MISSISSIPPI MAKEOVER

A Plan for Restoration, Just Around the Bend

Indicator: Fish

Weed Shiner

There are many different kinds of ***fish*** in the Upper Mississippi River, including game fish, panfish, non-game, and forage fish. Game fish are the most well known and include popular species sought by anglers like walleye, largemouth bass, and channel catfish. Panfish are generally more common than game fish and include bluegill, crappie, white bass and other smaller species that are also popular with anglers. There are many species of non-game fish, some of the more well known include redhorse, freshwater drum, bowfin, paddlefish and sturgeon. Forage fish include many species of minnows and smaller fish that serve as a food source for larger predators. Gizzard shad and emerald shiner are two of the most common. There are also many rare native species found in specific habitats, like the crystal darter which lives in deep channels with high current, the weed shiner found in backwaters with abundant vegetation, and the skipjack herring which is a long distance migrant found here only during or following flood events. In addition, invasive species are present; the common carp and the recently discovered bighead and silver carp are causing great concern.

Fish are sampled by several agencies throughout all Mississippi River pools. Common measurements to track fish include ***catch per unit effort, size structure,*** and ***species assemblage.***

Catch per unit effort is measured as the number of fish per sampling unit. Sampling unit could be number caught per hour of electrofishing; number per acre seined; number per trap net lift; etc. Since different species of fish are found in different habitats, and are vulnerable to different sampling gears, a variety of sampling methods are often used. It is difficult to assess fish populations without extensive sampling. Comparing catch per unit effort over time provides an indication of changes in fish abundance.

Size structure is the range of sizes within an individual species at a given time. It is important to know how many fish of a given species are juveniles, how many are adults, and the relative percent of each size in the population. Size structure can help identify problems with reproduction, growth, or other factors that might affect fish. Size structure data are usually collected on gamefish and panfish, and less frequently on non-game and forage fish.

Species assemblage is a good measurement of the overall fish community. It is represented by the percent of the overall fish population comprised by individual species. Different habitats will have a different assemblage of fish. For example, clear backwater areas with abundant vegetation will have a different assemblage than muddy backwaters with little vegetation. The species may be similar, but the proportion of each species could vary greatly.