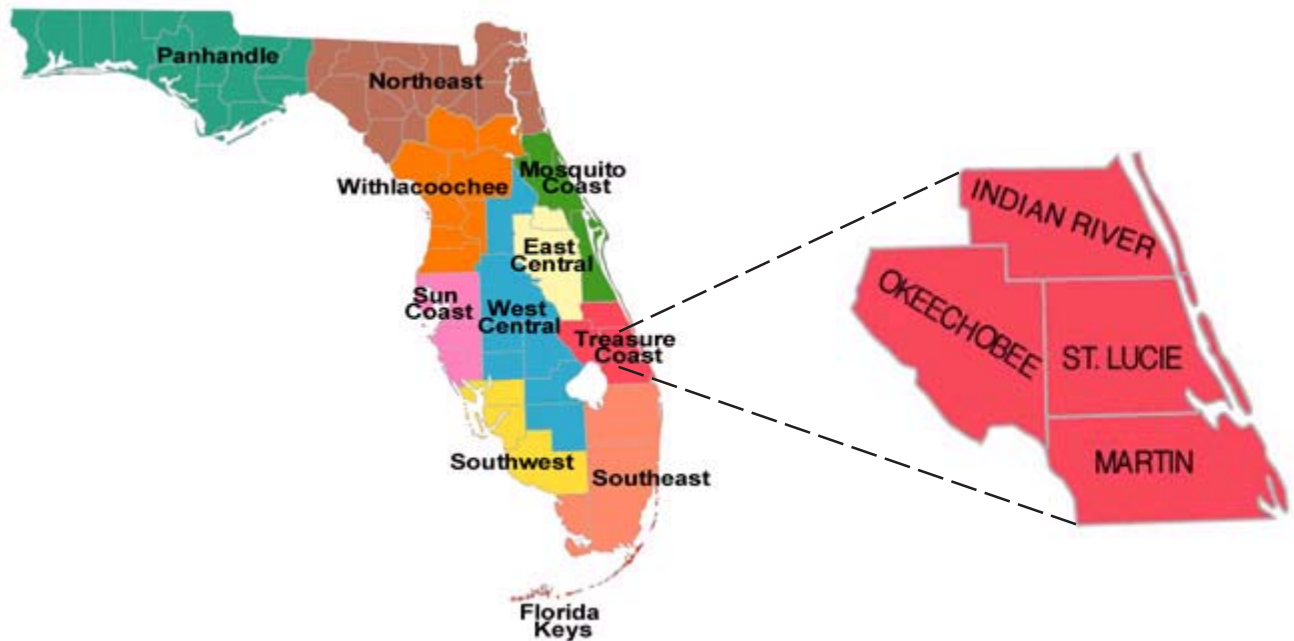


Treasure Coast Regional Working Group



The Treasure Coast Regional Working Group liaison is Ms. Jackie Smith, DEP Bureau of Invasive Plant Management, 3111 B-13 Fortune Way, Wellington, Florida 33414, phone: 561-722-2479, fax: 561-791-4722, e-mail: jackie.smith@dep.state.fl.us

Jonathan Dickinson State Park

County: Martin

PCL Size: 11,480 acres

Project ID: TC-048 200 acres \$82,589.95

Project Manager: Florida Park Service (DEP)

Mark Nelson, Park Manager

16450 SE Federal Highway, Hobe Sound, Florida 33455

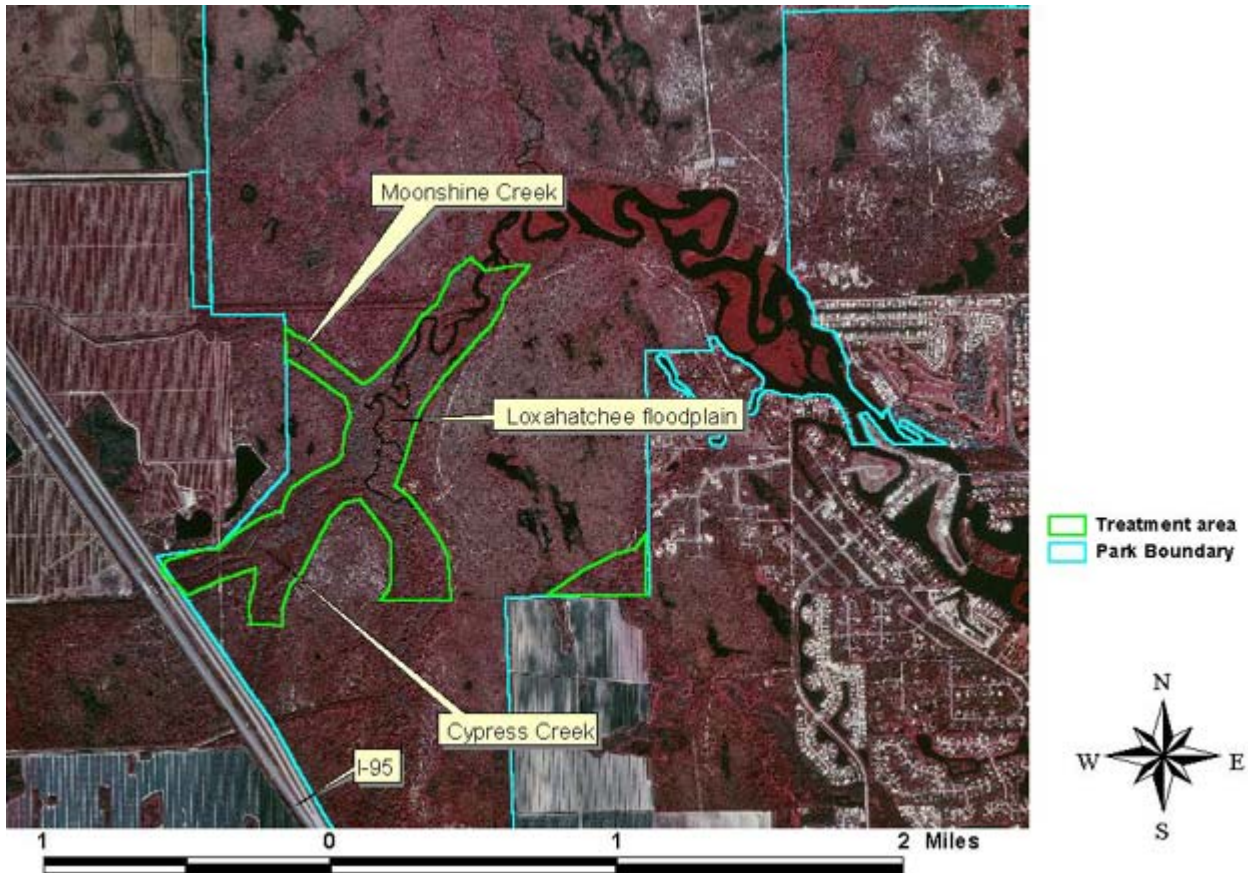
Phone: 561-744-9814, Fax: 561-744-7604

E-mail: mark.nelson@dep.state.fl.us

The natural communities in the project area include floodplain swamp, pine flatwoods, scrub, scrubby flatwoods, and sandhill. *Lygodium* most affected the floodplain swamp associated with the Loxahatchee River and two of its main tributaries, Cypress and Moonshine Creeks. The Loxahatchee River is a National Wild and Scenic River and is home to numerous endangered plant and animal species. The project area also contains the Trapper’s historical site.

The Park Service provided \$12,000 of work removing Old World climbing fern from the upper Loxahatchee River property as an in-kind match.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Glypro+Escort
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4+Stalker



Jonathan Dickinson State Park



Old World climbing fern was first found established in Martin County in 1965. The fern today infests over 200,000 acres in southern Florida. The first biological control agent was approved for release in 2004.



Foliar application of a metsulfuron methyl and glyphosate herbicide mixture has proven effective for controlling this invasive fern.

Jonathan Dickinson State Park

County: Martin

PCL Size: 11,480 acres

Project ID: TC-053 507 acres \$151,230

Project Manager: Florida Park Service (DEP)

Philip Myers, District Biologist

13798 SE Federal Highway, Hobe Sound, Florida 33455

Phone: 772-546-0900, Fax: 772-223-2591

E-mail: philip.myers@dep.state.fl.us

This project was located near the northwestern boundary of JDSP in two units, Zones E-1 and E-2. These two zones are close to the introduction point of downy rose-myrtle into JDSP and therefore were the most heavily infested areas in the park. Work began in these two zones in the previous fiscal year and finished in the current year. The natural communities in Zone E-1 are mostly Pine Flatwoods and Cypress Slough but with some Wet Prairie. This zone also contained a large amount of melaleuca. Zone E-2 is an integral component of a 2,600-acre State Wilderness Preserve in JDSP where human-related influences are kept to a minimum. This zone is composed of Pine Flatwoods and Cypress Slough. Overall, the project was designed to remove Old World climbing fern and downy rose-myrtle from the tributaries of the Loxahatchee River located in the northwest section of the park.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Ardisia elliptica</i>	shoebuttan ardisia	Category I	basal	Garlon 4+Stalker
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Glypro+Escort
<i>Melaleuca quinquenervia</i>	melaleuca	Category I	girdle	Arsenal
<i>Psidium cattleianum</i>	strawberry guava	Category I	cut stump	Garlon 4+Stalker
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	Category I	basal/cut stump	Garlon 4+Stalker
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal/cut stump	Garlon 4+Stalker

Atlantic Ridge State Park

County: Martin

PCL Size: 5,650 acres

Project ID: TC-035 106.8 acres \$500.16

Project Manager: Florida Park Service (DEP)

Philip Myers, District Biologist

13798 SE Federal Highway, Hobe Sound, Florida 33455

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Atlantic Ridge lies slightly north of Jonathan Dickinson State Park. Natural communities within the park include high quality wet prairie, pine flatwoods, and scrub. Treatment was conducted by two AmeriCorps members, two OPS employees, and the district biologist. Initial control work was done on both ARSP and JDSP. BIPM provided the herbicide only for this project through its Herbicide Bank.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Escort
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4

Seabbranch Preserve State Park

County: Martin

PCL Size: 919 acres

Project ID: TC-049 142 acres \$54,050

Project Manager: Florida Park Service (DEP)

John Griner, Park Manager

16450 SE Federal Highway, Hobe Sound, Florida 33455

Phone: 561-744-7603, Fax: 561-744-7604

E-mail: john.griner@dep.state.fl.us

The project area encompassed a baygall seepage wetland, which during most of the year does not have standing water but has hydric soils. Lygodium patches of various sizes were scattered throughout the baygall. Brazilian pepper occurred as isolated large trees, small clumps, and in large patches. Strawberry guava existed as individual plants and small clumps and was a relatively minor problem. Numerous rare and endangered species utilize Seabbranch, including 22 plants and 29 animals. Several live specifically in the baygall, including the endangered vanilla orchid (*Vanilla mexicana*).

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Glypro+Escort
<i>Psidium cattleianum</i>	strawberry guava	Category I	basal	Garlon 4+Stalker
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4+Stalker



Seabbranch Preserve State Park Exotic Removal Project. The park boundary is in green and the treatment area is in yellow.

South Fork St. Lucie River

County: Martin

PCL Size: 347.34 acres

Project ID: TC-051 347.34 acres \$69,500

Project Manager: Martin County Parks and Recreation

Gina M. Paduano, PhD

Environmentally Sensitive Lands Division

2401 S.E. Monterey Road, Stuart, Florida 34996

Phone: 561-288-5476, Fax: 561-221-1333

E-mail: gpaduano@martin.fl.us



The South Fork consists of two parcels of land including the 100-acre Save Our Rivers (SOR) property owned and managed by South Florida Water Management District (SFWMD) and the contiguous 247.34-acre Florida Forever property. The South Fork is part of approximately 465 acres of publicly owned conservation and recreation land lying along a 1.4 mile segment of the pristine south fork of the St. Lucie River. The South Fork consists of a mosaic of habitat types including scrubby, mesic and wet flatwoods, depression marsh, hydric hammock, and bottomland forest. Two county-owned properties are contiguous to the South Fork on the north side. Martin County provided a cost-share match of \$52,806.23 from funds acquired through SFWMD for a total project cost of \$122,306.23.

A series of borrow pits were excavated in 1985 and are now manmade lakes. Invasive exotic species occurred in many of the vegetative communities on the South Fork and were characterized as moderate to heavy (50-85% cover) within the Florida Forever tract and light to moderate (10-50% cover) within the SOR tract. At least fifteen FLEPPC Category I and II invasive species were known to occur on the property with Brazilian pepper, melaleuca, Old World climbing fern, earleaf acacia, strawberry guava, rosary pea, air-potato, torpedo grass, Caesar's weed, and wedelia particularly problematic. Old World climbing fern was dense in all or portions of the wet prairies and in some regions of the bottomland forest found on the South Fork. Melaleuca occurred in many of the wetlands of the property, along with numerous individual trees throughout the mesic and hydric portions of the pine flatwoods area. Torpedo grass was prevalent in frequently inundated portions of the centralized wetlands and other wet prairie and freshwater marsh areas.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Abrus precatorius</i>	rosary pea	Category I	basal	Garlon 4
<i>Acacia auriculiformis</i>	earleaf acacia	Category I	basal	Garlon 4
<i>Dioscorea bulbifera</i>	air-potato	Category I	foliar	Roundup
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Roundup+Escort
<i>Melaleuca quinquenervia</i>	melaleuca	Category I	cut stump	Arsenal
<i>Panicum repens</i>	torpedo grass	Category I	foliar	Roundup
<i>Psidium cattleianum</i>	strawberry guava	Category I	basal	Garlon 4
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4
<i>Urena lobata</i>	Caesar's weed	Category II	foliar	Roundup
<i>Wedelia trilobata</i>	wedelia	Category II	foliar	Roundup

Hungryland Wildlife and Environmental Area

County: Martin, Palm Beach

PCL Size: 10,294 acres

Project ID: TC-054 130 acres \$70,606.78

Project Manager: Florida Fish and Wildlife Conservation Commission

Beth Morford, Biological Scientist III

8535 Northlake Boulevard, West Palm Beach, Florida 33412

Phone: 561-625-5122, ext. 142, Fax: 561-625-5129

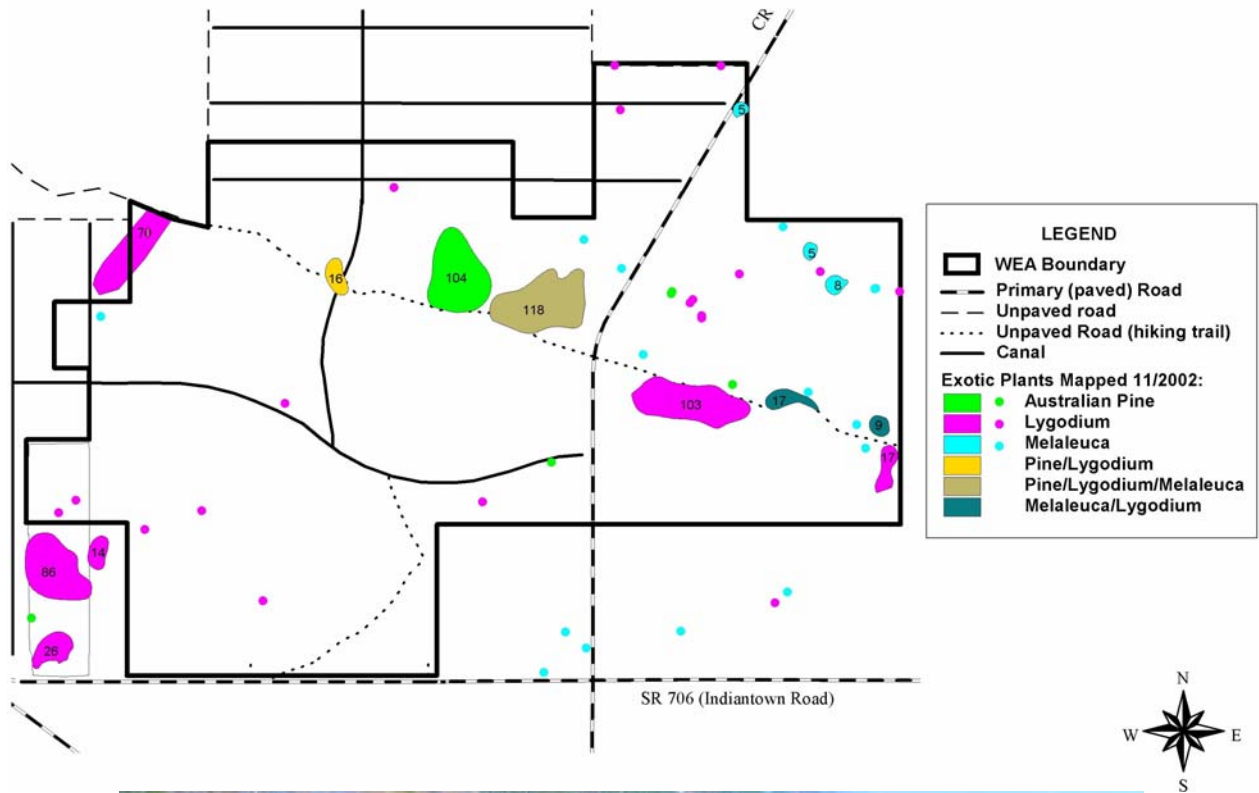
E-mail: morforb@fwc.state.fl.us

Hungryland Wildlife and Environmental Area (HWEA) is located in southern Martin County and northern Palm Beach County. The natural communities of HWEA are comprised primarily of mesic and wet flatwoods, interspersed with depression marshes and wet prairies. The South Florida Water Management District and DEP purchased this property as part of the Pal-Mar CARL/SOR project. *Florida Conservation Lands 2001* describes HWEA (i.e., Pal Mar) as “one of the highest quality pine flatwoods in south Florida.”

Three disjunct parcels separated by private lands make up the HWEA. Area 1, the original project area, consisted of 9,415 acres and was the only area surveyed for exotic plants. A combination of aerial and ground surveys identified approximately 950 acres infested by melaleuca, Brazilian pepper, *Lygodium*, and Australian pine. This project targeted 130 acres for maintenance treatment. BIPM also provided herbicide purchased for \$500.75 through its Herbicide Bank for this project. FWC treated an additional 50 acres for Australian pine and melaleuca as an in-kind match with a value of \$13,750.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Casuarina equisetifolia</i>	Australian pine	Category I	basal	Garlon 4+Stalker
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Glypro+Escort
<i>Melaleuca quinquenervia</i>	melaleuca	Category I	cut stump	Arsenal
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	mechanical	n/a

John C. and Mariana Jones/Hungryland WEA Exotics Map - Area 1



Using a helicopter to reach remote infestations is an efficient and cost effective method of treatment. This melaleuca was killed with an aerial application of Velpar®.

Hungryland Wildlife and Environmental Area



Old World climbing fern (*Lygodium microphyllum*) has surpassed all other species as the worst invasive plant in Florida. The four hurricanes in 2004 dispersed spores of this fern across millions of acres of the Everglades and southern Florida. Aerial application of herbicide is effective, as pictured on this page; unfortunately, the plant is difficult to detect until it has overgrown the tree canopy and a great deal of damage has already been done to native plant communities.



Kissimmee Prairie Preserve State Park

County: Okeechobee

PCL Size: 54,000 acres

Project ID: TC-050 20 acres \$11,350

Project ID: TC-058 10 acres \$1,500

Project Manager: Florida Park Service (DEP)

Christopher Tucker, Park Biologist

33104 NW 192nd Avenue, Okeechobee, Florida 34972

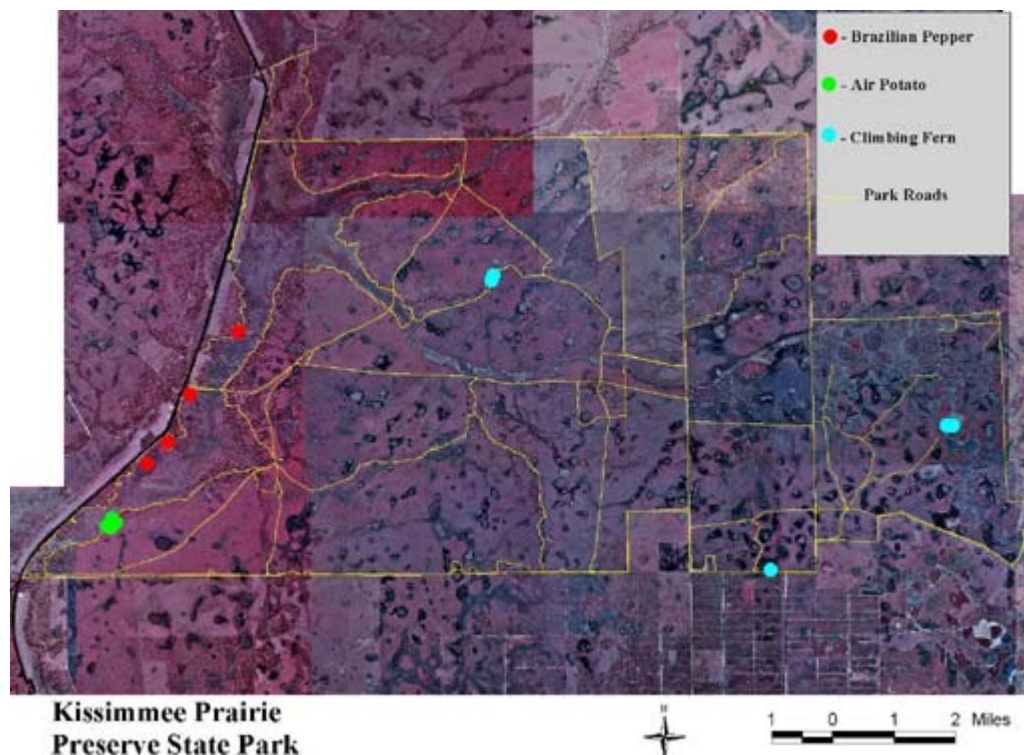
Phone: 863-462-5360, Fax: 863-462-5276

E-mail: christopher.l.tucker@dep.state.fl.us

Kissimmee Prairie Preserve protects the largest remaining tract of dry prairie habitat east of the Kissimmee River, which the park borders for nine miles. Dry prairie is an endemic natural community listed as globally and state imperiled by FNAI. Dry prairie covers approximately 20,000 acres of the property. The preserve hosts several rare plants, including the state-endangered spreading pinweed (*Lechea divaricata*) and giant wild pine (*Tillandsia utriculata*) and the state-threatened Catesby's lily (*Lilium catesbaei*), blue butterwort (*Pinguicula caerulea*), yellow butterwort (*P. lutea*), and little butterfly orchid (*Pteroglossapsis ecristata*).

Air-potato occurred in a single dense stand in the river hammock line. Brazilian pepper grew in scattered clumps along the spoil banks created when the Kissimmee River was channelized into the C-38 canal. A retreatment of 10 acres of air-potato was conducted as a separate project at the end of the year. The Park Service provided \$3,000 in matching funds toward the initial control work for a total project cost of \$14,350.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Dioscorea bulbifera</i>	air-potato	Category I	foliar	Rodeo+Escort
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal	Garlon 4



Bluefield Natural Area

County: St. Lucie
 PCL Size: 3,285 acres
 Project ID: TC-052 97.6 acres \$119,981.31

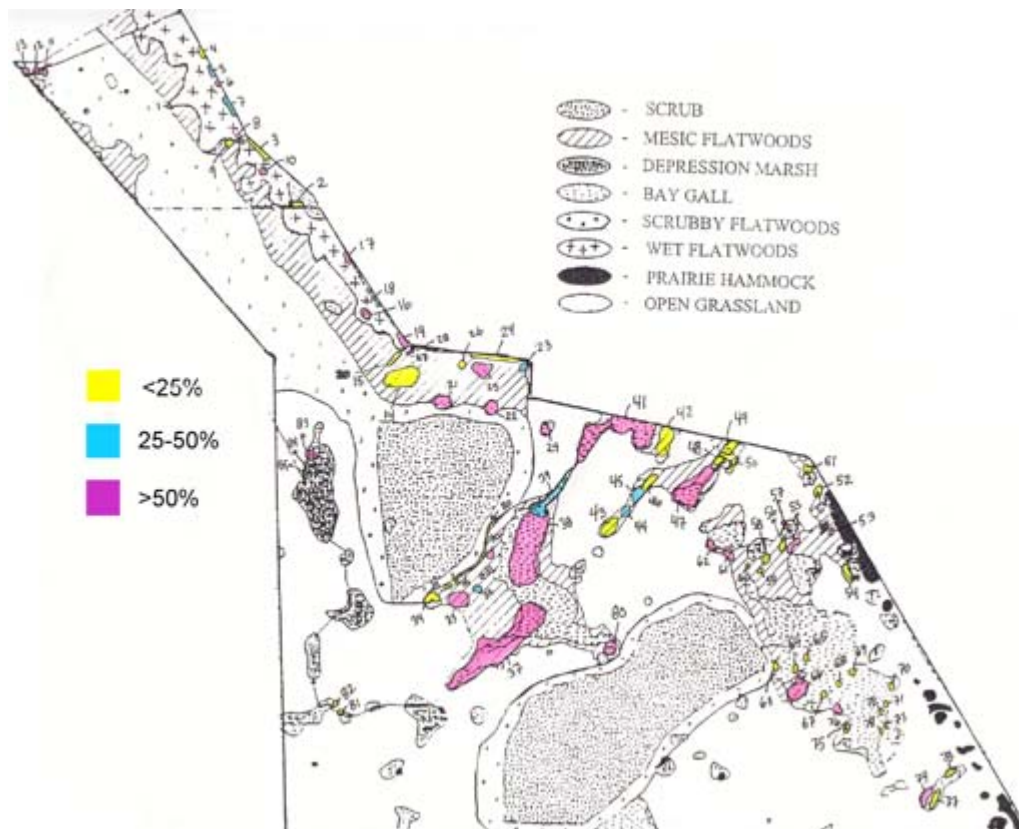
Project Manager: St. Lucie County
 Steven Fousek, Environmental Lands Specialist
 2300 Virginia Avenue, Ft. Pierce, Florida 34982
 Phone: Phone: 772-462-2525, Fax: 772-462-1684
 E-mail: stevef@stlucieco.gov



Bluefield consists primarily of scrub, scrubby flatwoods, baygall, wet flatwoods, and prairie hammock. The areas of infestation occurred mainly in the baygall community, but were also in wet flatwoods, mesic flatwoods, and the edges of depression marsh communities. Densities ranged from less than twenty-five percent to over fifty percent (see map below), with some areas of infestation that approached one hundred percent coverage. A total of 79.62 acres of climbing fern was treated.

Strap fern (*Campyloneurum spp.*), seen above, is an endangered species located within the project area. Several plants have been identified in areas where *Lygodium* is moderate to absent. The absence of strap fern in some areas may have been caused by shading from the climbing fern.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Glypro



Bluefield Natural Area



Old World climbing fern engulfs the landscape in a green carpet of death.

The overwhelming mass of the climbing fern can be clearly seen once it has been treated with herbicide.



Indrio Savannahs Natural Area

County: St. Lucie

PCL Size: 296 acres

Project ID: TC-056 8.83 acres \$14,213.48

Project Manager: St. Lucie County

Steven Fousek, Environmental Lands Specialist

2300 Virginia Avenue, Ft. Pierce, Florida 34982

Phone: Phone: 772-462-2525, Fax: 772-462-1684

E-mail: stevef@stlucieco.gov

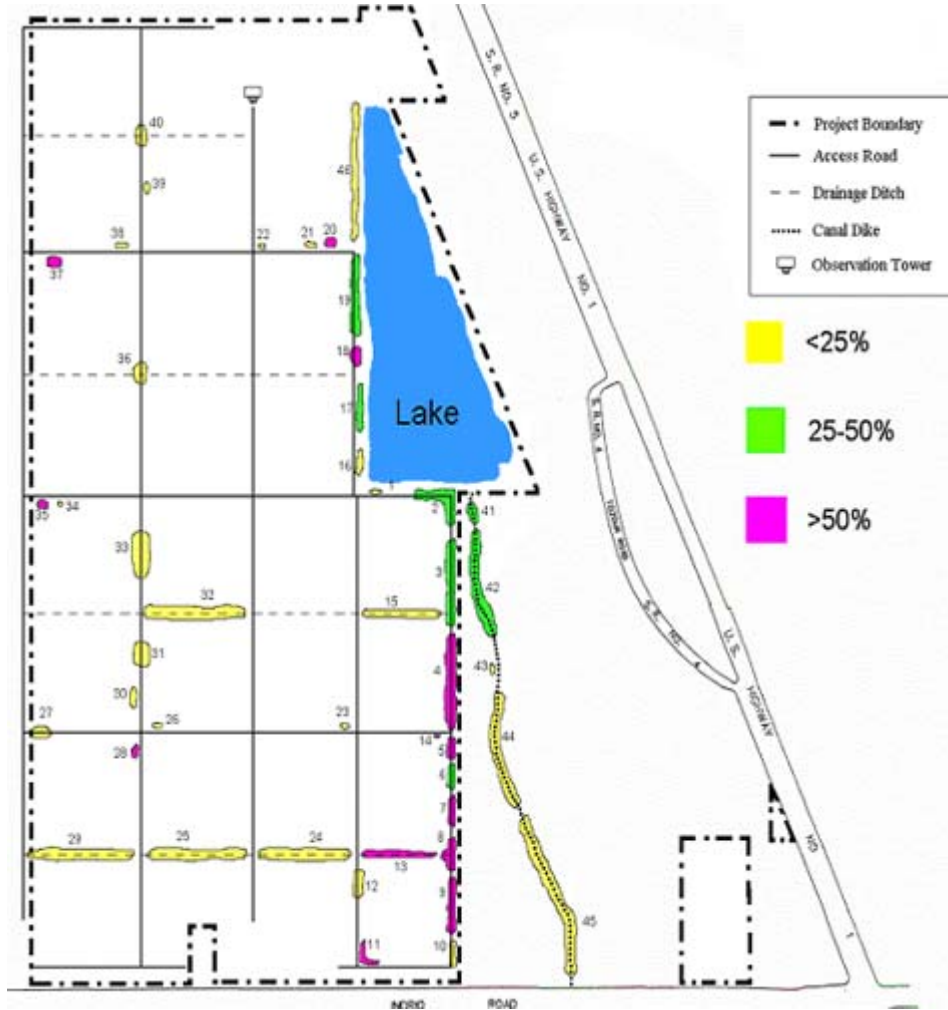
The Indrio Savannahs Natural Area includes the southern portion of the larger North Savannahs ecosystem. Indrio Savannahs includes a variety of natural communities, including scrub, scrubby flatwoods, mesic flatwoods, wet prairie, depression marsh, and freshwater swamp. The rare Lakela's mint occurs on the site, but not within the treatment area. Climbing fern densities ranged from less than twenty-five percent to over fifty percent (see map next page), with some areas of infestation that approached one hundred percent coverage.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Lygodium microphyllum</i>	Old World climbing fern	Category I	foliar	Rodeo



St. Lucie County, like other coastal counties in southeast Florida, is inundated by *Lygodium*.

Indrio Savannahs Natural Area



A project map illustrating the location and extent of climbing fern on the property. Numbers represent percent cover of *Lygodium*.

Blind Creek Park

County: St. Lucie

PCL Size: 409 acres

Project ID: TC-057 17 acres \$94,000

Project Manager: St. Lucie County

Steven Fousek, Environmental Lands Specialist

2300 Virginia Avenue, Ft. Pierce, Florida 34982

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E-mail: stevef@stlucieco.gov

Blind Creek Park lies at the southern end of Hutchinson Island, a barrier island that is important nesting habitat for the endangered leatherback, green, and loggerhead sea turtles. The beach dune community within the project area is approximately 30 acres in size. Existing in small scattered clumps are the following species: sea oats (*Uniola paniculata*), seagrape (*Coccoloba uvifera*), cabbage palm (*Sabal palmetto*), scaevola (*Scaevola plumeri*), saw palmetto (*Serenoa repens*), and coastal panicgrass (*Panicum amarum*). Rare plants found in or near the project area include sand-dune spurge (*Chamaesyce cumulicola*), Johnson's seagrass (*Halophila johnsonii*), and beach peanut (*Okenia hypogaea*).

Within the northern section of the project area, a dense stand of Australian pine extended from the surf west to the mangrove line and south to where the maritime hammock begins. This area ranges in widths of about 150-300 feet and is approximately 4300 feet in length (@17 acres). On top of the dune, the trees ranged in diameter size between 8-24" (average @ 14") and are 30-50' in height. West of this area, the trees ranged in size between 2-16" (average @ 6-8") and are about 20-40' in height.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Casuarina</i> spp.	Australian pine	Category I	cut stump/mechanical	Garlon 4

North Fork St. Lucie River State Buffer Preserve

County: St. Lucie

PCL Size: 987 acres

Project ID: TC-055 77 acres \$45,676.10

Project Manager: Southeast Florida Aquatic Preserves (DEP)

Jeff Beal, Environmental Specialist II

9737 Gumbo Limbo Lane, Jensen Beach, Florida 34957

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The project area (Island #3 and adjacent smaller islands) is a set of three islands along the North Fork St. Lucie River stretching from the south side of Port St. Lucie Boulevard within the city limits of Port St. Lucie to Mud Cove. Typical vegetation communities on the preserve include sand pine scrub, mesic and scrubby flatwoods, hydric hammock, floodplain forest, estuarine tidal swamp, and basin marsh. Rare species present include giant leather fern (*Acrostichum danaeifolium*), shoestring fern (*Vittaria lineata*), red wild pine (*Tillandsia fasciculata*), and green wild pine (*T. utriculata*), and possibly hand fern (*Cheiroglossa palmata*).

BIPM conducted the initial control of this project area. Overall, results from the original treatment were successful; however, a combination of new occurrences, re-sprouts, overlooked pockets, and maintenance control created a need for re-treatment of the area. All target species were scattered throughout the project area, with spoil banks continuing to be most heavily impacted by some species. Brazilian pepper and other exotics had an estimated coverage of five to ten percent.

Target Plants	Common Name	FLEPPC Rank	Treatment	Herbicide
<i>Schinus terebinthifolius</i>	Brazilian pepper	Category I	basal/girdle	Garlon 4