

AG RESEARCH SPOTLIGHT



Tomas Höök

"Many people in ecology or natural resources get into it because they like to hunt and fish. And there's a good number who get into it because they're environmental activists. That's not me. I just think ecology is interesting—I'm interested in how systems work."

Tomas Höök, Associate Professor of Forestry and Natural Resources

The Ag Research Spotlight shines each month on an individual whose work reflects our commitment to the six strategic themes that guide Agricultural Research at Purdue. Our spotlight for October 2013 underscores the theme, "Strengthening ecological and environmental integrity in agricultural landscapes."

THE RESEARCHER: Tomas Höök hails from an uncommon geographical combination: He spent much of his youth in Sweden on a farm that has been in his mother's family since the 1700s, until his father's work as a biochemistry professor took the family to Alabama, where Höök went to high school. At the University of Michigan, he discovered ecology, enjoying both being outdoors and the courses' use of math to study interesting questions. Degree in hand, he took a job studying birds—and didn't like it. "For some reason, I got it in my head I wanted to study fish," he says. "I used to fish with dad and uncle when I was a kid, and I used to watch a lot of nature shows. It makes sense now, but it's not like I had some 'eureka!' moment when I discovered what I wanted to do with my life." He returned to Michigan for master's and doctoral degrees and then worked as a research scientist at the Cooperative Institute for Limnology and Ecosystems Research. He joined the Purdue faculty in 2008.

THE RESEARCH: Höök's research focuses on fish and fisheries ecology in the Great Lakes. Fish communities and populations—species numbers and their traits—change a great deal from year to year, he explains. Höök studies past, current and projected future conditions to examine the factors that lead to these changes over

time and across habitats. He uses a variety of research methods, including lab experiments on how fish respond to different situations, field studies and computer modeling.

A VALUABLE INDUSTRY: Höök's research has impact on fisheries management, which is critical to the Great Lakes' estimated \$7 billion sport fishing industry. "Management of these fisheries is confounded by uncertainty in fish populations, both long-term and from year to year," he explains. One of the questions he explores, for example, involves the consequences of nutrient runoff on fish. While other researchers focus on water quality, what matters to Höök is its impact on aquatic ecosystems.

ILLINOIS-INDIANA SEA GRANT: "The Great Lakes are like the oceans in terms of processes and are treated as oceans by the federal government," he says. As Associate Director of Research for the Illinois-Indiana Sea Grant, part of a larger Sea Grant program administered by the National Oceanic and Atmospheric Administration (NOAA), Höök oversees sponsored research opportunities for researchers at Illinois and Indiana institutions.

NOT WHAT YOU THINK: Höök is used to people drawing a connection between his last name and his research subjects; but he points out that his surname, with umlauts over the o's, actually translates to "hawk" in Swedish. In his spare time, he is an avid soccer fan; a knee injury recently curtailed his own play, but he coaches his two children in the sport.