

Great Lakes Ecosystem Science MS Program Officially Recognized as a Professional Science Master's

The GLC recently learned that the **Great Lakes Ecosystem Science (GLES) Master of Science** has been officially recognized as a Professional Science Master's (PSM) program. The GLES MS was planned as a PSM, but a rigorous application to the national PSM Office was required to gain official PSM affiliation status. PSM programs must have a majority of the coursework in natural science, technology, engineering, math, or computational sciences; a professional skills component and an experiential capstone course is required; and the program must

have an active advisory board made up of professionals in the field.

The GLES PSM includes coursework in biology, geography, earth science, and chemistry. The professional skills courses cover project management and business and technical communication. The capstone course is an internship that a student completes with an industry, consulting firm, non-governmental organization, or a government agency. The GLES advisory board includes professionals from Buffalo Niagara Riverkeeper, Ecology and Environment, Erie



County Department of Environment and Planning, NY Department of Environmental Conservation, US Fish and Wildlife Service, US Army Corps of Engineers, and the Natural Resources Conservation Service.

Benefits of affiliation include promotional assistance to increase recruitment to PSM programs, professional meetings that focus on best practices, and research and advocacy for PSM programs. According to the PSM website, www.sciencemasters.com, the GLES PSM is one of 305 PSM programs nationally.

Early detection, rapid response key to controlling invasives

Prevention is the best and first line of defense when it comes to managing invasive species, but even the best prevention efforts will be unable to stop all invasive species from becoming established in a given area. Early detection and rapid response (EDRR) increases the likelihood that invasions will be controlled while populations are still localized and at low levels that can more easily be contained and eradicated. Once an invasive species becomes well established, it is significantly more difficult and expensive to control. In many cases, once a species reaches that point, all that may be possible is a lessening of their negative impacts.

Successful EDRR programs identify potential threats in time to allow effective measures to be taken to prevent the spread and permanent establishment of invasive species. In addition, the costs associated with EDRR efforts are typically far less than those of long-term invasive species management programs. Invasive species can spread rapidly and there is a critical need to coordinate EDRR efforts, which is one of the many tasks **WNY PRISM** is taking on.

Early detection and rapid response depends on both the ability to identify the threat

and the existence of effective management options. One of the first steps is to get as many trained eyes as possible on the ground looking for and reporting sightings of these species. **iMapInvasives** is an online database and mapping tool that supports efforts to protect New York State from invasive species. Once trained, anyone can enter invasive species reports and use the information to find other populations. We encourage people to get trained in invasive species identification and in how to use this important tool.

An example of EDRR in action is the water chestnut survey and eradication effort in Chautauqua County. Water chestnut (*Trapa natans*) is an aggressive aquatic plant that was only recently discovered in Chautauqua County. It has the potential to choke ponds, lakes and slower moving portions of streams and rivers, thereby severely affecting wildlife habitat and greatly reducing the recreational value of those waterways. The early detection of this species has provided us with an incredible opportunity to remove the species before it becomes well established.

A working group including Conewango Creek Watershed Association, Jamestown Audubon and other WNY PRISM Partners has formed



Volunteers removing water chestnut from Ellicott Creek in Tonawanda, 2010. (Photo credit: Mike Goehle/USFWS)

to lead the eradication effort within the Conewango Creek and upper Allegheny River Watershed. Eradication efforts will consist of mostly hand-pulling the plant, which wouldn't be possible with higher population levels. This type of effort would also not be possible if not for the participation of area residents reporting sightings of this invasive species.

For more information on WNY PRISM or on how to become part of the WNY PRISM Early Detectors Network, please contact Andrea Locke, WNY PRISM Coordinator at lockeas@buffalostate.edu. If you are interested in more information about the water chestnut effort in Chautauqua County, please contact Jamestown Audubon Center & Sanctuary at waterchestnut@jamestownaudubon.org.