Fossil evidence shows paddlefish lived in ancient Midwestern waters. A new study reveals how well the "spoonbill" survives today.

# Swimming Dinosaurs

Story By Joe McFarland
Photos By Adele Hodde

It's a fish that's survived ice ages and meteor impacts on Earth, yet, until recently, nobody could say for certain if paddlefish had a future in North America.

The exact numbers will never be known. But fisheries biologists involved in a massive, 12-year paddlefish study across several Midwestern states discovered there actually are more paddlefish in North America than most people anticipated—and their Illinois population appears to be swimming strong.

"We now know a lot more about their movements, life history and seasonal distribution than ever before," explained Department of Natural Resources (DNR) fisheries biologist Rob Maher. "Before, these fish were a great mystery. Relatively little was known about the status of paddlefish in Illinois."

But that changed, beginning in 1992, when DNR partnered with several other states and federal agencies to conduct the most extensive paddlefish study ever attempted in the Mississippi River system. A fish that's survived since the age of dinosaurs, according to fossil evidence, was a relative stranger in terms of modern documentation. Paddlefish might be threatened by everything from pollution to illegal harvest (one ounce of paddlefish caviar sells for $16 on the open market today), yet fisheries officials had insufficient data to assist with management decisions.

**DNR fisheries biologist Rob Maher (above and far right) and streams biologist Doug Carney (left) collect information on the weight and length of a paddlefish before tagging and releasing the fish back into the Mississippi River.**

**The distinctive bill, or rostrum, of a paddlefish easily identifies this species. Biologists have yet to determine the function of the rostrum for these filter-feeding dinosaurs.**

Enter the Mississippi Interstate Cooperative Resource Association (MICRA). The multi-state partnership launched a collaborative program within the Mississippi River basin to study sturgeon—another ancient fish—and the bizarre-looking paddlefish, whose long snout (properly known as the rostrum) gives it the nickname spoonbill.

Maher and other DNR fisheries biologists attempted to catch, tag and release 300 paddlefish each year in the Illinois portion of the Mississippi River. Each fish would carry a tiny, harmless wire with a code indicating when and where it was first caught, its weight and general health. As the study progressed, biologists could compare catches and tag information with cooperating agencies in other states within the Mississippi watershed—wherever the paddlefish might turn up.

Paddlefish were believed to travel considerable distances throughout the year, wherever rivers flowed. As tags were recovered during the first five years of the study, proof of long-distance paddlefish movements began trickling in. But locating paddlefish for the original tagging was not as simple as setting nets randomly in the Mississippi River.

Unlike many sport fish, such as catfish or bass, paddlefish rarely get caught by anglers. It's partly due to their diet of microscopic plankton (which makes traditional fishing methods useless) and partly due to the lack of known paddlefish habitat.

Biologists turned to commercial fishermen to guide them to paddlefish hot spots.

Maher said, while fishermen usually keep their secrets closely guarded, commercial anglers realized the future of a legal paddlefish trade was at stake.

"They opened up their books to us, so to speak," Maher said, praising the cooperation offered by commercial fishermen. "At first, I thought we'd be lucky to catch three fish, let alone 300 each year."

But paddlefish turned up in surprising, unexpected areas of the Mississippi River, quotas were met, and after a few years of tagging and releasing paddlefish, it became clear this ancient fish, officially known as *Polyodon spathula*, has survived the ages quite well.

After tagging hundreds upon hundreds of paddlefish, biologists were pleased to learn catching a tagged paddlefish was a relatively rare occurrence—just 2-to-4 percent of the paddlefish hauled in by anglers contained tags, indicating the population appeared to be doing well.

Those tagged fish revealed long-distance movements among paddlefish, sometimes hundreds of river miles—from Alton to Kentucky Lake—at different times of the year. Their overall health appeared to be good, and reproduction also appeared to be successful year after year.

A typical adult paddlefish might weigh 20 pounds in the Mississippi, debunking rumors of 200-pounders commonly hiding below dams. And while paddlefish in excess of 150 pounds occur in the upper reaches of paddlefish habitat in Montana, "a 50-pound paddlefish would be a large one down here," Maher said.

Also, life expectancy in our warmer waters might expire after 20-25 years.

"All signs are of a healthy population," the biologist noted, adding that changes to existing catch restrictions don't appear to be imminent. "The status of paddlefish in the Mississippi is better than we expected. As it stands right now, they seem to be doing well on their own."

Currently, angling prospects for paddlefish is a limited matter of chance. Snagging is permitted in certain areas of the Mississippi and Illinois rivers (see current Illinois Fishing Information booklet for details). But paddlefish will remain a rarely seen species in Illinois waters. Fortunately, thanks to the first large-scale scientific study of this ancient survivor, fisheries biologists know the obscure nature of this species is no cause for alarm.

"It's nice to report good news for a change," Maher said.

**A small wire tag attached to hundreds of paddlefish helped biologists determine the population size and distribution of this ancient fish in Illinois.**