Eurasian Ruffe

What is an Eurasian Ruffe?

Eurasian Ruffe

Ruffe (*Gymnocephalus cernuus*) are a small but aggressive exotic percid species native to Eurasia. It was introduced into Lake Superior in the mid-1980s in the ballast water of an ocean-going vessel.

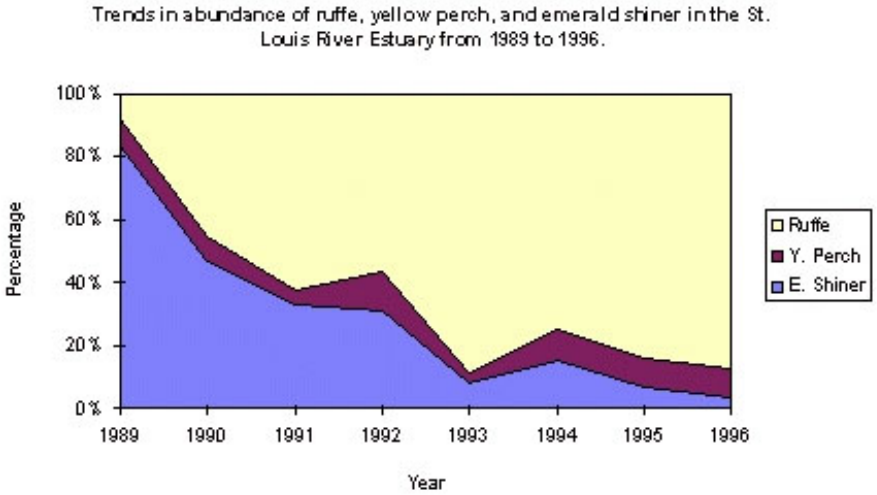
Eurasian Ruffe Impact

Explosive growth of the ruffe population means less food and space in the ecosystem for other fish with similar diets and feeding habits. Because of this, walleye, perch, and a number of small forage fish species are seriously threatened by continued expansion of the ruffe's range.

Eurasian Ruffe Control

Different chemicals and control methods are being looked at to control ruffe, but nothing has been successful yet.

Ruffe were accidentally introduced to the Great Lakes at the St. Louis River near Duluth, Minnesota in the early to mid-1980s. Ruffe were first collected in the St. Louis River during 1986 and were identified in 1987. The Great Lakes Science Center has been studying the St. Louis River fish community since 1988 to evaluate any impacts the establishment of this exotic species may have on the native fish community.

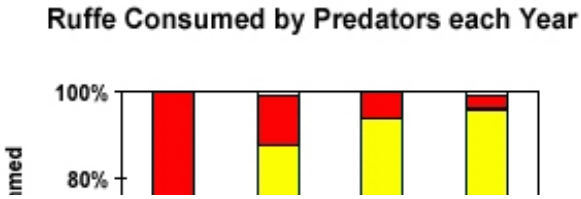


The graph to the left illustrates changes in the percent composition of bottom trawl catches for three species commonly captured in the St. Louis River.

- Ruffe have steadily increased from about 10% of the catch in 1989 to nearly 90% of the catch in 1996.
- Unlike ruffe, emerald shiners have declined from nearly 80% of the catch in 1989 to about 5% of the catch in 1996.
- Little change has been observed for yellow perch, which have consistently made up about 10% of the catch for these three species.

Bioenergetics modeling of prey consumption was used to determine the efficacy of a top-down predator control strategy implemented in 1989, and used to limit the dispersal and control the increasing abundance of ruffe in the St. Louis River, western Lake Superior.

Northern pike, walleye, smallmouth bass, bullheads, and yellow perch were modeled to determine their consumption of ruffe, along with that of four native prey fish species. Northern pike, brown bullhead, and walleye were the major predators of ruffe, with northern pike being the primary predator each year. All predators selected the native prey over ruffe.



Top-down control is unlikely to occur in this system, by these specific predators, due to the many complex predator-prey interactions in the turbid St. Louis River environment, and the open nature of the system, which allows stocked predators to freely leave.

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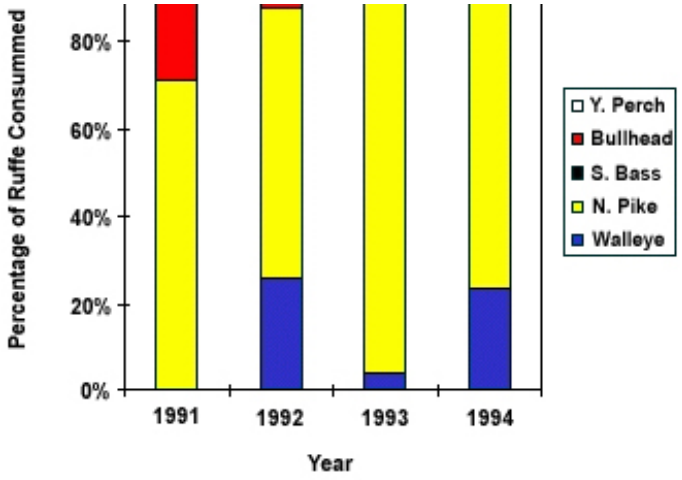

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