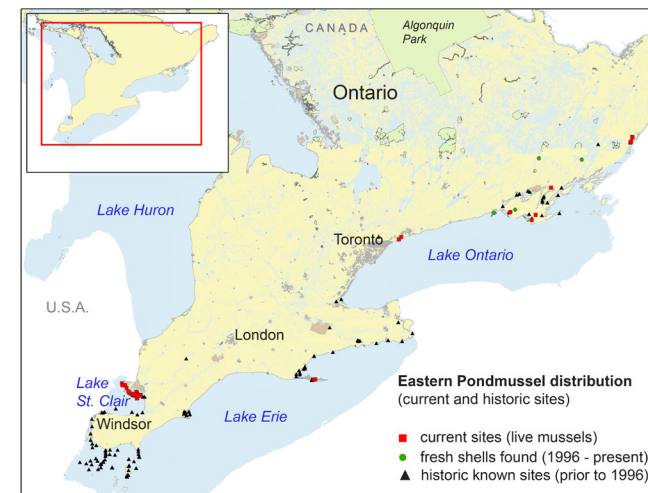
Threats

The most serious threat to the Eastern Pondmussel continues to be the introduction of the invasive Zebra Mussel (*Dreissena polymorpha*). Since the mid-1980s, more than 90 per cent of the area once occupied by the Eastern Pondmussel has become infested with Zebra Mussels, which attach to and smother native mussels or outcompete them for food and habitat. Habitat loss and degradation from human activities, including water pollution, increasing siltation and nutrient loading, also threaten remaining Eastern Pondmussel populations found in Ontario.

Similar species

Similar species include the Eastern Elliptio (*Elliptio complanata*), Spike (*Elliptio dilatata*) and Black Sandshell (*Ligumia recta*).

Eastern Pondmussel distribution in Canada



Text Sources: COSEWIC assessment and status report on the Eastern Pondmussel in Canada, 2007; DFO. Recovery Potential Assessment of Eastern Pondmussel, Fawnsfoot, Mapleleaf and Rainbow in Canada; DFO CSAS. Sci. Advis. Rep. 2010/073; Metcalfe-Smith et al. Photo Field Guide to the Freshwater Mussels of Ontario, 2005.

For more information, visit the SARA Registry at www.SARAreistry.gc.ca or the website below.

Cette publication est également disponible en français.

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www.aquaticspeciesatrisk.gc.ca

Section 32 (1) of the Species at Risk Act (SARA) states that “no person shall kill, harm or harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species.”