The IPRL has two locations, one in Fort Lauderdale, Florida and another in Gainesville, Florida.

The Gainesville unit is located on Florida Department of Agriculture and Consumer Services property.

INVASIVE PLANT RESEARCH LABORATORY
1911 SW 34th St.
Gainesville, FL 32608
(352) 372-3505

The Fort Lauderdale complex is located on the grounds of the University of Florida's 80-acre Fort Lauderdale Research and Education Center.

INVASIVE PLANT RESEARCH LABORATORY
3225 College Avenue
Fort Lauderdale, FL 33314
(954) 475-0541
www.ars.usda.gov/saa/iprl

The USDA is an equal opportunity employer.

Invasive Plant Research Laboratory

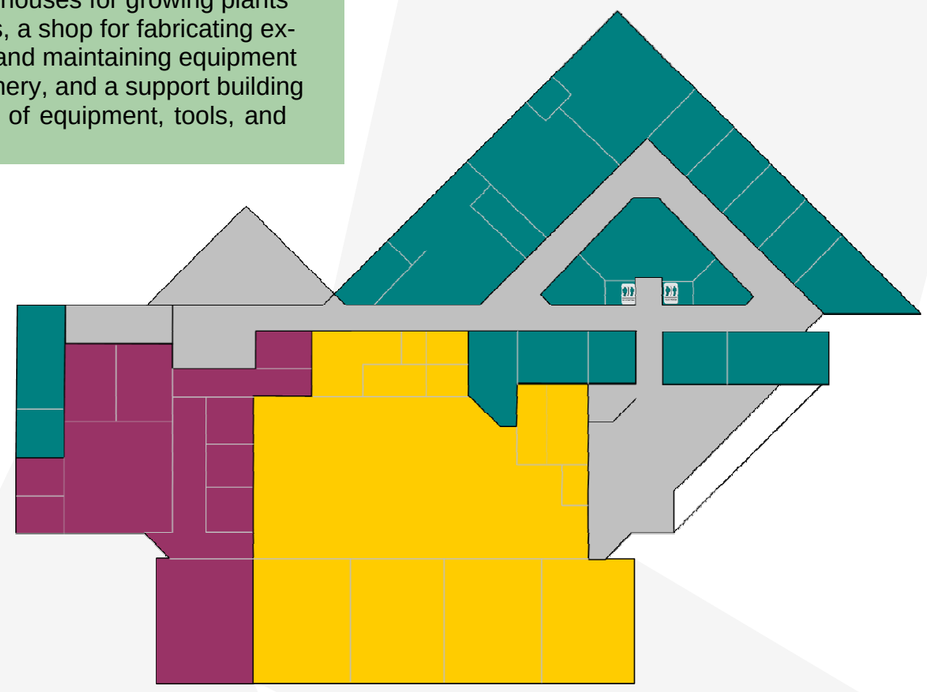
Developing sustainable methods for managing aquatic and wetland weeds based primarily on biological and integrated control technologies.

USDA Agricultural Research Service

Facilities

The Fort Lauderdale complex (shown) includes a 17,000 square foot weed biological control facility. The complex also includes nine additional laboratories including two general purpose labs with table space for sorting, weighing and drying samples, several greenhouses and screenhouses for growing plants and insects, a shop for fabricating experiments and maintaining equipment and machinery, and a support building for storage of equipment, tools, and supplies.

The facility includes a fully equipped genomics and plant-pathology laboratory, a methods-development laboratory, and a plant and insect ecology laboratory, as well as environmental chambers, a collection room (for voucher specimens), offices, and administrative space.



3000 square feet of greenhouses and laboratories under quarantine containment.

The maximum-security portion of the quarantine is secure enough to allow research on non-native fungal plant pathogens that might be considered for use as classical biological control agents.

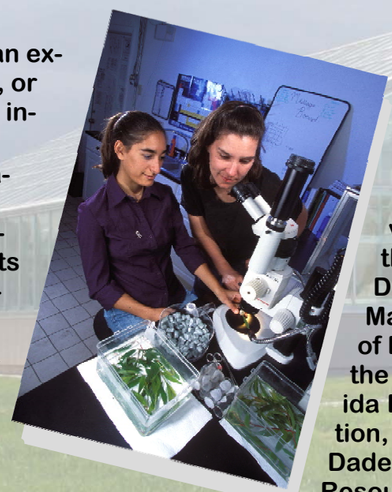
The Gainesville complex (not shown) consists of a small quarantine facility of approximately 1000 square feet containing a laboratory, two greenhouses, and additional laboratory and administrative space.

Research Approach

The research conducted at the IPRL principally consists of, but is not limited to, genetics research and research on plant and insect ecology. The scientists use genetics research to answer questions such as – has an invasive plant evolved to resist biological control agents. They use plant and insect ecology research to answer questions like – will a potential biological control agent lay eggs or feed on non-target plants.

Six step process used by the lab for identifying, testing, releasing, and managing biological control agents:

1. Recognize that an exotic species has, or may, become an invasive threat.
2. Conduct exploratory surveys for potential biological control agents in the plant's native range.
3. Screen the most promising agents for host-specificity (that is, ecological safety).
4. Apply for permission to release the biological control agent.
5. Establish self-perpetuating populations of safe biological control agents.
6. Develop management strategies to enhance efficacy of naturalized biological control agents.



Successes

- ✓ 15 insect biological control agents introduced for management of 6 invasive, non-native plant species.
- ✓ Permanent control of alligatorweed in most of southeastern U.S.
- ✓ Waterhyacinth populations maintained at historically low levels throughout southern U.S.
- ✓ Waterlettuce and hydrilla control in localized areas.
- ✓ Significant reductions in giant salvinia across southeastern U.S.
- ✓ Reduction in stand density and seed production of melaleuca.

Funding

In addition to funds provided by the USDA, the IPRL receives extensive extramural financial support from a diverse array of clientele groups including the South Florida Water Management District, the Southwest Florida Water Management District, the US Army Corps of Engineers, the National Park Service, the U.S. Fish and Wildlife Service, the Florida Department of Environmental Protection, the Florida Department of Agriculture, Dade County Department of Environmental Resource Management, USDA-APHIS, and others.

The Invasive Plant Research Laboratory is well staffed and well equipped to investigate and respond to the invasive plant issues that continually plague the South Florida ecosystems.

Scientists

Research Leader
Dr. Ted D. Center, Entomology

Research Scientists
Dr. Robert W. Pemberton, Entomology
Dr. Gregory S. Wheeler, Entomology
Dr. Philip W. Tipping, Entomology
Dr. Paul D. Pratt, Entomology
Dr. Min Rayamajhi, Plant Pathology

Support Scientists
Dr. F. Allen Dray, Jr, Ecology
Paul T. Madeira, Plant Physiology
Susan Wineriter, Entomology
Chris Bennet, Entomology

Opportunities

Contact us to discuss opportunities to collaborate on sustainable management of invasive plants, including cooperative research, implementation and internships.

Projects

Projects are underway for the following invasive organisms:

Melaleuca quinquenervia (paperbark tree)
Lygodium microphyllum (old-world climbing fern)
Salvinia molesta (giant water fern)
Eichhornia crassipes (waterhyacinth)
Paederia foetida (skunkvine)
Casuarina equistifolia (Australian pine)
Schinus terebinthifolius (Brazilian pepper)
Paratachardina lobata lobata (lobate lac scale)
Hydrilla verticillata (hydrilla)
Triadica (=Sapium) sebiferum (Chinese tallow)
Disocorea bulbifera (air potato)

Promoting Biological Control

Started in 2001, The Areawide Management and Evaluation of Melaleuca (TAME Melaleuca) is a multi-agency project funded by the USDS-ARS and directed by IPRL scientists. Its goal is to demonstrate and promote integration of biological control into melaleuca management plans on public and private lands.

TAME MELALEUCA

http://tame.ifas.ufl.edu