Deep Creek North
Conservation Area
Land Management Plan

Lower St. Johns River Basin
St. Johns County

Governing Board Approved
August 2006
Deep Creek North Conservation Area
Management Plan Summary

Date of Plan: 08/2006

Management Area: Deep Creek North Conservation Area, 4529 acres. This land management plan will address the existing Deep Creek Conservation Area as well as the Lambert Parcel, a property that was recently acquired by the Board of Trustees of the Internal Improvement Trust Fund.

Location: St. Johns County.

Dates of Acquisition:

05/24/89 - (Wonderlic, LA# 88-13) - The District acquired this 564 acre tract with $162,250.00 in ad valorem tax funds.

05/04/88 - (Mitchell, LA# 86-16)- This acquisition consisted of two separate parcels totaling 3219-acres. They were purchased with $914,500 in ad valorem tax funds.

10/15/01 – (Norfleet, LA# 2001-30)- This 21-acre parcel was a mitigation donation. The value of the property was assessed at $19,950 at closing.

8/18/2005-(Lambert, LA# 2005-016)- The Board of Trustees of the Internal Improvement Trust Fund (TIITF) acquired this 725 acre parcel for $2,000,000.00 with Florida Forever funds. The Lambert Parcel will be managed by the District as part of Deep Creek North Conservation Area.

Funding Source: Ad valorem tax funds, mitigation donation, Florida Forever funds.

Management Partners:

➢ The District is lead manager of Deep Creek North Conservation Area.
➢ Additional conservation partners include Florida Fish and Wildlife Conservation Commission and the Board of Trustees of the Internal Improvement Trust Fund.

Key Resource Issues:

Of the 4529 acres at Deep Creek North Conservation Area, only 300 are accessible upland acres. Much of Deep Creek North Conservation Area is comprised of floodplain swamp and little active land management is needed. The floodplain swamp appears to be functioning normally, and most of the property’s protection was achieved through acquisition. However, the recently-acquired Lambert Parcel has approximately 300 acres of upland natural communities. This acquisition will enable the District to provide recreational opportunities to the public. Additionally, the uplands within the Lambert Parcel will require moderate amounts of restoration and maintenance.

Resource Management Issues:

➢ WATER RESOURCES –
Water resources are relatively undisturbed; most protection was accomplished through acquisition. However, the main road leading into the Lambert Parcel was constructed poorly and will be recontoured in an effort to reduce the potential for erosion.

**FIRE MANAGEMENT**
- The conservation area is dominated by floodplain swamp. There is a small flatwoods community located on a rise within the boundaries of the original Deep Creek Conservation Area; however, District staff have no legal upland access to the area. Approximately 300 acres of the Lambert parcel are dominated by fire-dependent natural communities. Additional firelines will be installed as necessary. Prescribed burns will be implemented through annual work plans. A comprehensive fire management plan has been written for the property as part of the land management planning process.

**FOREST MANAGEMENT**
- A beetle outbreak occurred within a small island of pines at the Mitchell Parcel several years ago. However, District staff were unable to access the upland areas of the property across the wetlands, and therefore could not harvest the affected timber from this area.
- Portions of the uplands within the Lambert Parcel appear to have been affected by wildfire in the past; though the groundcover is largely intact, the overstory was impacted and is very open as a result. Upland areas will be allowed to regenerate naturally. Supplemental planting or direct seeding may be necessary in some areas as well.
- Prescribed fire will be the primary forest management tool used during the timeframe of this plan.

**EXOTICS** – Continue monitoring and treatment of exotic and invasive species. If necessary, a special use authorization may be issued to a private individual to assist with the removal of feral hogs.

**CULTURAL & ARCHEOLOGICAL RESOURCES** – Coordinate with Division of Historical Resources. Protect existing historical site.

**Key Land Use/Recreation Issues:**
- The original Deep Creek North Conservation Area is composed almost entirely of floodplain swamp, and its waterways are popular among area residents. The site is an excellent example of intact floodplain swamp. Numerous water based recreation opportunities are available in the general area. Boating, canoeing, fishing, wildlife viewing, and photography are possible from both Deep Creek and the St. Johns River. Acquisition of the Lambert Parcel has expanded the opportunities for upland recreation immensely. District staff plan to install a short multi-user trail which will be open to the public for hiking, biking, wildlife viewing, and photography. Equestrian activities and camping will not be encouraged due to small size of suitable recreational areas at the property.

**Land Use Management Issues:**
- ACCESS – Maintain all interior roads. Maintain existing fencing, gates, and boundary markers. Install a parking area. Construct additional fencing as needed. Recontour roads.
in order to improve the flow of water across the property and to reduce the potential for erosion and to provide better access for routine maintenance and land management activities. Pursue legal upland access to southeastern portions of the conservation area.

- **RECREATION USE** – Develop, mark and maintain multi-user trail. Design and install kiosk describing allowed activities within the conservation area.

- **SECURITY** – Maintain all upland fencing, gates, and boundary markers. Install additional fencing, gates, and boundary markers as needed. Continue coordination with Florida Fish and Wildlife Conservation Commission.
# Deep Creek North Conservation Area
## Land Management Plan
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INTRODUCTION
This document provides guidelines for land management activities to be implemented within Deep Creek North Conservation Area for the next five years. This management plan will update and replace the original conceptual land management plan that was written for the conservation area. The District owns and manages numerous parcels within the Deep Creek Project Area; however, the Yarborough and Edgefield Parcels are disjunct and will not be addressed in this land management plan.

A property known as the Lambert Parcel was purchased by the Board of Trustees of the Internal Improvement Trust Fund and has been incorporated into the existing Deep Creek Conservation Area. Because these contiguous parcels are located within the northern reaches of Deep Creek Conservation Area, they will collectively be referred to as Deep Creek North Conservation Area. Though this land management plan does address Deep Creek North Conservation Area in its entirety, the floodplain swamp that dominates the conservation area requires little or no active resource management. Therefore, most of the land management activities addressed will take place in the upland areas within the Lambert Parcel in the northeastern portion of the property.

Deep Creek North Conservation Area is located in an area that has received tremendous amounts of disturbance from agricultural activity. Aerial imagery from the 1940’s indicates that the agricultural fields that are currently so prominent in the region were well established at the time the photographs were taken. As a result, both Deep Creek and the St. Johns River are experiencing a degrading trend in water quality from years of sedimentation and chemical contamination.

Deep Creek North Conservation Area consists of 4529 acres of land situated in St. Johns County within portions of Sections 28, 29, 30, 31, and 32, Township 8 South, Range 28 East, and in portions of Sections 5, 6, 7, 8, and 9, Township 9 South, Range 28 East. The property is located along the eastern side of the St. Johns River west of State Road 207, just north of Hastings. County Road 13 makes up a small portion of the conservation area’s northeastern boundary.

LAND MANAGEMENT GOALS

The parcels within Deep Creek North Conservation Area were acquired to help meet the goals of the Lower St. Johns River Basin Projects set forth in the District’s Land Acquisition and Management Five Year Plan and the District’s Water Management Plan. Brief summaries of these goals as they apply to these conservation areas are as follows:

1. Improve water quality, maintain natural hydrological regime, and increase flood protection by preserving important floodplain areas.
2. Restore, maintain, and protect native natural communities and diversity.
3. Provide opportunities for recreation where compatible with above listed goals.

The above goals are general land management objectives for Deep Creek North Conservation Area. This management plan outlines specific goals and strategies to achieve these objectives.
Figure 1. Location Map
Deep Creek North Conservation Area

The St. Johns River Water Management District prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is. Further documentation of this data can be obtained by contacting: St. Johns River Water Management District, Geographic Information Systems Program Management, P.O. Box 1429, 4049 Reid Street, Palatka, Florida 32178-1429 Tel: (386) 329-4176.
CONSERVATION AREA OVERVIEW

Regional Significance
The 4,510 acre conservation area is approximately three miles long (north to south) and two miles wide, with over two miles of frontage on the St. Johns River. Deep Creek is a blackwater stream which flows westerly to the St. Johns River, effectively bisecting the property from the southeast corner west to the middle of the western boundary. Wetland natural communities are largely undisturbed and are extremely important in helping improve water quality in the creek, which is impacted by agricultural run-off from nearby farms. Floodplain swamp is the predominant natural community within the conservation area.

Though the conservation area is not directly connected to other public conservation lands, it is an important property in an extensive “patchwork” of conservation lands. The property lies within an area known as the St. Johns River Blueway Florida Forever Project. Acquisition within the project area is a priority; the project area is located in one of the fastest growing portions of the state, and has been designed to protect the last remaining shorelines of the St. Johns River and several of its tributaries.
Figure 2. Regional Significance
Deep Creek North Conservation Area

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Acquisition History

05/24/89 - (Wonderlic, LA# 88-13) - The District acquired this 564-acre tract with $162,250 in ad valorem tax funds.

05/04/88 - (Mitchell, LA# 86-17) – This acquisition consisted of two separate parcels totaling 3194-acres. They were purchased with $914,500 in ad valorem tax funds.

10/15/01 – (Norfleet, LA# 2001-30) – This 21-acre parcel was a mitigation donation. The value of the property was assessed at $19,950 at closing.

8/18/2005 – (Lambert) – The 725-acre Lambert parcel was acquired by the Board of Trustees of the Internal Improvement Trust Fund. The parcel is contiguous with the original Deep Creek Conservation Area, and the decision was made prior to acquisition that the District would manage the Lambert parcel as well. The $2,000,000 acquisition was purchased with Florida Forever funds.
Figure 3. Acquisition Map
Deep Creek North Conservation Area

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**Lambert Parcel**
Purchased 8/18/2005 by TIITF

**Wonderlic Parcel**
Purchased 5/24/1989 by the District

**Mitchell Parcel**
Purchased 5/04/1988 by the District

**Norfleet Parcel**
Closed 12/15/2001 Mitigation donation

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Original Deep Creek Conservation Area

- **Lambert Parcel**
  - Owned full fee by SJRWMD

- **Mitchell Parcel**
  - Owned full fee by TIITF

All parcels will be managed by SJRWMD as Deep Creek Conservation Area

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Zoning
St. Johns County identifies one zoning classification for these areas in the St. Johns County Future Land Use Code (2015). The following is a summary:

Parks and Open Space: Parks and Open Space shall mean active and passive recreation areas, or lands permanently maintained as open space. Permitted uses shall include:
- Active and passive parks and recreational facilities, together with permitted accessory uses;
- Public safety government facilities such as police, fire, and emergency medical facilities.

Cooperative Agreements
The Lambert Parcel was acquired by TIITF; however, the District will incorporate the parcel into the adjacent Deep Creek Conservation Area and will assume all management responsibilities. An interim management agreement has been signed by both parties. TIITF and the District are developing a long-term lease in order to formally designate the District as lead manager.

NATURAL RESOURCES OVERVIEW

Topography and Hydrology
Deep Creek North Conservation Area falls within both the Deep Creek Unit and the South Mainstem Units of the Lower St. Johns River Basin. The Lower St. Johns River Basin is the drainage area for the portion of the St. Johns River extending from the confluence of the St. Johns and Ocklawaha Rivers near Welaka north to the mouth of the St. Johns River at Mayport (east of Jacksonville). This particular segment of the river is also referred to as the St. Johns Estuary, a name indicating its importance as a breeding and feeding area for numerous species of fish and other wildlife.

The majority of Deep Creek North Conservation Area is dominated by floodplain swamp. The highest elevations reach only 15 feet above mean sea level and are found in the northeasternmost corner of the property, along County Road 13. The site slopes downward towards its lowest elevations, which occur along nearly 2 miles of frontage on the St. Johns River.
Figure 4. Surface Water Basins
Deep Creek Management Area

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Soils
The soils within the conservation area are generally flat and poorly drained sandy soil in the few uplands and thick organic muck in the wetlands. The following is a brief list of the major soil types and several species with which each is associated.

Terra Ceia muck- Terra Ceia muck is the dominant soil type within the conservation area. This is a very deep, very poorly drained organic soil associated with river floodplains. Natural vegetation associated with this soil type includes sawgrass, lilies, sedges, reeds, maidencane, and other aquatic plants. Cypress, blackgum, cabbage palm, bay species, and pond pine typically dominate the wooded wetland areas having this soil type.

Pomona and Wabasso fine sands- Pomona and Wabasso soils are deep poorly drained fine sands originating in marine sediment. These soils are generally found in flatwoods and depressional habitats. Typical species include longleaf pine, slash pine, gallberry, saw palmetto, and wiregrass.

Floridana sands- Floridana sands are commonly found in depressional areas and floodplains. They are poorly drained soils. Species the soils are most commonly associated with include cabbage palmetto, wax myrtle, cypress, and cordgrass in depressions; while typical floodplain species include tupelo, sweetgum, and red maple.

EauGallie sands- EauGallie sands are poorly drained sandy soils typically associated with depressional areas and sloughs. Typical vegetation includes longleaf pine, saw palmetto, gallberry, and wiregrass.

Riviera sands- Riviera sands are very deep poorly drained soils formed in sandy and loamy marine sediment. These soils are typically found in depressions and flats. Characteristic vegetation includes species typical of wetter flatwoods communities. Slash pine, cabbage palm, saw palmetto, and wiregrass are common.

Placid fine sands- Placid fine sands are very deep and very poorly drained soils typical of flats, depressions, and floodplains. These soils typically occur in wet forested areas; pond pine, bays, cypress, gum, and a variety of grasses are characteristic species found in this soil type.
Figure 5. Soils Map
Deep Creek North Conservation Area

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Natural Communities

The following descriptions of the natural communities found within the conservation areas have been compiled using the definitions of each natural community as found in the Florida Natural Areas Inventory’s (FNAI) Guide to the Natural Communities of Florida. The descriptions below have been tailored to best describe the natural communities being addressed in this management plan.

Floodplain Swamp - Floodplain Swamp is the dominant community type at Deep Creek North Conservation Area. Floodplain swamp occurs at the lowest elevations within the conservation area, lining both Deep Creek and the St. Johns River, and grading into floodplain forest at higher elevations. Buttressed trees such as cypress and tupelo, lizard’s tail, and a variety of water-tolerant ferns are characteristic of floodplain swamps. Because the soils are often flooded for extended periods of time, little groundcover is present.

Hammock – Several areas within the management area could best be described as hammock. Most of these areas are a gradation between xeric and mesic hammocks and have characteristics of each type. Therefore, they have been lumped under the single heading of hammock. Additionally, the resource needs for both types of hammock are virtually identical. These areas often are an intermediate natural community between uplands and wetlands. Hammock is a community that is thought to be the result of fire suppression, and fuels within hammocks typically do not support fire spread. However, fire will be allowed to move from adjacent fire-adapted communities into hammock edges, where it will eventually burn out. Aside from maintaining hammock edges, little or no active resource management will be required in these areas.

Cypress Dome – Several very small cypress domes can be found within the conservation area. Dome swamps are generally small areas that are formed in areas where a depression has been created in the soil. Larger trees typically occupy the deeper waters at the centers of these swamps, while smaller trees populate the outer, shallower edges of these swamps, giving them a domed appearance. Though these small swamps can hold water for long periods of time, the outer edges of them are dependent on fire. Typically, fire is allowed to move through the edges of these swamps when prescribed fire is introduced in neighboring natural communities.
Flatwoods - There are several areas that can best be described as flatwoods scattered within the Deep Creek North Conservation Area. The northern and easternmost portion of the property is a mesic flatwoods community that has been affected by wildfire in the past. Numerous plow lines are evident, though none are recent. In many areas, the overstory is extremely open, with widely scattered slash and longleaf pine. The groundcover is diverse and intact, though the shrub layer is dominant and grasses and forbs are being suppressed, likely as the result of an inappropriate fire frequency. Remaining overstory trees have provided a sufficient seed source to promote regeneration of both longleaf and slash pine. Wetter flatwoods have a similar species composition, but tend to have more slash pine, bay trees, and gallberry than do more mesic flatwoods. Flatwoods will be managed with prescribed fire when possible; however management may be supplemented with chemical or mechanical means when necessary.

Sandhill- Several small areas at the highest elevations within the conservation area could best be described as sandhill. Sandhills are typically located on the remnants of dune systems. Soils are generally very well drained and sandy, with very little organic material present. Sandhills are dry natural communities that are characterized by widely scattered trees -typically a combination of longleaf pine and, to a lesser degree, turkey oak- with a diverse grassy understory. The sandhills at Deep Creek North Conservation Area have not been “managed” for a number of years. Frequent fire is a critical component in the maintenance of sandhills, and its absence at the conservation area is obvious. Though suppressed, wiregrass is a common component in the groundcover, and regeneration of longleaf pine is occurring despite shading. Turkey oak has become a dominant species in the sandhills; the regular application of prescribed fire should reduce the amounts of turkey oak in the sandhills over time.
Deep Creek North Conservation Area

Strand Swamp
Agriculture-crops
Cypress Dome
Floodplain Swamp
Hammock
Mesic Flatwoods
Sandhill
Strand Swamp
Streams and Waterways
Wet Flatwoods

Figure 6. Natural Communities Map
Deep Creek North Conservation Area

Aerial imagery provided by St. Johns County.

Deep Creek North Conservation Area

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Tel: (386) 329-4176.
Wildlife
No formal surveys have been conducted by District staff at this time. However, limited observations indicate that the conservation area is home to a wide variety of species. Most notable species are gopher tortoises and associated species, white-tailed deer, pygmy rattlesnakes, Virginia opossum, eastern cottontail, raccoon, wild turkey, woodpeckers, and owls. Numerous species of waterfowl and wading birds occur in the wetland portions of the conservation areas. Bald eagles are known to have nested within the conservation area as recently as 2004, and the area provides habitat for black bear as well.
RESOURCE PROTECTION AND MANAGEMENT

Water Resource Protection
The wetlands and surface water within the region have received tremendous disturbance historically, though the wetland natural communities at Deep Creek North Conservation Area appear to be intact and functioning properly. Most of the wetlands protection was accomplished through acquisition. The majority of the conservation area is dominated by wetlands and is virtually inaccessible. However, the uplands in the northeast portion of the conservation area have been disturbed to some extent. A poorly constructed road may be causing minor erosion problems; District staff plan to repair the road, which will ultimately reduce the potential for erosion.

Water Resource Protection Strategies
➢ Repair roads within the Lambert property.
➢ Regularly inspect roads and culverts for erosion problems.

Forest and Fire Management
Large portions of the conservation area are dominated by floodplain swamp and will require little in the way of either forest or fire management. However, uplands within the conservation area will require moderate amounts of restoration and management. Chapter 253.036, Florida Statutes requires the lead agency of state lands to prepare a forest resource analysis, “…which shall contain a component or section prepared by a qualified professional forester which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel.”

At this time, timber harvesting is not an issue. A significant wildfire history is evident; numerous plow lines radiate outward from the existing road, fire scars can be found on older trees, and the overstory has been impacted in places, though natural regeneration is occurring. District staff will utilize all information (including soil types, existing understory vegetation, position in the landscape) to determine what overstory species would be most appropriate in each of the affected areas. Planting or direct seeding will be used in conjunction with natural regeneration when necessary. Roadside ditches are being impacted by shrub encroachment. Selective mowing will be used in order to maintain the roads and provide improved access to forest and fire management units. Prescribed fire will then be introduced, and natural regeneration will be allowed to take place.

The nature of the property, a mix of pine flatwoods, remnant sandhill, and wetlands, causes forest and fire management to be critically important and integrally linked. It is crucial to understand that the planning and application of forest and fire management activities must be coordinated to achieve restoration and management goals.
Virtually all of the upland areas within the conservation area are either fire dependent or fire influenced, making prescribed fire one of the most important land management tools available for use in the restoration and maintenance of natural communities. Prescribed fire promotes community diversity, maintains ecotones, and reduces potentially hazardous fuel loads. Forest and fire management activities will be concentrated in the uplands in the northeastern portion of the conservation area. Upland natural communities range from wet flatwoods at lower elevations to sandhill at higher elevations. Though the overstory is sparse in some areas, the groundcover is diverse and abundant. The application of prescribed fire will promote the growth of native understory species as well as stimulate the regeneration of desirable overstory species.

Please see the attached fire management plan for Deep Creek North Conservation Area (Appendix A) for more information.

Though prescribed fire is the preferred restoration and maintenance tool used within the conservation area, in certain circumstances it may be necessary to implement alternative methods. During periods of prolonged drought, or in areas where implementing prescribed fire safely is not feasible, the District may mechanically treat natural communities with mowing, rollerchopping, or overstory removal in order to mimic the effects of fire. Chemical treatments may be used when appropriate. Additionally, the District will remove trees as needed in the case of insect infestations, disease, damage from severe weather, or other occurrences that could jeopardize the health of the natural communities. In cases where timber removal is necessary, the District will focus on reestablishing the native overstory species appropriate for individual sites through planting. If necessary and if practical, such planting operations may include planting of native groundcover to disturbed sites.

Forest Management Strategies
- Reduce shrub layer along roads.
- Determine appropriate overstory species for areas where overstory has been impacted by wildfire.
- Replant or direct seed in conjunction with natural regeneration when necessary.
- Utilize prescribed fire as a forest management tool.
- Monitor forested areas for drought, disease, insect infestations, or other damage.

Fire Management Strategies
- Install additional firelines as needed.
- Introduce dormant season burns in order to reduce fuel loads in areas where fire has been excluded for long periods of time.
- Continue to conduct dormant season burns until fuel reduction goals are met and growing season burns can be safely conducted.
- Begin implementing growing season burns in areas with reduced fuels.

Wildlife
Detailed inventories of wildlife species on the properties have not been conducted as of yet. However, observations by District staff and Florida Fish and Wildlife Conservation Commission wildlife biologists indicate that the areas provide habitat for a variety of vertebrate and
invertebrate species. Species of note include black bears, bald eagles, gopher tortoises, white-tailed deer, Virginia opossum, eastern cottontail, wild turkey, raccoon, and pygmy rattlesnakes. Numerous species of waterfowl and wading birds occur in the wetland portions of the conservation area. The simple act of acquiring the properties in order to connect them to other nearby conservation lands affords more short-term protection for these species than almost any other activity. Restoration of uplands and maintenance of ecotones between natural communities will enhance the habitats utilized by these species and provide long-term protection as well.

**Wildlife Protection Strategies**
- Continue to restore natural communities at the conservation areas.
- Continue to maintain ecotones between natural communities.

**Invasive Species**
Several invasive plant species are known from Deep Creek North Conservation Area. These species include cogon grass, camphor, chinaberry, air potato, Chinese tallow, and Japanese climbing fern. The property is included in the District’s invasive plant management program. Though it is unlikely that staff will completely eradicate invasive plant populations at the conservation area, populations are being held at a “maintenance” level. The property is regularly monitored, and chemical treatments are applied as necessary in order to keep the populations from spreading. Although feral hogs are a common problem throughout the state of Florida, populations at Deep Creek North Conservation Area are relatively small. Should hogs become a nuisance, the District will coordinate with a feral hog trapper in order to reduce the population.

**Invasive Species Strategies**
- Continue to monitor for invasive plant species and treat as necessary.
- Continue to monitor feral hog activity within the conservation area.
- If necessary, issue a special use authorization (SUA) to a local hog trapper in order to assist with the removal of feral hogs.

**Cultural Resources Protection**
A review of the Department of State, Division of Historical Resources (DHR) digital Master Site files indicates that there is one registered cultural site within the conservation area. If additional sites are located, District staff will document and report the sites to the Division of Historical Resources. District land management activities that may disturb these resources will be evaluated and modified to minimize disturbance. Furthermore, it is the policy of the District not to identify sites on public maps.

**Cultural Resource Protection Strategies**
- Protect existing cultural and historical site by eliminating disturbance in relation to resource management activities.
- Identify and report any new sites to Florida Division of Historical Resources.

**LAND USE MANAGEMENT**
The St. Johns River Water Management District is legislatively mandated to provide recreation opportunities on District-owned land where compatible with land management goals. The
District may restrict use as necessary for protection of natural resources, restoration and conservation projects, and avoidance of conflicting uses.

Access

Two roads lead from CR 13 west into the property. The northernmost road is narrow and was poorly constructed initially. Moderately deep ditches are located on each side of the road. Additionally, shrubs have begun to grow in the ditches, significantly limiting access from the road to other portions of the uplands. District staff plan to clean out the shrub-filled ditches and recontour the road. The intent is to smooth the road and lessen the depth of the ditches, helping to prevent erosion while providing improved access to the uplands for land management and maintenance activities. Portions of the road will be used in the future trail system for the conservation area; however public vehicular access will be prohibited. A small fenced parking area will be constructed near the road’s intersection with County Road 13; a walk-through area will be provided, but the entrance road (from the parking area into the conservation area) will be gated and locked at all times.

The southernmost road is narrow as well, but was constructed simply by removing the vegetation from the area. The road has not been ditched and erosion does not appear to be a problem. The road will be used by District staff for land management and maintenance activities; public vehicular access will be prohibited.

County Road 13 serves as the primary access route to uplands within the conservation area. The vegetation in the portions of the uplands adjacent to the road has been allowed to grow very dense. For this reason, fencing along CR 13 may not be immediately necessary. A small residential area is located along the boundary line in the southernmost portion of the upland area. The District will fence the uplands along this boundary line. Should vehicular trespassing become a problem, the District will fence all accessible upland boundaries within the conservation area.

There is an area of approximately 300 upland acres in the southeastern portion of DCNCA. Currently, the District has no legal upland access to this area. However, District staff are communicating with neighboring landowners in hopes of securing legal upland access to the area.

Access Strategies-

- Improve roads within the conservation area in order to reduce potential for erosion and to provide improved access for land management activities.
- Install parking area and walk-through in order to provide public access to the conservation area.
- Maintain roads and parking area.
- Fence upland boundaries as needed.
- Post boundaries and install informational signage near parking area.
- Maintain fencing, gates, boundary markers, and informational signage as needed.
➢ Continue communicating with neighboring landowners in order to acquire legal upland access to southeastern portions of DCNCA.
Figure 8. Roads and Trails
Deep Creek North Conservation Area

Roads and Trails
- **Red**: All weather road maintained as needed
- **Black**: Multi-use trail mowed routinely
- **Purple**: Woods road mowed annually

Aerial imagery courtesy of St. Johns County.

Deep Creek North Conservation Area
Land Management Plan

The St. Johns River Water Management District prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is. Further documentation of this data can be obtained by contacting: St. Johns River Water Management District, Geographic Information Systems, Program Management, P.O.Box 1429, 4049 Reid Street, Palatka, Florida 32178-1429 Tel: (386) 329-4176.
Recreation

District staff plan to install a multi-use trail at the conservation area. In all likelihood, the northernmost road within the uplands at the conservation area will serve as the public entrance to the property. A small parking area will be constructed near the road’s intersection with CR 13. A gate separating the parking area from the remainder of the conservation area will remain locked at all times, effectively prohibiting public vehicular access within the conservation area. A trail system will be established, using existing roads and firebreaks whenever possible. Allowed activities will include hiking, bicycling, birdwatching, wildlife viewing, and photography. Equestrian activities will be allowed as well; however, users should be aware that parking will be limited.

Though there is no access from the conservation area itself, the wetlands surrounding the conservation area provide numerous opportunities to enjoy both Deep Creek and the St. Johns River. Photography, bird watching, wildlife viewing, fishing, boating, and canoeing can all be enjoyed from either Deep Creek or the St. Johns River. A makeshift boat launch located off State Route 207 (where the road crosses Deep Creek near Hastings) provides the closest available water access to the conservation area.

Recreation Strategies-

➢ Install and maintain trails.
➢ Install an informational kiosk describing allowed activities near the parking area.
➢ Create a brochure detailing the trail system at the conservation area utilizing GPS data.
➢ Continue to update and maintain brochure.
Figure 9. Conceptual Recreation Map
Deep Creek North Conservation Area

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Environmental Education
The conservation area provides opportunities to groups and individuals to study Florida’s natural communities and wildlife. The District will continue to identify and encourage environmental education opportunities within the conservation area.

  Environmental Education Strategies
  ➢ Encourage environmental education opportunities as they arise.

Security
Portions of upland boundaries within the conservation area will be marked and fenced. Gates will be installed at all access points. These gates will remain locked at all times. A small subdivision abuts a portion of the uplands within the Lambert parcel. This area will be fenced in order to lessen the likelihood of trespass, poaching, vandalism, or other activities not allowed by the District. County Road 13 provides the best available access to the conservation area. However, the portion of the boundary that parallels the road is overgrown and essentially impenetrable. This portion of the upland boundary will not be fenced initially. District staff will continue to evaluate the need to fence this area; should the need arise, the entire boundary along CR 13 will be fenced.

Florida Fish and Wildlife Conservation Commission (FWC) law enforcement officers and local law enforcement officers regularly patrol the conservation area. There are no plans at this time to establish a security residence within the conservation area. The District will reevaluate the need for a security residence should problems arise.

The District provides recreation guides informing users of regulations and allowable uses of the properties. Within the timeframe of this management plan, the District plans to install a kiosk and produce brochures containing information about the trail system.

  Security Strategies
  ➢ Install and maintain fencing, gates, boundary markings, and other signage.
  ➢ Install additional fencing should it become necessary.
  ➢ Continue cooperation with FWC and local law enforcement officers.
ADMINISTRATION

Acquisition
District staff are seeking additional acquisition of parcels within the general vicinity of the conservation area. Therefore, additional acquisitions are likely to occur within the area in the next five years.

Cooperative Agreements
No cooperative agreements are anticipated within the next five years.

Leases, Easements, and Concessions
No proposals for additional leases, easements, or concessions are expected within the next five years. District staff will maintain lease agreement with the Board of Trustees of the Internal Improvement Trust Fund.
### MANAGEMENT PLAN IMPLEMENTATION CHART

**DEEP CREEK CONSERVATION AREA**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsible Lead</th>
<th>Due Date</th>
<th>Cooperators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource Protection and Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Resource Protection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recontour entrance road to property in order to reduce potential for erosion.</td>
<td>DLM</td>
<td>2007</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Regularly inspect roads and crossings for erosion problems</td>
<td>DLM</td>
<td>Annually</td>
<td>DPWNR</td>
</tr>
<tr>
<td><strong>Forest Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct a detailed inventory of timber resources on property</td>
<td>DLM</td>
<td>2006-2007</td>
<td></td>
</tr>
<tr>
<td>Utilize prescribed fire as a forest management tool</td>
<td>DLM</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>Monitor forested areas for disease or insect infestations</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td><strong>Fire Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install additional firebreaks as necessary</td>
<td>DLM</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>Introduce dormant season burns in areas where fire has been excluded</td>
<td>DLM</td>
<td>2006-2007</td>
<td></td>
</tr>
<tr>
<td>Continue to conduct dormant season burns until fuel reduction goals are met</td>
<td>DLM</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>Introduce growing season burns in areas with reduced fuels</td>
<td>DLM</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td><strong>Wildlife</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to restore natural communities</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Continue to maintain ecotones between natural communities</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td><strong>Exotic Species</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to monitor for invasive plant species and treat as necessary</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Evaluate the need to utilize a hog trapper for removal of feral hogs</td>
<td>DLM</td>
<td>As Needed</td>
<td></td>
</tr>
<tr>
<td><strong>Cultural Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protect existing cultural and historical sites</td>
<td>DLM</td>
<td>Ongoing</td>
<td>DHR</td>
</tr>
<tr>
<td>Identify and report any new sites to Florida Division of Historical Resources</td>
<td>DLM</td>
<td>As Needed</td>
<td>DHR</td>
</tr>
<tr>
<td>Land Use Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repair entrance road in order to provide improved access for land management activities.</td>
<td>DLM</td>
<td>2007</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Install and maintain parking area</td>
<td>DLM</td>
<td>2006</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Maintain limited access points and roads necessary for resource management activities</td>
<td>DLM</td>
<td>As Needed</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Maintain kiosk and associated informational signage near trailhead</td>
<td>DLM</td>
<td>As Needed</td>
<td></td>
</tr>
<tr>
<td>Pursue legal upland access to southeastern portions of the conservation area</td>
<td>DLA</td>
<td>2007</td>
<td></td>
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<tr>
<td><strong>Recreation</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Install marked trail system</td>
<td>DLM</td>
<td>2006</td>
<td>TC</td>
</tr>
<tr>
<td>Install an informational kiosk</td>
<td>DLM</td>
<td>2006</td>
<td>KC</td>
</tr>
<tr>
<td>Maintain multi-use trail</td>
<td>DLM</td>
<td>Ongoing</td>
<td>TC</td>
</tr>
<tr>
<td>Create a brochure detailing trail system and allowed activities</td>
<td>DLM</td>
<td>2006</td>
<td>OC</td>
</tr>
<tr>
<td>Update and maintain brochure for trail system</td>
<td>DLM</td>
<td>As Needed</td>
<td>OC</td>
</tr>
<tr>
<td><strong>Environmental Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage educational opportunities as they arise</td>
<td>DLM</td>
<td>As Needed</td>
<td>OC</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install additional gates and fencing</td>
<td>DLM</td>
<td>2006</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Maintain fencing, gates, and boundary markers</td>
<td>DLM</td>
<td>As Needed</td>
<td>DPWNR</td>
</tr>
<tr>
<td>Continue to coordinate with Florida Fish and Wildlife Conservation Commission and local law enforcement.</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Maintain fencing and boundary marking.</td>
<td>DLM</td>
<td>Annually</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

- DLM: Division of Land Management
- OC: Office of Communications
- DLA: Division of Land Acquisition
- DOF: Division of Forestry
- DPWNR: Division of Public Works Northern Region
- FWC: Florida Fish and Wildlife Conservation Commission
- DHR: Division of Historical Resources
- TC: Trailhead Developer Contractor
- KC: Kiosk Contractor
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>ESTIMATED COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Sign</td>
<td>$1400</td>
</tr>
<tr>
<td>Parking Area</td>
<td>$3000</td>
</tr>
<tr>
<td>Road Repair</td>
<td>$4000</td>
</tr>
<tr>
<td>Fencing and Gate Installation</td>
<td>$5800</td>
</tr>
<tr>
<td>Fireline Construction</td>
<td>$800</td>
</tr>
<tr>
<td>Mowing/ Rollerchopping</td>
<td>$65/ acre</td>
</tr>
<tr>
<td>Trail Marking and Construction</td>
<td>$600</td>
</tr>
<tr>
<td>Kiosk Construction</td>
<td>$1600</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>$12/ acre</td>
</tr>
<tr>
<td>Security</td>
<td>N/A</td>
</tr>
</tbody>
</table>
APPENDIX A, FIRE MANAGEMENT PLAN

DEEP CREEK NORTH CONSERVATION AREA
THE LAMBERT PARCEL

PREPARED BY
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
DIVISION OF LAND MANAGEMENT
Deep Creek North Conservation Area
The Lambert Parcel
Fire Management Plan
St. Johns County

OBJECTIVES
General fire management philosophies, policies, procedures, standards, logistical information, and reporting guidelines are addressed in the District Fire Management Plan. The District Fire Management Plan is applicable throughout the district, while this particular fire management plan is tailored to address issues that apply solely to Deep Creek North Conservation Area (the Lambert Parcel) for the next five years. Details concerning desired weather parameters, logistics, required equipment, required number of staff, and other specifics are detailed in the burn prescriptions that are written for each individual fire management unit prior to burning.

The fire management goals of DCNCA are driven primarily by the assumption that fire historically has played a vital role in creating and maintaining Florida ecosystems, and that the species that comprise the ecosystems are dependent upon, or adapted to, periodic burning. It is also recognized that excluding fire from them would alter successional patterns and create excessive fuel loading which could damage natural communities and pose safety hazards.

The primary objectives of fire management at the conservation area are:

- Reduction of heavy fuel loads through dormant season burns, decreasing the risk of wildfires and resulting smoke management problems.
- Stimulation of flowering in herbs, forbs, and other vascular plants through reintroduction of growing season burns.
- Promotion of diversity within and among natural communities.
- Creation of a vegetation mosaic by varying intensity, frequency, and season of burn within each maintained natural community.
- Maintenance of natural ecotones between vegetation types.
- Restoration and maintenance of habitat for rare plant and animal species.

These objectives will be accomplished through partitioning the management area into fire management zones and implementing burn programs for each zone. The sections that follow summarize the considerations that influence the use of fire as a tool for managing biological communities and the techniques that are most useful within this particular conservation area.

BURN FREQUENCY
The biological community determines burn frequency. Some communities require frequent fires to perpetuate themselves while others are adapted to infrequent catastrophic fires. Some communities are not adapted to fire and require fire exclusion for their continued existence. The following fire-adapted communities occur at the conservation area:
Community | Fire Return Interval
--- | ---
Mesic Flatwoods | 2-8 years
Wet Flatwoods | 3-7 years
Cypress Dome (edges) | 3-5 years
Sandhill | 2-5 years

The fire return intervals listed above apply to communities in relatively pristine conditions. For areas that are not in good condition, due to past fire exclusion, hydrologic alterations, or other disturbances, the fire return intervals may vary. For example, in flatwoods areas where hardwood encroachment is substantial, more frequent fire may be necessary until a sufficient level of control is reached.

The community types listed below generally are not the primary targets for fire management at the conservation area; however, these communities often are embedded within or grade into communities which are fire tolerant or fire dependent. They are considered by many to be fire influenced, because while they do support fire at some frequency, fire has the potential to have rather extreme effects. In some cases, the fire-influenced communities listed below require fire in only a portion of the areas they cover. For example, fire is necessary to maintain the open edges in depression marsh habitats, but rarely burn entirely through the marsh.

Several areas within DCNCA could best be described as oak hammock. These areas normally have little to no groundcover, and burn infrequently. These communities often occur in areas adjacent to pine flatwoods, and pines and their associated needle litter are not uncommon in the ecotonal areas between the natural communities. In these transitional areas, fire will be allowed to burn in as far as it will; as the pine declines in more interior areas within hammocks, the fire will likely burn out.

Cypress domes are small depressional areas scattered within the flatwoods at Deep Creek North Conservation Area. Though fire rarely reaches interior portions of these domes (the fire return interval is thought to range from 100 to 150 years), frequent fire is necessary in the maintenance of their edges. For this reason, prescribed fire will be allowed to burn into the domes in order to maintain their open edges while preventing excessive peat accumulation.

The above-listed communities make excellent natural firebreaks during normal or wet conditions. Whenever possible, the ecotonal areas between these communities and adjacent fire adapted communities will be included in burns.

**BURN TIMING AND TYPE OF FIRE**
The seasonal timing of ecological burns is as important as their frequency. Dormant season fires help to reduce hazardous fuel loads, increasing safety and reducing extreme smoke hazards. Growing season burns mimic natural lightning-ignited fires and can result in a reduced shrub layer, a diverse and abundant herbaceous layer, and a reduction of hardwoods.
A goal of fire management at the conservation area is to increase the frequency of growing season burns in relation to dormant season burns. Most fires should occur during the natural fire season, which occurs between April and August. However, a spring or summer fire will not be introduced into an area that has high fuel accumulations. At this time, fire has been excluded from the fire management units within the conservation area for a significant amount of time. For this reason, dormant season burns will likely be introduced initially in order to reduce heavy fuel loads.

Though growing season burning is an important factor in mimicking a “natural” fire regime, variations within the natural fire season are important as well. Fire can stimulate seed production, flowering or even seed germination in many plant species. Different plant species are stimulated depending on the season of the burn. For example, wiregrass will not produce seed unless burned in the summer, whereas a winter fire stimulates the strongest flowering response in saw palmetto.

In many cases, fire management units with similar fire management needs will be burned simultaneously, either with crews igniting the areas by hand from the ground, or with the aid of aircraft. Because Deep Creek North Conservation Area is located in a relatively isolated area and is virtually surrounded by wetlands, the property is a prime candidate for implementing prescribed fire with the aid of a helicopter. Though the fire management units total only 300 acres, the District manages several other parcels in the area that could be burned in conjunction with DCNCA. Aerial ignition allows District staff to ignite fire management units more quickly, which results in faster burnout and less lingering smoke. Additionally, convection produced by igniting an area rapidly can help move the smoke up and away more quickly. Aerial ignition also allows staff to introduce fire into areas that may be inaccessible from the ground, ensuring that prescribed fire is introduced into even the most remote areas within the fire management units. Aerial ignition allows staff to burn more acres in a shorter period of time, which in time will aid District staff in maintaining the fire frequency needed for the maintenance of each fire management unit.

**WILDFIRE POLICY**
Plant communities that are burned on a natural fire frequency do not build up excessive accumulations of fuels and are relatively resistant to wildfires. For example, under normal summer weather conditions, a lightning strike in a mesic flatwoods that had burned within the past two to three years may burn itself out within a few acres, or burn at such low intensity and rate of spread as to make containment within existing firebreaks possible. Regular prescribed burning is the best defense against damaging wildfires.

Under ideal conditions the suppression strategy will utilize existing fuel breaks to contain the wildfire. This is only possible, with the agreement of local fire rescue, DOF and District staff, when all of the following conditions are met: 1) fuels within the area have been managed and are therefore reduced; 2) no extreme weather conditions are present or expected; 3) there are no other wildfires that may require action; 4) there are sufficient resources available to manage the fire to containment; 5) the fire and the resulting smoke will not impact neighbors or smoke sensitive areas. If the any of these conditions are not met, direct suppression action will be taken.
As soon as possible following a fire in which firelines are plowed, a plan for fireline rehabilitation shall be developed and implemented.

Persons discovering arson or wildfires on the Conservation Area should report them to the Florida Department of Agriculture and Consumer Services, Division of Forestry (DOF), the St. Johns River Water Management District, or by dialing 911.

**BURN REPORTS**
Before, during, and after a burn or a wildfire, burn zone reports must be filled out. These reports assist both in planning a burn and in recording observations that afford the opportunity to analyze each burn upon its completion. In this way, information on different techniques and whether or not objectives were achieved is available for future use.

**SMOKE MANAGEMENT**
Next to managing the burn, smoke management may be considered the most critical element in using prescribed fire. Because the conservation area is located in an increasingly urbanized area there are several challenges for the prescribed fire program, most of which arise from smoke management. US Highway 17, County Road 13, State Road 207, State Road 206, Interstate 95, a railroad, and numerous residential areas lie within the one, two, and ten mile radii of the conservation area. This situation provides for a narrow window of conditions to safely manage smoke. To further complicate the matters, the site can experience significant (and often rapid) changes in wind speed and/or direction as a result of its close proximity to the St. Johns River and associated wetlands. Setting and adhering to strict parameters of soil/fuel moisture, time of ignition, and weather for each fire management unit can mitigate many of these smoke-related complications. High rates of dispersion will help to carry the smoke up and away quickly.

As development increases in the area, fire management will become more difficult. Increasing daily traffic on CR 13 and SR 207 will impact the District’s ability to implement prescribed burns at the appropriate fire return intervals (because an already narrow smoke management window will continue to tighten) within the conservation area.

The majority of fire dependent areas at the conservation area fall within fuel models 2, 4, and 7, and 9, or a combination thereof. Though the arrangement and composition of fuels is highly variable within the fire management units, fire spread will typically be through grasses or long needle litter and the shrub layer, with larger shrubs and ericaceous components contributing to fire intensity. In much of the flatwoods/wet flatwoods, light grasses, saw palmetto, gallberry, and various small shrubs dominate the understory with widely scattered slash or longleaf pine in the overstory. Large bays trees are common in the wetter flatwoods. In sharp contrast to fire in flatwoods, fire in sandhills will be carried primarily through grassy vegetation and leaf litter.

In order to reduce the impacts of smoke, the prescriptions for each individual fire management unit must pass a smoke screening system before each prescribed burn. This system must include a smoke map charting wind direction and identifying smoke sensitive areas. A map of smoke sensitive areas is included within this plan as Figure 1. In addition to smoke management maps created well in advance of a prescribed burn, smoke management maps are created early in the morning on the day the prescribed fire will be conducted. Florida Division of Forestry provides a
Smoke Mapping Tool via the agency’s website. Using this computer program, land managers delineate the areas they plan to burn, the computer program adds the forecasted weather conditions for the duration of the prescribed fire, and a map is created defining the areas that have the potential to be affected by smoke on that particular day. The website can be viewed at: http://flame.fl-dof.com/wildfire/tools_sst.html#SST.
Figure 1. Map of Smoke Sensitive Areas

Deep Creek North Conservation Area

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MECHANICAL TREATMENTS
Weather conditions (both short and long term), as well as a fire management unit’s proximity to urban areas, are critical factors in implementing a safe and effective prescribed fire program. Should drought conditions become severe, or if smoke management becomes an insurmountable problem, the District will use chemical applications or mechanical methods, such as mowing or rollerchopping, as alternatives to prescribed fire.

HAZARDS
Common hazards include heat stress, venomous snakes, holes, and unsound or dead trees close to the fireline. Individual prescriptions address the hazards to consider when burning each unit and are discussed during the pre-burn briefing.

In addition to common hazards, a power line can be found paralleling CR 13 along a portion of the boundary at Deep Creek North Conservation Area. Power lines can pose problems when associated with large amounts of smoke. Particulate matter in smoke can cause electrical lines to arc. This situation can often be avoided by decreasing the fuel loads under or near power lines prior to ignition.

LEGAL CONSIDERATIONS
Only burn managers certified by FDOF will approve the unit prescriptions and must be on site while the burn is being conducted. Certified burn managers adhering to the requirements of State Statute 590.026 are protected from liability for damage or injury caused by fire or resulting smoke, unless negligence is proven.

WILDLIFE

➤ BALD EAGLES
Portions of one fire management unit is located within 1 mile of a bald eagles’ nest known to be active as recently as 2004. Figure 2 shows the location of the nest. The District will act in accordance with the guidelines set forth in the third revision of the Habitat Management Guidelines for the Bald Eagle in the Southeast Region established by the U.S. Fish and Wildlife Service in 1987. However, the habitat management guidelines do not specifically address fire. As a result, the District has consulted with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service prior to conducting any management activities that could disrupt bald eagle nesting between the dates of October 1 to May 15 within the established management zones.

➤ GOPHER TORTOISE
In June 2006, the gopher tortoise was designated a threatened species by the Florida Fish and Wildlife Conservation Commission. Since the tortoise’s designation as a Threatened Species was so recent, management guidelines for the tortoise have not yet been written. However, District staff will take care to minimize disturbance in areas where gopher tortoise burrows have been observed. Ideal gopher tortoise habitat is characterized by well-drained sandy soils and open grassy areas, generally with a pine-dominated overstory. Prescribed fire is though to be tremendously beneficial in maintaining tortoise habitat, and tortoises have been observed by
District staff within the boundaries of the fire management units at Deep Creek North Conservation Area. Numerous other protected species are known to use gopher tortoise burrows as well.
Figure 2. Area Eagle Nest Locations
Deep Creek North Conservation Area

Eagle Activity
- Active
- No longer active
- Unknown
- Nest no longer there

The number represents the year the nest was last known to be active.
FIRE MANAGEMENT UNITS

To organize fire management information, District staff divided upland areas into two distinct Fire Management Units (FMUs). The factors considered for the size and arrangement of the FMU’s are: the presence of existing natural and constructed barriers; the overall size of the conservation area; fuel loads; and the proximity of the urban interface. In some instances, the District may construct fuel breaks within the fire management units, dividing them to create smaller compartments. This will enable staff to manage the fire more effectively when working in the urban interface or in unusually heavy fuels. Fuel breaks will also serve as ignition lanes, providing areas where prescribed fire staff can ignite the units more safely from within the larger fire management unit.

The upland acres within the Lambert Parcel are arranged as a peninsula of sorts. Floodplain swamp is located south and west of the uplands, and a large agricultural field is located to the north. Upland acres are a finger of land that tends to be dry at its north and easternmost corner, grading from sandhill and mesic flatwoods into wetter areas of flatwoods and eventually swamp as it slopes toward Deep Creek and the St. Johns River. Small wetlands are present within the peninsula as well.

The property’s history of wildfire has impacted the density of the overstory trees, primarily in flatwoods communities. The result is an extremely open canopy with little shading or sheltering in a large portion of the uplands. The understory is a mixture of grasses, small shrubs (such as Vaccinium myrsinites), saw palmetto, and gallberry with bay trees being a significant component in wetter portions of the FMUs. Scattered longleaf and slash pines of varying sizes are present as well. All of the above-listed species will contribute to fire intensity within the units, though the primary carriers of the fire will vary throughout the FMUs.

Judging from the amount and size of turkey oaks in them, fire has been absent from sandhills for quite some time. Nonetheless, longleaf pine appears to be regenerating well, especially where gaps in the canopy occur. Wiregrass is suppressed yet relatively continuous. In areas where wiregrass is patchy, turkey oak litter should carry a fire quite well.

Prescribed fire will likely be the primary tool used by District staff in the restoration of DCNCA. Despite the lack of fire in recent years, wiregrass is a significant component of the groundcover, and both longleaf and slash pines, though scattered, appear to be regenerating well. The property has experienced significant encroachment of bays and small shrubs, and groundcover is suppressed but virtually continuous across the property; the uplands are readily restorable with the use of prescribed fire. As restoration begins and prescribed fire is introduced, maintenance of natural community functions will become the primary goal for land management staff.

Regardless of what level of restoration each FMU has reached, prescribed fire will continue to be a critical tool in the management of DCNCA for years to come.

Below is a brief description and list of objectives for each individual FMU. A more detailed description of individual unit objectives will be included in the prescriptions attached to the annual burn plan.
**FMU DCL1**

This fire management unit is dominated by a (both wet and mesic) flatwoods community. The overstory is composed of scattered longleaf and slash pine of varying ages. The unit is rather diverse; pockets of large shrubs and bay trees are interspersed with and form the perimeter boundary of a virtual carpet of low growing saw palmetto, wiregrass, and other low shrubs. Because the overstory is so open, needle litter will not contribute significantly to fire spread.

<table>
<thead>
<tr>
<th>Natural Community</th>
<th>Flatwoods (mesic and wet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Model</td>
<td>4/7</td>
</tr>
<tr>
<td>Acres</td>
<td>Approximately 150</td>
</tr>
<tr>
<td>Fire History</td>
<td>Numerous fire plow lines are evident, and scorch is evident on trees within the unit.</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Understory: Grasses and small shrubs dominate the understory. In wetter areas, gallberry and saw palmetto increase in stature, but occur as pockets within the fire management unit. Midstory: Bays and other hardwoods dominate the midstory. Overstory: Scattered slash and longleaf pine. Bays occasionally reach into the overstory as well.</td>
</tr>
<tr>
<td>Fire Interval</td>
<td>2-8, Dormant season initially, growing season to follow.</td>
</tr>
<tr>
<td>Objectives</td>
<td>To reduce hardwood encroachment. To improve habitat conditions for native wildlife species. To promote the growth and regeneration of native species. To reduce hazardous fuel loads.</td>
</tr>
<tr>
<td>Primary Fire Carrier</td>
<td>The primary carrier of the fire will be grasses and low growing shrubs, though pockets of larger shrubs such as saw palmetto and gallberry will contribute to fire intensity and serve as “jackpots” of fuel.</td>
</tr>
<tr>
<td>Hazards</td>
<td>Smoke- FMU is approx .5 mile from CR 13 at its closest point. Scattered residences in general vicinity of the FMU.</td>
</tr>
</tbody>
</table>

**FMU DCL2**

This fire management unit is a conglomeration of several different natural communities. Though flatwoods are the dominant natural community within this fire management unit, pockets of sandhill can be found at higher elevations. Several small dome swamps, faint drains, and hardwood-dominated hammocks are present as well. Scattered slash and longleaf pines can be found throughout much of the unit, and both species appear to be regenerating well. A moderate grassy shrub layer is present; however open areas have a continuous fuel bed consisting of wiregrass and low shrubs. On open areas, the primary carrier of the fire will be grasses and small shrubs, with larger shrubs occurring in pockets and contributing to fire intensity. Wetter and more sheltered areas tend to have a less open overstory (more pine) and a considerable shrub layer; in these areas, needle litter will significantly contribute to fire spread.
<table>
<thead>
<tr>
<th>Natural Community</th>
<th>Mosaic, though flatwoods are the dominant natural community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Model</td>
<td>4/7/9</td>
</tr>
<tr>
<td>Acres</td>
<td>150 acres</td>
</tr>
<tr>
<td>Fire History</td>
<td>Numerous fire plow lines are evident, and scorch is evident on trees within the unit.</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Understory: Wiregrass and low growing shrubs. Pockets of large shrubs. Large amounts of needle litter and large shrubs in wetter areas. Midstory: Several species of oaks (including turkey oak) in sandhills; bay trees in flatwoods and along drainageways. Overstory: Scattered longleaf and slash pine with turkey oak in sandhill and bays in flatwoods.</td>
</tr>
<tr>
<td>Fire Interval</td>
<td>2-8 years in flatwoods, 2-5 in sandhills. Dormant season initially, then growing.</td>
</tr>
<tr>
<td>Objectives</td>
<td>To reduce hardwood encroachment. To improve habitat conditions for native wildlife species. To promote the growth and regeneration of native species. To reduce hazardous fuel loads.</td>
</tr>
<tr>
<td>Primary Fire Carriers</td>
<td>Wiregrass and low-growing shrubs in drier flatwoods, larger shrubs and deep needle litter in wetter and more sheltered areas. Wiregrass and turkey oak litter in sandhills.</td>
</tr>
<tr>
<td>Hazards</td>
<td>Smoke- County Road 13 is the eastern boundary of the FMU. The FMU is just over 2 miles from CR 207. Powerline paralleling CR 13 along the property boundary. Residential community along southeastern portion of FMU. Scattered residences in general area of the FMU.</td>
</tr>
</tbody>
</table>
Figure 3. Fire Management Units
Deep Creek North Conservation Area
The Lambert Parcel

The Lambert Parcel Boundary
Fire Management Units
Existing Firelines

Aerial imagery provided by St. Johns County

The St. Johns River Water Management District prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is. Further documentation of this data can be obtained by contacting St. Johns River Water Management District, Geographic Information Systems, Program Management, P.O. Box 1429, 4049 Reid Street, Palatka, Florida 32178-1429. Tel: (386) 329-4176.

Deep Creek North Conservation Area
Land Management Plan
43
Board Final August 2006
APPENDIX B, LEGAL DESCRIPTION, THE LAMBERT PARCEL

The Lambert Parcel at Deep Creek North Conservation Area

The Northwest ¼ of the Northwest ¼ lying South and West of State Road 13 and the Northwest ½ of the Southwest ¼ and the Southwest ¼ of the Southwest ¼, all in Section 28; and all of Section 29, Township 8 South, Range 28 East, all lying and being in St. Johns County, Florida.

LESS:

A parcel of land lying in Section 29, Township 8 South, Range 28 East, St. Johns County, Florida, being more particularly described as follows:

Commence at the Northeast Corner of Section 29, Township 8 South, Range 28 East, St. Johns County, Florida; thence on the North line of said section 29, N 89º14’43” E, a distance of 796.03 feet to the Point of Beginning; thence departing said North line, S 00º45’17” E, a distance of 30.98 feet; thence S 89º14’43” W, a distance of 2997.64 feet; thence N 00º45’17” W, a distance of 30.98 feet to the North line of aforesaid Section 29; thence on said North line N 89º14’43” E, a distance of 2997.64 feet to the Point of Beginning.

AND LESS:

A parcel of land lying in Section 28, Township 8 South, Range 28 East, St. Johns County, Florida, being more particularly described as follows:

Commence at the Northwest Corner of Section 28, Township 8 South, Range 28 East, St. Johns County, Florida; thence on the West line of said Section 28, S 01º06’53” E, a distance of 1316.91 feet to the Southwest Corner of the Northwest ¼ of the Northwest ¼ of said Section 28; thence departing said West line and on the South line of the Northwest ¼ of the Northwest ¼ of said Section 28, N 89º19’05” E, a distance of 269.43 feet to the Point of Beginning; thence departing said South Line, N 00º40’55” W, a distance of 40.06 feet; thence N 89º19’05” E, a distance of 40.59 feet; thence S 00º40’55” E, a distance of 40.06 feet to the South Line of the Northwest ¼ of the Northwest ¼ of aforesaid Section 28; thence on said South Line, S 89º19’05” W, a distance of 40.59 feet to the Point of Beginning.
APPENDIX C, SPECIES OCCURRENCES, THE LAMBERT PARCEL
The Lambert Parcel at Deep Creek North Conservation Area

<table>
<thead>
<tr>
<th>Vascular plants</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red maple</td>
<td>Acer rubrum</td>
</tr>
<tr>
<td>Bottlebrush threeawn</td>
<td>Aristida spiciformis</td>
</tr>
<tr>
<td>Wiregrass</td>
<td>Aristida stricta var. beyrichiana</td>
</tr>
<tr>
<td>Pawpaw</td>
<td>Asimina spp.</td>
</tr>
<tr>
<td>American beautyberry</td>
<td>Callicarpa americana</td>
</tr>
<tr>
<td>Vanillaleaf</td>
<td>Carphephorus odoratissimus</td>
</tr>
<tr>
<td>Camphortree</td>
<td>Cinnamomum emaphora</td>
</tr>
<tr>
<td>Tread softly</td>
<td>Cnidoscolus aconitifolious</td>
</tr>
<tr>
<td>Yellow jessamine</td>
<td>Gelsemium sempervirens</td>
</tr>
<tr>
<td>Lobolly bay</td>
<td>Gordonia lasianthus</td>
</tr>
<tr>
<td>Sweet gallberry</td>
<td>Ilex coriacea</td>
</tr>
<tr>
<td>Gallberry</td>
<td>Ilex glabra</td>
</tr>
<tr>
<td>Red cedar</td>
<td>Juniperus virginiana</td>
</tr>
<tr>
<td>Hairy wicky</td>
<td>Kalmia hirsuta</td>
</tr>
<tr>
<td>Sweetgum</td>
<td>Liquidambar styraciflua</td>
</tr>
<tr>
<td>Fetterbush</td>
<td>Lyonia lucida</td>
</tr>
<tr>
<td>Sensitive briar</td>
<td>Mimosa sp.</td>
</tr>
<tr>
<td>Wax myrtle</td>
<td>Morella cerifera</td>
</tr>
<tr>
<td>Cinnamon fern</td>
<td>Osmunda cinnamomea</td>
</tr>
<tr>
<td>Royal fern</td>
<td>Osmunda regalis</td>
</tr>
<tr>
<td>Virginia creeper</td>
<td>Parthenocissus quinquefolia</td>
</tr>
<tr>
<td>Slash pine</td>
<td>Pinus elliottii</td>
</tr>
<tr>
<td>Longleaf pine</td>
<td>Pinus palustris</td>
</tr>
<tr>
<td>Lobolly pine</td>
<td>Pinus taeda</td>
</tr>
<tr>
<td>Orange milkwort</td>
<td>Polygala lutea</td>
</tr>
<tr>
<td>Candyroot</td>
<td>Polygala nana</td>
</tr>
<tr>
<td>Cherry laurel</td>
<td>Prunus caroliniana</td>
</tr>
<tr>
<td>Bracken fern</td>
<td>Pteridium aquilinum</td>
</tr>
<tr>
<td>Runner oak</td>
<td>Quercus elliottii</td>
</tr>
<tr>
<td>Sand live oak</td>
<td>Quercus geminata</td>
</tr>
<tr>
<td>Turkey oak</td>
<td>Quercus laevis</td>
</tr>
<tr>
<td>Laurel oak</td>
<td>Quercus laurifolia</td>
</tr>
<tr>
<td>Sand post oak</td>
<td>Quercus margaretta</td>
</tr>
<tr>
<td>Myrtle oak</td>
<td>Quercus myrtifolia</td>
</tr>
<tr>
<td>Water oak</td>
<td>Quercus nigra</td>
</tr>
<tr>
<td>Live oak</td>
<td>Quercus virginiana</td>
</tr>
<tr>
<td>Blackberry</td>
<td>Rubus trivialus</td>
</tr>
<tr>
<td>Cabbage palm</td>
<td>Sabal palmetto</td>
</tr>
<tr>
<td>Carolina willow</td>
<td>Salix caroliniana</td>
</tr>
<tr>
<td>Saw palmetto</td>
<td>Serenoa repens</td>
</tr>
<tr>
<td>Smilax</td>
<td>Smilax bonanox</td>
</tr>
<tr>
<td>Hatpins</td>
<td>Syngonanthes flavidulus</td>
</tr>
<tr>
<td>Poison ivy</td>
<td>Toxicodendron radicans</td>
</tr>
<tr>
<td>American elm</td>
<td>Ulmus americana</td>
</tr>
<tr>
<td>Sparkleberry</td>
<td>Vaccinium arboreum</td>
</tr>
<tr>
<td>Shiny blueberry</td>
<td>Vaccinium myrsinites</td>
</tr>
<tr>
<td>Plant</td>
<td>Scientific Name</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Grape</td>
<td><em>Vitis rotundifolia</em></td>
</tr>
<tr>
<td>Yellow eyed grass</td>
<td><em>Xyris sp.</em></td>
</tr>
<tr>
<td>Yucca</td>
<td><em>Yucca filamentosa</em></td>
</tr>
<tr>
<td></td>
<td><em>Panicum sp.</em></td>
</tr>
<tr>
<td></td>
<td><em>Eragrostis sp.</em></td>
</tr>
<tr>
<td></td>
<td><em>Andropogon sp.</em></td>
</tr>
</tbody>
</table>