

INDIAN LAKE STATE FOREST COGON-GRASS MAINTENANCE PROJECT

SCOPE OF WORK

WORKING GROUP:

Withlacoochee Region Upland Invasive Exotic Plant Working Group

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METHOD OF CONTROL

Contract

PROJECT GOALS

The primary goal of this project is to provide maintenance treatments to a number of cogon grass sites and one Japanese climbing fern site on the recently acquired Indian Lake State Forest (ILSF) in Marion county. Cogon grass and Japanese climbing fern are included in the Florida Exotic Pest Plant Council's Category I list.

The secondary goal of this project is to limit re-introduction from neighboring county and state road right-of-ways and private property through public education strategies.

PROJECT LOCATION

ILSF is a 4,600 acre property owned by the state of Florida and managed by the Division of Forestry. Formerly called the Avatar tract. ILSF was purchased to protect groundwater quality in the Silver Springs springshed. Portions of ILSF lie within Township 14 South Range 23 East, sections 7 and 18; and Township 14 South Range 22 East, sections 12, 13, 14, 22, 23, 24, 25, 26, 27, and 36. In general, the property lies north and south of SR 326, between baseline road on the east and a train track on the west. (Exhibit 1).

ILSF is a quarter mile north of Silver Springs State Park, but does not border any other public conservation lands.

PROJECT DESCRIPTION

Historically, 90% of ILSF was dominated by sandhill over karst topography with no associated wetland component. A couple of the sinkholes in this area hold ephemeral water, but they are normally dry. This approximately 4100 acre sandhill area has the current cover types:

- 205 acres -Fire Suppressed Laurel Oak Hammock
- 1207 acres -Pasture (Bermuda or bahia grass)
- 588 acres - Tilled fields abandoned 2007
- 2105 acres -Sandhills intact and restorable

The final 500 acres consists of the flatwoods and wetlands east of baseline road where the sandhills grade into the Ocklawaha floodplain. This area contains Indian LakePrairie, Indian Lake, and the associated abandoned campground and lodge facilities.

ILSF is currently operated under interim management guidelines and a full resource management plan is being written. ILSF did have a comprehensive exotic upland plant survey conducted by the Division of Forestry's Forest Health section which found the species listed in Table 1. (Rod Grills and Andy Van Loan). Control sites for cogon grass are indicated on the project map (Attachment 2).

Scientific Name	Common Name	# Locations	Acres	% Cover Range
<i>Albizia julibrissin</i>	Mimosa	283	29.711	1 - 95
<i>Antigonon leptopus</i>	Coral vine	2	0.11	6 - 25
<i>Broussonetia papyrifera</i>	Paper mulberry	45	2.137	1 - 100
<i>Cinnamomum camphora</i>	Camphor tree	70	1.3	1 - 95
<i>Crotalaria spectabilis</i>	Showy rattlebox	3	0.05	1 - 25
<i>Dioscorea alata</i>	Winged yam	3	0.03	6 - 95
<i>Dioscorea bulbifera</i>	Air-potato	30	5.103	26 - 95
<i>Imperata cylindrica</i>	Cogon grass	8	35.43	6 - 100
<i>Indigofera hirsuta</i>	Rough Hairy Indigo	3	0.051	26 - 50
<i>Koeleria elegans</i>	Flamegold	1	0.001	1 - 5
<i>Lantana camara</i>	Lantana	6	0.006	1 - 95
<i>Ligustrum sinense</i>	Chinese privet	2	0.011	26 - 100
<i>Lonicera japonica</i>	Japanese honeysuckle	1	0.01	26 - 50
<i>Lygodium japonicum</i>	Japanese climbing fern	4	0.004	1 - 95
<i>Macfadyena unguis-cati</i>	Cat's-claw vine	5	2.229	6 - 95
<i>Melia azedarach</i>	Chinaberry	167	3.746	1 - 100
<i>Nandina domestica</i>	Heavenly bamboo	2	0.002	1 - 50
<i>Nephrolepis cordifolia</i>	Sword Fern	1	0.01	51 - 75
<i>Rhynchelytrum repens</i>	Natal grass	23	0.444	1 - 100
<i>Sapium sebiferum</i>	Chinese tallow	7	0.016	1 - 95
<i>Solanum viarum</i>	Tropical soda apple	14	0.231	6 - 100
<i>Wisteria sinensis</i>	Chinese wisteria	9	0.46	6 - 100

Table 1. Results of Total Exotic Invasive Upland Plant Survey for Indian Lake State Forest as of Fall 2007. Initial targeted species from FY 2008/09 grants are in bold.

Control Site	Species	Acres	Density	% Cover
Project 1	cogon grass	Imperata cylindrica		
<i>West of</i>		0.717	Clumped	15
<i>Baseline</i>		0.178	Clumped	25
		0.105	Clumped	25
		0.346	Dense monoculture	25
		0.147	Widely scattered	1-5
Project 2	cogon grass	Imperata cylindrica		
<i>By Elementary</i>		28	Dense monoculture	50
Project 3	Japanese climbing fern	Lygodium japonicum		
<i>North of</i>		0.005	Clumped	5
<i>326</i>	cogon grass	Imperata cylindrica		
		0.6	Clumped	
		0.7	Dense monoculture	

WORK SPECIFICATIONS:

Herbicide will be applied by contracted crews to the treatment areas. Treatment in future years and monitoring will be done by Division of Forestry staff.

TIME FRAME:

Treatment will begin after July 1, 2009.

OTHER REQUIREMENTS AND PROVISION:

The contractor will make every effort to avoid damage to any listed species identified by the site manager and all native plants and animals. The contractor will treat only exotic species identified by the site manager.

Herbicide will be applied according to label rates and requirements using a low-pressure spray. Vegetation will be left to decompose on site. The contractor will furnish all labor, equipment, and supplies including herbicide and adjuvants.

An on-site meeting between the contractor and ILSF staff will be conducted before the contractor initiates work. ILSF staff will identify areas and species to be treated, designate access points and parking areas, and approve all control methods. ILSF staff will be permitted to inspect the contractor's procedures, applicators, and herbicides at any time, as well as approve application

personnel. Inspections by the site manager will not relieve the contractor of any obligations and responsibilities, nor will it transfer liability to the State of Florida.

Control Techniques by Target Plant

Species	Herbicide	Rate	Treatment method	Adjuvants
China berry <i>Melia azederach</i>	Garlon-4 in JBL or equiv oil carrier	15 %	basal bark	red/blue dye
Japanese climbing fern <i>Sapium sebiferum</i>	glyphosate	3%	foliar	surfactant
Cogon grass <i>Lygodium japonicum</i>	glyphosate	3%	foliar	surfactant

OTHER REQUIREMENTS AND PROVISIONS:

The project will entail initial treatment and one re-treatment of control areas described under Project Description or delineated in Project Map and will conclude with the Site Manager providing a written notification to the Project Manager.

FUNDING INFORMATION

SPECIES	NUMBER OF SITES	ACRES	ESTIMATE COST/ACRE	TOTAL ESTIMATED COST
Cogon Grass Follow-up Treatment	5 small 1 of 29 acres	29.5	\$50/site	\$1,475
Japanese Climbing Fern Follow-up Treatment	2	0.005	\$50/site	\$100

Matching Funds:

The Division of Forestry in kind contributions of \$3,000 (exotic survey work, contract administration, mowing pretreatments of cogon grass sites, and follow-up plantings of longleaf pine). ILSF's budget in the FY 2008/2009 contained money for spraying equipment and herbicide, and control efforts focused on cogon grass.

Total In-kind and Matching funds \$3,000

Total requested funds: \$8,575

Total: \$11,575.

PROPOSAL INFORMATION

CONSERVATION LAND QUALIFICATION

The state-owned Indian Lake State Forest was purchased with Florida Forever money, and its management plan requires it to be managed as public conservation land under a multiple-use concept.

ABILITY TO MAINTAIN SITE AFTER INITIAL TREATMENT

The Division of Forestry maintains land management staff for state forests in Marion county who currently work on Ross Prairie State Forest, including controlling exotic species. The main species of concern there is cogon grass. Because the cogon grass control strategy on Ross Prairie State Forest has been timely and effective, it has never been necessary to request one of these grants for that property. The expertise and equipment they have will be used for long term control of FLEPPC listed species, including the projects in this grant.

RESTORATION PLAN FOR NATIVE PLANTS

Natural regeneration is anticipated to occur on much of the ILSF property. The project site contains significant patches of native understory vegetation of moderate diversity and recovery potential for the site is thought to be high. Long leaf pine plantings will be needed in some of the larger cogon grass areas. The old fields will require a more elaborate restoration plan that is being developed during the ten-year management planning process. Eradicating cogon grass will simplify prescribed fire, a vital element of the restoration strategy.

LISTED SPECIES OR NATURAL COMMUNITIES

An extensive site survey of listed species has not been done yet. Existing Florida Natural Area Inventory records indicate the presence of Florida pine snake(*Pituophis melanoleucus mugitus*), Sherman's fox squirrel(*Sciurus niger shermani*), southeastern American kestrel(*Falco sparverius paulus*), and gopher tortoise(*Gopherus polyphemus*). FNAI records also indicate sandhill is present. Other unique site features not listed by FNAI include small patches of scrub, and the importance of the area for aquifer recharge and the health of Silver Springs

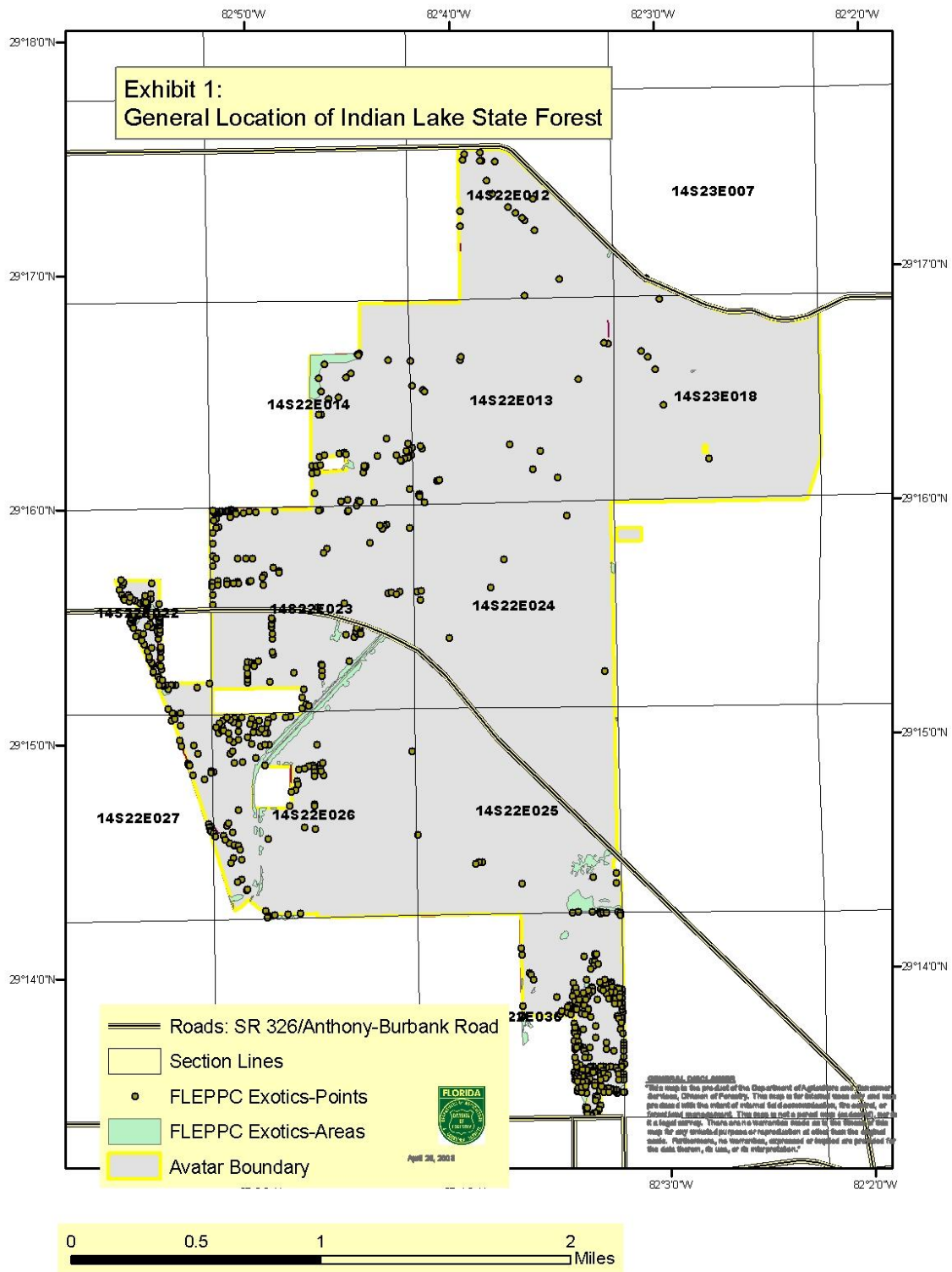
REGIONAL CRITERIA ISSUES

The ILSF project site contains one of the three Regional Priority two (WRIP) species, cogon grass and Japanese climbing fern, and is geographically located near Silver Springs State Park and a large potential acquisition project (part of the Heather Island Florida Forever project).

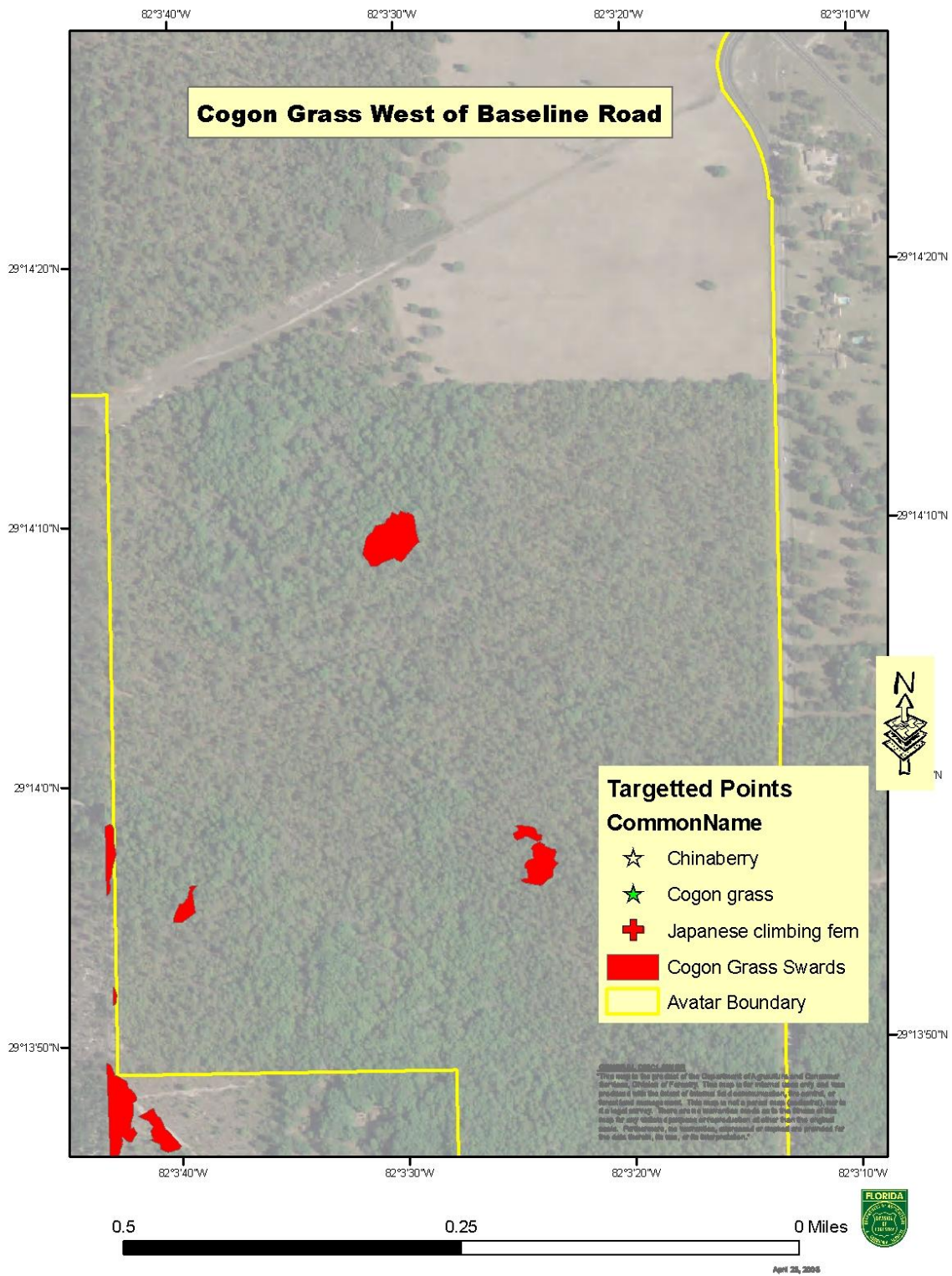
PUBLIC EDUCATION

ILSF uses SpringsFest as the main outlet for education the public about exotic plants (springsfest.org). The 2008 SpringsFest allowed ILSF staff to have a booth that interacted with 2,000 Marion county citizens and education them about the value of the karst landscape at the state forest in the health of the Silver Springs springshed. We have big plans for 2009! We will

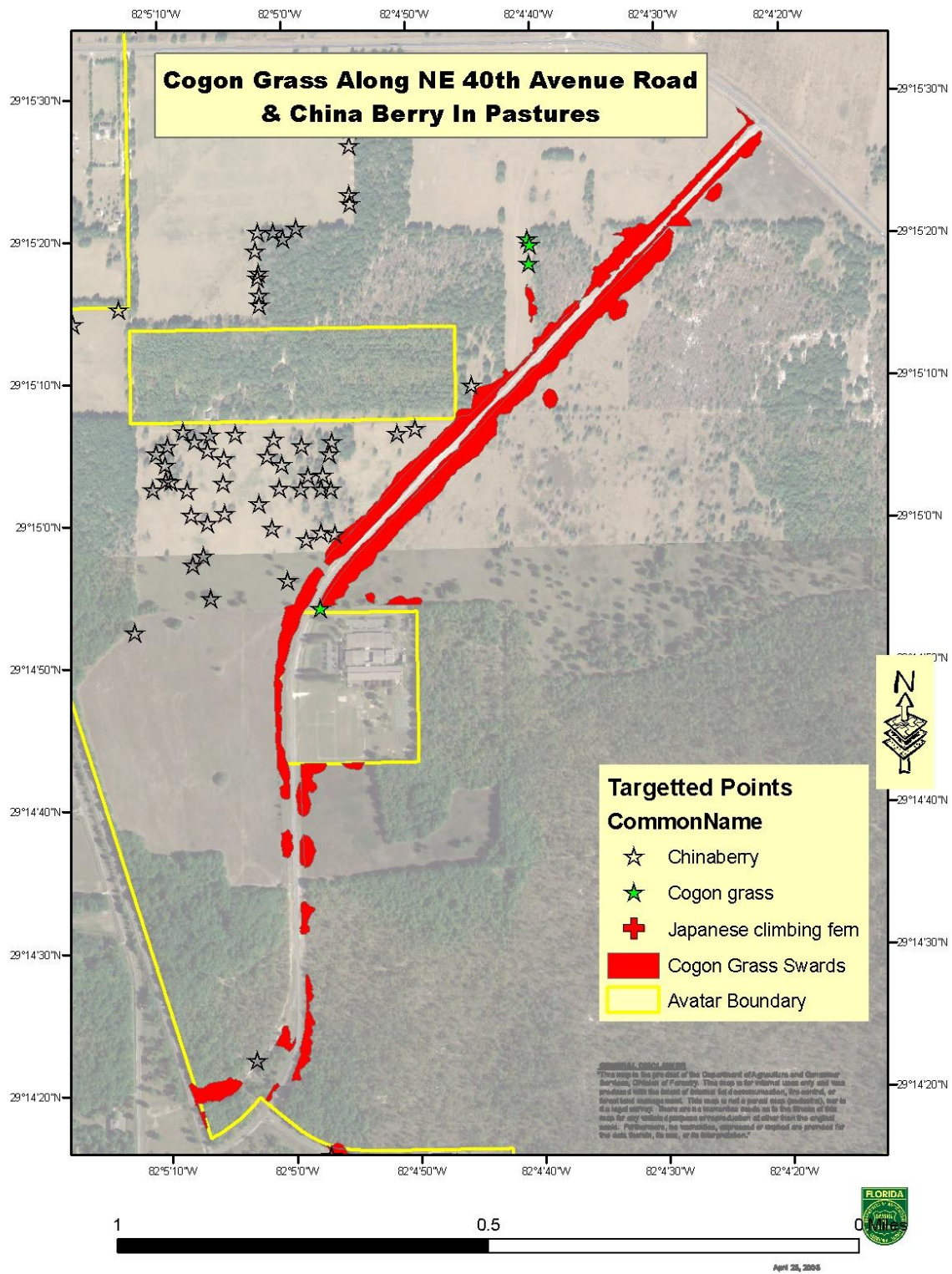
have an enhanced native plant component to the booth, and along with the children's activities will provide native, xero-scape plants as premiums for the children. As with last year, a number of exotic plant identification brochures will be available to the public, with our local bad actor cogon grass prominently displayed. In addition to SpringsFest, we interact with Linda Duever's interagency/public-private organization, the Marion County Invasive Species Management Council in coordinating our control efforts with other landowners in Marion county and in educating them.



Project 1



Project 2



Project 3

