



UPPER PITHLACHASCOTEE RIVER PRESERVE

Invasive Plant Removal

Withlacoochee Region Invasive Upland Plant Working Group
FY10-11

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Project Goals

This initial project will control approximately 6 acres of skunk vine (*Paederia foetida*) and approximately 2 acres of air potato vine (*Dioscorea bulbifera*) found within the Upper Pithlachascotee River Preserve using both contractual and in-house staff.

SCOPE OF WORK

Project Location

The Upper Pithlachascotee River Preserve (hereinafter “the Preserve”) is a 122-acre parcel managed by the Pasco County Environmental Lands Acquisition and Management Program (ELAMP). The property is located in northwest Pasco County in Sections 5, 6, and 7, Township 25 South, Range 18 East. It is bordered by State Road 52 along the south side, and is approximately one mile east of the intersection with the Suncoast Parkway and 2 miles west of U.S. 41. The site can be accessed by turning north from State Road 52 on Kent Grove Road. (Please see Figure 1).

Project Description

The Preserve, acquired in 2007, protects the Pithlachascotee River and its tributary, Ryals Branch, as well as approximately 35 acres of sandhill, considered globally rare and imperiled in Florida according to the Florida Natural Areas Inventory (FNAI). Approximately 69 acres of bottomland hardwood forest are also protected. Species documented or likely to occur on the site include gopher tortoises and burrow commensal species such as gopher frog and Florida mouse, sandhill cranes, wood storks, little blue herons, snowy egrets swallow tail kites, and short-tailed hawks. The property also protects an historic cypress tree estimated to be over 200 years old.

The property includes a 2,000 square foot nature center, a utility shed and a mobile home utilized for a security residence. This partially developed area provides a public access point that includes a trailhead with interpretive kiosk, nature trail, and picnic areas.

Skunk vine (*Paederia foetida*) is found scattered throughout the Preserve. It is most heavily concentrated in the southern part of the property near the State Road 52 entrance (Please see Figure 2). This heavily infested area is estimated to be about 6 acres. ELAMP staff will provide assistance to the contractor in this area and will treat the smaller scattered areas in the northern parts of the preserve.

Also at the southern part of the preserve is an approximate 2 acre area infested with air potato (*Dioscorea bulbifera*). ELAMP staff has been collecting air potato tubers and disposing of them in trash bags. Both the skunk vine and air potato infestations are generally found near or along the property boundary. Efforts will be made to work with adjacent landowners to remove any infestations on neighboring properties.

Other invasive species present in the preserve include Japanese climbing fern (*Lygodium japonicum*), Boston fern (*Nephrolepis cordifolia*), cogon grass (*Imperata cylindrica*), Caesar’s weed (*Urena lobata*), coral ardisia (*Ardisia crenata*) and topical soda apple (*Solanum viarum*). Most are generally located on the preserve’s perimeter or previously disturbed areas. ELAMP staff has aggressively treated an approximate 3-acre area of cogon grass and Boston fern. This area is located west (and behind) the nature center.

ELAMP staff will continue to monitor and treat this and the other infested areas on a regular basis including the smaller areas of skunk vine near Ryals Branch creek and to the north side of the property.

Work Specifications

Work performance will consist of the contractor furnishing labor, equipment, and supplies and performing all operations for controlling exotic plants listed under Project Goals in the areas described in Project Description and delineated in Figure 2. The contractor will be responsible for the control and/or removal of all exotic plants in the project area.

Pasco County ELAMP will provide at least one staff member to assist in the spray treatment, 2 backpack sprayers and additional herbicide if needed. Project specifications include the following:

- Due to the proximity to wetlands this project will require the use of herbicide that can be applied near water.
- Contractors will treat approximately 6 acres of skunk vine and 2 acres of air potato.
 - o Skunk vine Control Methods: Chemical control is one of the most effective means of control for skunk vine, but will require multiple applications. This is due to resprouting from rootstocks or root crowns.
 - A dilution of triclopyr (Garlon 3A at 1 to 2% solution or Garlon 4 at 0.5 to 2% solution) in water can be an effective control for skunk vine when applied as a foliar application. A non-ionic surfactant at 0.25% (10 mLs or 2 teaspoons per gallon of spray solution) should be included. A 2 to 3% solution of glyphosate (Roundup, etc.) may also be effective.
 - Care must be exercised to minimize non-target damage. If skunk vine is growing up into trees or other desirable species, vines should be cut or pulled down to minimize damage to the desirable vegetation. Pulling the vines down without severing them from the root crown will allow the herbicide to move into the root and provide better control.
 - The best time to apply an herbicide is in the spring and summer when skunk vine is actively growing.

Air Potato Control Methods - a combination of methods are used to best control air potato.

1. Hand collecting bulbils during the late fall, winter, and spring months. Bulbils are placed in two heavy duty plastic bags and

disposed of in the trash. ELAMP Staff and volunteers are actively collecting and disposing of the air potato tubers.

2. Manually removing vines from April- June before fruits are produced. Vines are cut with a machete and allowed to rot on the ground.

3. Foliar spraying with a backpack sprayer during the growing season. All living leaves and stems should be foliar sprayed with a 2-4-D herbicide solution.

- Contractor will take extra care to avoid native vegetation in all areas.
- Herbicide will be applied according to label rates and requirements using a low pressure spray to minimize spatter, drift, and non-target damage. Treated vegetation can be left standing and left to decompose on site.
- Contractor will treat or remove other incidental invasive species such as Caesar weed, Lygodium, and tropical soda apple encountered in treatment areas through means appropriate to the species.

Equipment Considerations/logistics:

Access to the site is located off of State Road 52 and Minneola Drive. ATVs and trucks will have access to the treatment site via a powerline easement off State Road 52. Temporary storage of equipment, if needed, can be arranged on site.

Herbicide and Site Considerations:

Due to the proximity of wetlands, aquatic-approved herbicide will be used. Every effort shall be made by the contractor to avoid damage to sensitive native vegetation or wildlife. Due to the conservation purpose of this area, all care to protect native species and prevent overspray during application must be taken.

All herbicides will be poured and mixed over a containment device to avoid ground contamination. There are no water sources at the south part of the preserve site; however, water is available at the Nature Center off Minneola Drive. An ELAMP staff member can provide access to this location.

The contractor will supply and wear all PPE as appropriate.

Gopher tortoises are found throughout the Preserve. The contractor shall exercise caution when traveling the powerline easement to the control site. A backpack sprayer will be used in treating interior infestations to minimize impact to vegetation.

The contractor will direct all questions regarding the application of herbicide to ELAMP staff.

Other Requirements and Provisions

ELAMP will flag known populations of rare and endangered plants. The site manager will notify the contractor of known locations and review identification characteristics prior to beginning work on site. The site manager will also notify the contractor of any known bird nesting sites or other sensitive animals in the project areas. The site manager or other ELAMP staff member will also be present during the treatment process and assist the contractor as needed, answer any inquiries from the public and direct the public away from the treatment areas.

Project Time Frame

Treatment will occur during the spring and summer. Care should be used to avoid nesting season. It would be preferred that the work be conducted on weekdays so a staff member can be present to assist the contractor, answer public inquiries about the treatment activities and direct the public away from the treatment areas.

PROPOSAL INFORMATION

Conservation Land Qualification

The Pasco County ELAMP acquired this site for permanent conservation in 2007 using Penny for Pasco sales tax proceeds dedicated to environmental lands acquisition and from Florida Communities Trust partnership funding.

The Preserve is located on the Pithlachascotee River and in a Pasco County designated wildlife corridor as described in the Glatting, Jackson, Kercher, Anglin, Lopez, Rinehart, Inc. report *Assessment of Measures to Protect Wildlife Habitat in Pasco County* (Pasco County, 2002). The Glatting Jackson report identified high value habitat that would form wildlife corridors ("Critical Linkages") between existing public lands. These Critical Linkages not only provide invaluable connectivity but are also of sufficient size to act as critical habitat for resident and migratory species, many of which are protected due to loss of habitat or lack of habitat management. The County's Comprehensive Plan includes measures to protect the land within the seven designated Critical Linkages, showing Pasco County's commitment to protecting these significant corridors.

The Preserve is listed in the Florida Natural Areas Inventory (FNAI) Conservation Lands Database.

Ability to Maintain Site after Initial Treatment

County ELAMP staff has two experienced herbicide applicators that continually monitor and treat the site for exotic plant regrowth. Invasive plants will either be pulled by hand or foliar sprayed with herbicide with a backpack sprayer. ELAMP uses volunteers to help identify and remove invasive plants or collect and dispose of air potato tubers. The Preserve site is monitored regularly by ELAMP staff and site security for new infestations.

Funding sources for maintenance includes grants, donations and ELAMP's general operating budget.

Restoration Plan for Native Plants

This invasive plant treatment project will strongly benefit the rare plants and habitats of Upper Pithlachascotee River Preserve. The removal of the skunk vine and air potato will allow native plants to flourish. The restoration of the southern part of the Upper Pithlachascotee River Preserve is an ongoing project and a priority in the Preserve's Land Management Plan.

Native recruitment is expected from the significant patches of native vegetation on the site, including in the perimeters of the upland mixed forest and bottomland hardwood hammock. Natural regeneration of canopy, midstory, and groundcover species should occur on its own from onsite seed sources. Restoration plantings will supplement native recruitment, as appropriate.

Threatened or Endangered Species or Habitats

The Upper Pithlachascotee River Preserve features a diversity of habitat types including sandhill considered globally rare and imperiled in the State of Florida according to the Florida Natural Areas Inventory (FNAI), upland mixed hardwood and bottomland hardwood forests. These natural communities provide habitat for a diversity of listed species including the gopher tortoise (*Gopherus polyphemus*), Florida mouse (*Peromyscus floridanus*), Sherman's fox squirrel (*Sciurus niger shermanii*), swallow tailed kite (*Elanoides forficatus*), rare pinewoods snake (*Rhadinæa flavilata*), short-tailed hawk (*Buteo brachyurus*), white ibis (*Eudocimus albus*) and bald eagle (*Haliaeetus leucocephalus*), all of which have been documented on the Preserve. Many other species have been documented on this site including wild turkey, deer, bobcat, red shouldered hawk, barred owls, and many wildflowers and orchids.

Public Education Program

A management plan has been developed that addresses land management, restoration and appropriate public access. Passive recreation compatible with conservation goals

will be allowed on the property. An approximate 1 mile nature trail, a picnic area, educational kiosk, and nature center are used by the public and are incorporated into the ongoing educational classes held at the Preserve. A boardwalk through the bottomland hardwood forest is planned within the next two years. Boundary fencing has been erected to limit use to foot traffic. The property is available to the general public and schools as an educational outdoor classroom for ecological studies, including Saint Leo University, which has utilized the site for environmental studies classes for several years. Visitors to the site will learn about the invasive plant removal program from an educational kiosk, brochures, site tours and hands-on activities.

Residential development borders the eastern and western sides of the property. An educational program directed towards these residents such presentations and brochures provided to adjacent residents would provide information about invasive and exotic plants and the land management activities on the site. The education activities will also encourage residents not to plant or dispose of any exotic species near the property border and residents will be directed to further information via the County website or the Cooperative Extension Office. Efforts will be made to work with landowners to remove any infestations on adjacent properties.

At least once a year, ELAMP hosts a site clean up at Upper Pithlachascotee River Preserve to coincide with the Great American and/or Coastal Cleanup held in April and September, respectively. This will be another opportunity to educate the public about invasive plants and to perform invasive plant removal such as air potato round-ups.

The Pasco County ELAMP is an active member of the Green Swamp CISMA.

Regional Criteria Issues

The Upper Pithlachascotee River Preserve Exotic Plant Removal project meets the Withlacoochee Regional Invasive Upland Plant Working Group criteria in the following ways:

1. Skunk vine, air potato, cogon grass and *Lygodium spp.* are considered to be WRIP Priority 1 target exotic species due to their high invasive potential and are all FLEPPC Category I Invasive Plants.
2. By removing this population from the Upper Pithlachascotee River Preserve, we will be reducing the seed source of these plants and improving the habitat quality and aesthetics.
3. Project uses Current Control Techniques (CCTs) for removal of the invasive species.
4. Provides in-kind services in the form of staff assistance in the field, herbicides, backpack sprayers, any flagging of imperiled plant species to prevent non-target damage and continued monitoring and treatment of the invasive species.
5. The infested sites have a high recovery potential due the proximity of seed sources of native plants that will recolonize the site.
6. Project will benefit threatened and endangered plant and animal species.
7. Provides public education on skunk vine, air potato and other exotics control.

8. The site is located in a designated wildlife corridor.

Funding Information (Please see Budget Justification Worksheet)

Estimated Cost for Chemical Treatment of Skunk vine and Air potato

Invasive Species	Location	Estimated Acres	Estimated Cost/Acre	Number of Treatments	Total Cost
Skunk vine	Upper Pithlachascotee River Preserve	6.0	\$250	2	\$3000
Air Potato	Upper Pithlachascotee River Preserve	2	\$250	2	\$1000
Contingency			\$400		\$1000
TOTAL ESTIMATED COST					\$5,000

In Kind Matching Funds:

- Purchase of herbicides
- In-house exotic control labor by Environmental Lands Program Coordinator and Biological Technician with backpack sprayers
- Site survey, mapping and contract oversight by Environmental Lands Program Coordinator
- Outreach to public and residents near project area for further education and control on private lands

**Upland Invasive Exotic Plant Control Program
Budget Justification Worksheet**

Project Title: Upper Pithlachascotee River Preserve Skunkvine and Airpotato Removal

Federal Employer Identification (FEID):

59-6000793

Will project be in-house or contracted?

Contracted with in-house assistance

Matching Funds

In the first column list the source of funds (county, grant, non-profit, etc.) and available dollars in second:

Source	Dollars
Pasco County	\$900.00

Total matching funds from project sponsor:

\$

900.00

In-kind Contributions

In-kind refers only to staff time, equipment, and materials used directly in control operations.

Category	Total	Rate (\$/hr/day)	Total in-kind value (\$)
supervisor hours	15	\$33.00	495.00
crew hours	15	\$30.00	450.00
vehicle hours	15	\$1.50	22.50
manual equipment	15	\$1.50	22.50
heavy machinery			
herbicide	2	\$55.00	110.00
Land Acquisiton			
Public Education/Outreach		Kiosk, volunteers and mailings	500.00

Total in-kind value from project sponsor:

\$1,600.00

Total matching and in-kind dollars:

\$

2,500.00

Total funds requested from FWC:

\$

2,500.00

TOTAL ESTIMATED COST OF PROJECT:

\$

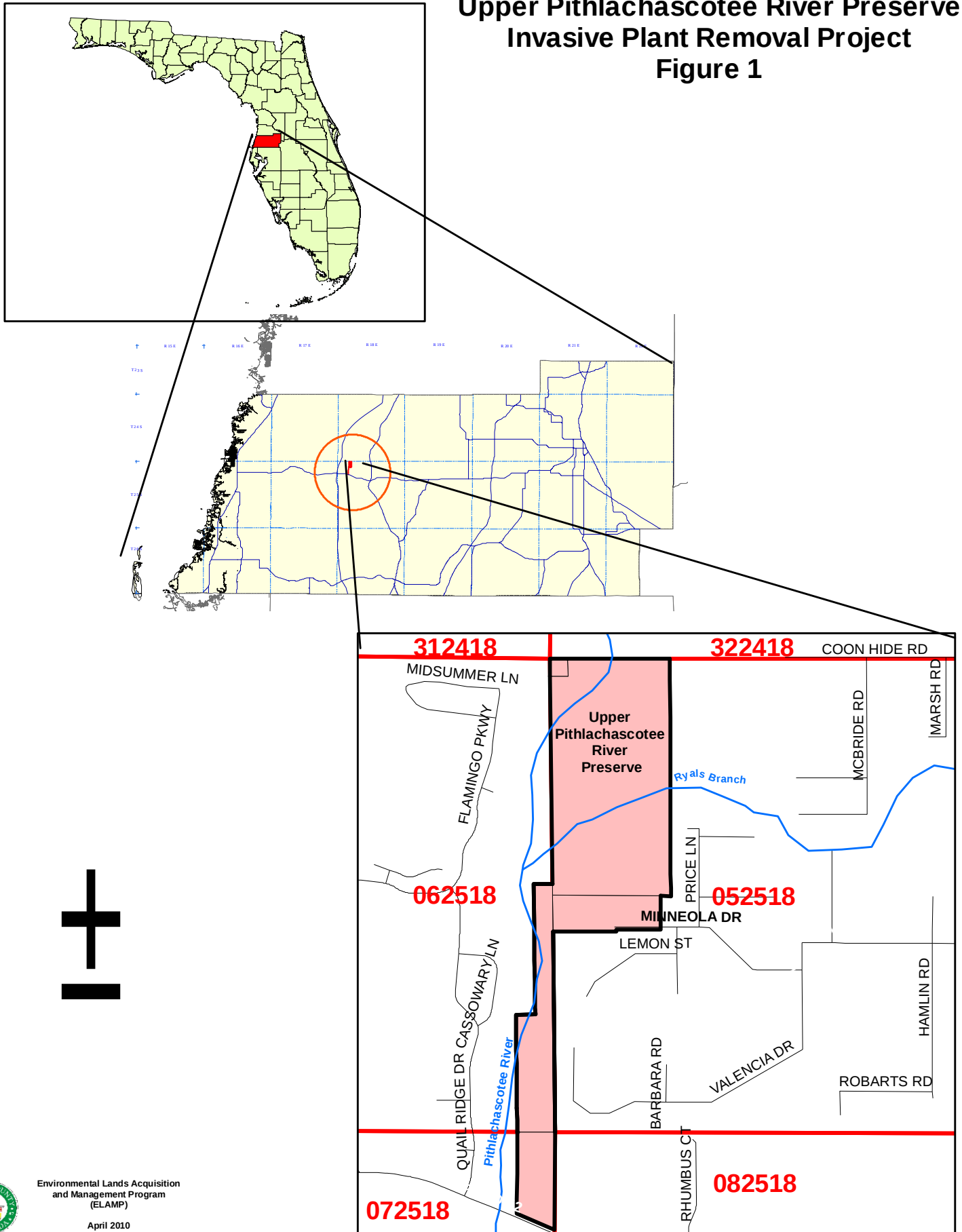
5,000.00

Notes/Explanations

Explain any special equipment needs (such as a Brontosaurus) or costs, or other (from above).

Also note, if entire cost is to be funded by DEP, why no matching or in-kind contributions are availbale.

Upper Pithlachascotee River Preserve Invasive Plant Removal Project Figure 1



Environmental Lands Acquisition
and Management Program
(ELAMP)

April 2010

