Can Asian carp inspire long-term solutions to Chicago's most pressing water problems?

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(PhysOrg.com) -- There's been a lot of harping about Asian carp ever since they started forging up the Illinois River toward Lake Michigan. In late 2009, researchers found traces of their DNA in a Chicago harbor near the lake, sparking outrage from neighboring states over concerns that “voracious invasive species” will soon inundate one of the most valuable aquatic regions in the United States.

Next came the legal challenge over whether Chicago should be forced to temporarily close the locks leading to its waterways—denied twice by the Supreme Court. The ongoing debate pits the vitality of the city’s freight and tourism traffic against a cancerous threat to the largest fresh water resource in the world, leaving little room for compromise.

And yet, Josh Ellis, AM’06, says Asian carp could be a red herring. As a program associate with the Metropolitan Planning Council , a 75-year-old NGO focused on public policy in the Chicago region, he’s been delivering lectures across the city that urge policy-makers to seek long-term solutions that address a host of other water management issues like quality treatment, possible supply shortages, storm water management, waterborne freight, and protection from future invasive species along the way.

“Think beyond the carp as we think about the carp,” one of Ellis’ PowerPoint slides read during a recent presentation at the Shedd Aquarium. The phrase may invoke the tautological witticism of Yogi Berra, but his message is steeped in big-picture analysis and confidence

in 21st-century technology. “A short-term solution will dampen the flames and calm people down,” Ellis admits, whose master’s degree merged environmental policy at the Harris School of Public Policy Studies with an understanding of Mesopotamian river politics at the Center for Middle Eastern Studies. “But that can’t be it. Closing the locks might keep the fish out, maybe, but it would do nothing for the sustainability of the region’s water supply or improving our transportation systems.”

Meanwhile, Chicago isn’t utilizing its massive accumulation of storm water, which currently enters the sewer system and exits the city. In 2005, that storm water averaged some 588 million gallons a day—twice as much as the Chicago’s suburban areas now extract from dwindling underground aquifers, Ellis says. “We’re almost literally flushing it down the toilet,” he insists. “We still have the 1900 system, but we have 2010 goals. It’s time to rethink how we do things.”

That system was created more than a century ago when Chicago reversed its rivers by creating canals to carry its sewage away from Lake Michigan—the same canals where Asian carp DNA was recently discovered. Water treatment technology has changed dramatically since then. Still, Chicago is currently the largest, if not only, city in the region that doesn’t return its treated water back to the Great Lakes.

Because the Chicago region takes water out of the Great Lakes basin without replenishing it, the U.S. Supreme Court capped the amount Illinois could divert each year. Over the next few decades, Ellis says growing demand may reach that limit, putting the area at a competitive disadvantage for attracting businesses and residents while maintaining healthy ecosystems. Updating the city’s treatment process, re-reversing its rivers where feasible, and planning for the future by recycling the city’s water supply could solve this problem before it starts, he adds.

What does that have to do with Asian carp? By eliminating the need to send sewage away from the city, Ellis says Chicago might be able to construct physical barriers that keep unwanted fish and other future invasive species at bay. “There are still a thousand details to work out, but we reversed the river once, we can come up with engineering solutions to solve all of these problems at the same time,” he explains, adding that strategically located boat lifts or intermodal facilities could mitigate negative effects on shipping and tourism traffic.

The endeavor would be expensive at best and go against the flow in a state where budget deficits and midterm elections are on everyone’s mind. For this reason, Ellis has been working with other nonprofits and government partners to brainstorm substantial plans and incentives to win over local, state, and national leaders. His efforts seem to be paying off.

On May 24, 13 U.S. senators signed a letter urging the U.S. Army Corps of Engineers to implement new measures that would prevent the movement of species up the Illinois River to the Great Lakes. That came just days after Federal agencies and the Illinois Department of Natural Resources led a poisoning operation that surfaced 100,000 pounds of dead fish in a Chicago river. They found no Asian carp.

Despite the good news, the letter still calls for swift action, citing, like Ellis, other concerns such as wastewater, water quality, and freight traffic. “I don’t think that conversation is going away,” says Ellis, relieved to see his message gain momentum. “It might not be in the papers as much, but it’s moving up to a higher level. It’s starting to become the long-term discussion it needs to be.”

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