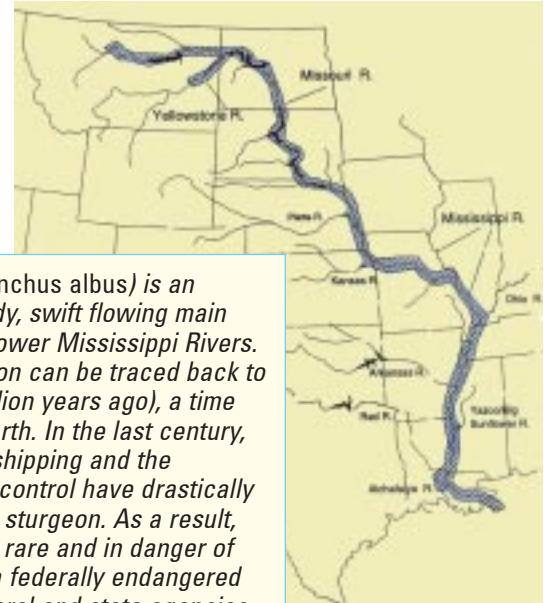


Following Pallid Sturgeon Tracks in the Big Muddy

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The pallid sturgeon is one of the largest fishes inhabiting the Missouri River Basin, reported weights up to 86 pounds. Rather than scales, the primitive pallid sturgeon has bony plates that cover part of its body and a long whip tail. Its mouth is toothless and positioned under the snout for sucking small fish and other food items from the river bottom. Four fleshy barbels and numerous tiny sensory cells on the underside of its snout (or rostrum) help to detect food in the dark, muddy water.



*The pallid sturgeon (*Scaphirhynchus albus*) is an ancient fish, native to the muddy, swift flowing main channels of the Missouri and lower Mississippi Rivers. The history of the pallid sturgeon can be traced back to the Cretaceous Period (200 million years ago), a time when dinosaurs roamed the earth. In the last century, channelization of the river for shipping and the construction of dams for flood control have drastically altered the habitat of the pallid sturgeon. As a result, the pallid sturgeon is now very rare and in danger of extinction. Since its listing as a federally endangered species in 1990, numerous federal and state agencies have worked together to restore its turbulent, muddy home and rescue the pallid from the brink of extinction.*

It is essential that biologists and resource managers understand the behavior of the pallid sturgeon to successfully restore its native habitat. The Columbia Environmental Research Center (CERC) uses technological advances in global positioning (GPS), biotelemetry, hydroacoustics, cellular communication, and computer science to track the movement and describe the habitat used by pallid sturgeon. Telemetry allows researchers in boats to repeatedly locate and follow fish beneath, in the muddy water. To continuously monitor the movement of tagged sturgeon, telemetry systems are integrated with small computers and can be placed at fixed locations in the river. Global positioning systems and hydroacoustics help to map the unseen, surrounding habitat features on the bottom of the river that are important to pallid sturgeon.

Research efforts at CERC have demonstrated that pallid sturgeon are highly skilled at moving about in the swift, muddy waters of the Missouri River. They can travel long distances in relatively short periods of time against strong currents. Using automated sites for tracking tagged pallid sturgeon in a one day sturgeon travelled greater than 24 miles downstream and greater than 15 miles upstream. Sturgeon actively avoid areas without current, such as slack water areas behind wing dikes or outside the river channel margin. Pallid sturgeon prefer areas with sandy bottoms at the margins of the river channel, near sand islands, and off the ends of wing dikes. The information obtained from this research will be used to guide habitat restoration and recovery efforts to ensure that pallid sturgeon continue to inhabit our big muddy rivers.