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Ohio EPA Announces Results of Kokosing River Study: Threatened Darters Abound ***Pollution-Sensitive Species Indicate Watershed is One of Ohio's Best***

Anglers, canoers, kayakers, birders and others often are attracted to the picturesque 57-mile-long Kokosing River. Ohio EPA has found that the state endangered spotted darter and other sensitive fish and aquatic insects also are attracted to this designated scenic river. The Agency is announcing the final results of its 2007 study of the 485-square-mile Kokosing watershed. While some problem areas exist, the presence of pollution-intolerant species indicates the river is in very good health for the most part, with excellent fish and bug communities, clean water and outstanding habitat features.

In particular, the lower Kokosing has exceptional physical habitat and biological communities with hundreds of sensitive darters, including the bluebreast, banded, variegate and rainbow darter species. Ohio EPA found a record number of 194 bluebreast darters during a single sampling event on the mainstem of the river, more than doubling the previous record of 82 bluebreast darters found during a single sampling event in the renowned Big Darby Creek in 2001. The bluebreast darter is on Ohio's threatened species list.

Sampling Protocol and Purpose

The abundance and diversity of fish, aquatic insects and mussels, especially those sensitive to pollution, and the presence of bacteria, metals and nutrients provides Ohio EPA vital information about stream health. The Agency collects, analyzes and shares this data with local governments, landowners and citizens so they can develop plans to maintain, restore and protect waterways impacted by identified sources of pollution (e.g., sewage treatment plants, industrial facilities, home sewage treatment systems, livestock production, urban/rural runoff). Stakeholders can use the information to request assistance from Ohio EPA and other funding sources to implement projects that help alleviate water quality problems and protect water resources for drinking water and recreational enjoyment.

Kokosing River Watershed Study and Sampling Results

Ohio EPA collected samples from more than 50 sites in the upper, middle and lower portions of the Kokosing River, its North Branch and about 18 tributaries, primarily in Knox and Morrow counties, but also in Coshocton, Ashland and Richland counties. The Agency has one of the most advanced water quality monitoring programs in the nation, determining the health of rivers and streams by sampling stream biology and habitat in addition to water chemistry.

The Kokosing River retains much of its natural character and its shorelines are largely undeveloped. Most streams in the watershed are meeting stream biology, habitat, chemistry and recreation use goals, but there are still concerns posed by wastewater treatment plants, home sewage treatment systems, Apple Valley Lake discharges and agricultural activities.

The overall aquatic life use attainment status for the Kokosing watershed was good; nearly 80 percent of sampling sites in the study fully met such goals under the federal Clean Water Act. In addition to darters, Ohio EPA found other sensitive fish species (e.g., redbreast sunfish and big-eye chub) and stream insects (e.g., stoneflies and mayflies). The East Branch of the North Branch Kokosing River had the most diverse mussel and aquatic insect population (86 types of insects).

Pollution Issues and Recommendations

Water chemistry samples revealed satisfactory water quality conditions in the watershed, though Ohio EPA's study of fish tissue resulted in a consumption advisory. Meals of rock bass eight inches and over and smallmouth bass 15 inches and over caught in the Kokosing River should be restricted to one meal per month due to mercury levels in the stream segment from County Rd. 13 and Green Valley Rd. (Mount Vernon) to the Walhonding River mouth (Coshocton and Knox counties).

Other pollution issues in the Kokosing watershed include stream bank erosion, sediment runoff and elevated *E. coli* bacteria levels resulting from unrestricted cattle access to streams; and improperly treated wastewater from failing home septic systems and municipal sewage systems.

The study found about 65 percent of the watershed failed to reach recreational use goals due to elevated bacteria levels. New community wastewater treatment systems planned for Knox County, including Jelloway, Millwood and Mount Liberty, will help reduce bacterial contamination in streams. Ohio EPA recommends that home septic systems be regularly inspected to determine if they are working properly. For agricultural areas, livestock exclusion fencing can be installed to lower the amount of manure (bacteria) found in waterways. Fencing can increase stream corridor stability while decreasing erosion and sedimentation, too.

The Agency also recommends proper storm water management to reduce sediment, nutrients, fertilizers/chemicals and erosion. Re-establishing streamside vegetative buffers can slow storm water and filter pollutants before they reach the river. Channelized streams can be restored to a natural state to flush pollutants into adjacent floodplains, thereby processing nutrients into productive biomass rather than nuisance algae. Ohio EPA also is working with the Apple Valley Lake Committee to implement better lake discharge methods. Impairments in the Kokosing watershed will be addressed in a forthcoming Ohio EPA restoration report, known as a Total Maximum Daily Load (TMDL) report.

More Information

Ohio EPA's 2007 Kokosing River and Selected Tributaries Technical Support Document:

<http://epa.ohio.gov/portals/35/documents/KokosingRiverTSD2007.pdf>

Ohio EPA's Total Maximum Daily Load (TMDL) Program:

<http://epa.ohio.gov/dsw/tmdl/index.aspx>

Ohio Sport Fish Health Advisory:

www.epa.ohio.gov/dsw/fishadvisory/index.aspx