

## Fourth Annual Monitoring Report for the Juniper Creek Headwater Preserve (2011)

USACE Permit SAJ-2005-3585 IP-DEB issued 5/5/06; SR 73 (from SR 71 to north of SR 20); Calhoun Co.; FM 4090241; NW25; 3.96-acre impact; (Chipola Watershed)

Monitoring Date: January 13, 2011

### SCOPE

In 2006 USACE issued a permit for 3.90 acres of wetland impacts associated with the road widening of SR 73 in Calhoun County, Florida. This impact is being mitigated for at Juniper Creek Headwater Preserve.

### PROPOSED MITIGATION

To mitigate for FDOT impacts, NFWFMD enabled the acquisition, enhancement and perpetual preservation of a 30 acres of wetland and associated pine flatwoods buffer. The parcel was added to the Juniper Creek Headwater Preserve, owned by the Bay County Conservancy. The Bay County Conservancy, Inc. is a land trust dedicated to the preservation of environmentally sensitive lands in northwest Florida. The Juniper Creek Headwater Preserve is located approximately 14 miles west of the impact site in the headwaters of Juniper Creek (Figure 1) and is comprised of mixed forested wetland, wet prairie, and pine flatwoods (Figure 2). The parcel was acquired on March 7, 2006 and placed in a perpetual conservation easement.

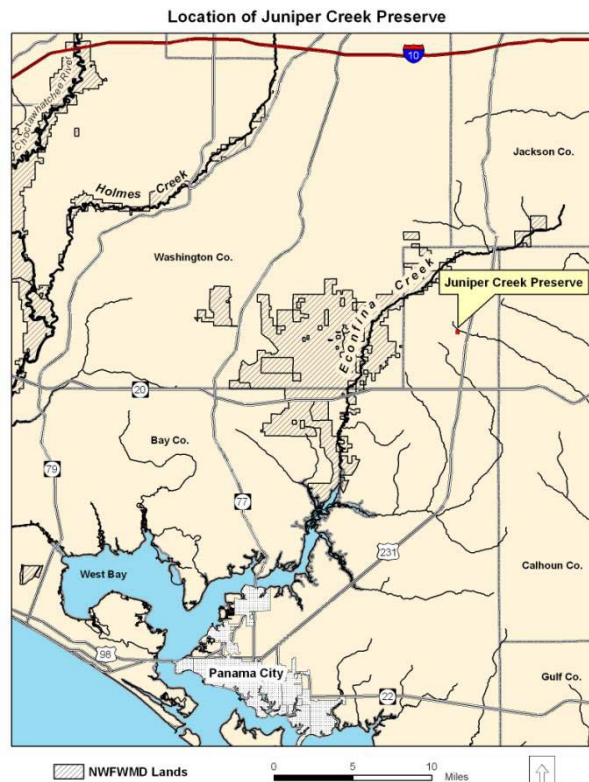


Figure 1. Juniper Creek Headwater Preserve Location Map

## Juniper Creek Headwaters Preserve



Figure 2. Juniper Creek Headwater Preserve

### SITE DESCRIPTION AND AND RESTORATION ACTIVITIES

The 30-acre site consists of 9 acres of mixed forested wetlands along Juniper Creek and its tributary and 21 acres of pine flatwoods, grading from mesic to hydric, including associated wet prairie. The mixed forested wetland is dominated by silver bay (*Magnolia virginiana*), cypress (*Taxodium ascendens*), and slash pine (*Pinus elliottii*). The pine flatwoods support a canopy of planted slash pine with occasional Longleaf pine (*Pinus palustris*). The flatwoods have been bedded from past silvicultural practices. Longleaf pine is likely the historical canopy species and grass stage seedlings observed during the 2011 visit indicate that this species may be rebounding naturally. Shrub species include saw palmetto (*Serenoa repens*) and other typical flatwoods species. The flatwoods exhibit an herbaceous stratum that is dominated by species indicative of disturbance such as bluestem/broomsedge (*Andropogon sp.*); however, there are many native and high quality flatwoods herbaceous species present as well. A hydric herbaceous assemblage is dominant in the swales that resulted from past bedding and the berms support herbaceous species that are indicative of a mesic to xeric hydrologic regime. A section of pine flatwoods south of the creek and west of the abandoned road are dominated by densely planted slash pine and a 6-12 ft. tall titi (*Cyrilla racemiflora*) shrub stratum resulting from fire exclusion.

The areas between pine flatwoods and the mixed forested wetland community are wet prairie

ecotones that are being or have been degraded by the invasion of large titi (*Cyrilla racemiflora* and *Cliftonia monophylla*). These areas support the State-Endangered obligate wetland species white-top pitcher plant (*Sarracenia leucophylla*). A relatively large section of wet prairie in the northwestern portion of the property has high restoration potential if regular (1-3 year) prescribed burning is implemented to reduce red titi (*Cyrilla racemiflora*) density and cover. The areas along Juniper Creek and its tributary support large tree-sized black titi (*Cliftonia monophylla*) that may require mechanical removal rather than fire to reduce the dense canopy cover that is shading white-top pitcher plants and other wet prairie/ecotonal species. A species list was developed for the property in the fall of 2006 and updated during site visits in the fall of 2007, 2008, and winter 2011 (Table 1). Currently, 155 plant species have been observed at the site and with further floristic investigation through multiple growing seasons this number will increase.

Some erosion was observed on the abandoned road but it is minimal. The culvert that bisects the abandoned road is intact. During the 2006 site visit scattered few popcorn trees (*Sapinum sebiferum*) were observed along the edge of Juniper Creek. These were eradicated in March of 2007 by local volunteers. During the winter 2011 monitoring event no popcorn trees were observed, though this could be due to the difficulty of surveying for this deciduous species in the winter. However, Torpedo grass (*Panicum repens*) was observed at the entrance to the property and along the abandoned road in 2011. In 2007, white goods dumped at the entrance and internally were removed by volunteers on a cleanup day in March 2007 and no further dumping was observed during the current monitoring event. In 2007, the entrance road was closed and the Juniper Creek Headwater Preserve sign was installed and it is still intact.

The majority of the scheduled mitigation activities have been completed for this site. In 2011, nuisance and exotic species will continue to be monitored and a fuel reduction burn is scheduled. Representative photos have been included from the winter 2011 site inspection (Figures 3-11).

Mitigation consists of:

- 1) acquisition of 30 acres of the Ander's parcel (**Completed 3/06**),
- 2) recording of a conservation easement and transfer to the Bay County Conservancy (**Completed 3/06**),
- 3) removal of small trash pile on the northern boundary of the property (**Completed 3/07**),
- 4) prescribed fire or other brush reduction methods on mesic and hydric pine flatwoods (**Prescribed fire scheduled 2011**),
- 5) eradication and long term management of popcorn tree and any other invasive exotic plant species (**Complete and ongoing**),
- 6) restriction of vehicle access (**Completed 3/07**), and
- 7) stabilization or abandonment of dirt access road (**Abandoned 3/07**).

## SUCCESS CRITERIA

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**Success Criteria consist of the following:**

- 1) Acquisition of 30 acres of the Anders property, recording of a conservation easement, and transfer of the ownership to the Bay County Conservancy. **Completed March 7, 2006**
- 2) Nuisance vegetation less than 5% cover for the duration of the permit: **Completed September 2006 and November 2007. During the 2011 site visit less than 5% cover of nuisance vegetation was observed and is primarily restricted to the entrance and the**



abandoned road transecting the property. Titi cover in the flatwoods and wet prairie exceeds 5% in portions of the property although overall cover does not exceed the success criteria. With regular prescribed fire this problem can be readily ameliorated.

- 3) Exotic vegetation less than 1% cover per acre for the duration of the permit: **Treatment completed September 2006 and November 2007. Exotic species cover was less than 1% in 2011. *Panicum repens* was present at the entrance and along the abandoned road. *Sapium sebiferum* was removed in March 2007 and no new plants were located during the 2011 survey. No additional exotic species have been observed.**
- 4) A one time burn. **Three different attempts have been made to coordinate with the Bay County Conservancy to allow a burn on the site. The Conservancy has recently agreed to a 2011 burn. This will vastly improve the quality of the ecological communities on the site and will assist in the continued survival of populations of the State-Endangered species *Sarracenia leucophylla* as well as other wet prairie dependant species.**



Figure 3. Juniper Creek Headwater Preserve entrance, facing north.





Figure 4. *Panicum repens* at the entrance to the property.



Figure 5. Abandoned road, facing north from entrance.





Figure 6. Mesic pine flatwoods northwestern corner of the property, facing west.



Figure 7. Remnant *Sarracenia leucophylla* and *Aristida stricta* in wet prairie ecotone east of abandoned road and south of Juniper Creek, dense canopy shading from *Cliftonia monophylla* and *Cyrilla racemiflora*.





Figure 8. Juniper Creek tributary and associated forested wetland, facing west



Figure 9. Titi invaded wet prairie in northwestern corner of property, facing south. Over 20 *Sarracenia leucophylla* individuals were observed in this area.





Figure 10. Titi invaded wet flatwoods in the southwestern corner of the property, facing west.



Figure 11. Mesic flatwoods in the northeastern portion of the property, facing east.



Table 1: Juniper Creek vascular plant species lists; species observed in 2011 are indicated in blue.

<i>Species</i>	Common Name	Habit	Walk Path	Natural Recruitment	Flowering/Fruiting	Last Year Seen
<i>Aletris lutea</i>	yellow colicroot	H	N/A	N/A	Y	2011
<i>Andropogon gyrans</i> var. <i>gyrans</i>	Elliott's bluestem	H	N/A	N/A	Y	2011
<i>Andropogon ternarius</i>	splitbeard bluestem	H	N/A	N/A	Y	2011
<i>Andropogon virginicus</i>	broom sedge	H	N/A	N/A	Y	2011
<i>Andropogon virginicus</i> var. <i>glaucus</i>	blue stem	H	N/A	N/A	Y	2011
<i>Aristida stricta</i> var. <i>beyrichiana</i>	wiregrass	H	N/A	N/A	N	2011
<i>Arundinaria gigantea</i>	switchcane	H	N/A	N/A	N	2011
<i>Asclepias cinerea</i>	Carolina milkweed	H	N/A	N/A	N/A	2008
<i>Asplenium platyneuron</i>	ebony spleenwort	H	N/A	N/A	Y	2011
<i>Baccharis halimifolia</i>	groundsel tree	S	N/A	N/A	N	2011
<i>Balduina angustifolia</i>	coastalplain honeycombhead	H	N/A	N/A	Y	2011
<i>Callicarpa americana</i>	American beautyberry	S	N/A	N/A	N/A	2008
<i>Carex glaucescens</i>	southern waxy sedge	H	N/A	N/A	Y	2011
<i>Carex jorii</i>	caric sedge	H	N/A	N/A	N/A	2008
<i>Carphephorus paniculatus</i>	hairy chaffhead	H	N/A	N/A	Y	2011
<i>Centella asiatica</i>	spadeleaf	H	N/A	N/A	N/A	2011
<i>Cephalanthus occidentalis</i>	button bush	S	N/A	N/A	N	2011
<i>Chamaecrista nictitans</i>	sensitive pea	H	N/A	N/A	N/A	2008
<i>Chrysoma pauciflorescens</i>	woody goldenrod	S	N/A	N/A	Y	2011
<i>Chrysopsis gossypina</i>	cottony goldenaster	H	N/A	N/A	N	2011
<i>Clethra alnifolia</i>	coastal sweetpepperbush	S	N/A	N/A	Y	2011
<i>Cliftonia monophylla</i>	black ti-ti	S	N/A	N/A	Y	2011
<i>Cyperus</i> spp.	shortleaf spikesedge	H	N/A	N/A	Y	2011
<i>Cyrilla racemiflora</i>	titi	S	N/A	N/A	Y	2011
<i>Dicanthelium scoparium</i>	panic grass	H	N/A	N/A	N/A	2008
<i>Dichantherium</i> sp.	witchgrass	H	N/A	N/A	N	2011
<i>Diodia virginiana</i>	poor joe	H	N/A	N/A	Y	2011
<i>Drosera brevifolia</i>	dwarf sundew	H	N/A	N/A	N	2011
<i>Drosera capillaris</i>	pink sundew	H	N/A	N/A	N/A	2008
<i>Elephantopus</i> sp.	elephant's foot	H	N/A	N/A	N/A	2008
<i>Eragrostis virginica</i>	coastal lovegrass	H	N/A	N/A	Y	2011
<i>Erigeron strigosus</i>	prairie fleabane	H	N/A	N/A	N/A	2008
<i>Erigeron vernus</i>	early whitetop fleabane	H	N/A	N/A	N	2011
<i>Eriocaulon decangulare</i>	common pipewort	H	N/A	N/A	Y	2011
<i>Eriogonum tomentosum</i>	dogtongue wild buckwheat	H	N/A	N/A	N/A	2008
<i>Eryngium yuccifolium</i>	rattlesnakemaster	H	N/A	N/A	N/A	2008
<i>Eupatorium capillifolium</i>	dog fennel	H	N/A	N/A	Y	2011
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	H	N/A	N/A	N	2011
<i>Euthamia caroliniana</i>	flat-topped goldenrod	H	N/A	N/A	Y	2011
<i>Fuirena pumila</i>	umbrella grass	H	N/A	N/A	N/A	2008
<i>Gaylussacia dumosa</i>	dwarf huckleberry	H	N/A	N/A	N	2011
<i>Gaylussacia frondosa</i>	blue huckleberry	H	N/A	N/A	N	2011
<i>Gelsemium sempervirens</i>	Carolina jessamine	H	N/A	N/A	N	2011



<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Hibiscus aculeatus</i>	comfortroot	H	N/A	N/A	N/A	2008
<i>Hieracium gronovii</i>	queen devil	H	N/A	N/A	N	2011
<i>Hydrocotyle umbellata</i>	water pennywort	H	N/A	N/A	N	2011
<i>Hypericum cistifolium</i>	hypericum	S	N/A	N/A	Y	2011
<i>Hypericum crux-andreae</i>	St. Peter's wort	S	N/A	N/A	Y	2011
<i>Hypericum fasciculatum</i>	peelbark St. John's-wort	S	N/A	N/A	Y	2008
<i>Hypericum galioides</i>	bedstraw St. John's-wort	S	N/A	N/A	Y	2011
<i>Hypericum gentianoides</i>	pinweed	H	N/A	N/A	Y	2008
<i>Hypericum hypericoides</i>	St. Andrew's cross	S	N/A	N/A	Y	2011
<i>Hypericum microsepalum</i>	flatwoods St. John's-wort	S	N/A	N/A	N	2011
<i>Hypericum suffruticosum</i>	pineland St. John's-wort	S	N/A	N/A	N/A	2008
<i>Ilex cassine</i> var. <i>myrtifolia</i>	myrtle dahoon	S	N/A	N/A	Y	2011
<i>Ilex coriacea</i>	large gallberry	S	N/A	N/A	N	2011
<i>Ilex glabra</i>	gallberry	S	N/A	N/A	Y	2011
<i>Ilex opaca</i>	American holly	S	N/A	N/A	N	2008
<i>Ilex vomitoria</i>	yaupon	S	N/A	N/A	Y	2011
<i>Juncus debilis</i>	weak rush	H	N/A	N/A	Y	2011
<i>Juncus polycephalus</i>	manyheaded rush	H	N/A	N/A	Y	2011
<i>Juncus</i> sp.	rush	H	N/A	N/A	Y	2011
<i>Juncus tenuis</i>	poverty rush	H	N/A	N/A	Y	2011
<i>Kalmia hirsuta</i>	hairy laurel	S	N/A	N/A	N	2011
<i>Lachnanthes caroliniana</i>	Carolina red root	H	N/A	N/A	N	2011
<i>Lachnocaulon anceps</i>	whitedhead bog button	H	N/A	N/A	Y	2011
<i>Linum</i> sp.	yellow flax	H	N/A	N/A	N/A	2008
<i>Liquidambar styraciflua</i>	sweetgum	H	N/A	N/A	N	2011
<i>Lobelia amoena</i>	southern lobelia	H	N/A	N/A	N/A	2008
<i>Lophiola aurea</i>	goldencrest	H	N/A	N/A	Y	2011
<i>Ludwigia alternifolia</i>	seed box	H	N/A	N/A	Y	2011
<i>Ludwigia leptocarpa</i>	anglestem primrose-willow	H	N/A	N/A	Y	2011
<i>Ludwigia pilosa</i>	hairy seed box	H	N/A	N/A	Y	2011
<i>Lycopodiella appressa</i>	southern bog clubmoss	H	N/A	N/A	N	2011
<i>Lycopodiella alopecuroides</i>	foxtail clubmoss	H	N/A	N/A	N	2011
<i>Lycopodiella cernua</i>	staghorn clubmoss	H	N/A	N/A	N	2010
<i>Lycopodiella caroliniana</i>	slender clubmoss	H	N/A	N/A	N	2011
<i>Lyonia lucida</i>	fetterbush lyonia	S	N/A	N/A	Y	2011
<i>Magnolia grandiflora</i>	southern magnolia	T	N/A	N/A	N	2011
<i>Magnolia virginiana</i>	sweetbay	T	N/A	N/A	N	2011
<i>Mimosa quadrivalvis</i>	sensitive briar	H	N/A	N/A	N	2011
<i>Myrica cerifera</i>	wax myrtle	S	N/A	N/A	Y	2011
<i>Myrica heterophylla</i>	swamp bayberry	S	N/A	N/A	N	2011
<i>Myrica inodorata</i>	odorless wax-myrtle	S	N/A	N/A	N/A	2008
<i>Nyssa sylvatica</i>	swamp tupelo	T	N/A	N/A	N/A	2008
<i>Nyssa sylvatica</i> var. <i>biflora</i>	black gum	T	N/A	N/A	N	2011
<i>Osmunda cinnamomea</i>	cinnamon fern	H	N/A	N/A	N	2011



<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Panicum repens</i> *	torpedo grass	H	N/A	Y	Y	2011
<i>Panicum</i> sp.	panicgrass	H	N/A	N/A	N	2011
<i>Paspalum</i> sp.	crowgrass	H	N/A	N/A	Y	2011
<i>Paspalum urvillei</i>	vaseygrass	H	N/A	N/A	Y	2011
<i>Persea borbonia</i>	redbay	T	N/A	N/A	N	2011
<i>Photinia pyrifolia</i>	red chokeberry	S	N/A	N/A	Y	2011
<i>Pinus elliotii</i>	slash pine	T	N/A	Y	Y	2011
<i>Pinus palustris</i>	longleaf pine	T	N/A	Y	N	2011
<i>Pityopsis</i> sp.	silkgrass	H	N/A	N/A	N	2011
<i>Plantanus occidentalis</i>	American sycamore	T	N/A	N/A	N	2011
<i>Polygonella gracillis</i>	tall jointweed	H	N/A	N/A	Y	2011
<i>Polypremum procumbens</i>	rustweed	H	N/A	N/A	Y	2011
<i>Pseudognaphalium obtusifolium</i>	cudweed	H	N/A	N/A	N	2011
<i>Pteridium aquilinum</i>	bracken fern	H	N/A	N/A	N	2011
<i>Pterocaulon pycnostachyum</i>	blackroot	H	N/A	N/A	N	2011
<i>Quercus falcata</i>	southern red oak	T	N/A	N/A	N	2011
<i>Quercus hemispherica</i>	laural oak	T	N/A	N/A	N	2011
<i>Quercus minima</i>	dwarf live oak	S	N/A	N/A	N	2011
<i>Quercus nigra</i>	water oak	T	N/A	N/A	N	2011
<i>Quercus pumila</i>	running oak	S	N/A	N/A	N	2011
<i>Rhexia alifanisi</i>	Savannah meadowbeauty	H	N/A	N/A	N	2011
<i>Rhexia mariana</i>	pale meadowbeauty	H	N/A	N/A	Y	2011
<i>Rhus copallina</i>	winged sumac	S	N/A	N/A	N	2011
<i>Rhynchospora cephalantha</i>	bunched beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora chalarocephala</i>	loose-head beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora ciliaris</i>	fringed beaksedge	H	N/A	N/A	N	2011
<i>Rhynchospora fascicularis</i>	fascicled beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora gracilentia</i>	slender beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora plumosa</i>	plumed beaksedge	H	N/A	N/A	Y	2011
<i>Rubus cuneifolius</i>	sand blackberry	S	N/A	N/A	N	2011
<i>Rudbeckia</i> sp.	shiny coneflower	H	N/A	N/A	N/A	2008
<i>Sapium sebiferum</i> *	popcorn tree	T	N/A	N/A	N/A	2008
<i>Sarracenia flava</i>	yellow pitcherplant	H	N/A	N/A	N/A	2008
<i>Sarracenia leucophylla</i> **	white-top pitcherplant	H	N/A	N	Y	2011
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	little bluestem	H	N/A	N/A	Y	2011
<i>Scirpus cyperinus</i>	wooly bullrush	H	N/A	N/A	Y	2011
<i>Serenoa repens</i>	saw palmetto	S	N/A	N/A	N	2011
<i>Sesbania punicea</i> *	rattlebox	S	N/A	N/A	Y	2008
<i>Sesbania vesicaria</i>	bladderpod	S	N/A	N/A	Y	2011
<i>Seymeria pectinata</i>	blacksenna	H	N/A	N/A	Y	2011
<i>Smilax auriculata</i>	earleaf greenbrier	V	N/A	N/A	N	2011
<i>Smilax glauca</i>	cat greenbrier	V	N/A	N/A	N	2011
<i>Smilax laurifolia</i>	laurel greenbrier	V	N/A	N/A	Y	2011



<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Smilax smallii</i>	lanceleaf greenbrier	V	N/A	N/A	N/A	2008
<i>Smilax walteri</i>	coral greenbrier	V	N/A	N/A	Y	2011
<i>Solidago fistulosa</i>	pine-barren goldenrod	H	N/A	N/A	Y	2011
<i>Solidago odora</i>	anisescented goldenrod	H	N/A	N/A	N/A	2008
<i>Sphagnum spp.</i>	sphagnum moss	H	N/A	N/A	N	2011
<i>Symphotrichum dumosum</i>	rice button aster	H	N/A	N/A	N	2011
<i>Symphotrichum walteri</i>	Walter's aster	H	N/A	N/A	N/A	2008
<i>Syngonanthus flavidulus</i>	yellow hatpins	H	N/A	N/A	Y	2011
<i>Teucrium canadense</i>	wood sage	H	N/A	N/A	N/A	2008
<i>Vaccinium arboreum</i>	farkleberry	S	N/A	N/A	N	2011
<i>Vaccinium corymbosum</i>	highbush blueberry	S	N/A	N/A	N/A	2008
<i>Vaccinium elliotii</i>	Elliott's blueberry	S	N/A	N/A	N	2011
<i>Vaccinium myrsinites</i>	shiny blueberry	S	N/A	N/A	N	2011
<i>Verbesina chapmanii</i> **	Chapman's crownbeard	H	N/A	N/A	N/A	2008
<i>Vernonia novaboracensis</i>	New York ironweed	H	N/A	N/A	N/A	2008
<i>Viola lanceolata</i>	bog white violet	H	N/A	N/A	N/A	2008
<i>Vitis rotundifolia</i>	muscadine	V	N/A	N/A	N	2011
<i>Xyris brevifolia</i>	yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris caroliniana</i>	Carolina yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris fimbriata</i>	fringed yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris flabelliformis</i>	Savannah yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris jupicai</i>	Richard's yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris spp.</i>	yelloweyed grass	H	N/A	N/A	N/A	2008

\*\*State-listed species

\*FLEPPC listed species

H=Herb

S=Shrub

T=Tree

Plants listed in blue were observed in 2011.



<b>Site Inspection Field Form</b>	
Project: Juniper Creek Headwaters Preserve	Date: Jan 13 2011
Name(s) of Data Collectors: Caitlin Elam	Weather: 45 degrees F
Environmental Description: Flatwoods, wet prairie, and bottomland forest along Juniper Creek and its tributaries	
GPS Location: 30°29'12.25"N 85°25'47.16"W	Time: 12 pm
<p><b>On at least a yearly basis, the site will be inspected as follows:</b></p> <p>A: Perimeter for signs of trespassing, fencing and signage integrity and infestation by exotic or nuisance vegetation;</p> <p><b>No signs of trespassing along the perimeter of the property, <i>Panicum repens</i> was seen along the Silver Lake Rd. boundary. <i>Sapium sebiferum</i> was not seen during this survey but was seen during a November 12, 2010 NFWFMD survey.</b></p> <p>B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations;</p> <p><b>No signs of dumping or trespassing on the internal abandoned road, light erosion is present, the culvert is intact. Some <i>Panicum repens</i> was observed along the abandoned road.</b></p> <p>C: All construction areas for stabilization and re-vegetation, structure, operation, and integrity;</p> <p>N/A</p> <p>D: Representative polygons for each UMAM community for fuel load, exotic or nuisance species, planted material survival, groundcover, and shrub condition.</p> <p><b>Flatwoods:</b> No exotic species, nuisance species include <i>Andropogon spp.</i> and <i>Cyrilla racemiflora</i>. <i>Pinus palustris</i> grass stage seedlings were observed, groundcover is moderate and fine fuel is moderate to high, shrub cover is moderate to high and medium fuel load is moderate to high.</p> <p><b>Wet Prairie:</b> No exotic species, nuisance species include <i>Cyrilla racemiflora</i> and <i>Cliftonia monophylla</i>. <i>Sarracenia leucophylla</i> is persisting in open areas and occasionally under dense titi cover. Groundcover is sparse to moderate and fine fuel load is low to moderate, shrub cover is moderate to high and medium fuel load is high.</p> <p><b>Bottomland Forest along creek:</b> No exotic species seen, <i>Sapium sebiferum</i> reported in the past but was removed. Groundcover is sparse to moderate and fine fuel load is low, shrub cover is moderate to dense and medium fuel load is moderate to high.</p>	



Vegetation Assessment Field Form Qualitative Assessment	
Project: Juniper Creek Headwaters Preserve	Date: Jan 13 2011
Name(s) of Data Collectors: Caitlin Elam	Weather: 45 degrees F
Environmental Description: Flatwoods, wet prairie, and bottomland forest along Juniper Creek and its tributaries	
Photo #'s: 9 photos	
GPS Location: 30°29'12.25"N 85°25'47.16"W	Time: 12 pm
Nuisance Species: <b><i>Panicum repens</i> was observed along the abandoned road inside the site and along the boundary adjacent to Silver Lake Road. Fuel Load: low to high depending on the plant community.</b>	
Wildlife Observations: None	
Water depth: Variable, creek was inundated, wet prairie was saturated to the soil surface, and the flatwoods were dry.	
Is the community observed along the walk path representative of the community being measured? <b>Yes, the respective ecological communities present at the site exhibit the appropriate species composition and the community structure will be improved by the introduction of fire as a management tool.</b>	
To what degree is the restoration in this area trending towards success? <b>The area is currently in compliance with the majority of the success criteria; with the introduction of a prescribed fire regime the area has the potential to be good quality habitat.</b>	
Potential Problems and solutions: <b>Invasive exotic species should be surveyed for and treated regularly. Titi invasion can be reduced by regular prescribed fire, which is planned for 2011.</b>	

Juniper Creek 2011 species list (compiled from 2011 survey and past species lists)

Species	Common Name	Habit	Walk Path	Natural Recruitment	Flowering/Fruiting	Last Year Seen
<i>Aletris lutea</i>	yellow colicroot	H	N/A	N/A	Y	2011
<i>Andropogon gyrans</i> var. <i>gyrans</i>	Elliott's bluestem	H	N/A	N/A	Y	2011
<i>Andropogon ternarius</i>	splitbeard bluestem	H	N/A	N/A	Y	2011
<i>Andropogon virginicus</i>	broom sedge	H	N/A	N/A	Y	2011
<i>Andropogon virginicus</i> var. <i>glaucus</i>	blue stem	H	N/A	N/A	Y	2011
<i>Aristida stricta</i> var. <i>beyrichiana</i>	wiregrass	H	N/A	N/A	N	2011
<i>Arundinaria gigantea</i>	switchcane	H	N/A	N/A	N	2011
<i>Asclepias cinerea</i>	Carolina milkweed	H	N/A	N/A	N/A	2008
<i>Asplenium platyneuron</i>	ebony spleenwort	H	N/A	N/A	Y	2011
<i>Baccharis halimifolia</i>	groundsel tree	S	N/A	N/A	N	2011
<i>Balduina angustifolia</i>	coastalplain honeycombhead	H	N/A	N/A	Y	2011
<i>Callicarpa americana</i>	American beautyberry	S	N/A	N/A	N/A	2008
<i>Carex glaucescens</i>	southern waxy sedge	H	N/A	N/A	Y	2011
<i>Carex jorii</i>	caric sedge	H	N/A	N/A	N/A	2008
<i>Carphephorus paniculatus</i>	hairy chaffhead	H	N/A	N/A	Y	2011
<i>Centella asiatica</i>	spadeleaf	H	N/A	N/A	N/A	2011
<i>Cephalanthus occidentalis</i>	button bush	S	N/A	N/A	N	2011
<i>Chamaecrista nictitans</i>	sensitive pea	H	N/A	N/A	N/A	2008
<i>Chrysoma pauciflosculosa</i>	woody goldenrod	S	N/A	N/A	Y	2011
<i>Chrysopsis gossypina</i>	cottony goldenaster	H	N/A	N/A	N	2011

<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Clethra alnifolia</i>	coastal sweetpepperbush	S	N/A	N/A	Y	2011
<i>Cliftonia monophylla</i>	black ti-ti	S	N/A	N/A	Y	2011
<i>Cyperus</i> spp.	shortleaf spikeseed	H	N/A	N/A	Y	2011
<i>Cyrilla racemiflora</i>	titi	S	N/A	N/A	Y	2011
<i>Dicanthelium scoparium</i>	panic grass	H	N/A	N/A	N/A	2008
<i>Dichantheium</i> sp.	witchgrass	H	N/A	N/A	N	2011
<i>Diodia virginiana</i>	poor joe	H	N/A	N/A	Y	2011
<i>Drosera brevifolia</i>	dwarf sundew	H	N/A	N/A	N	2011
<i>Drosera capillaris</i>	pink sundew	H	N/A	N/A	N/A	2008
<i>Elephantopus</i> sp.	elephant's foot	H	N/A	N/A	N/A	2008
<i>Eragrostis virginica</i>	coastal lovegrass	H	N/A	N/A	Y	2011
<i>Erigeron strigosus</i>	prairie fleabane	H	N/A	N/A	N/A	2008
<i>Erigeron vernus</i>	early whitetop fleabane	H	N/A	N/A	N	2011
<i>Eriocaulon decangulare</i>	common pipewort	H	N/A	N/A	Y	2011
<i>Eriogonum tomentosum</i>	dogtongue wild buckwheat	H	N/A	N/A	N/A	2008
<i>Eryngium yuccifolium</i>	rattlesnakemaster	H	N/A	N/A	N/A	2008
<i>Eupatorium capillifolium</i>	dog fennel	H	N/A	N/A	Y	2011
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	H	N/A	N/A	N	2011
<i>Euthamia caroliniana</i>	flat-topped goldenrod	H	N/A	N/A	Y	2011
<i>Fuirena pumila</i>	umbrella grass	H	N/A	N/A	N/A	2008
<i>Gaylussacia dumosa</i>	dwarf huckleberry	H	N/A	N/A	N	2011
<i>Gaylussacia frondosa</i>	blue huckleberry	H	N/A	N/A	N	2011
<i>Gelsemium sempervirens</i>	Carolina jessamine	H	N/A	N/A	N	2011
<i>Hibiscus aculeatus</i>	comfortroot	H	N/A	N/A	N/A	2008
<i>Hieracium gronovii</i>	queen devil	H	N/A	N/A	N	2011
<i>Hydrocotyle umbellata</i>	water pennywort	H	N/A	N/A	N	2011
<i>Hypericum cistifolium</i>	hypericum	S	N/A	N/A	Y	2011
<i>Hypericum crux-andreae</i>	St. Peter's wort	S	N/A	N/A	Y	2011
<i>Hypericum fasciculatum</i>	peelbark St. John's-wort	S	N/A	N/A	Y	2008
<i>Hypericum galioides</i>	bedstraw St. John's-wort	S	N/A	N/A	Y	2011
<i>Hypericum gentianoides</i>	pinweed	H	N/A	N/A	Y	2008
<i>Hypericum hypericoides</i>	St. Andrew's cross	S	N/A	N/A	Y	2011
<i>Hypericum microsepalum</i>	flatwoods St. John's-wort	S	N/A	N/A	N	2011
<i>Hypericum suffruticosum</i>	pineland St. John's-wort	S	N/A	N/A	N/A	2008
<i>Ilex cassine</i> var. <i>myrtifolia</i>	myrtle dahoon	S	N/A	N/A	Y	2011
<i>Ilex coriacea</i>	large gallberry	S	N/A	N/A	N	2011
<i>Ilex glabra</i>	gallberry	S	N/A	N/A	Y	2011
<i>Ilex opaca</i>	American holly	S	N/A	N/A	N	2008
<i>Ilex vomitoria</i>	yaupon	S	N/A	N/A	Y	2011
<i>Juncus debilis</i>	weak rush	H	N/A	N/A	Y	2011
<i>Juncus polycephalus</i>	manyheaded rush	H	N/A	N/A	Y	2011
<i>Juncus</i> sp.	rush	H	N/A	N/A	Y	2011
<i>Juncus tenuis</i>	poverty rush	H	N/A	N/A	Y	2011
<i>Kalmia hirsuta</i>	hairy laurel	S	N/A	N/A	N	2011



<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Lachnanthes caroliniana</i>	Carolina red root	H	N/A	N/A	N	2011
<i>Lachnocaulon anceps</i>	whitedhead bog button	H	N/A	N/A	Y	2011
<i>Linum</i> sp.	yellow flax	H	N/A	N/A	N/A	2008
<i>Liquidambar styraciflua</i>	sweetgum	H	N/A	N/A	N	2011
<i>Lobelia amoena</i>	southern lobelia	H	N/A	N/A	N/A	2008
<i>Lophiola aurea</i>	goldencrest	H	N/A	N/A	Y	2011
<i>Ludwigia alternifolia</i>	seed box	H	N/A	N/A	Y	2011
<i>Ludwigia leptocarpa</i>	anglestem primrose-willow	H	N/A	N/A	Y	2011
<i>Ludwigia pilosa</i>	hairy seed box	H	N/A	N/A	Y	2011
<i>Lycopodiella appressa</i>	southern bog clubmoss	H	N/A	N/A	N	2011
<i>Lycopodiella alopecuroides</i>	foxtail clubmoss	H	N/A	N/A	N	2011
<i>Lycopodiella cernua</i>	staghorn clubmoss	H	N/A	N/A	N	2010
<i>Lycopodiella caroliniana</i>	slender clubmoss	H	N/A	N/A	N	2011
<i>Lyonia lucida</i>	fetterbush lyonia	S	N/A	N/A	Y	2011
<i>Magnolia grandiflora</i>	southern magnolia	T	N/A	N/A	N	2011
<i>Magnolia virginiana</i>	sweetbay	T	N/A	N/A	N	2011
<i>Mimosa quadrivalvis</i>	sensitive briar	H	N/A	N/A	N	2011
<i>Myrica cerifera</i>	wax myrtle	S	N/A	N/A	Y	2011
<i>Myrica heterophylla</i>	swamp bayberry	S	N/A	N/A	N	2011
<i>Myrica inodorata</i>	odorless wax-myrtle	S	N/A	N/A	N/A	2008
<i>Nyssa sylvatica</i>	swamp tupelo	T	N/A	N/A	N/A	2008
<i>Nyssa sylvatica</i> var. <i>biflora</i>	black gum	T	N/A	N/A	N	2011
<i>Osmunda cinnamomea</i>	cinnamon fern	H	N/A	N/A	N	2011
<i>Panicum repens</i> *	torpedo grass	H	N/A	Y	Y	2011
<i>Panicum</i> sp.	panicgrass	H	N/A	N/A	N	2011
<i>Paspalum</i> sp.	crowgrass	H	N/A	N/A	Y	2011
<i>Paspalum urvillei</i>	vaseygrass	H	N/A	N/A	Y	2011
<i>Persea borbonia</i>	redbay	T	N/A	N/A	N	2011
<i>Photinia pyrifolia</i>	red chokeberry	S	N/A	N/A	Y	2011
<i>Pinus elliotii</i>	slash pine	T	N/A	Y	Y	2011
<i>Pinus palustris</i>	longleaf pine	T	N/A	Y	N	2011
<i>Pityopsis</i> sp.	silkgrass	H	N/A	N/A	N	2011
<i>Plantanus occidentalis</i>	American sycamore	T	N/A	N/A	N	2011
<i>Polygonella gracillis</i>	tall jointweed	H	N/A	N/A	Y	2011
<i>Polypremum procumbens</i>	rustweed	H	N/A	N/A	Y	2011
<i>Pseudognaphalium obtusifolium</i>	cudweed	H	N/A	N/A	N	2011
<i>Pteridium aquilinum</i>	bracken fern	H	N/A	N/A	N	2011
<i>Pterocaulon pycnostachyum</i>	blackroot	H	N/A	N/A	N	2011
<i>Quercus falcata</i>	southern red oak	T	N/A	N/A	N	2011
<i>Quercus hemispherica</i>	laural oak	T	N/A	N/A	N	2011
<i>Quercus minima</i>	dwarf live oak	S	N/A	N/A	N	2011
<i>Quercus nigra</i>	water oak	T	N/A	N/A	N	2011
<i>Quercus pumila</i>	running oak	S	N/A	N/A	N	2011
<i>Rhexia alifanias</i>	Savannah meadowbeauty	H	N/A	N/A	N	2011

<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Rhexia mariana</i>	pale meadowbeauty	H	N/A	N/A	Y	2011
<i>Rhus copallina</i>	winged sumac	S	N/A	N/A	N	2011
<i>Rhynchospora cephalantha</i>	bunched beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora chalarocephala</i>	loose-head beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora ciliaris</i>	fringed beaksedge	H	N/A	N/A	N	2011
<i>Rhynchospora fascicularis</i>	fascicled beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora gracilienta</i>	slender beaksedge	H	N/A	N/A	Y	2011
<i>Rhynchospora plumosa</i>	plumed beaksedge	H	N/A	N/A	Y	2011
<i>Rubus cuneifolius</i>	sand blackberry	S	N/A	N/A	N	2011
<i>Rudbeckia</i> sp.	shiny coneflower	H	N/A	N/A	N/A	2008
<i>Sapium sebiferum</i> *	popcorn tree	T	N/A	N/A	N/A	2008
<i>Sarracenia flava</i>	yellow pitcherplant	H	N/A	N/A	N/A	2008
<i>Sarracenia leucophylla</i> **	white-top pitcherplant	H	N/A	N	Y	2011
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	little bluestem	H	N/A	N/A	Y	2011
<i>Scirpus cyperinus</i>	wooly bullrush	H	N/A	N/A	Y	2011
<i>Serenoa repens</i>	saw palmetto	S	N/A	N/A	N	2011
<i>Sesbania punicea</i> *	rattlebox	S	N/A	N/A	Y	2008
<i>Sesbania vesicaria</i>	bladderpod	S	N/A	N/A	Y	2011
<i>Seymeria pectinata</i>	blacksenna	H	N/A	N/A	Y	2011
<i>Smilax auriculata</i>	earleaf greenbrier	V	N/A	N/A	N	2011
<i>Smilax glauca</i>	cat greenbrier	V	N/A	N/A	N	2011
<i>Smilax laurifolia</i>	laurel greenbrier	V	N/A	N/A	Y	2011
<i>Smilax smallii</i>	lanceleaf greenbrier	V	N/A	N/A	N/A	2008
<i>Smilax walteri</i>	coral greenbrier	V	N/A	N/A	Y	2011
<i>Solidago fistulosa</i>	pine-barren goldenrod	H	N/A	N/A	Y	2011
<i>Solidago odora</i>	anisescented goldenrod	H	N/A	N/A	N/A	2008
<i>Sphagnum</i> spp.	sphagnum moss	H	N/A	N/A	N	2011
<i>Symphyotrichum dumosum</i>	rice button aster	H	N/A	N/A	N	2011
<i>Symphyotrichum walteri</i>	Walter's aster	H	N/A	N/A	N/A	2008
<i>Syngonanthus flavidulus</i>	yellow hatpins	H	N/A	N/A	Y	2011
<i>Teucrium canadense</i>	wood sage	H	N/A	N/A	N/A	2008
<i>Vaccinium arboreum</i>	farkleberry	S	N/A	N/A	N	2011
<i>Vaccinium corymbosum</i>	highbush blueberry	S	N/A	N/A	N/A	2008
<i>Vaccinium elliotii</i>	Elliott's blueberry	S	N/A	N/A	N	2011
<i>Vaccinium myrsinites</i>	shiny blueberry	S	N/A	N/A	N	2011
<i>Verbesina chapmanii</i> **	Chapman's crownbeard	H	N/A	N/A	N/A	2008
<i>Vernonia novaboracensis</i>	New York ironweed	H	N/A	N/A	N/A	2008
<i>Viola lanceolata</i>	bog white violet	H	N/A	N/A	N/A	2008
<i>Vitis rotundifolia</i>	muscadine	V	N/A	N/A	N	2011
<i>Xyris brevifolia</i>	yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris caroliniana</i>	Carolina yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris fimbriata</i>	fringed yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris flabelliformis</i>	Savannah yelloweyed grass	H	N/A	N/A	Y	2011



<i>Species</i>	<b>Common Name</b>	<b>Habit</b>	<b>Walk Path</b>	<b>Natural Recruitment</b>	<b>Flowering/Fruiting</b>	<b>Last Year Seen</b>
<i>Xyris jupicai</i>	Richard's yelloweyed grass	H	N/A	N/A	Y	2011
<i>Xyris</i> spp.	yelloweyed grass	H	N/A	N/A	N/A	2008

\*\*State-listed species

\*FLEPPC listed species

H=Herb

S=Shrub

T=Tree

*Plants listed in blue were observed in 2011.*