

A FISH STORY



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They don't seem to be too loud or noisy. If anything, it makes them jumpy.

Betty and Kenny DeFord found that out five years ago when they drove their 16-foot Jon boat through a school of silver carp, a species of Asian carp, near their Illinois River home. Like corn kernels in a hot pan of cooking oil, the fish began jumping out of the water. Before the encounter was over, the couple was covered with fish blood and slime.

"When it was all said and done, we had thirty-some fish in the bottom of the boat," Betty DeFord recalls. "We thought we were going to sink. That's how much weight they had added to the boat."

DeFord admits this story may sound a bit far-fetched for those who've never had an encounter with an Asian carp. But for those along the Asian carp-infested waters of the Illinois, lower Mississippi, Missouri and Ohio rivers, the story is all too familiar.

Last fall, genetic fish testing concluded the Asian carp had penetrated a set of electric barriers in a Chicago waterway that eventually links the Mississippi to Lake Michigan. The find led to the largest fish kill in Illinois history. The kill turned up a dead Asian carp within 6 miles of Lake Michigan and set off a dispute that is now at the doorsteps of the U.S. Supreme Court.

On Friday, the chief justices will discuss behind closed doors whether to issue an injunction to close the locks in this Chicago waterway. The locks serve as the last physical barrier between the Great Lakes and the Asian carp. There is no date for the justices' decision to be made public.

The legal battle pits five Midwest states, including Wisconsin, and the Canadian province of Ontario against DeFord's home state of Illinois and President Barack Obama's old political stomping grounds in Chicago. The Great Lakes need protection, argue the Midwest states, because of the \$7 billion fishing industry the lakes support. In Wisconsin, some 235,000 anglers fish Lake Michigan and Lake Superior annually, with sport fishing alone supporting 5,000 jobs and generating nearly half a billion dollars in economic activity, according to a 2006 study by the U.S. Fish and Wildlife Service and the U.S. Census Bureau. The high court will be weighing these interests against the impact on Chicago of closing the locks. The locks along a man-made canal keep drinking water clean from sewage for some 8 million residents of the greater Chicago area and help hold back floodwater from the downtown.

In a losing, decades-old battle to keep the Great Lakes free of invasive species, the threat of the Asian carp is proving to be the most problematic. It not only jumps out of the water but eats 40 times its weight in plankton daily, growing at times to more than 5 feet long and weighing between 50 and 100 pounds. Plus, scientific evidence is showing the Asian carp have begun spawning three times a summer.

"You can see why there is concern over these fish getting into the Great Lakes," says Kevin Irons, a large-river ecologist with the Illinois River Biological Station in Havana, Ill., who has watched the Asian carp population explode since first catching one in the mid-1990s. "They not only jump and hit people in the head, but they are reproductive specialists. They are the poster child for invasive species."

The lawsuit, originally filed by Michigan Attorney General Michael Cox on Dec. 22, seeks to force the court to reopen a case from more than a century ago. That suit began when Missouri filed suit after Chicago reversed the flow of the Chicago River and began sending sewage-filled Lake Michigan water

downstream toward the Mississippi River.

This water diversion began when the Chicago Sanitary and Ship Canal was built in 1900, allowing Chicago officials to reverse the flow of its namesake river toward the Mississippi. Officials quickly realized that the deeper the canal, the more water they could pull from Lake Michigan. By deepening the canal, a man-made link was ultimately created between the lake and the Mississippi River.

Great Lakes states, including Wisconsin, sued over that water diversion in the 1920s. The court, in that effort and subsequent others, have repeatedly sided with the interests of the Chicago area. That changed slightly in 1967, when the Supreme Court ruled Illinois could keep taking lake water, but it capped daily diversion to 2.1 billion gallons a day. At the same time, the justices ruled that if adjacent states could demonstrate that the water diversion was causing them harm, they could bring the case back into court. This decision provided the opening that Great Lakes states, including Wisconsin, are now using for the basis of their suit against Illinois.

The suit also names the U.S. Army Corps of Engineers and the Metropolitan Water Reclamation District of Greater Chicago as defendants.

"Closing the locks to protect Lake Michigan from Asian carp is a disservice to public health and safety," stated Terrence O'Brien, president of the Metropolitan Water Reclamation District of Greater Chicago, in a news release in response to the suit.

Obama's solicitor general has also weighed in. In a counter brief filed with the high court, U.S. Solicitor General Elena Kagan sides with Illinois by writing the states had no right to take the case to the nation's highest court. In a statement, Cox says the opposite is true: Because this is a dispute between states, the Supreme Court justices are precisely the ones to make the call on how Great Lakes water issues should be handled.

In addition to asking for the Chicago locks to be closed immediately, the lawsuit also seeks to permanently sever the man-made link between Lake Michigan and Chicago waterways by closing the Chicago Sanitary and Ship Canal, where the dead Asian carp was found in December.

"Everyone recognizes that the ultimate solution is to somehow separate or close the water connection that goes through Chicago," says Phil Moy, a biologist with the University of Wisconsin-Madison Sea Grant Institute, who has worked on the effort to keep the Asian carp from the Great Lakes for 13 years. "The question is how to make that happen in a speedy manner without adversely impacting a lot of people."

Because there are no immediate plans to close the Chicago Sanitary and Ship Canal, two electric barriers have been built to shock fish - in particular, the Asian carp - to keep them out of Lake Michigan. A third electric barrier is scheduled to be completed this fall.

Four species of Asian carp - the bighead, silver, grass and black carp - made their first appearance in the United States in the 1970s when they were imported to catfish fisheries in the Deep South. At a time of budding ecological awareness, the idea was to introduce the plankton-loving fish to help rid the catfish fisheries of the drifting animal, plant and other bacterial organisms that float near the surface of the water. Less plankton in the breeding farms meant the catfish were healthier and better tasting.

Irons says it seemed like a "win-win for everyone," until the first Asian carp were found in the wild. "That's when we knew we were wrong."

Flooding quickly carried the Asian carp out of the fisheries and further up the Mississippi River. While all species of Asian carp have made their way out of the fisheries, the silver and bighead currently are nearest to the Great Lakes and causing the most alarm.

By the late 1980s, the fish were spotted on the Illinois and Ohio rivers.

Irons says the real northern migration of the fish occurred in conjunction with the big floods of the early 1990s. These floods proved a pivotal turning point in the Asian carp's takeover of waterways along the Mississippi River, spreading the fish into the Ohio, Missouri, Illinois and, in more recent years, the St. Croix River.

During the 1990s, a few Asian carp were found. It wasn't until the turn of the century, though, that their population exploded. By 2002, Irons and his colleagues determined 1,200 Asian carp, mostly

bigheads, were living in the Illinois River.

Then, in 2003, something odd happened, he says. The silver carp began to outnumber the bighead carp. In 2007, Irons and his team caught 10,000 fish, mostly silver carp. More alarming was the fact that the silver carp females had started to spawn three times a summer. Most native big-river fish only spawn once. During the same year that the Asian carp started spawning more, native fish started spawning less. Irons noticed a 5 percent to 7 percent drop in the populations of the bigmouth buffalo and gizzard shad, two fish that compete with the Asian carp for food.

Irons says with only so much food available, he expected to see the silver carp's number plateau from the 10,000 Asian carp that were tracked in 2007. To everyone's surprise, the team of biologists in Havana caught around 80,000 silver carp the following year while conducting its mark-and-recapture scientific study.

To date, the largest concentration of fish eggs among Asian carp species was discovered at Havana's Illinois River Biological Station in 2004. Irons says a bighead female carp was found with 2.2 million eggs.

If these eggs were as desired as those from a Beluga sturgeon, this haul would be enough for 550,000 standard 4-pound tins of caviar. Retailing at \$150 an ounce, this find would net \$1.32 trillion on the high-end caviar market. Unfortunately, not all fish eggs are created alike and there is no market for carp caviar.

Because of the high concentration of Asian carp, the waters around Havana on the Illinois River have been dubbed "ground zero" for carp. According to Irons, there are around 4,100 silver carp per mile, more than anywhere else in the world. That number doesn't include the young.

Not far downstream from ground zero, Betty DeFord and her friends have grown accustomed to being hit with flying silver carp. The fast takeover of the river has put an end to swimming, she says. She still goes boating occasionally, but she stopped taking her grandchildren along with her three years ago.

"You can't go out tubing, boating or anything like that," she says. "It is just too dangerous. You just can't do it anymore."

While the silver carp keep them off the water most of the year, the fish are the reason they grab nets and anything else capable of batting down a 50- to 100-pound fish for the annual Redneck Fishing Tournament.

Started by the DeFords five years ago, YouTube footage of the event has drawn international attention, bringing journalists from the Discovery Channel and CBS World News, along with many others, to the small Illinois town of around 300 residents.

Because the fish are boney with toothpick-sized bones, they are not easy to fillet. Unlike others around the world, Americans tend not to eat them. For this reason, Asian carp are much larger in the United States because they are not overfished and, therefore, live longer.

"A solution to this problem would be getting people to eat them so they could be harvested commercially," Irons says. "But we are kind of spoiled here. We don't want too many bones in our fish."

While there is no market in this country at this point to support commercially fishing the Asian carp, Heartland Processing, located near Irons' research lab in Havana, has started using Asian carp for fertilizer.

The DeFords contribute to the effort by allowing the plant to use all the silver carp caught during the annual Redneck Fishing Tournament. Last summer, after 134 boats each spent two hours on the river, 1,539 silver carp were hauled back to Heartland Processing.

"I tell everyone who comes to the tournament to go back home and tell their legislators that you don't want these things in your water," DeFord says. "Once you get them, you can't get rid of them."

In Louisiana, where the Asian carp has made itself at home at the cost of other fish populations for the better part of 30 years, a new tactic is at work to get locals to eat their way through the problem.

Armed with a new campaign to change the negative image of the Asian carp, the Louisiana

Department of Wildlife and Fisheries - with the help of Baton Rouge chef Philippe Parola - is preparing to teach locals how to cook and eat the fish that Americans have traditionally rejected. They're calling the silver carp "the silver fin" in an effort to make it sound more appealing, and advertising its taste as a cross between scallops and crab meat. To get at the full flavor, says Parola, the fish needs to be bled to get the meat its whitest, and steamed to rid it of big bones.

Essentially, if you can't beat it, eat it.

The DeFords found a way to turn the area's Asian carp problem into a well-attended, profitable event. In their own way, they have created a boost to the otherwise dwindling river-based economy by attracting hundreds of out-of-towners to the annual tournament.

But making good on the Asian carp infestation is not an easy task. In the Great Lakes, where recreational and commercial fishing still thrive, the fear - and reason for the lawsuit - is that the Asian carp could eventually bring down a \$7 billion industry.

In Wisconsin, sport fishing generates \$419 million in economic activity annually and supports 5,000 jobs. Commercial fishing brings in another \$3 million in harvest sales from Lake Michigan and \$651,000 in harvest sales from Lake Superior, according to 2007 estimates from the U.S. Geological Survey Great Lakes Science Center.

In addition, Wisconsin residents account for 50 percent of the state's annual tourists, according to the Wisconsin Department of Tourism. That means Wisconsinites get a lot of use out of the state's natural resources, including the Great Lakes, and will personally feel the pain if Asian carp ruin the waters.

"The infiltration of Asian carp into Lake Michigan may have serious adverse environmental and economic consequences to Wisconsin's waters and industry," says Attorney General J.B. Van Hollen in a statement that accompanied his brief in support of the Michigan lawsuit, which was filed on Dec. 30. "This action seeks to ensure that the integrity of Lake Michigan is not harmed by the introduction of the carp."

Because bighead and silver carp survive and thrive in lake habitat found in the Wisconsin waters of the Great Lakes - including Milwaukee Harbor, Green Bay, Chequamegon Bay, the Duluth-Superior Harbor and inland rivers like the Sheboygan, Manitowoc, Bad and Nemadji - Van Hollen says that the carp threaten to "substantially upset the ecological balance of Wisconsin waterways, and undermine the enjoyment and production of Wisconsin's waterways."

McFarland resident Michael Collins, or "Grey Beard," as he's known by his fishing buddies across the state, is among the 235,000 anglers who fished for a combined 3.7 million days on Wisconsin's share of the Great Lakes in 2007, according to the state Department of Natural Resources.

A semi-retired clinical pharmacist with UW Hospital, Collins goes salmon fishing in Milwaukee's McKinley Marina as long as the weather permits. Collins also writes a column for Lake Links, a popular online website. In his column, Collins provides timely fishing updates and reviews fishing gear he has tested out as a member of the pro-staff, a group that includes award-winning and avid fishermen, for a number of Lake Michigan tackle companies. This gives him insight into the economic reach of the fishing industry in Wisconsin from a recreational and commercial aspect.

Collins says Lake Michigan has been suffering for years from the impact of invasive species. He says that while the salmon fishing is still "world class," quagga and zebra mussels have eliminated food at the bottom of the chain. The trickle-up effect is that the medium-size fish, particularly the alewives that salmon eat, are now smaller. Consequently, the salmon are thinner.

Because Asian carp can eat half of its weight a day, Collins says it will also affect the food chain. "It will devastate the other fish if it gets into the Great Lakes."

Jennifer Garrett of Monona doesn't fish but she, too, has a love of the Great Lakes. She grew up in Munster, Ind., 40 miles from the shores of Lake Michigan, and continues the tradition of beach vacations with her own young family.

Garrett says other Wisconsin lakes don't have the same allure.

"They don't have the same power as the Great Lakes do," she says. "If you grow up near the Great Lakes, other lakes disappoint you."

The thought of big fish lurking below the water or jumping out of the water is not an appealing image. "It would disrupt my entire idea of what the lake is if it was infested with those fish," Garrett says.

Michael Staggs, director of the Department of Natural Resources' Bureau of Fisheries Management, says state and environmental agencies are bracing for the same negative impacts from the Asian carp as they did when the sea lamprey invaded the Great Lakes in the 1950s. The solution: expensive, ongoing fish-stocking programs to keep natives species, like the salmon, abundant.

"There is lots of talk about how Chicago and the barge industry would be impacted, but there are significant economic interests on this side (of the locks), too," Staggs says. "When are those interests going to count?"

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