



The Grass Pickerel... a Species at Risk in Canada

COSEWIC Status - SPECIAL CONCERN May 2005
SARA Status - SPECIAL CONCERN September 2006



Esox americanus vermiculatus
Illustration © Joseph R. Tomelleri

This species has been identified as Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). It is listed under the federal *Species at Risk Act* and was afforded

legal protection as of September 2006. Under the *Species at Risk Act*, a management plan has been developed for this species.

General description

The Grass Pickerel (*Esox americanus vermiculatus*) is a subspecies of the Redfin Pickerel and a small member of the Pike family (Esocidae). In addition to the distinguishing family features (large mouth; many teeth; forked tail; and posterior dorsal and anal fins), the Grass Pickerel has the following characteristics:

- Long, relatively shallow body that is cylindrical in shape;
- Colouration is variable but usually green to brown with 12 to 24 irregular, vertical, narrow, dark bars, and a mid-dorsal brown stripe;
- Juveniles have a prominent pale lateral band that disappears with maturation;
- Dusty yellow-green lower fins;
- Protracted snout, concave in profile;
- Fully scaled cheeks and opercula (hard bony flap protecting the gills); and
- Usually less than 300 mm in total length; maximum total length and weight are 381 mm and 500 g respectively.

Distribution

Predominantly located in the U.S., the Grass Pickerel is largely restricted to the west of the Appalachian Mountains, in the Great Lakes and the Mississippi River basin. In Canada, its range is disjunct and is represented by several populations in southwestern Quebec and southern Ontario. It has been found in the St. Lawrence River, as well as in shallow bays and tributaries of eastern and southwestern Lake Ontario, inland watercourses of the Niagara region, and along the north shore of Lake Erie. Populations occur in Lake St. Clair and some of its tributaries. It is also found in several tributaries and waterbodies in the lower Lake Huron watershed. While there have been no confirmed reports of the species in Quebec for the past 20 years, unconfirmed reports and other evidence suggest that there may be three disjunct populations along the St. Lawrence River, separated by natural obstacles (i.e. rapids, dams and weirs) that restrict their movement.

Habitat and life history

The habitat of the Grass Pickerel is characterized by warm, slow-moving streams, ponds and shallow bays of larger lakes, with clear to tea-coloured water, and abundant aquatic vegetation. Bottom substrate is usually mud, but it has also been found over rock and gravel. Adults reach sexual maturity by two years of age. Associated with overland flooding, spawning occurs in the spring in water temperatures of 4° to 12°C; however, there is evidence of late summer to winter spawning as well. Eggs are dispersed and adhere to aquatic vegetation. No nest is built and neither eggs nor young are provided parental care. Adult lifespan is seven years or less.

Diet

The Grass Pickerel is a sight predator and feeds on a variety of different organisms throughout its life. Younger fish prefer small invertebrates, while larger individuals consume fishes and crayfishes, as well as aquatic insect nymphs.

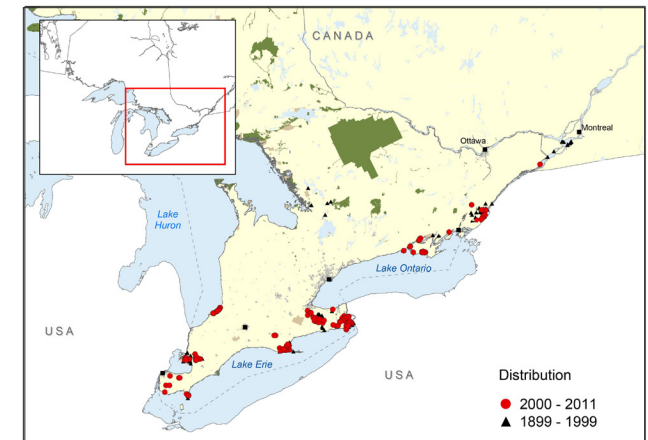
Threats

Grass Pickerel in Canada is at the northern extent of its range. Principal threats to its future survival in Canada are habitat destruction and degradation. Grass Pickerel appear to have specific habitat requirements, and their long-term viability may be threatened by continued development and human encroachment at some locations. Of particular concern has been the loss of wetland habitat through rural land use practices, including agricultural and other development activities. Additional potential threats identified for populations in Ontario and Quebec include drainage, damage/destruction of riparian or aquatic vegetation, sediment and nutrient loading, contaminants input, exotic species, interspecific interactions, climate change, fishing pressure, water level fluctuations (beyond natural seasonal variability), disease and barriers to movement.

Similar species

The Grass Pickerel shares a number of similar traits with other members of the *Esox* family. The Grass Pickerel can be distinguished from the Northern Pike (*Esox lucius*) and Muskellunge (*Esox masquinongy*) by size, colouration, pattern and cheek scaling. Grass Pickerel can be distinguished from the Chain Pickerel (*Esox niger*) and Redfin Pickerel (*Esox americanus americanus*)

Grass Pickerel distribution in Canada



by snout profile and colouration, as well as the number of branchiostegal rays (bony rays that support the gill membrane); the Chain Pickerel has 14-17 rays and the Redfin Pickerel has 12-13 rays, while the Grass Pickerel has 11-12 rays.

Text Sources: COSEWIC Assessment and Status Report on the Grass Pickerel (*Esox americanus vermiculatus*) in Canada, 2005; Management Plan for the Grass Pickerel (*Esox americanus vermiculatus*) in Canada, 2012; E. Holm et al. ROM Guide to Freshwater Fishes of Ontario, 2008.

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.”