

Eurasian ruffe

FACT SHEET

Pennsylvania Sea Grant, as part of the National Sea Grant Program, promotes efforts to improve the environmental and economic health of Pennsylvania's coastlines.

Focusing on the Lake Erie and Delaware River watersheds, Pennsylvania Sea Grant works to increase public awareness of coastal environmental and economic issues through extension, communication, applied research, and education activities.

The National Oceanic and Atmospheric Administration (NOAA) administers the National Sea Grant College Program. Pennsylvania Sea Grant is also supported by the Pennsylvania State University and the Commonwealth of Pennsylvania.

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Background The Eurasian ruffe (*Gymnocephalus cernuus*) poses a serious ecological threat to the Great Lakes aquatic environments and to sport and commercial fishing. First reported in western Lake Superior in 1986 from the release of ballast water of ocean going vessels, the numbers of ruffe has rapidly increased in the St. Louis River at Duluth-Superior and spread to other waters along the south shore of western Lake Superior.

Figure 1. Eurasian Ruffe



Image courtesy of the Minnesota Sea Grant Web site:
<http://www.seagrant.umn.edu/tourism/pursuit.html>

A member of the perch family, an adult ruffe grows to be 5 to 6 inches long, rarely exceeding 10 inches. At first glance, ruffe resemble young walleye, yellow perch, or troutperch, but there are ways to tell the difference. The ruffe has a very large dorsal fin, joined together, front and back, with 11-16 spines in front, it has a slightly downturned mouth, and it has no scales on its head (Figure 1).

Impact Explosive growth of the ruffe population means less food and space in the ecosystem for other fish with similar diets and feeding habits. Maturing quickly, the ruffe has a high reproductive capacity, and adapts to a wide variety of environments. It is considered a serious threat to the yellow perch commercial and sport fishing industry. It also has the potential to seriously disrupt the delicate predator/prey balance vital to sustaining a healthy fishery. Ruffe prefer darkness and spend their days in deeper water, moving into the shallows to feed at night. They have a well-developed system of subsurface canals on their head and lateral line that contain sensory organs called neuromasts. Neuromasts give the ruffe the ability to detect extremely small vibrations given off by both predators and prey. This allows them to avoid predators and find prey in nearly complete darkness, giving them a competitive advantage over native fishes.

As of spring 2002, ruffe have spread along Lake Superior's south shore to the Fire Steel River, east of Ontonagan, Michigan, to several harbors along the north shore to Thunder Bay, Ontario, to Alpena, Michigan, on Lake Huron, and into parts of Lake Michigan (Figure 2). The ruffe has not yet been collected in Lake Erie. Attempts to control the expanding population of ruffe with predators and piscicides (chemicals that kill fish) have failed and alternatives are being sought. However, the ruffe's ability to move from lake to lake in ships' ballast will make it difficult to prevent the fish from expanding its range to the lower great lakes. Because ruffe are so new to North America, fisheries managers rely on European studies that describe their life cycle and habits. Even with these data, it is difficult to predict how an exotic species will act in a new environment.

Figure 2. 2003 Distribution of the Eurasian Ruffe

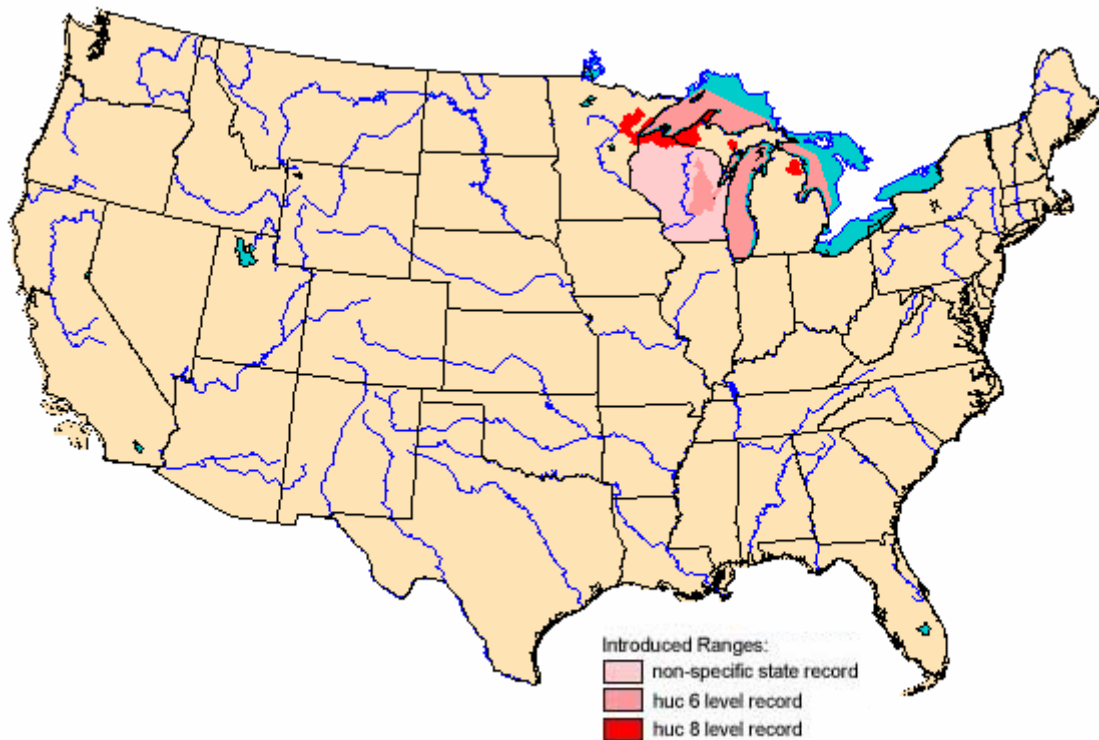


Image Courtesy of the USGS NAS Web site: <http://nas.er.usgs.gov/queries/SpFactSheet.asp?speciesID=7>
The huc level refers to a specific drainage basin.

How to stop the spread The best method of control is to prevent their introduction. Educating anglers, bait dealers, and teachers about the threats posed by ruffe will help reduce the risk of spreading the Eurasian ruffe to new areas.

Information for this fact sheet was adapted from a variety of sources, including:

The Great Lakes Information Network - www.great-lakes.net

Sea Grant Nonindigenous Species Site (SGNIS) - www.sgnis.org

Great Lakes Sea Grant Network - www.uaf.edu/seagrant/private/SG-regional/greatlakes/index.html

(#2002-07: revised 12/2003)