
LAKE OKEECHOBEE LITTORAL ZONE VEGETATION MAPPING AND EXOTIC CONTROL PROJECT

Mandate: Comprehensive Everglades Restoration Plan (CERP)
Lake Okeechobee Watershed Protection Program (LOWPP)

Background:

Native plant communities provide valuable habitat for fish and wildlife in Lake's littoral zone. Along the shoreline, emergent plants also help stabilize sediments, support attached algae that help to remove phosphorus from the water, and provide a substrate for macro-invertebrates, which are an important food resource for fish. Dense stands of emergent plants protect submerged plant beds by reducing their exposure to waves. The distribution and abundance of emergent plants are strongly influenced by water depth, duration of flooding and nutrient inputs. Emergent vegetation performance measures are used for evaluating success of CERP and the LOWPP. Research and assessment dealing with exotic plants is integral to this effort.

Project Overview:

The distribution of bulrush, located along a 40 km area of the western shore, is assessed annually using color infra-red photography and GIS. The distribution of torpedograss is assessed annually in three 1-km reference plots, to determine its rate of expansion under different hydroperiod conditions. The distribution and spatial extent of all of the primary emergent plant communities in the Lake's 40,000 ha littoral zone is evaluated at six year intervals. A map of the entire littoral zone was last completed in 1996.

In 2000, the District began a program to kill torpedograss. Treatment methods are based on District and university sponsored research. Multiple treatments with the non-selective herbicides often are necessary to control torpedograss (an invasive exotic plant), and as a result, there can be damage to native plants. In an effort to develop a more effective and selective treatment, the District is conducting a herbicide screening study with the University of Florida. Other research designed to develop improved torpedograss management strategies is also being conducted. The research includes a feasibility study to investigate the potential for using biological controls to kill the plants, and studies to determine conditions that might hinder germination of torpedograss seeds.

Application of Results:

Results of this project will provide information on the long-term health of the littoral plant community, for which there are several priority performance measures in CERP and the LOWPP. The project also will lead to improved methods to kill exotic plants, with reduced damage to non-target species.