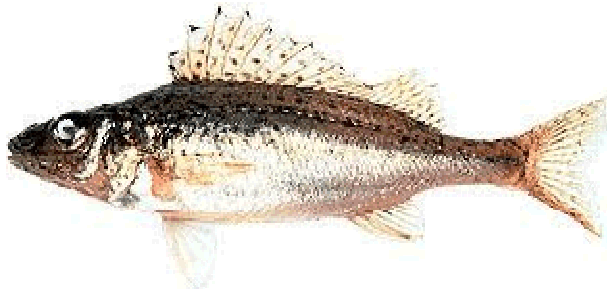
RUFFE

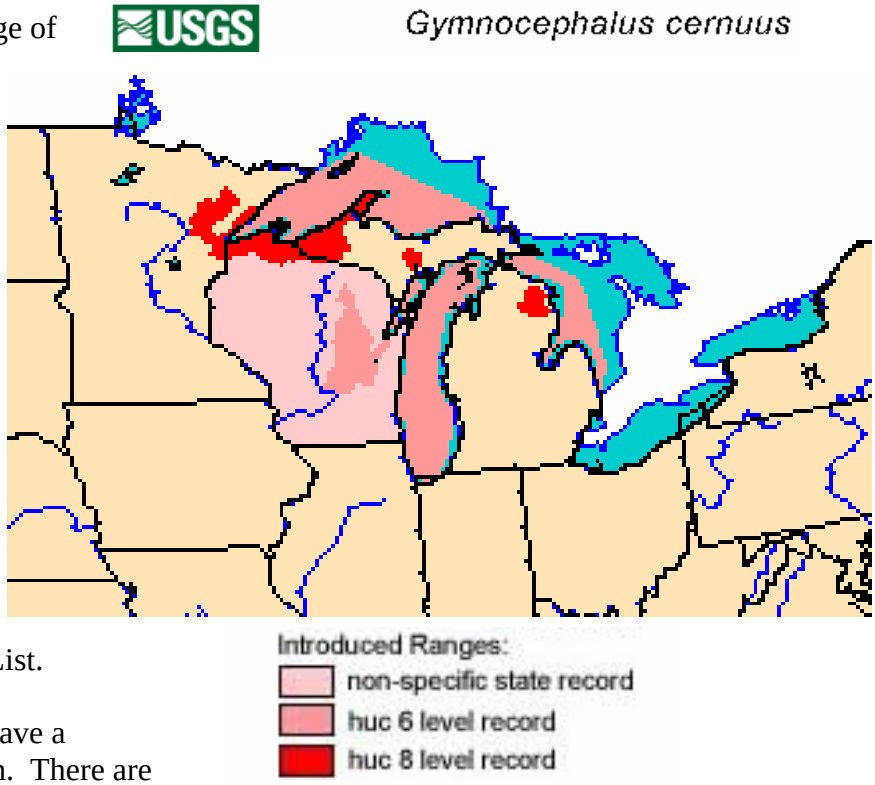


Gary Cholwek, U.S. Geological Survey, www.forestryimages.org

COMMON NAME: Ruffe, Eurasian ruffe, river ruffe, and pope.

SCIENTIFIC NAME: *Gymnocephalus cernuus*
The ruffe is in the family Percidae, the perches. Its genus comes from the Greek word "gymnos" meaning "naked" and the Greek word "kephale" meaning "head".

DISTRIBUTION: The native range of ruffe is Europe and Asia from France to eastern Siberia. The Eurasian ruffe has expanded its range in Europe, likely due to the construction of canals and the use of ruffe as bait. Ruffe are now established in the Great Lakes region of the United States and Canada. They have been found in Lake Michigan, Huron and Superior as well as many of their tributaries.



Indiana: The Eurasian ruffe has not yet been detected in Indiana's waters but it is on the Aquatic Nuisance Species Watch List.

DESCRIPTION: Eurasian ruffe have a continuous dorsal fin with no notch. There are

12-19 stiff spines and 11-16 soft rays on the dorsal fin. Dark spots are found in the membranes between the rays of the dorsal fin. Sauger, a native member of the perch family, also has spots on the dorsal fin. Sauger and ruffe differ in that there is a distinctive notch between the spiny and soft dorsal rays on the sauger and a joined dorsal fin on the ruffe. The first two rays on the anal fin of the ruffe are sharp spines. The mouth of a ruffe is slightly down turned. They can grow to 10 inches in length, however, most are much smaller.

LIFE CYCLE BIOLOGY: The Eurasian ruffe can live in a wide range of environmental conditions. In their native range, they can be found in fresh and brackish water. They do well in a variety of habitat types including lakes, large and small rivers, estuaries, and ponds. They have been found in water as shallow as one foot to as deep as 250 feet. While they are found in low nutrient waters to highly enriched waters, ruffe abundance seems to have a direct correlation to eutrophication and nutrient inputs.

Feeding on aquatic insects, bottom dwelling organisms, and occasionally the eggs of other fish, the ruffe grows quickly. Their well-developed sensory system allows them to feed at night as well as to hide in darkness to avoid predators. Maturing quickly especially in warm water, a female can start reproducing at age 2 and a male after just one year. They can spawn in a wide range of habitats and temperatures and on just about any substrate. The eggs will hatch in 5 to 12 days. There is generally little predatory pressure on the Eurasian ruffe. Few species will feed on them, only doing so if other food sources become scarce. The ruffe's ability to eat many different organisms, to live in many different habitats, and its lack of predators allows it to become a successful invader. Eurasian ruffe live an average of 7 years but have been known to live up to 11 years.

PATHWAYS/HISTORY: The Eurasian ruffe was first collected from the St. Louis River, a tributary to Lake Superior. The ruffe is now in Lake Superior, Lake Michigan, Lake Huron, and many of their tributaries. It is unclear how the ruffe first got into North American waters but the prevailing thought is that it was introduced through the ballast water of transoceanic ships originating from European ports.

DISPERSAL/SPREAD: In 1986, the Eurasian ruffe was collected from the St. Louis River where it forms the border between Minnesota and Wisconsin. From here the ruffe spread into Duluth Harbor of Lake Superior. By 1994, specimens were found in Saxon Harbor of Wisconsin and in the upper peninsula of Michigan. The first sighting in Lake Huron was in 1995 when three ruffe were collected from the mouth of the Thunder Bay River. Ruffe were not found in Lake Michigan or its tributaries until 2002. Once established in Lake Superior, the movement of ruffe to Lake Huron and Lake Michigan could be the result of ballast water transfer from within the Great Lakes. If this is truly a pathway for the movement of ruffe within the Great Lakes, Lake Erie and Lake Ontario will also likely see invasions in the near future unless ballast water laws are strengthened.

RISKS/IMPACTS: The Eurasian ruffe competes with other fish for food and space. Because they have high fecundity, rapid growth, and the ability to survive in a wide range of habitat types, ruffe can quickly dominate an area. This means less space and food for

our native species resulting in a decline in their population numbers. In some areas of western Lake Superior, the ruffe greatly dominates the fish community. The ruffe's main diet consists of aquatic insects but they are known to eat the eggs of other fishes. This egg predation can also cause a decline in other fish species. Due to the generally small size of ruffe, the species will garner little sport or commercial fishing attention.

MANAGEMENT/PREVENTION: Some strategies currently being considered to manage ruffe populations or to prevent further spread include increased predation, ballast water management, population reductions using fish toxicants, and baitfish management. Native predator population management has shown mixed results. The native predators generally prefer to feed on native prey fish. At times this results in reduced native prey species before the predators turn to feeding on ruffe. Effective ballast water laws are needed to prevent more ruffe from being introduced from Eurasia and to prevent the spread of ruffe by ships operating strictly within the Great Lakes. Fish toxicants could be used to eradicate ruffe, however, one must first consider the collateral damage to desirable species, the likelihood of success, and the cost. Angling regulations can assist in reducing the spread of ruffe. In Indiana, it is illegal to possess a live ruffe (312 IAC 9-6-7). As a result of this rule, one would not be able to use ruffe as bait. Also, if someone catches a ruffe, the fish must be killed immediately and not released alive.

Following are some simple steps you can follow to prevent spreading of ruffe and other invasive fish.

- ✓ Inspect your bait for fish that look different than the others before you begin fishing and dispose of those in question in the trash.
- ✓ Dispose of unused bait in the trash. **NEVER DUMP UNUSED BAIT IN THE WATER!**
- ✓ Never transfer live fish from one body of water to another.
- ✓ If you feel you have caught a ruffe, please freeze the fish and have it identified by a fisheries biologist for verification. You can determine the nearest fisheries biologist by visiting the following web site: http://www.in.gov/dnr/fishwild/fish/fishing/fishbiol.htm

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Updated 10/05