

Tracking invasives? There's an app for that

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Invasive species will have a tougher time sneaking around undetected, thanks to an app developed by Amos Ziegler, MSU biogeographer. Credit: G.L. Kohuth

Invasive species will have a tougher time sneaking around undetected, thanks to an app developed by Michigan State University.

Midwestern residents can now snap photos with their <u>smart phones</u>, log a few quick notes and send their alert to a growing network of scientists and state officials who can use this critical information to increase response to these threats. The <u>free app</u> is one component of the Midwest



Invasive Species Information Network, developed by Amos Ziegler, MSU biogeographer.

"MISIN is a regional effort to develop and provide tools and resources to enhance early detection as well as rapid response to better manage <u>invasive species</u>," Ziegler said. "Anyone with a smart phone or tablet can help us collect basic data. Knowing the location, date, time, species and abundance will help us better map their spread and help state agencies deploy more effective management plans."

Ziegler's interest in invasive species can be traced to the gypsy moth, one of the most-devastating forest pests. He still keeps tabs on them, working with the U.S. Forest Service collecting data from more than 70,000 traps from Minnesota to North Carolina, but he's expanded his research to address the multitudes of invaders thriving in water and land.

With so many invasives in Michigan - killer shrimp, sea lamprey and Japanese knotweed - Ziegler is hoping to help make Michigan a leader in the fight against them.

"Surrounded by the Great Lakes, Michigan is a focal point for terrestrial and <u>aquatic invasive species</u>," said Ziegler, whose work is supported by the Michigan Department of Natural Resources. "To put our state at the forefront of this issue, we need to battle invasives with an information-intensive approach emphasizing citizen education and rapid detection through a wide array of partners."

Imagine if this network would have been in place when <u>emerald ash</u> <u>borer</u> first landed. With the majority of detection potential located, not surprisingly, in Michigan's forests, EAB established a strong beachhead 20 years ago in urban areas evading detection.

Although smart phones weren't ubiquitous in the mid-'90s, what if a



network of citizen scientists could have caught the invasion earlier? Maybe EABs' potential destruction, estimated at nearly \$300 billion nationally, may have been drastically reduced, Ziegler added.

Already, teachers in the Chicago area have teamed with local foresters to add the app to their arsenal. Marjorie Maclean, a high-school teacher in Evanston, Illinois, partnered with the Forest Preserves of Cook County to identify and remove invasive plants.

"We made flyers to identify key invasive plants in our area - buckthorn, garlic mustard, Canada thistle and more - and showed why citizens should care," Maclean said. "Using the report feature showed students how anyone, who wants to, can contribute to scientific understanding."

Ziegler is hoping to continue to expand MISIN throughout the Midwest. He already has participated in the Detroit Zoo's Portal to the Public, an interactive science communications workshop, and the network was highlighted during Michigan Gov. Rick Snyder's State of the State address.

Provided by Michigan State University

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