



For Immediate Release

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WSSA Weed Control Spotlight:

Hydroacoustics Technology Makes Waves in Weed Control

LAWRENCE, Kansas – October 9, 2013 – The same hydroacoustics technology used to navigate boats, track fish and hunt for sunken treasure is now making waves in weed control – shedding new light on the size and shape of plant beds lurking beneath the water.

“It is difficult to treat what you can’t find,” says Dean Jones, a senior scientist with the Center for Aquatic and Invasive Plants at the University of Florida. “With hydroacoustics, we’re better able to document the spread of invasive plants and gauge management outcomes, treat weeds earlier and more effectively, and make better-informed decisions regarding the performance of different control techniques.”

To map the location of weeds, boats guided by global positioning systems and equipped with sonic depth-finders travel across a lake, bay or other body of water in a carefully calibrated pattern. Data from the soundings is recorded onto a memory card and analyzed by sophisticated software to indicate the presence of plant masses growing beneath the surface – including their depth, underwater height and density.

This high-technology approach is combined with traditional “point intercept” field sampling methods to determine whether the plant found is a native species or an invasive weed that can clog flood-control channels, impair water supplies and endanger recreation and tourism. Officials can plan management strategies and can document both the short-term and long-term efficacy of the control techniques they use.

Though boating and fishing enthusiasts have used hydroacoustic technology for years, it has only recently gained momentum as a widespread weed control tool. Much of its recent surge

in popularity is due to lower-cost equipment and advances in how hydroacoustic data is analyzed – including cloud computing to process large volumes of data in a short period of time. This expanded capability has led to significant advances in the scale and scope of mapping projects, since data from multiple hydroacoustic-equipped boats can be merged.

As a result, growing numbers of public and private organizations concerned about invasive weeds have incorporated hydroacoustic systems. They are using the technology to map changes in both invasive and native plants under a variety of scenarios – from no management to intense management.

For example, the Florida Fish and Wildlife Conservation Commission is now using hydroacoustics to fight hydrilla (*Hydrilla verticillata*), a fast-growing aquatic plant species holding a well-earned spot on the Federal Noxious Weeds list. A single, 15-acre infestation of the weed has been shown to spread across 3,000 acres in just two years.

To date, Florida officials have mapped more than 180 bodies of water to identify hydrilla infestations. One of the most recent projects involved the mapping of over 70,000 surface acres of water on the Kissimmee Chain of Lakes. Through repeat surveys, officials can determine when and where native plants are returning as hydrilla is better managed.

“To date we don’t have a tool that comes close to hydroacoustics in giving us a three-dimensional look at plant beds growing underwater,” Jones says. “It’s a great help in setting weed control priorities, planning treatment strategies and assessing outcomes.”

About the Weed Science Society of America

The Weed Science Society of America, a nonprofit scientific society, was founded in 1956 to encourage and promote the development of knowledge concerning weeds and their impact on the environment. The Weed Science Society of America promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, fosters awareness of weeds and their impact on managed and natural ecosystems, and promotes cooperation among weed science organizations across the nation and around the world. For more information, visit www.wssa.net