



Invasive Plant Education at Archbold Biological Station

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Archbold Biological Station is a private non-profit ecological research institution located in Highlands County, Florida. The Station is located at the southern end of the Lake Wales Ridge in central Florida, an area with a high number of endemic plants. Scientists at Archbold conduct extensive research on plant ecology and fire ecology in central Florida ecosystems. As land manager at Archbold Biological Station (ABS), a major portion of my job is treating and controlling invasive vegetation. Over the past 10 years, staff awareness of invasive plants has grown at Archbold in response to the increasing rate of spread of these plants throughout central and south Florida. However, little emphasis was placed on education about these plants. The large number (>2000) of visiting elementary-school students, college interns, and university classes that visit Archbold each year presents an ideal educational opportunity. A \$750 grant from the Florida Exotic Pest Plant Council allowed me to develop a multi-faceted invasive plant education program at Archbold that includes a web site, kiosk, field guide, treatment and monitoring manual, PowerPoint presentation, and volunteer workdays to inform individuals and groups about the impacts of invasive plants on Florida's natural communities.

Invasive Plant Web-Site

The primary educational tool initiated with the FLEPPC Education Grant was a

web site on the invasive plants of Archbold Biological Station and Highlands County. Published online on July 10, 2003 with the assistance of ABS Webmaster, Fred Lohrer, the site contains over 98 pages plus numerous links. To visit the site, go to www.archbold-station.org/abs/index.htm, click on Land Management (under What We Do), and then click on Invasive Plants at Archbold.

A total of 81 exotic plants, categorized as Category I (n=30), Category II (n=12), or nuisance plants (n=39), are described using text and photos. Nuisance plants are locally problematic introduced plants at ABS or in areas in Highlands County, but are not listed as Category I or II by FLEPPC. Special sections of the web site are devoted to invasive plant control projects at Archbold, treatment of invasive plants, other information (a catch all category), volunteer and internship opportunities, links to other web sites on invasive plants, and a list of some other publications on invasive plants in Florida. Updates to the web site will occur as needed and as additional invasive species are discovered. The website is pictorial rather than text oriented and includes several photos of each species of invasive plant.

Information Kiosk

Approximately 1,400 elementary students from Highlands, Hendry and DeSoto County visit ABS each year to learn about the Lake Wales Ridge Ecosystem. A new

kiosk was put in place in November 2003, just in time for the 2003-2004 school year. The kiosk contains general information about invasive plants and their treatment and control, and photos of nine of the worst invasive plants found at the Station. Nancy Deyrup, Archbold's education coordinator, will use the new kiosk as part of her "nature walk" to discuss the impacts of invasive plants on Florida's natural communities. Located near the main entrance of Archbold, the kiosk is available to all visitors.

Field Guide

Laminated booklets entitled "*Invasive Plants of Archbold Biological Station*" were compiled as a guide to land management interns and visitors. Focusing on Category I and II plants and certain nuisance plants, the booklets include photos and key characteristics for field identification, and location maps of the 47 most invasive plants found at Archbold.

Treatment and Monitoring Manual

A 75-page manual entitled "*Treatment and Monitoring of Invasive Plants at Archbold Biological Station and the Reserve Based on the Impact, Pest, and Control Status of Each Species*" was compiled for the land manager and maintenance staff to address priority treatment of the most invasive plants at ABS. The manual ranks the twenty-one most invasive species at ABS

based on distribution and abundance, gives recommendations for treatment and control, and provides maps showing the current locations of each species. Ongoing, small-scale restoration projects are given priority treatment schedules for each month of the year. Basic information also is presented on the herbicides used, treatment methods, and equipment recommendations.

Ecology Summer Day Camp

Archbold's Ecology Summer Day Camp is held in May and June each year. Five weeklong sessions accommodate approximately 90 students (ages 7-12 years). Each session provides hands-on learning activities including a presentation and field experience unit on the impact of invasive plants on natural communities in Florida. This unit includes a discussion of invasive plant identification using laminated photos on highly invasive species such as air potato, Old World climbing fern, rosary pea, melaleuca, and Brazilian pepper, and an "Air Potato Olympics" during which the campers collected air potatoes and tore down vines from an area on the main grounds of Archbold. The students, divided into 4 groups, competed for prizes awarded to the group that collected the highest total weight of air potatoes, and individual campers that collected the largest, smallest, and strangest looking air potato.

Presentations

Land management PowerPoint presentations that emphasize invasive plants were developed and shown to the Highlands County Audubon Society, University of Florida Environmental Law class, and several visiting high school classes. The presentations depicted all Category I and II plants known from Archbold and their effects on natural communities. On several occasions, shorter presentations were combined with 0.5-1.0 hour exotic plant removal projects on the main grounds. The presentations are available to any group or organization from Highlands County, or counties nearby.

Volunteer Workdays

Invasive plant removal workdays are held monthly at Archbold and are coordinated through The Nature Conservancy's Ridge Ranger Program. Typically 5-10 vol-

unteers work from 8:00 a.m. to 12:00 noon. Most workdays have focused on removal of air potato from the main grounds, but other projects include replanting native vegetation, hand pulling natal grass, removal of flame vine, collection of rosary pea seedpods, and removal of torpedo grass from Archbold's Lake Annie. Several volunteers put in over 40 hours each during 2002.

Conclusions

The first year of the Invasive Plant Education Program was successful in that a framework for future education programs on invasive plants was initiated at Archbold. The environmental education program will reach approximately 1,400 annually in addition to interns, visitors, and visiting college classes, offering a great opportunity for many years to inform these people on the impacts of invasive plants on the natural communities of Archbold and throughout Florida. The web site will be updated as more invasive plants are discovered in Highlands County, while timely topics such

as the proposed planting of 8,000 acres of giant reed (*Arundo donax*) in Highlands County are addressed.

Copies of the Field Guide and Treatment and Monitoring Booklet are available on CD, and the PowerPoint presentations may be borrowed. For further information or suggestions for the web site, contact the Land Manager at Archbold Biological Station, 863-465-2571 or landmanager@archbold-station.org, P.O. Box 2057, Lake Placid, FL 33862.

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