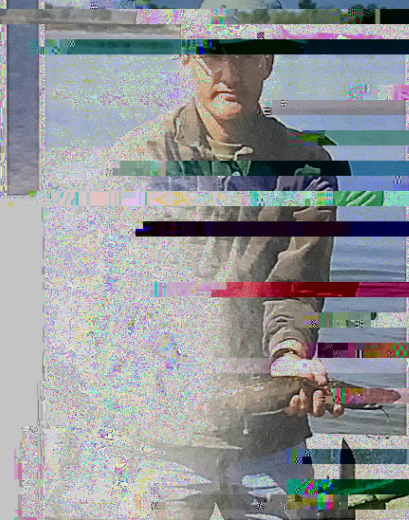




In early September 1998, biologists from the University of Wisconsin-Madison and the U.S. Fish and Wildlife Service are netting for fish in the Missouri River. The fish are being used to study the effects of the river's habitat on the fish.

LAUREN J. JENSEN FOR ENR



Tim Welker holds a burbot, *Lota lota*, one of the "electrified" fish in the Missouri River above the mouth of the Klamath River.

The Missouri River Dinosaur Fish

By Dennis Scott
Tim Welker
Fred Ryckman

The Missouri River contains some distinctive fishes found in few other places. Many of the fish have specialized adaptations for living on or near the bottom and feeding in turbid waters.

These adaptations include that help these fish detect food and taste for it. The heads of catfish, sturgeon and other benthic

fish cover the head, bodies and several species of catfish, channel catfish, sicklefin chubs and sturgeon chubs have small eyes and more on taste for feeding. They also have many other species including

These special adaptations may seem strange to us, but they rely so heavily on sight for feeding, but to a Missouri River fish, they only make good sense.

As the river remained in a species prospered.

Missouri River declining river of North Dakota where little natural free-flowing river remains.

Channelization - The river is now a series of straight channels and dikes.

small, shallow waters and channels.

Each channel is a straight line, and the river is now a series of straight channels.

Dam in Montana to Graves Point Dam on the South Dakota-Nebraska border.

usually high, and the river is now a series of straight channels. The river is now a series of straight channels.

Teaming Up With the Mighty Mo'

fluctuations due to hydro-peaking. These new, more variable conditions often have been detrimental to native species.

more suited to the reservoir habitat over native species. detect food by taste and smell for reference.

Despite these dramatic changes, a few small Missouri River herring still remain in the river.

ent of the river from its confluence with the Yellowstone River to the mouth of the river.

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River flows and turbidity below dams have greatly changed habitat conditions.

Because many benthic fishes are unique to the river, they are at risk of extinction.

Knowledge of how substantial changes in habitat have been made is needed to manage the river.

has been a significant decline in the number of species.

Understanding factors affecting abundance, growth, and survival of benthic fishes is important.

On the North Dakota's Missouri River and the Montana-Missouri River.

have been conducted in 1993 and 1994.

from cooperative fishery agencies in Montana, North Dakota, South Dakota, Iowa, Kansas, and Missouri.

include conducting on the river and in the reservoirs.

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Missouri River. The objectives of the study initiated in 1996 were to describe and evaluate abundance, growth, and survival of benthic fishes in the river.

measurements of growth and survival of benthic fishes in the river.

of the study are the Corps of Engineers, Montana, North Dakota, South Dakota, Iowa, Kansas, and Missouri.

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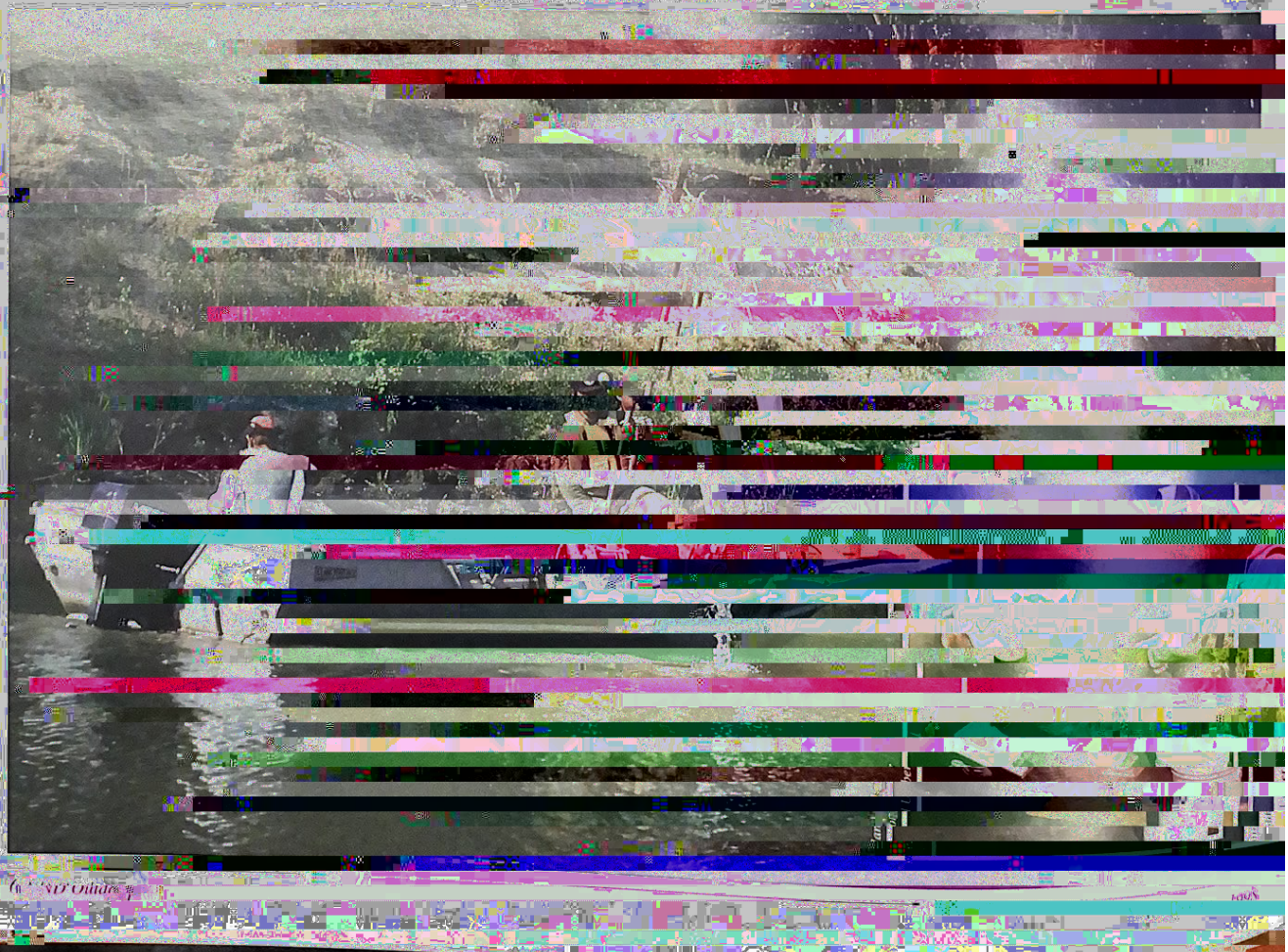
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the free-flowing, turbid waters of the unimpounded Yellowstone River. This reach retains a flow regime, turbidity, and habitats similar to those found before.

In contrast, the Garrison Reach, which extends from Garrison, N.D., to the Lake Oahe Dam, is a reservoir.

by Lake Sakakawea. Because water is released from the deepest portion of the reservoir, Garrison Reach water is typically much colder and clearer than the Williston Reach in summer.

The main fish species in these two reaches are strikingly different. In 1997, 1,500 fish, representing 30 families, were caught in the Williston Reach. Most sampled fish,

11,250 fish targeted for the study, chubs, white suckers, minnows, bigmouth buffalo and channel catfish were most commonly captured. Other native species are rarely caught in the Williston Reach, including northern pike, muskellunge, burbot,

rock bass, and northern pike and

white suckers. These are distinctive, benthic species early explorers would have seen had they been able to sample the river.

Garrison Reach in 1997 represented only

white suckers, and rock bass, and less than 35 percent of the catch was benthic fish. Almost none of the

Williston Reach fish were found in the Garrison Reach. Results indicate that changes in discharge, sediment and

in the Garrison Reach. Similar loss of native species documented at several

where habitats have been lost. This study will continue through 1999, promises to provide information on North Dakota's river and

the Missouri River upstream and downstream, pointing up on the integrity

ing an important native Missouri River benthic fish

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most toward Trenton Lake near Williston. Lake Sakakawea, this portion of the river is similar to the Yellowstone River. Two native fish, northern pike and muskellunge, are found here.

