

HOGTOWN CREEK HEADWATERS INVASIVE EXOTIC PLANT CONTROL PROJECT

WORKING GROUP:

Withlacoochee Region Upland Invasive Exotic Plant Working Group

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Delivery

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METHOD OF CONTROL:

Contractual.

PROJECT GOALS:

The primary goal of this project is to control populations of Coral ardisia (*Ardisia crenata*) and other invasive plants found within the City of Gainesville's Hogtown Creek Headwaters Nature Park. Coral ardisia is listed as a Category I species by the Florida Exotic Pest Plant Council and currently dominates a significant portion of the project site. Although Ardisia is the primary focus of control, additional non-native species, including Silktree mimosa (*Albizia julibrissin*), Glossy privet (*Ligustrum lucidum*) and Camphor tree (*Cinnamomum camphora*), Tuberous sword fern (*Nephrolepis cordifolia*), Japanese honeysuckle (*Lonicera japonica*), and a small population of a little known yam species (*Dioscorea dodecaneura*) also occur within the project site and will also be treated.

The secondary goal of this project is to prevent the further spread of these species into diverse, healthy conservation areas downstream. This property and other properties in the Hogtown Creek Greenway make up over 1200 acres of protected natural areas. Control of invasive species in Hogtown Creek Headwaters Nature Park, the most upstream property in the greenway, therefore plays an important role in the overall health of the system.

SCOPE OF WORK

PROJECT LOCATION:

Hogtown Creek Headwaters Nature Park is located in section 19 of township 9S, range 20E in Gainesville, Alachua County, Florida. The park, accessible from NW 45th Ave., is approximately 72 acres in size, of which 24 acres will be treated by contract under this project. This property was acquired through a Florida Communities Trust grant, which requires the City to protect the natural values of the site. The project area includes what will be the main public access to the park, and surrounding natural areas. The park is managed by the City of Gainesville's Nature Operations Division, with the goals of protecting and restoring the natural communities, protecting creek floodplains, and providing natural-resource-based recreation. The park is the newest property and the furthest upstream in the Hogtown Creek Greenway, a network of 12 conservation areas owned by the City of Gainesville and Alachua County, comprising 1200 protected acres along Hogtown Creek (Figure 1).

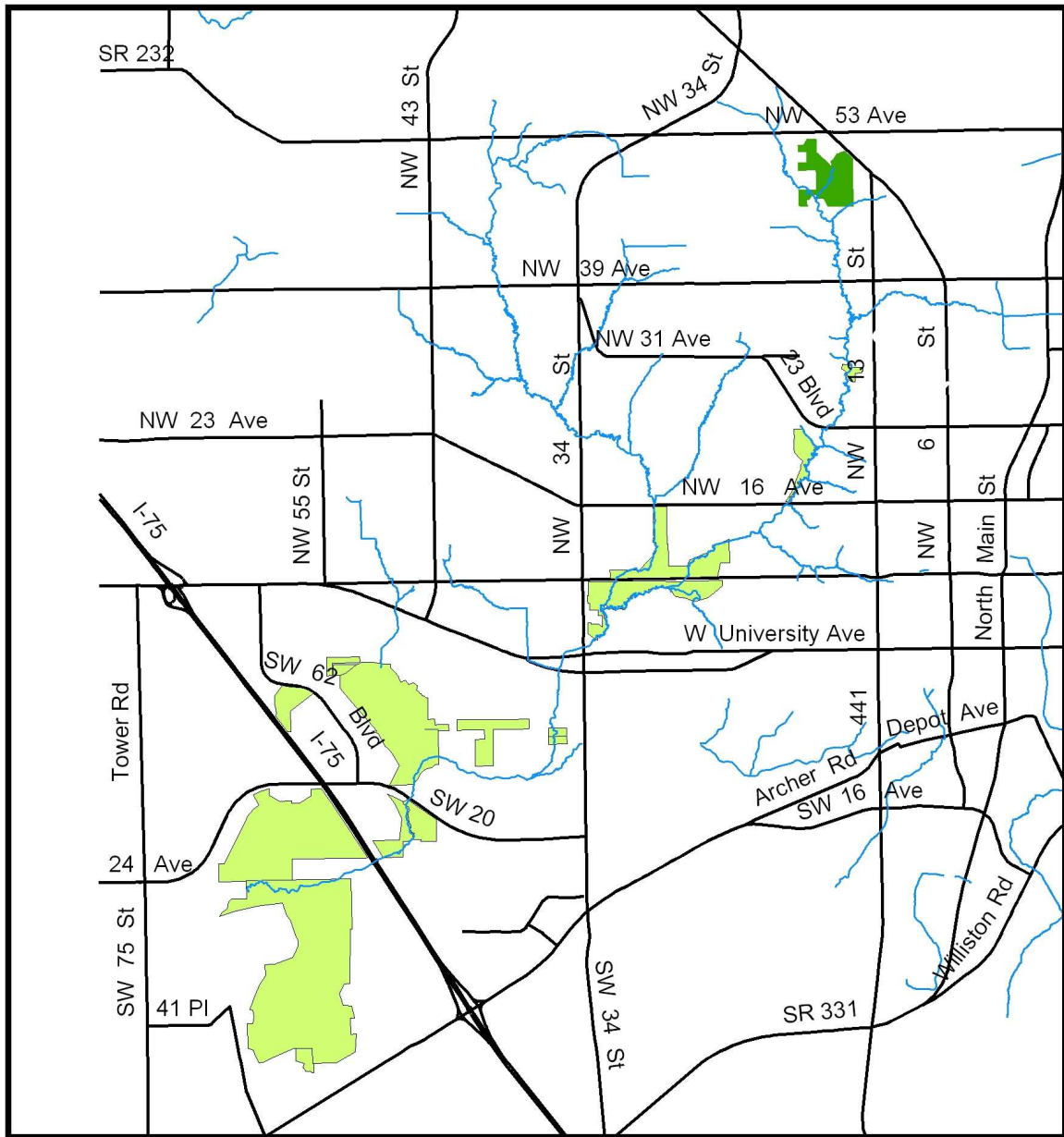
PROJECT DESCRIPTION:

Approximately two acres of the project site is the location of a former farm and nursery and is mostly cleared of vegetation. The western portion of the project site contains Hogtown Creek and two other small seepage stream tributaries, surrounded by a diverse seepage slope forest containing Florida elm, sweetbay magnolia, and a wide variety of other trees, shrubs, ferns, and other herbaceous plants. The remainder of the site was probably formerly upland pine forest and now resembles upland mixed forest, consisting of live oak, laurel oak, water oak, southern magnolia, slash and longleaf pine, sweetgum, and sugarberry.

Numerous invasive plants occur on the property. Infestations of *Ardisia crenata* are the most severe, particularly in the slope forest areas; glossy privet and Japanese honeysuckle also occur commonly in the same areas. Locally high densities of Camphor tree, tuberous sword fern (*Nephrolepis cordifolia*), and silktree mimosa also occur in the project area, particularly in more upland communities and surrounding the cleared area. A small patch of *Dioscorea dodecaneura*, a non-native species new to Alachua County, also occurs on the property. The project area with specific high-density infestations of target plants is shown in Figure 2.

WORK SPECIFICATIONS:

The contractor will treat *Ardisia*, Japanese honeysuckle, tuberous sword fern, Camphor tree, and silktree mimosa, other FLEPPC-listed hardwoods as encountered, and *Dioscorea dodecaneura* in the treatment area shown in Exhibit B. Of the 24 acre project area, approximately 3 acres are high density infestations (nearing 100% cover) of *Ardisia*. Approximately 1 acre of the project area is covered by dense growth (60-100%) of tuberous sword fern. The remaining portions of the project area contain much lower infestation rates of *Ardisia* and other species. High density infestations are shown in Figure 2.



Hogtown Creek Headwaters Nature Park
Figure 1

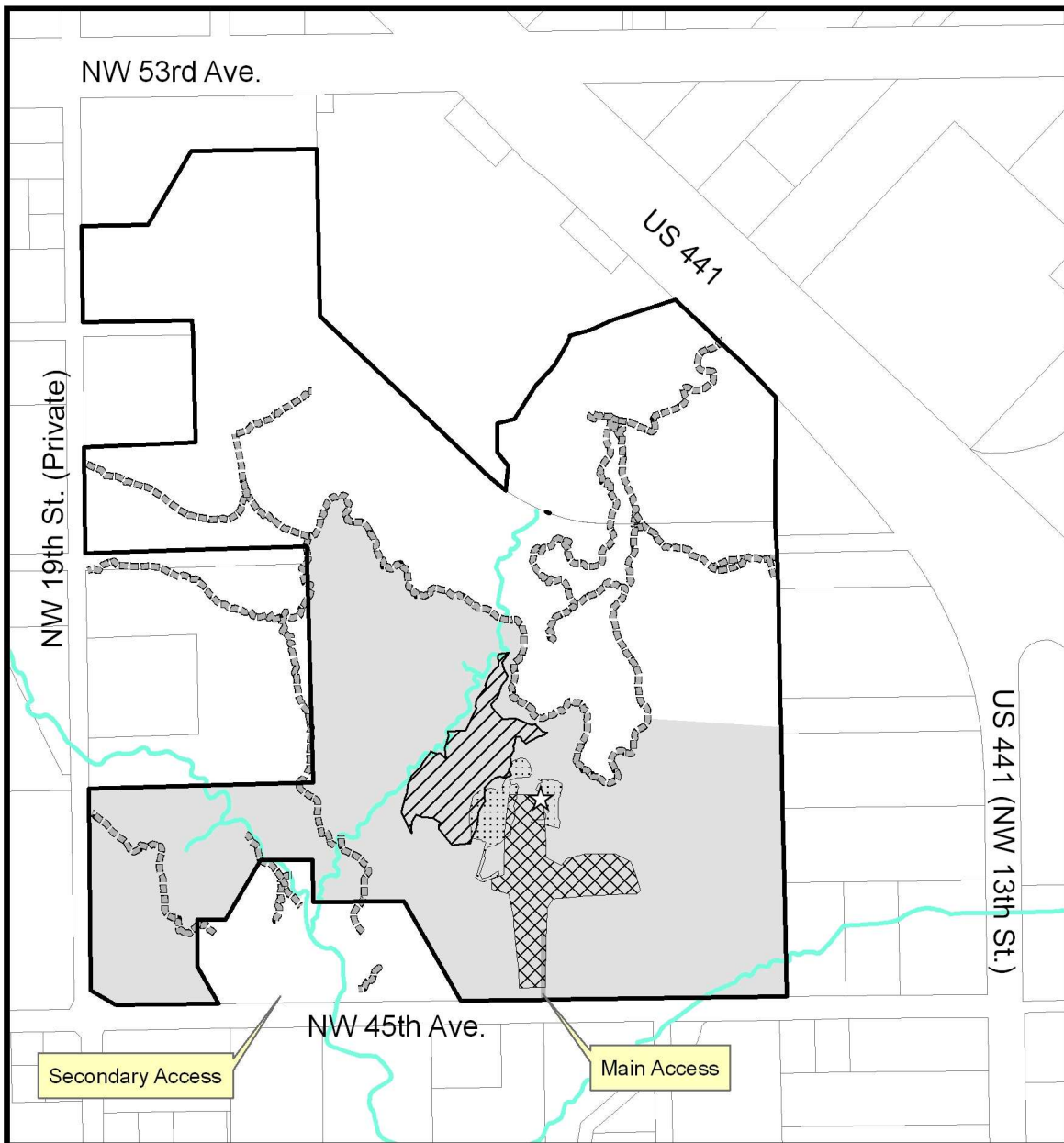
0 0.3 0.6 1.2 1.8 2.4 Miles



This map is for informational purposes only. Do not rely on this map for accuracy of dimensions, size, or location. The City of Gainesville does not assume responsibility to update this information or for any error or omission on this map. For specific information, you are directed to contact the City of Gainesville, Florida.

- Hogtown Creek Headwaters
- Hogtown Creek Greenway Properties
- Streams
- Major Roads





Hogtown Creek Headwaters Nature Park Figure 2

0 125 250 500 750 1,000 Feet



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Park Boundary



Mowed Areas



Dense Ardisia



Tuberous Sword Fern



Dioscorea

Trails

Creeks

Park Entrance Drive

Treatment Area



Treatments are to be done according to the following specifications:

- In areas with high *Ardisia* densities (See Exhibit B), *Ardisia* plants are to be treated with 2% Garlon 4 (or equivalent) in water, with surfactant, as a foliar spray.
- In areas with low *Ardisia* densities, plants will be treated using basal bark treatments with 18% Garlon 4 or equivalent in oil.
- In all areas, dense groupings of *Ardisia* seedlings will be treated with 2% Garlon 4 or equivalent in water, with surfactant, as a foliar spray.
- Other invasive hardwood species will be basal bark treated using 18% Garlon 4 (or equivalent) in oil.
- Japanese honeysuckle, tuberous sword fern, and *Dioscorea dodecaneura* are to be treated with 2.5% Roundup Pro or equivalent as a foliar spray.
- Any treatments of plants growing over or adjacent to standing or flowing water will use an herbicide formulation labeled for use in wetland sites.
- All herbicide applications are to be done with low-pressure equipment to minimize drift and non-target damage.
- Treated plants will be left onsite.
- Contractor shall make all reasonable efforts to avoid overspray or drift that would damage native species onsite.

Contractor will also be responsible for one retreatment of the high-density *Ardisia* area shown in Exhibit B between April and June 2010.

All access to the site, including vehicles to be used, is subject to approval by the City of Gainesville. City staff reserves the right to be onsite during contractor operations and to inspect equipment, chemicals, and applicator personnel.

Nature Operations staff will treat invasive hardwoods on the remaining portions of the property not included in this grant proposal. City staff will also cut, remove, and stump treat large camphor trees surrounding the cleared portion of the park.

OTHER REQUIREMENTS AND PROVISIONS:

Access to the site is from a gate to the main park entrance on NW 45th Ave. A secondary access point via the berm surrounding a City-owned stormwater pond is located west of the main access point along NW 45th Ave.

City staff will identify and mark areas where listed plant species are known to occur, and will treat and/or remove invasive plants from these areas prior to contractor treatments.

NW 19th St. bordering the project site is a gated private road. The contractor will not have vehicular access to NW 19th St.

PROJECT TIME FRAME:

All foliar treatments of Ardisia should occur between November 15, 2009 and January 1, 2010 in order to minimize damage to native plants onsite. Basal bark treatments may occur between July and December 2009 and/or between January and May 2010. Foliar treatment of tuberous sword fern and *Dioscorea dodecaneura* will take place between July and October 2009. Retreatment of the high density Ardisia area will be between April and June 2010.

FUNDING INFORMATION:

Budget forms, including estimated contractor costs and in-kind and matching funds, are attached below.

Upland Invasive Exotic Plant Control Program			
Budget Justification Worksheet			
Project Title: Hogtown Creek Headwaters Nature Park			
Federal Employer Identification (FEID):			#59-6000.32
Will project be in-house or contracted?			Contracted
Matching Funds			
Source		Dollars	
Total matching funds from project sponsor:			\$ 0
In-kind Contributions			
Category	Total	Rate (\$/hr/day)	
Crew hours(D. Musen)	80	24.00	1920.00
Crew hours (R. Rich)	40	15.60	624.00
Crew hours (G. Parks)	48	25.20	1209.60
crew hours (D. Levins)	16	19.20	307.20
Volunteer hours	160	12.50	2000.00
manual equipment (Saw)	16	3.00	48.00
Manual equip. (backpack)	360	1.50	540.00
heavy machinery (chipper)	12	18.50	222.00
heavy machinery (Clam truck)	2	30.00	60.00
Garlon 4	7.5	53.00	397.50
Glyphosate	2.5	30.00	75.00
surfactant	1	25.00	25.00
basal oil	22.5	5.80	130.50
misc. expendables	30	2.00	60.00
other (explain)			
Total in-kind value from project sponsor:			\$ 7,618.80
Total matching and in-kind dollars:			\$ 7,618.80
Total funds requested from FWC:			\$ 10,358.00
TOTAL COST OF PROJECT:			\$ 17,976.80
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 available.			

PROPOSAL INFORMATION

CONSERVATION LAND QUALIFICATION:

This property was acquired with a grant from the Florida Communities Trust using Florida Forever funds. Under the Grant Award Agreement between the City of Gainesville and the State of Florida, the land is only to be “managed for the conservation, protection, and enhancement of natural resources and for public outdoor recreation and education that is compatible with the conservation, protection, and enhancement of the site.” The mission of the Nature Operations Division’s land management section, which manages the park, is “to manage, protect, and restore where feasible, native natural communities and diversity in all nature parks and City owned environmentally sensitive lands and to provide opportunities for passive recreation where compatible with the above listed goals.” The City’s Comprehensive Plan calls for the conservation of environmentally significant natural communities, protection of listed plant and animal species, and the removal of invasive exotic species. The site is listed as conservation land by FNAI.

ABILITY TO MAINTAIN SITE AFTER INITIAL TREATMENT:

The city of Gainesville’s Nature Operations Division has four staff members trained and active in invasive plant management, and conducts herbicide treatment on natural areas throughout the City. Funding for these treatments comes from the Nature Operations Division’s operating budget. In addition, the Nature Operations Division actively recruits and coordinates volunteers for invasive plant removal projects; volunteers for the City of Gainesville logged more than 3500 volunteer hours removing invasive plants in 2008.

RESTORATION PLAN FOR NATIVE PLANTS:

Although the property is heavily impacted by invasive plants, there is still a diverse assemblage of native species. Natural regeneration of canopy, midstory, and groundcover species should occur on its own from onsite seed sources. However, the city will monitor the site post-treatment and if augmentation of native vegetation is needed, a plan for enhancement planting will be made.

LISTED SPECIES OR NATURAL COMMUNITIES

Southern Lady Fern, *Athyrium filix-femina* (Threatened-DACS), is found in the treatment area. Additionally, one or more *Matelea* species, *M. floridana* (endangered-DACS; S2--FNAI) and/or *M. gonocarpos* (Threatened-DACS) also occur on the project site. Seepage streams, which are found in the treatment area, are classified as S2 by FNAI.

PUBLIC EDUCATION PROGRAM

The City of Gainesville annually coordinates the Great Air Potato Roundup, which is a volunteer/educational event intended to raise awareness of Air Potato and other invasive plants. The 10th Annual Great Air Potato Roundup was held in January of 2009 and had the participation of over 1000 volunteers. In the ten years that the event has been held, as many as 9000 people have participated in the event and learned about the impacts of invasive plants on our natural areas. Each volunteer in the Roundup receives an overview

of invasive plants of local concern and why invasive plants are a threat to natural areas. Most participants in the program are children.

In addition to the Great Air Potato Roundup, the City of Gainesville's Nature Operations Division includes an environmental programming section, consisting of 3 full time and 4 part-time staff responsible for providing environmental programs and special events for all ages. Several of these programs include non-native invasive species as a focus.

REGIONAL CRITERIA ISSUES

1. Matching funds directly applied to this project are not available. However, extensive in-kind contributions to this project have been made and will continue, as described below.
2. In-kind services include staff time treating invasive plants at Hogtown Creek Headwaters and in other Nature Parks within the Hogtown Creek Greenway; in particular, staff have already initiated removal and treatment of invasive plants in the project area, and staff will conduct herbicide treatments on all portions of the park not included in this grant. Some large camphor trees will be felled, stump sprayed, and removed by City staff. Since July of 2008, the City has coordinated volunteer events resulting in hundreds of volunteer hours spent removing *Ardisia* and other invasive plants from the project site. Finally, extensive staff hours have been put towards to planning, coordinating, and promoting the 10th Annual Great Air Potato Roundup to educate the community about the problem of invasive species.
3. *Ardisia crenata* is an EPPC category I species, indicating that it has a known detrimental effect on natural communities. Basal bark treatments and foliar treatments using triclopyr products are effective at controlling this species. *Ardisia crenata* is listed as a top priority species by the WRIP working group.
- 3a. This project will benefit southern lady fern, as well as *Matelea floridana* and/or *Matelea gonocarpus*, which are state-listed plants found at the project site. The project will also improve the health of the vegetation buffers of the Seepage Streams (S2) that occur onsite.
4. The Hogtown Creek Headwaters property has a high revegetation potential due to the diverse native vegetation persisting onsite. Native canopy and midstory trees will not be affected by the planned treatments, and foliar treatments during the dormant season will allow many desirable species to survive even in areas where foliar treatments take place. Remnant patches of high-quality vegetation are interspersed with infested areas, making seed sources available for recolonization even of areas where *Ardisia* infestations are extremely dense.
5. With ten years of success with the Great Air Potato Roundup, the City of Gainesville has demonstrated a commitment and ability to reach out to the community and generate interest in the invasive plant issue. The Great Air Potato Roundup is perhaps the single largest educational event relating to invasive species in the southeast, attracting over 1000 participants annually.
6. This site contains a small but dense population of *Dioscorea dodecaneura*, a non-native vine not previously known to be naturalized in Alachua County. Rapid response could prevent the potential spread of this species to other sites. Although

Ardisia crenata is not new to the region, it is rapidly expanding. Because this species is dispersed by birds but its fruits are not preferred foods, reducing high-density populations like those in the project area are likely to significantly impact the probability of its dispersal to other sites: if the species is maintained at low density, migrating birds will choose other foods, but where monocultures exist, birds have little other choice.

7. As suggested by the park's name, this property contains part of the headwaters of Hogtown Creek, and although it is not directly connected to other conservation lands, hundreds of acres of conservation land making up the Hogtown Creek Greenway lie downstream from the project site. Invasive plants have been aggressively treated in all of these downstream conservation areas, including four previous BIPM grants at Loblolly Woods Nature Park. Treatment of this newly-acquired conservation land will be an integral component of the City's strategy in combating invasive plants in the region.
8. Future treatments on City of Gainesville property will be done by existing staff. Approximately 40 staff hours per week are allocated to invasive plant treatments in the city's nature parks, so BIPM funds are not anticipated to be needed for labor to maintain these areas long-term. In the past, BIPM-funded treatments, followed by in-house follow-up, have successfully reduced invasive plant densities—particularly *Ardisia crenata*—in other portions of the Hogtown Creek Greenway and other City of Gainesville nature parks.