DUNNS CREEK STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks

AUGUST 20, 2004

Department of Environmental Protection

Jeb Bush
Governor

Marjorie Stoneman Douglas Building
3900 Commonwealth Boulevard, MS 140
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

September 1, 2004

Ms. BryAnne White
Office of Park Planning
Division of Recreation and Parks
3900 Commonwealth Blvd.; M.S. 525
Tallahassee, Florida 32399

Re: Dunns Creek State ParkLease # 4345

Ms. White:

On August 20, 2004, the Acquisition and Restoration Council recommended approval of the Dunns Creek State Park management plan.

On September 1, 2004, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for Dunns Creek State Park. Pursuant to Section 253.034, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on September 1, 2014.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Please forward copies of all permits to this office upon issuance.

Sincerely,

Paula L. Allen

Paula L. Allen
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

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INTRODUCTION

Dunns Creek State Park is located in Putnam County (see Vicinity Map). Access to the park is from U.S. Highway 17 between Pamona Park and Satsuma. The main gate is on Sisco Road. The vicinity map also reflects significant land and water resources existing near the park.

For this plan, park acreage has been calculated based on the composition of natural communities, in addition to ruderal and developed areas. Currently the park contains 6,222.39 acres.

At Dunns Creek State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property. The park was acquired on October 10, 2001, using P2000/CARL funds (see Addendum 1).

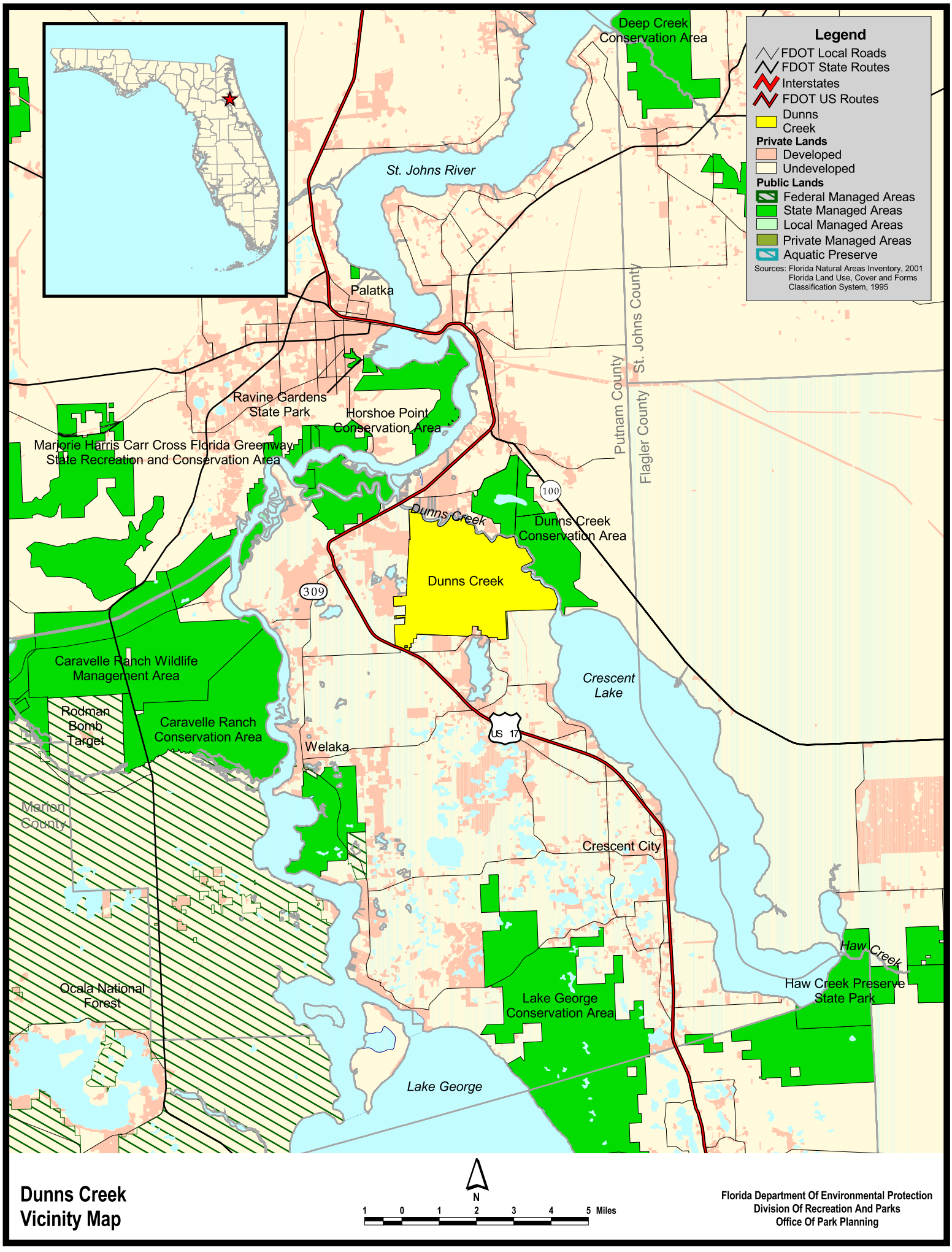
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Dunns Creek State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs are identified, and specific management objectives are established for each resource type. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, and restoration of natural conditions.

The land use component is the recreational resource allocation plan for the unit. Based on considerations such as access, population, and adjacent land uses, an optimum allocation of the physical space of the park is made, locating use areas and proposing types of facilities and volume of use to be provided.

In the development of this plan, the potential of the park to accommodate secondary management purposes (“multiple uses”) was analyzed. These secondary purposes were considered within the context of the Division’s statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that timber management activities could be accommodated in a manner that would be compatible and not interfere with the primary purpose of resource-based outdoor recreation and conservation. This compatible secondary management purpose is addressed in the Resource Management Component of the plan. Uses such as, water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan or the



Dunns Creek Vicinity Map

Florida Department Of Environmental Protection
Division Of Recreation And Parks
Office Of Park Planning

management purposes of the park.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that timber management activities would be appropriate at this park as an additional source of revenue for land management since it is compatible with the park's primary purpose of resource-based outdoor recreation and conservation.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes, and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (DRP) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.

The Trustees have also granted management authority of certain sovereign submerged lands to the Division under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses.

Many operating procedures are standard system wide and are set by policy. These procedures are outlined in the Division Operations Procedures Manual (OPM) and cover such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of Dunns Creek State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Program emphasis is on interpretation on the natural, aesthetic and educational attributes of the park.

Park Goals and Objectives

The following park goals and objectives express the Division long-term intent in managing the state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful

and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

Estimates are developed for the funding and staff resources needed to implement the management plan based on these goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector, for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Natural and Cultural Resources

1. Restore and maintain natural communities.
- **A.** Develop a habitat restoration plan with priority for the restoration of sandhill, sand pine scrub, and seepage slope natural communities.
- **B.** Abandon unnecessary and inappropriate jeep trails.
- **C.** Upland park boundary should be fenced.

2. Protect, restore, and maintain native plant and animal diversity.
- **A.** Perform a thorough inventory of plants and animals with focus on steepheads, scrub and seepage natural communities.

3. Establish, implement, and maintain a fire management program.
- **A.** Develop a fire management plan.
- **B.** In siting any park facilities, limit their impact on the fire management program.
- **C.** Improve perimeter and interior fire lines.

4. Establish, implement and maintain exotic plant and animal removal programs.
- **A.** Develop and implement priority list for exotic plant and animal removal, with emphasis on feral hogs.

5. Protect, restore, and maintain natural hydrology.
- **A.** Develop and implement hydrological monitoring program that encompasses both surface and groundwater resources.
- **B.** Carefully monitor impacts to steephead and seepage areas from any off-site or on-site activities or permits.

6. Identify and protect cultural resources.
- **A.** Conduct a Level I archaeological survey to determine the locations of pre-historic and historic sites.
- **B.** Establish monitoring measures to monitor the recorded archaeological site for erosion, vegetation intrusion, animal burrowing, and human disturbance.
- **C.** Collect oral history from local residents with knowledge of the park's history and past land uses.
- **D.** Map all known cultural sites.
- **E.** Improve public awareness and encourage protection and stewardship of the park's cultural resources through education, interpretation, and enforcement of agency rules and regulations.
- **F.** Develop and implement a written plan to protect and preserve the recorded archaeological site from erosion, slumpage, animal burrowing, root damage and tree fall, and vandalism.
- **G.** Seek grant funding for research projects to document the prehistory and history of the park, Dunns Creek, the St. Johns River, and the surrounding area.

7. Encourage scientific research to provide a better understanding of the park's resources.

Recreational Goals

8. Provide quality resource-based, outdoor recreational and interpretive programs and facilities at the park.

A. Carefully develop a multi-use trail system with multiple, interpreted trailheads. Sensitive resources and topography shall be strongly considered in the design.

B. Highlight and interpret the diversity of natural communities in the trail design.

C. Provide interpretive kiosks that focus on the resources and unique features of the park.

D. Explore the establishment of a canoe/kayak trail with linkage to other local natural areas or significant sites

9. Seek funding to expand the recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.

A. Develop a park entrance, entrance station, and access road to Piney Bluff Landing on Dunns Creek.

B. Develop an equestrian use area.

C. Develop a day-use site at, or near, Piney Bluff Landing.

D. Develop a family camping facility near Piney Bluff Landing.

E. Develop an interpretive facility near Piney Bluff Landing.

F. Develop a service area and resident site(s) for daily operational activities.

Park Administration/Operations

10. Add appropriate FTE positions to manage and maintain the park.

A. Secure Park Manager, Assistant Park Manager, Park Biologist, and Park Naturalist positions.

11. Provide facilities and equipment for daily operational activities.

A. Provide service area, resident site(s), and a park office.

12. Install boundary fence along all upland perimeter areas.

Management Coordination

The park is managed in accordance with all applicable Florida Statutes and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Wetland Resources aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control projects. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop on May 13, 2002, and an advisory group meeting on May 14, 2003. The purpose of these meetings was to present this draft management plan to the public and to provide the Advisory

Group members the opportunity to discuss this management plan.

Other Designations

Dunns Creek State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

All waters within the unit have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302 Florida Administrative Code. Surface waters in this unit are also classified as Class III waters by DEP. This unit is not within or adjacent to an aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes).

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

The Division of Recreation and Parks has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

The Division's philosophy of resource management is natural systems management. Primary emphasis is on restoring and maintaining, to the degree practicable, the natural processes that shape the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management may be implemented when the recovery or persistence of a species is problematic provided it is compatible with natural systems management.

The management goal of cultural resources is to preserve sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may entail active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

Because park units are often components of larger ecosystems, their proper management is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities, and refine management actions), review of local comprehensive plans, and review of permit applications for park/ecosystem impacts.

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Dunns Creek State Park is located within two physiographic regions following Brooks, 1991. The majority of the property is part of the Central Lake District: Crescent City-Deland Ridge with deep Plio-Pleistocene sand and shell on top of the Floridan Aquifer. Elevations in the park reach approximately 115 feet in the sand pine scrub and 110 feet in the sandhill. Incised through these high, xeric habitats is Hammock Branch, a blackwater stream which has formed a ravine system as it flows between the sandhill and sand pine scrub communities at an elevation of approximately 15–20 feet Flowing from the sandhills and emptying into Hammock Branch, are two areas of steepheads.

The second physiographic region represented in the park is called the Eastern Flatwoods: Palatka Anomalies–Crescent Lake Basin. This is a lowland area with underlying estuarine and lagoonal silts, clay and fine sand. Because the Ocala Limestone is near the surface in this area, Floridan Aquifer discharge has deposited marls in the low-lying areas along Dunns Creek State Park. Elevations in this region range from near sea level along the creek to approximately 25 feet in the flatwoods.

Geology

The thick sequence of limestone and dolostone that makes up the Florida carbonate platform is mantled in Putnam County by sedimentary layers that include quartz sand, silt, clay, and organic matter in varying proportions. Formations in the park are not well exposed but regional mapping and well samples indicate that the park is developed mainly on the Late Pliocene Cypresshead Formation. The wetlands that flank Dunns Creek are mapped as

Holocene fluvial sediments, a mixture of quartz sands, silt, clay, marl, and organic matter. The Cypresshead Formation consists of very fine to very coarse quartz sand with minor amounts of clay and mica. It commonly contains quartz gravel. The Cypresshead is reddish-orange in exposed sections due to the presence of iron oxides. From youngest to oldest the geological units that have influenced development of the landscape in the park are Holocene fluvial sediments, the Cypresshead Formation, the Nashua Formation, the Hawthorn Group, and the Ocala Limestone.

Geological formations comprise hydrogeologic units based on their roles as aquifers or confining units. The Cypresshead Formation and the interfingering Nashua Formation (also mainly a quartz sand) may be part of the surficial aquifer system in areas where their clay content is low. The Miocene-aged Hawthorn Group, a clayey silt layer lying above a very fine grained, poorly indurated limestone, in the area of the park, may act locally as the intermediate aquifer system or the confining unit for the Floridan aquifer system. The Eocene-aged Ocala Limestone is a very light orange to light gray limestone in the area of the park. It is the upper unit of the Floridan aquifer system and is found at a depth of 90 feet below surface in a well (W-17173) located on the park.

This area is immediately seen to be unusual due to its relief of approximately 115 feet. The clay content of the Cypresshead Formation and the underlying Nashua Formation and Hawthorn Group has probably been essential in maintaining the higher elevations in the area. Dissolution of the carbonate sediments of the Hawthorn Group and the underlying Ocala Limestone has resulted locally in sinkholes. Steepheads develop as groundwater percolates downward through the quartz sands of the Cypresshead Formation and Nashua Formation. When the groundwater encounters the clay-rich sediments of the Hawthorn Group, it flows laterally along them. Eventually the water emerges as a small seep or spring. The flowing water undermines the poorly consolidated quartz sands that gradually slump off forming the steep-walled stream head. These processes continue over time so that the steephead migrates laterally away from the site of the original seep, cutting a ravine as it progresses.

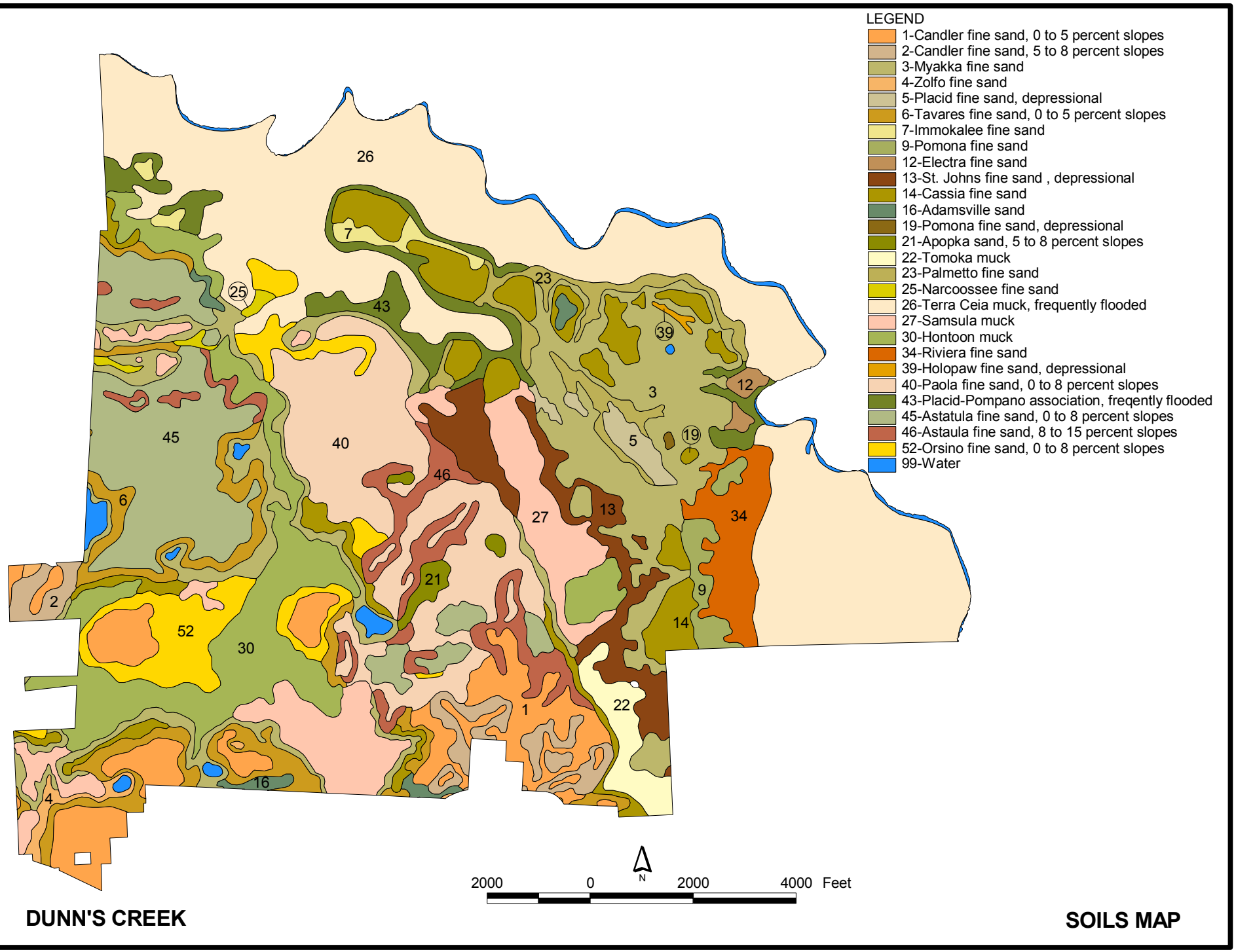
Analysis of six monitoring wells on the property shows a relatively narrow Hawthorn Group throughout, with an average thickness of 10–15 feet One well that was constructed near the steepheads went to a depth of 160 feet and found no Hawthorn Group or Ocala Limestone. On average, the wells encountered the Hawthorn Group at approximately 70 feet below ground surface and the Ocala Formation at 90 feet below ground surface. It is assumed that the steephead near the above mentioned well is located above a paleo-sink. Since there appears to be no confining layer between the surficial and Floridan aquifers in this immediate area, one can assume that the surficial aquifer in this area is vulnerable to Floridan groundwater withdrawals. Further, the natural communities associated with these steepheads (slope forest and seepage stream) are potentially vulnerable to those same withdrawals.

Soils

Twenty-five soil types (see Soils Map) have been identified at Dunns Creek State Park (Readle, 1990). This impressive array of soil types allows for the high diversity of natural communities found on the site. Soil types range from excessively drained sands in the scrub and sandhill to poorly drained muck in the floodplain. Detailed soil descriptions are contained in Addendum 3.

Some areas of soil erosion have been documented on site. Some of the driveable trails are located on moderate to severe slopes on sandy soils. Both vehicle use and hard rains have led to moderate erosion on these slopes. These trails will be closed and allowed to restore.

Erosion has also been documented along Dunns Creek adjacent to the main midden site. Shards, banded mystery snail conglomerates and bone can be found exposed along this eroded


LEGEND
1-Candler fine sand, 0 to 5 percent slopes
2-Candler fine sand, 5 to 8 percent slopes
3-Myakka fine sand
4-Zolfo fine sand
5-Placid fine sand, depressional
6-Tavares fine sand, 0 to 5 percent slopes
7-Immokalee fine sand
9-Pomona fine sand
12-Electra fine sand
13-St. Johns fine sand , depressional
14-Cassia fine sand
16-Adamsville sand
19-Pomona fine sand, depressional
21-Apopka sand, 5 to 8 percent slopes
22-Tomoka muck
23-Palmetto fine sand
25-Narcoossee fine sand
26-Terra Ceia muck, frequently flooded
27-Samsula muck
30-Hontoon muck
34-Riviera fine sand
39-Holopaw fine sand, depressional
40-Paola fine sand, 0 to 8 percent slopes
43-Placid-Pompano association, freqently flooded
45-Astatula fine sand, 0 to 8 percent slopes
46-Astaula fine sand, 8 to 15 percent slopes
52-Orsino fine sand, 0 to 8 percent slopes
99-Water
N
2000 0 2000 4000 Feet
DUNN'S CREEK
SOILS MAP

bank. Park staff will be working with the CARL archaeologist to mitigate this impact.

All management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil resources on site.

Minerals

No minerals of economic importance have been identified on this property.

Hydrology

The hydrology of the park is dominated by groundwater seepage and surface water flows driven by the steep topography of its central sand ridges toward Dunns Creek. Highest points on the property occur along these sandy ridges (up to 115 feet elevation), which serve as prime recharge areas for the shallow Surficial Aquifer and perhaps the deeper Floridan Aquifer as well. There is substantial evidence of buried sinkholes scattered throughout these ridge areas, which may serve as locations of concentrated recharge to the Floridan, but which rarely, if ever, exhibit any standing water. Several wetland ponds are also situated along the flanks of the ridges, most of them exhibiting seasonal hydroperiods. Several of which (e.g., Blue Pond, Sugarbowl Lake) contain standing water year around, suggesting that these sites are more deeply embedded within the Surficial Aquifer system or are more directly connected to the Floridan.

Lowest elevations in the park occur along the floodplain of Dunns Creek (less than 5 feet), which forms the northern and eastern boundaries of the property. The plant community of the floodplain is directly influenced by seasonal changes in the stages of the creek and the nearby St. Johns River, periodic floods and, to a lesser extent, daily tidal fluctuations. Dunns Creek at this location is very large (its floodplain varies from approximately 2000 ft to nearly a mile in width) and deep (reportedly up to 30 feet deep). It occupies an ancient coastal lagoon basin that also includes present-day Crescent Lake. The creek drains a large watershed that extends to Crescent Lake and its headwaters in Flagler and Volusia County, including the Haw Creek system and portions of the Tiger Bay complex. The floodplain of the creek is also situated within a zone of groundwater discharge – many of the larger Floridan Aquifer springs near the park occur within the floodplain below 10 feet (MSL) in elevation. However, no Floridan springs have been identified within the park itself.

Most of the land area between about 35 feet and 5 feet in elevation is pine flatwoods, seepage slopes, forested wetlands and small streams which are sustained by long-duration seepage of groundwater from adjacent sand hills and ridges. This zone occupies two distinct portions of the property: (1) a broad, swampy basin comprising the central portion of Hammock Branch—a small blackwater stream which dissects and drains the central sand ridge, and (2) the broad area of flatwoods extending downslope to the east and northeast of the main ridge to the Dunns Creek floodplain. In the latter area, flatwoods communities also once likely supported extensive pitcher plant glades in frequently burned seepage areas. Within the former area, several small steephead streams emerge from seepage faces on the flanks of the ridge and drain toward Hammock Branch.

These steepheads are primarily fed by seepage of shallow groundwater from the ridge, but may be unique in that they only occur within a very small portion of the property where Hammock Branch cuts through the ridge. They appear to be associated with highly eroded and buried (inactive) sinkhole features. The water table in this portion of the property is typically at, or very near, the ground surface for much of the year because of sustained downslope seepage, relatively flat terrain and proximity to surface streams. The rather abrupt break in slope that occurs near the top of this zone tends to force shallow groundwater flowing off the ridges to the ground surface, resulting in saturated conditions for much of the

year. The Floridan Aquifer within this zone is artesian and the confining layer between the Surficial and Floridan Aquifers is relatively thin or absent. This suggests some potential for upwelling of deeper groundwater and mixing of water from different sources within the hill slope flow system.

The quality of the park's natural communities are dependent on their associated surface and groundwater resources. This is particularly true of those natural communities that are dependent on seepage, such as baygalls, seepage slopes, bogs, or any wetlands that are imbedded within the Floridan or surficial aquifers. Groundwater withdrawals that reduce the potentiometric elevation of these aquifers will adversely impact these natural resources. Therefore it is important for the park to monitor these resources to avoid any degradation. The Division will work with the St. Johns River Water Management District and any other regulatory agencies to ensure that these resources are not compromised.

Natural Communities

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI) FNAI Descriptions. The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas which are similar with respect to these factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub--two communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs.

The park contains 21 distinct natural communities (see Natural Communities Map) in addition to ruderal and developed areas. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

Mesic flatwoods. The mesic flatwoods at this site are situated between the Crescent City ridge and the floodplain of Dunns Creek. This broad, relatively flat area is interspersed with bayheads, wet flatwoods and scrubby flatwoods.

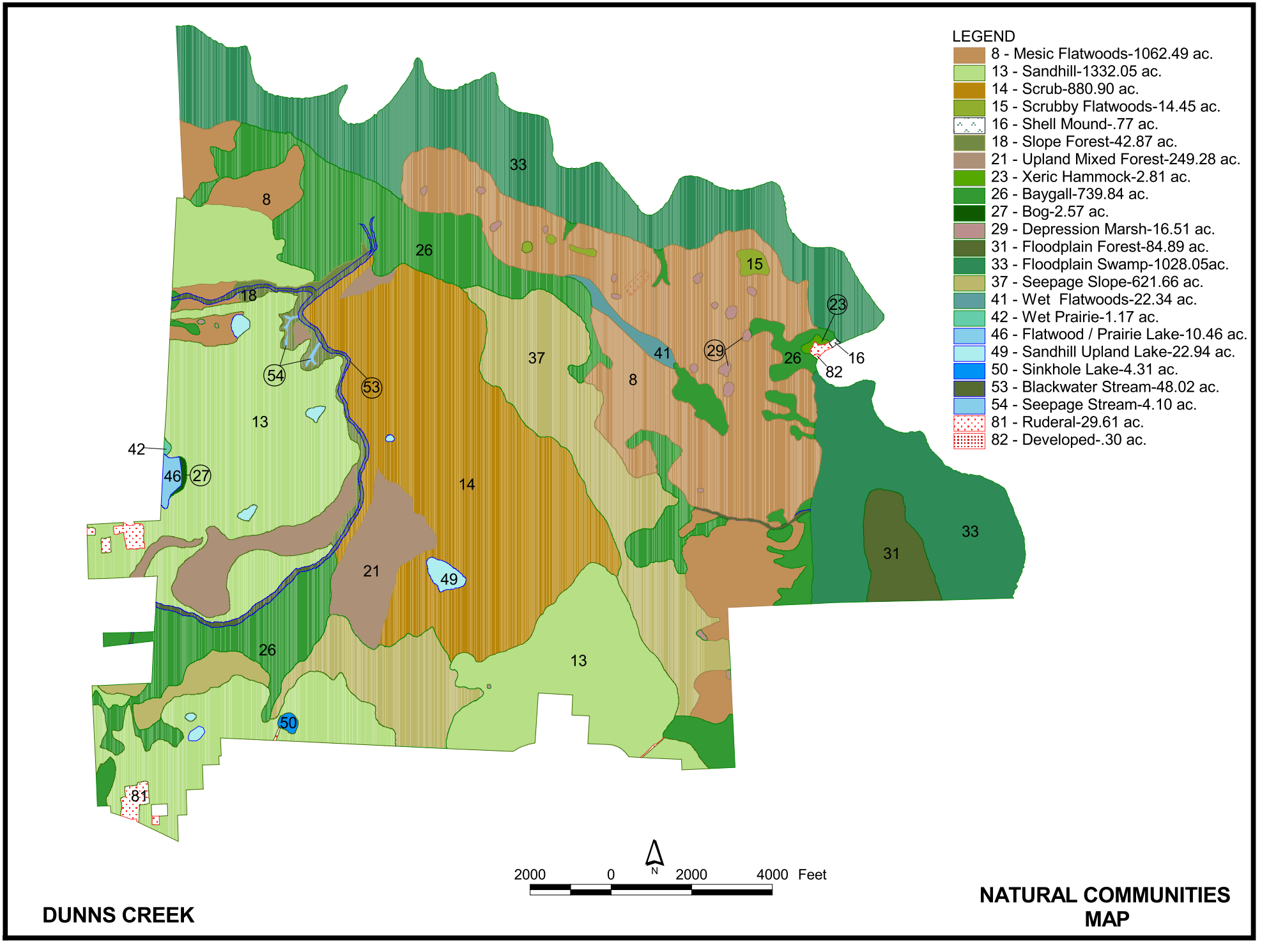
The canopy is dominated by longleaf pine (*Pinus palustris*) and slash pine (*Pinus elliottii*), with scattered pond pine (*Pinus serotina*) and loblolly pine (*Pinus taeda*). The shrub layer is much more diverse. Common species include sweet gallberry (*Ilex coriacea*), gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), and several species of oaks. The herbaceous layer is the most diverse, containing many graminoids. Typical species are wiregrass (*Aristida beyrichiana*), bottlebrush threeawn (*Aristida spiciformis*), several species of *Polygala*, and vanilla leaf (*Carphephorus odoratissimus*).

Fire suppression and logging has impacted the quality of this natural community, but the ground cover is mostly intact. In the early 1980s most of the flatwoods was logged. Today there are very few longleaf or slash pines in this community older than 30- 40 years.

The margins of this community are being encroached upon by loblolly bay and sweet bay. Successive fires should be able to control this encroachment and restore this habitat.

Approximately 60 acres (two areas) of the mesic flatwoods were planted in slash pine rows in the mid-1980s and were slightly bedded.

Sandhill. This is the largest natural community in the park and is represented in three areas. The highest quality and largest area is located along the western boundary of the park. Fire


LEGEND
8 - Mesic Flatwoods-1062.49 ac.
13 - Sandhill-1332.05 ac.
14 - Scrub-880.90 ac.
15 - Scrubby Flatwoods-14.45 ac.
16 - Shell Mound-.77 ac.
18 - Slope Forest-42.87 ac.
21 - Upland Mixed Forest-249.28 ac.
23 - Xeric Hammock-2.81 ac.
26 - Baygall-739.84 ac.
27 - Bog-2.57 ac.
29 - Depression Marsh-16.51 ac.
31 - Floodplain Forest-84.89 ac.
33 - Floodplain Swamp-1028.05ac.
37 - Seepage Slope-621.66 ac.
41 - Wet Flatwoods-22.34 ac.
42 - Wet Prairie-1.17 ac.
46 - Flatwood / Prairie Lake-10.46 ac.
49 - Sandhill Upland Lake-22.94 ac.
50 - Sinkhole Lake-4.31 ac.
53 - Blackwater Stream-48.02 ac.
54 - Seepage Stream-4.10 ac.
81 - Ruderal-29.61 ac.
82 - Developed-.30 ac.
2000 0 2000 4000 Feet
N
DUNNS CREEK
NATURAL COMMUNITIES MAP

suppression has led to its current condition. The western side of this zone has small scrub oak thickets scattered along its length. In addition, sand pines (*Pinus clausa*) have invaded some areas along the eastern side of the zone.

The next largest sandhill is the southern end of Zone C. This area contains some of the highest elevations in the park (> 100 feet) and some of the steepest slopes. Fire suppression has led to its current condition, as well. The area has a higher percentage of scrub oaks and sand pines and the ground cover is not as intact.

The third sandhill is located in Zone A. It is the most disturbed and will be the most difficult to restore. Sizable portions of this area were cleared for agriculture and it was the site of the historic town of Sisco (ca. 1885). The old-field areas contain a canopy of diamondleaf oak (*Quercus hemisphaerica*) and the ground cover is sparse to non-existent. Scrub oak thickets dominate many parts of this sandhill.

A typical sandhill at this park has a canopy of longleaf pine and an understory of turkey oak (*Quercus laevis*), sand live oak (*Quercus geminata*), Chapman's oak (*Quercus chapmanii*), and myrtle oak (*Quercus myrtifolia*). In some areas, sand post oak (*Quercus margaretta*) and bluejack oak (*Quercus incana*) are common. The groundcover is very diverse. Some of the dominant species are wiregrass, arrowfeather threeawn (*Aristida purpurascens*), and several species of *Andropogon*.

Scrub. The scrub community is one continuous piece located in the center of the property and represents the northern terminus of the Crescent City Ridge. It attains heights up to approximately 115 feet

Habitat quality varies within this community. Currently there are no sand pine stands older than about 40 years. Past logging activities have provided numerous old access roads throughout the habitat. Many of these roads have not been driven in recent years and are in the process of restoring.

Most of the scrub contains sand pines dominating the canopy. The shrub layer is dominated by oaks and ericads. Other dominant species are garberia (*Garberia heterophylla*), big flower pawpaw (*Asimina obovata*), scrub holly (*Ilex opaca* var. *arenicola*), and silk bay (*Persea borbonia* var. *humilis*). Due to the density of the shrub layer, the groundcover is somewhat depauperate. Dominant species include Elliott's bluestem (*Andropogon gyrans*), fragrant eryngo (*Eryngium aromaticum*), Elliott's milkweed (*Galactia elliotti*) and Feay's prairieclover (*Dalea feayi*).

Scrubby flatwoods. At Dunns Creek, this community is located on knolls and small ridges within the mesic flatwoods in the northeastern part of the park. Most of this habitat has a moderate shrub component, which should easily be restored with fire management.

The dominant canopy is longleaf and slash pine and the shrub layer is typically comprised of rusty staggerbush (*Lyonia ferruginea*), myrtle and Chapman's oak, coastalplain staggerbush (*Lyonia fruticosa*), tarflower (*Bejaria racemosa*), and saw palmetto. The dominant grouncover was wiregrass, Elliotti's milkpea and narrow fruit horned beaksedge (*Rhynchospora megalocarpa*).

Shell mound. There is one documented shell mound on the park. It is located adjacent to Dunns Creek and the floodplain swamp. It has been severely impacted by the removal of the shell material for mostly "road improvements" by previous owners. The dominant vegetation at this small site includes red buckeye (*Aesculus pavia*), parsley hawthorn (*Crataegus marshallii*), and dwarf palmetto (*Sabal minor*).

Slope forest. This community is located on steep slopes grading between xeric uplands to Hammock Branch, a blackwater stream, and its seepage stream tributaries. The upper portions of the slope exhibit xeric species such as pignut hickory (*Carya glabra*), diamondleaf oak (*Quercus hemisphaerica*) and big flower pawpaw. Down slope quickly grades into mesic species such as southern magnolia (Magnolia grandiflora), pipestem (*Agarista populifolia*), swamp dogwood (*Cornus foemina*), and bluff oak (*Quercus sinuata*).

Upland mixed forest. This community is located in the southwest part of the park and is situated up slope from the upstream portions of Hammock Branch and the associated baygall. A significant portion of the hammock was high-grade timbered in the 1970s. Typical canopy and tree species include pignut hickory, southern magnolia, sweet gum (*Liquidambar styraciflua*), and bluebeech (*Carpinus caroliniana*). The common shrubs include sparkleberry (*Vaccinium arboreum*), swamp doghobble (*Leucothoe racemosa*), and American beautyberry (*Callicarpa americana*). Typical groundcover is eggleaf witchgrass (Dicanthelium ovale), coastal bedstraw (Galium hispidulum), and Virginia snakeroot (*Aristolochia serpentaria*).

Baygall. This is one of the largest natural communities in the park with many representative areas located adjacent to the sandhill and scrub ridge. This seepage-driven natural community is typically dominated by a canopy of sweet bay (*Magnolia virginiana*) and loblolly bay (*Gordonia lasianthus*). The shrub layer is normally composed of gallberry, fetterbush, dog hobble, and saw palmetto. Due to the density of the canopy and shrub layer, the groundcover is sparse. Typical species are sphagnum, eggleaf witchgrass, and scattered patches of ferns such as cinnamon fern (*Osmunda cinnamomea*) and chain fern (*Woodwardia virginica*).

Bog. The bog community is located on the eastern margin of Sugarbowl Lake, a prairie lake located on the western boundary of the park adjacent to a sandhill. The bog is a series of floating, peat mats. The upper edges of the bog contain blue maidencane (*Amphicarpum muhlenbergianum*) and sand cordgrass (*Spartina bakeri*) with scattered slash pine and swamp tupelo (*Nyssa sylvatica* var. *biflora*). The herbaceous component is very diverse. Typical species include sphagnum (*Sphagnum* sp.), *Xyris* (at least two species), pennywort (*Hydrocotyle bonariensis*), red root and pale meadowbeauty (*Rhexia mariana*). Some common listed plants include spoon-leaved sundew (*Drosera intermedia*) and rose pogonia (*Pogonia ophioglossioides*). Other ground orchids are present as well.
In the open, deeper areas associated with the bog, emergent species such as American white water lily (Nymphaea odorata) and big floatingheart (*Nymphoides aquatica*) are common.

Depression marsh. There are numerous depression marshes at Dunns Creek. They are located in the flatwoods or on the edge of the seepage slope. Several of them are large enough to have longer hydroperiods than the smaller ones. They are differentiated from sandhill upland lakes by having high water outlets and inlets.

Typically they are dominated with a concentric band of sand cordgrass on the upland margin. In the wetter areas blue maidencane, maidencane, and redroot are common. Usually towards the middle of the marsh is the deepest and/or wettest. Typical vegetation found there includes several species of sedges and arrowhead (*Sagittaria graminea*).

Floodplain forest. The floodplain forest at Dunns Creek is located in the widest portion of the floodplain swamp at a slightly higher elevation. During high water conditions, it is flooded. The plant diversity and composition is very similar to the floodplain swamp. The only difference noted was a general shift towards a more mesic canopy with trees such as laurel oak (*Quercus laurifolia*) and sweetgum (*Liquidambar styraciflua*) being more common.

Floodplain swamp. This is the second largest natural community in the park. It extends along Dunns Creek for approximately six river miles and varies from 1000 feet to over 1 mi. wide.

Water levels in the forest vary with the stage of Dunns Creek.The diversity of canopy trees is high with most of the larger trees being quite large and buttressed. Typical canopy species include swamp bay (*Persea palustris*), swamp tupelo (*Nyssa sylvatica var. biflora*), red maple (*Acer rubrum*), bald cypress (*Taxodium distichum*), Carolina ash (*Fraxinus caroliniana*), American elm (*Ulmus americana*) and swamp dogwood (*Cornus foemina*). The shrub layer was dominated by buttonbush (*Cephalanthus occidentalis*), wax myrtle (*Myrica cerifera*), Virginia willow (*Itea virginica*), swamp rose (*Rosa palustris*), and elderberry (*Sambucus canadensis*).
The vine and herbaceous component is quite diverse but will not be discussed here.

Seepage slope. This natural community was mapped based on 1940s and 1950s images. Due to the absence of fire over the last 20+ years, what should be an open-canopied, herbaceous community has succeeded into baygall community. One of the park's toughest challenges will be the restoration of this community. Because of the current condition, typical habitat plant indicators are missing.

Wet flatwoods. Wet flatwoods, at Dunns Creek, are found in depressional areas within the mesic flatwoods. Typically dominated by pond pines in the canopy, they have longer hydroperiods than comparable mesic flatwoods. The shrub layer commonly contains gallberry, fetterbush, swamp doghobble, and saw palmetto. The diverse groundcover is comprised of wiregrass and bottlebrush threeawn with many species of wildflowers such as meadowbeauties and marsh pinks.

Wet prairie. The only representative of this natural community at Dunns Creek is associated with a large prairie lake named SugarBowl Lake. This small wet prairie is located on the northeast corner of the lake and is dominated by St. Johns wort (*Hypericum brachyphyllum*), redroot (*Lachnanthes caroliana*), and maidencane (*Panicum hemitomon*).

Prairie lake. Sugarbowl Lake represents the only example of a prairie lake at the park and is located along the western boundary. Approximately 10% of the lake is located within the park boundary. Associated with Sugarbowl Lake are a bog and a wet prairie. The lake is mostly open water dominated by floating vegetation such as American white waterlily (Nymphaea odorata) and spatterdock (*Nuphar lutea*). Sandhill cranes are commonly seen feeding in this lake. It is likely that there is at least one pair breeding in the lake as well, though not on park property.

Sandhill upland lake. The sandhill upland lakes at Dunns Creek are all found within the sandhill and scrub communities. They differ from depression marshes in having not discernable inlets or outlets. Floristically they are quite similar to depression marshes in having sand cordgrass on the outer margin and having maidencane and blue maidencane common throughout the wetter areas. One particular lake appears to be a very important gopher frog (*Rana capito*) breeding pond. As water levels rise in these lakes, perhaps other lakes in the park will support breeding gopher frogs, as well as, other ephemeral wetland-breeding amphibians.

Sinkhole lake. Blue Pond is a circular lake located near the southwest corner of the park. There is no observed exposed limestone, but the elevation at the bottom of the lake is below the potentiometric elevation of the Floridan Aquifer in this area. During the extreme drought of the late 1990s'and, early 2000s the lake did not show any significant drop in water level. Blue Pond has steep slopes with a limited littoral shelf. No submerged aquatic vegetation is apparent. A small band of American white waterlily is present. There are plans to conduct a limited bathymetric survey of the pond.

Blackwater stream. There are three streams classified as blackwater streams in the park. The

largest is Hammock Branch, which has its headwaters within the park during all but the highest flood conditions. It starts as a dark, meandering stream in the large baygall in the southwest portion of the park. From there, it flows between a sandhill and a scrub ridge. At this point, it becomes deeply incised and receives seepage water from the flanks of the ridges. At the point that it passes the last seepage stream, the water can become quite clear depending on the amount of flow from the baygall. From this point, it flows towards Dunns Creek and diffuses into the baygall and floodplain swamp. There is not a lot of vegetation in the stream. The dominant plant is golden club (*Orontium aquaticum*). The stream bank is carpeted with bryophytes and numerous small, herbaceous plants.
The other two blackwater streams are small with one unnamed one flowing into Hammock Branch downstream of the seepage streams. Dunns Creek is a large blackwater stream, but the park boundary only goes to the edge of the floodplain swamp.

Seepage stream. There are multiple seepage streams that all flow into Hammock Branch. They are confined to one small area, in the northwest portion of the park. Most of the streams are less than 100 feet long, but the longest is approximately 1000 feet long. The majority of the flow comes from the main steepheads, but numerous seepage areas occur along the stream's paths. Based on water quality data, it appears that the source of the water is the Surficial Aquifer. This was investigated because the steepheads are situated near the potentiometric elevation of the Floridan Aquifer. The headwaters of the seepage streams contain numerous mosses and liverworts. Future floral survey work may find some rare and unusual species of mosses and liverworts. The only observed submerged vegetation is golden club, which is typically located in the lower sections of the streams.
The seepage areas associated with the seepage streams are home to several interesting animals.

Ruderal and developed. The ruderal areas at this park are old agricultural areas, a well-developed dirt road associated with a local power and phone line, and a mowed field associated with an old house. The agricultural areas are currently dominated by a dense canopy of diamond-leaf oak and live oak with little growth in the understory. The soil horizons are highly disturbed. The dirt road is a main road, which will probably serve as the main park drive for the park. The mowed field is mostly treeless and is dominated by broomsedge. It was apparently grazed by cattle for a number of years by previous caretakers. The only developed portion on the property is a small house built in the 1940s at Piney Bluff Landing on Dunns Creek.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened or of special concern. Addendum 5 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

Based on current surveys, nine designated plant species are recorded from the park. The rarest plant, Etonia false rosemary, is a scrub endemic. To date, four populations of this plant are known from the park. A more thorough survey is scheduled for 2003. The populations will be monitored as restoration efforts occur in the scrub.

Twenty-four designated animal species are known from Dunns Creek. Six of these are wading birds that utilize the floodplain of Dunns Creek and many of the park's assorted wetlands.

Gopher tortoises (*Gopherus polyphemus*) appear to be doing well at this park, particularly in the sandhill. Burrow surveys will occur as the fire management program progresses. Part of

the survey will involve inventorying burrow commensals. Another notable animal is the gopher frog (Rana capito). Gopher frog tadpoles have been observed in one particular ephemeral pond numerous times. As water levels return to normal, all of the ephemeral ponds will be surveyed for amphibians. Sherman's fox squirrels currently occur on the park in very small numbers. The park's population will be assessed. As the sandhill habitat improves from restoration efforts, it is anticipated that fox squirrels from surrounding non-managed habitat will begin to utilize the park.

The park is part of the St. Johns River Florida black bear population. The Florida Fish and Wildlife Conservation Commission's bear management program conducted some limited hair snaring efforts in 2002-2003 to assess the local population.

The scrub of this park has been identified in an ongoing Florida State Park system-wide evaluation to be a site of "probable historic occurrence" of the Florida scrub-jay (Erik Johnson, pers. comm.). In that evaluation it has been determined that the scrub lies ~5-6 miles south-southeast of one historic Florida scrub-jay occurrence and ~13-14 miles east of the type locality of the species (based on data in Cox 1987). The scrub lies ~10 miles northeast of extant Florida scrub-jay family groups in Ocala National Forest (based on data in Stith 1999). Reed Bowman, an avian research biologist at Archbold Biological Station, thinks that if the park's scrub did not support the species in the recent past (i.e., within 20-30 years), it likely did in the historical past (pers. comm. to Erik Johnson). Reestablishment would likely require translocation of individuals to the park - *after* a consensus was reached in the conservation community that such an effort would be desirable/feasible and only after restoration of suitable habitat is assured.

Manatees are occasionally observed in Dunns Creek. No special protection measures are warranted at this time. For primarily public safety reasons, the possibility of controlling boat speeds in and adjacent to the hairpin turn at Dunns Creek at Piney Bluff Landing has been proposed.

Special Natural Features

This park contains numerous, notable vistas, most notably along Dunns Creek and Sugarbowl Lake. Due to the significant topographic relief on-site, vistas in the sandhills and scrub will improve as fire management and restoration activities proceed.

The slope forest and seepage stream communities associated with the steepheads are extremely significant features. Not only do they contain rare plants and animals, they are visually quite appealing. Unfortunately, they are vulnerable to degradation from both direct impacts (erosion) and indirect impacts (groundwater withdrawals). For this reason, the entire area around the steepheads is being designated as a wilderness area. Public access will be limited to foot traffic only.

Cultural Resources

Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair, and poor. These terms describe the present state of affairs, rather than comparing what exists against the ideal, a newly constructed component. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair judgment is cause for concern. Poor describe an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action to reestablish physical stability.

At present only one archaeological site has been documented on the state property. The site, Piney Bluff Landing (PU723), is a prehistoric shell midden located long the edge of Dunn's Creek. Artifacts related to Orange, St. Johns I, and St. Johns II periods have been found at the site and artifacts dating to the Archaic Period have been found in the Creek adjacent to the site. The site has experienced damage from 20th century shell mining and erosion, but portions of the midden appear to be intact. The condition assessment is poor.

Testing by the C.A.R.L. Archaeological Survey in June of 2002, and the observation of artifacts on the surface by DEP personnel, have confirmed that the site is larger than originally documented. While the shell midden material appears to be concentrated in the originally documented area, artifacts dating to the same time periods are present across a much larger area. A report outlining the C.A.R.L. work and revised site boundaries have been completed.

Additionally, the potential for similar prehistoric sites along the banks of Dunns Creek is a possibility, depending on factors such as elevation and soil type. Other types of prehistoric and contact period sites, such as campsites, extractive sites, and artifact scatters, may also be found with additional testing and examination. The possibility of finding sites around the ravines and steepheads and on some of the higher areas of the property exists.

The potential for sites related to the historic use of the property is high. A cattle dip vat has been documented on the property, but not listed as a site, and at least one area has been identified as having been used as a hunt camp. At least three 19th century homesteads are known to exist on the property, but have not been located. The ruin of one early 20th century house structure has been identified within the boundary of the Piney Bluff Landing site. The potential for sites related to British and 2nd Spanish Period (1783-1821) land grants is another possibility. Additional research needs to be conducted in order to better understand the potential for additional site discovery.

Dunns Creek State Park falls within what archaeologists term the East and Central Archaeological Culture Area of Florida. This culture area is comprised of the St. Johns River basin, the adjacent coastal and inland area, and the central Florida lakes district (Milanich 1994). Archaeological regions, or culture areas, are used by archaeologists to identify and describe cultural traditions. All of the culture areas in Florida are though to share more common cultural traits (i.e. not as area specific) through roughly the Late Archaic Period (around 2,500 years ago (B.P.)). In the East and Central Cultural Area, certain common cultural traits, such as pottery form and design, begin to appear in the archaeological record around 2,500 years ago. These are due in part to human adaptation to specific environmental settings. These distinctive traits become increasingly more apparent through time.

PaleoIndian period. Evidence of human occupation in Florida begins with the PaleoIndian Period (ca.10,000-14,000 B.P.) near the end of the last Ice Age. Sea levels were much lower, and consequently the land mass of Florida was nearly twice its present size. The climate in Florida during late glacial times oscillated with one hundred to one thousand year intervals of humid-cool, dry-warm, or wet-warm conditions. These rather radical climatic fluctuations led to vegetation shifts and surface water sources that were either abundant or scarce depending on the particular conditions. Many rivers in Florida- including the St. Johns, probably did not support flowing water during the most intense dry episodes - however, at other times these channels discharged copious runoff to the sea during wet episodes. Abrupt climate change during the last glacial recession also occurred on a global scale (Broecker 2000).

PaleoIndians lived in nomadic or semi-nomadic bands and hunted now-extinct Pleistocene megafauna like the mammoth, bison, and giant tortoise as well as a whole host of extant

animal species. The gathering of wild plant foods, fishing, and shellfish collection probably also provided the basics of the Paleo-Indian diet.

Archaic period. Beginning around 10,000 B.P., the climatic and environmental changes that took place at the close of the Pleistocene epoch brought with them changes in the types and distribution of game animals available to prehistoric hunters. Humans adapted to their new environment and began to exploit a wider range of food sources, including more small game, fish, mollusks and nuts, and they became increasingly more sedentary than their predecessors. Additionally, the tool kit used by these people became more varied and complex. Toward the end of the period, ceramic vessels tempered with fibers began to be produced. Archaeologists refer to this period as the Archaic, and divide it into Early (ca. 10,000-7,000 B.P.), Middle (ca. 7,000-5,000 B.P.), and Late (ca 5,000-2,500 B.P.). These periods are distinguished in part by differences in projectile point styles, and the introduction of pottery in the Late Archaic.

Mount Taylor and Orange periods. The people of the Mount Taylor and Orange cultures of East Florida were living full-time along the coast and in riverine settings, exploiting the rich, diverse resources of the now developed coastal marshes and adjacent hardwood forests. The major distinguishing characteristic between the two cultures is the presence of ceramics; a fiber-tempered ceramic is representative of the Orange Period culture. The earliest Orange vessels were plain, undecorated wares, but soon incised and punctuated designs were prevalent.

St. Johns period. The St. Johns I and II cultures developed out of the fiber-tempered Orange culture that occupied the same region during the Late Archaic. By around 2,500 B.P., vegetable fiber had ceased to be the main tempering agent for ceramic vessels. Instead, pottery was made from clay rich in microscopic spicules of freshwater sponges, which, when fired, made the vessel "chalky" to the touch. The change marked the beginning of the St. Johns culture. St. Johns pottery continued to be manufactured for the next 2,000 years.

The St. Johns cultures have been divided into two major periods, St. Johns I and II, which have been further subdivided, based upon changes in ceramic types, influences from cultures outside the region, social structure, and religious organization. The St. Johns cultures were highly adapted to the coastal marshes and the areas surrounding the St. Johns River. Many of the St. Johns II people were Timucuan-speaking. It was the people of this cultural tradition that were present in the northeast region of Florida at the time of European contact.

European Contact and Early Settlement. From the 16th through the beginning of the 18th centuries, the Spanish occupied Florida. They established a series of missions and military outposts to the north, across the panhandle and along the St. Johns River in order to control Indian labor, Catholicize the native population, and defend against other European incursions.

During the 17th and 18th centuries the Spanish developed several cattle ranching areas and issued large land grants, many along the St. Johns River, to encourage ranching and agriculture. But it was during the British Period (1763-1783) that this system became more focused, with an increase in the development of plantations, especially along the St. Johns River.

The name Dunn's Creek comes from John Dunn, an attorney and coffee planter. He received a grant in 1765 that allowed him to farm an area "between the two lakes" (Alvers and McHaffey 1995) in Putnam County near Dunns Creek State Park. Additional documentation of the time period shows that Lord Adam Gordon owned property located just south of Dunn's Creek. He, like many of the British land grantees, was an absentee owner. An interesting exception was Deny Rolle, who attempted to establish a utopian settlement named Rollestown on the St. Johns River near present day Palatka. During the British period

Crescent Lake was named Lake Rolle and there were a number of grants belonging to Deny Rolle fronting the lake on the north side (Chance 1982: 23, Fig. 3: n.d. 18th Century British map). The property set aside for Lord Adam Gordon eventually became the property of Col. John Broward, after whom the Broward land grant, as well as nearby Lake Broward, is named. On August 24, 1816 George J. F. Clarke purchased the property from Broward (Clarke 1834).

19th Through 20th Century development. During the latter part of the 19th century, the names Crescent Lake and Dunns Creek became formalized, changing from the earlier designations Lake Dunn, Lake Rolles, Lake Gordon, and Deep River (Alvers and McHaffey 1995).

Along the southwestern boundary of the State Park is the town of Sisco. In 1884 Sisco was settled by Henry and Claire Sisco along the Jacksonville, Tampa, and Key West Railroad. For the next forty years or so, the population of the town ranged from 150 people to 60 people and, at times, had a post office, hotel, general store and a steam sawmill (Alvers and McHaffey 1995). Nineteenth century Post Office records clearly indicate at least three homesteads located within the Dunns Creek State Park property (National Archives Microfilm Publication M1126 1980).

The state property has experienced turpentining, logging, cattle ranching, and farming within the 20th century and it is likely that additional research will help in documenting cultural resources related to these more modern uses as well as the earlier uses of the property.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the Division's statutory responsibilities, and an analysis of the resource needs and values of the park. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of early successional communities such as sand pine scrub and coastal strand.

A restoration plan has been developed for this unit in conjunction with The Nature Conservancy. Restoration efforts will include best management timbering practices to reach the restoration goals. A timber management analysis was conducted for this park and is contained in Addendum 6.

Additional Considerations

Restoration of the diverse natural communities at this unit will be a high priority. A restoration plan is being developed in conjunction with The Nature Conservancy. Fire and timber management will both be a part of the plan.

Seepage, associated with the sandhill and scrub ridges, is an important natural, hydrological process that is essential for the health of many of the park's natural communities. Park staff will have to work closely with St. Johns River Water Management District staff to ensure that groundwater withdrawals do not impact these communities.

Management Needs and Problems

The following list outlines some of the more important natural resource management concerns

at Dunns Creek.

1. Natural communities in the park require restoration activities.
   - **A.** The sandhill, seepage slope, and flatwoods are all impacted by fire suppression and the invasion of undesirable hardwoods.
2. A thorough cultural resource inventory of the site is necessary.
3. Continued plant and animal inventories are needed.
   - **A.** Priority should be given to the more sensitive natural communities, such as the steephead areas.
   - **B.** The xeric uplands should be targeted for vertebrate array sampling and small mammal trapping.
4. Designated species in the park require special attention and management.
   - **A.** Etonia rosemary (*Conradina etonia*) populations need to be mapped and monitored in the park.
   - **B.** The Sherman fox squirrel (*Sciurus niger shermani*) population needs to be assessed.
5. A surface and ground water monitoring program is needed.
6. The part of Dunns Creek adjacent to Piney Bluff Landing has boating safety and cultural resource erosion concerns.
7. The high quality wetland and upland resources at Dunns Creek State Park require special protection.

Management Objectives

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division primary objective in natural resource management is to maintain and restore, to the extent possible, to the conditions that existed before the ecological disruptions caused by man. The objective for managing cultural resources is to protect these resources from human-related and natural threats. This will arrest deterioration and help preserve the cultural resources for future generations to enjoy.

1. Implement the restoration and fire management plan for the park.
2. Staff should pursue an archaeological reconnaissance survey of the park.
   - **A.** Improve public awareness and encourage protection and stewardship of cultural and natural resources through education and enforcement of agency rules and regulations.
3. Additional plant and animal inventories will be done.
   - **A.** Further surveys will be completed in the seepage stream and slope forest natural communities.
   - **B.** Vertebrate sampling arrays and small mammal trapping will be done in the sandhill and scrub.
4. Designated species should be monitored and protected as needed.
   - **A.** The Etonia rosemary population will be mapped and monitored in the park.
   - **B.** The Sherman fox squirrel population will be evaluated in the park.
5. A surface and ground water monitoring program is needed.
   - **A.** Design and implement a surface and ground water monitoring program.
6. Boat speed restrictions should be pursued in Dunns Creek at Piney Bluff Landing for public safety and the protection of cultural resources.
7. An Outstanding Florida Water designation should be obtained for the surface waters within the park.

Management Measures for Natural Resources

Hydrology

The St. Johns River Water Management District (SJRWMD) is responsible for the management of surface and ground water resources in the area surrounding the park. Although the two water resources are interrelated, they are discussed separately below. Permit

applications to the SJRWMD, DEP and the U.S. Army Corps of Engineers are reviewed by Florida Park Service district staff. Comments and concerns are provided as needed. A surface and ground water monitoring program will be developed to look at long-term trends in both quality and quantity.

Surface water. The surface waters at Dunns Creek are of good to excellent quality. Seepage is a major source of the surface water in portions of the park. Even during the drought of the late 1990s and early 2000s, the seepage streams provided ample flow to Hammock Branch, a blackwater stream.

There has been little impact to the surface water resources on the park. Those areas impacted are two creek crossings by jeep trails, a ditch which flows into the park from Sisco Road and empties into a baygall, small ditches which were constructed alongside the main entrance road by previous owners, and several, small flow-ways which are intercepted by the main entrance road. Most of these small flow-ways have culverts under the road.

Ground water. The ground water resources of the park are in good to excellent condition. The SJRWMD has a pair (one Surficial and one Floridan) of monitoring wells in the scrub on the park. The park installed two pairs of monitoring wells in 2002. One pair near the steepheads is in an area of high recharge and little discharge and the second pair is in the flatwoods in an area of little recharge and high discharge. These wells have dataloggers.

Putnam County plans to submit an application for a consumptive-use permit for a regional public well field in 2003 in an area very near the park's western boundary. This well field could negatively impact the groundwater resources in the park. Park staff is working with SJRWMD staff to address this issue.

Management will comply with best management practices to maintain or improve the existing water quality on site and will take measures to prevent soil erosion or other impacts to water resources.

Prescribed Burning

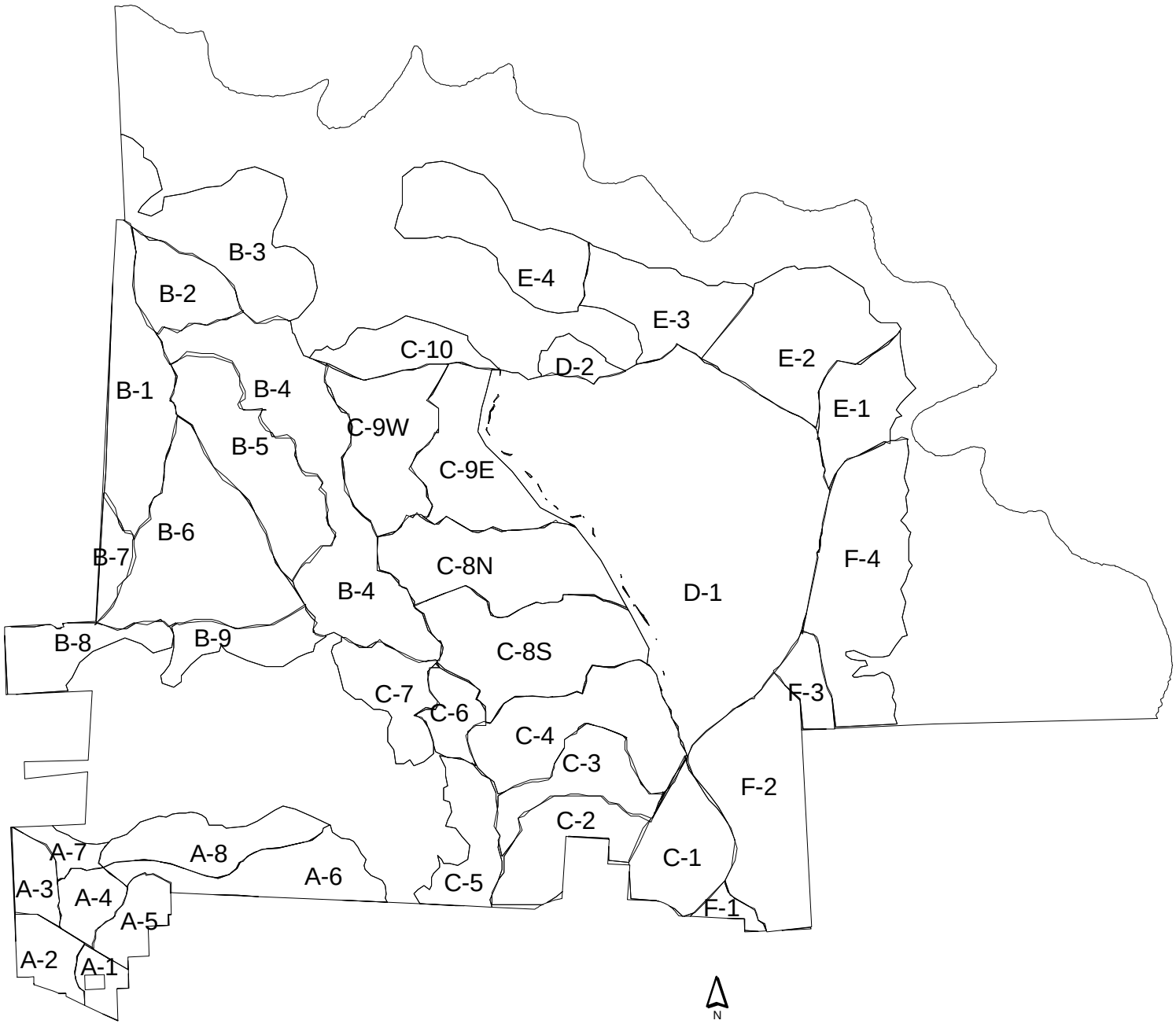
The objectives of prescribed burning are to create those conditions that are most natural for a particular community, and to maintain ecological diversity within the unit's natural communities. To meet these objectives, the park is partitioned into burn zones, and burn prescriptions are implemented for each zone. The park burn plan is updated annually to meet current conditions. All prescribed burns are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities will be coordinated between the Division and the DOF.

Fire shapes all of the 21 natural communities located within Dunns Creek. The park provides a good illustration of the successional changes that can occur in the absence of fire. Prescribed fire will be the key management tool used to restore the natural communities at the park.

The park's burn zone map contains 6 blocks and 37 zones (see Burn Zone Map). All fire management units utilize existing jeep trails, perimeter lines and natural fire breaks. Many of the fire management zones have internal jeep trails, which further divide the zone. These trails are currently mowed, but will be restored as current fuel loads are decreased.

Dunns Creek contains some relatively abrupt topography in the sandhills and scrub. Slope will have to be factored into the firing patterns and prescriptions in these areas.

A fire management plan has been developed for the park in conjunction with The Nature Conservancy.



LEGEND

- A-1 19.98ac
- A-2 38.02ac
- A-3 31.01ac
- A-4 33.86ac
- A-5 38.28ac
- A-6 89.64ac
- A-7 19.04ac
- A-8 78.84ac\
- B-1 126.98ac
- B-2 65.30ac
- B-3 152.79ac
- B-4 240.64ac
- B-5 142.31ac
- B-6 203.85ac
- B-7 25.16ac
- B-8 62.37ac
- B-9 53.83ac
- C-1 92.36ac
- C-2 83.06ac
- C-3 73.90ac
- C-4 143.58ac
- C-5 65.19ac
- C-6 35.19ac
- C-7 67.05ac
- C-8N 151.39ac
- C-8S 166.28ac
- C-9E 127.69ac
- C-9W 117.46ac
- C-10 57.85ac
- D-1 687.59ac
- D-2 21.66ac
- E-1 73.31ac
- E-2 152.42ac
- E-3 97.41ac
- E-4 125.23ac
- F-1 12.99ac
- F-2 180.31ac
- F-3 30.08ac
- F-4 194.19ac

DUNNS CREEK

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

BURN ZONES MAP

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species.

The designated species at this park will benefit once the fire management program is in place. Certain species will require particular attention for a number of reasons. The gopher tortoise population will be monitored for health as well as some general burrows mapping and commensal surveys. The Sherman fox squirrel population needs to be assessed. Currently only a few fox squirrels are known on-site. Certainly as the fire management program progresses, the sandhill habitat will improve for the squirrels.

To date, the rarest plant documented on-site is Etonia rosemary. Currently four populations of this scrub mint have been located. Additional survey work for this plant is needed. Due to the rarity of this species, all populations will be mapped and monitored. This will be particularly pertinent as restoration of the scrub proceeds. Little is known about the ecology of this species.

Vertebrate sampling arrays and small mammal trapping is needed for the scrub and sandhill habitat. A number of designated species such as the indigo snake (*Drymarchon corais*) and the Florida mouse (*Podomys floridanus*) have not been documented in the park to date.

The diverse assemblage of wetlands in this park are utilized by a wide array of wading bird and wetland-dependent birds such as several species of egrets and the Florida sandhill crane (Grus canadensis pratensis). The quality and integrity of these wetlands needs to be maintained so they can continue to support these species.

The upland mixed forest and the baygall communities are highly utilized by migratory and resident songbirds, many of which are designated species. Migratory bird surveys are planned for this park, starting in 2003.

Exotic Species Control

Exotic species are those plants or animals that are not native to Florida, but were introduced because of human-related activities. Exotics have fewer natural enemies and may have a higher survival rate than do native species, as well. They may also harbor diseases or parasites that significantly affect non-resistant native species. Consequently, it is the strategy of the Division to remove exotic species from native natural communities.

Preliminary plant and animal surveys at Dunns Creek have documented a relatively small number of exotic plants and animals. Those deemed as invasive are discussed below.

Plants. The majority of the invasive plants documented to date are wetland-dependent and are generally confined to the floodplain forest along Dunns Creek. These include Chinese tallow (*Sapium sebiferum*), torpedo grass (*Panicum repens*), Japanese climbing fern (*Lygodium japonicum*), and wild taro (*Colocasia esculenta*). The notable upland species are cogon grass (*Imperata cylindrica*), camphor tree (*Cinnamomum camphora*), and mimosa (*Albizia julibrissin*).

An exotic plant removal plan will be developed with highest priority given to those plants found on the Florida Exotic Pest Plant Council's Category I and II list.

Animals. Two notable exotic animals documented are the feral pig (*Sus scrofa*) and the nine-

banded armadillo (*Dasypus novemcinctus*). Stray hunting dogs have been observed on the park. It is assumed that they are not feral.

Feral pigs are the park's highest priority for removal, due to the sensitivity of many of the natural communities to extreme soil disturbance.

Problem Species

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem.

No problem species have been identified in this park.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Approval from Department of State, Division of Historical Resources (DHR) must be obtained before taking any actions, such as development or site improvements that could affect or disturb the cultural resources on state lands (DHR Cultural Management Statement).

Actions that require permits or approval from DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past.

The general objective for the management of the cultural resources of Dunns Creek is to protect, preserve, and interpret the prehistoric and historic resources of the park. Because of presence of a recorded archaeological site within the park, and the probability of more currently unidentified sites, management measures for cultural resources should include monitoring the recorded site, and drafting a proposal for an archaeological reconnaissance survey to investigate areas of the park which have not yet been examined by any archaeological investigation.

If the recommended archaeological reconnaissance survey locates and identifies any prehistoric and/or historic sites, management measures for cultural resources should develop a phased plan for managing the resources in the context of their surroundings. This should include developing a workable written plan for the physical management of the identified resources. The plan should outline approved methodologies for executing the plan and training staff and volunteers to manage the cultural resources of the park.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish and Wildlife Service may also be required.

1. Additional plant and animal survey work is needed.
- **A.** Conduct survey, map and monitor populations of Etonia rosemary.
- **B.** Conduct vertebrate sampling array and small mammal trapping work.
- **C.** Assess Sherman fox squirrel population.
- **D.** Perform additional plant surveys, including bryophyte work in the steepheads.

E. Conduct migratory bird surveys focusing on the upland mixed forest and baygall communities.

2. Surface and ground water monitoring programs are needed.

A. Design and implement a surface and ground water monitoring program.

Cultural Resources

1. Research is needed on environmental change and prehistoric adaptation, development of prehistoric settled communities and social complexity, and aboriginal cultural history.

2. Research is needed on the Dunns Creek area during the First Spanish Period, the British Period, the Second Spanish Period, the Territorial Period, the Second Seminole War, the Confederacy, and Reconstruction.

3. Research is needed for possible evidence or documentation on the farming, ranching, timber, and turpentine industries, and on the development of the transportation industry on the St. Johns River, which made them possible.

4. Research is needed on the Sisco railroad station, and on the farming, timber, and turpentine community of Sisco.

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is contained in Addendum 7. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available (see Addendum 7).

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands titled in the name of the Board of Trustees of the Internal Improvement Trust Fund (board) are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, the board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan.

A land management review has not been scheduled for this property.

LAND USE COMPONENT

INTRODUCTION

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Division of Recreation and Parks. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation and management, through public workshops, and environmental groups. With this approach, the Division objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are described and located in general terms.

EXTERNAL CONDITIONS

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and the park’s interaction with other facilities.

Dunns Creek is located within Putnam County, about 60 miles south of Jacksonville in the northeast part of the state. The population of Putnam County has grown by eight percent since 1990 while the adjacent counties of St. Johns and Flagler have grown by 46 and 73 percent respectively since 1990. Putnam County is projected to grow an additional seven percent by 2010, while St. Johns and Flagler are expected to grow an additional 30 and 41 percent respectively by 2010 (BEBR, University of Florida, 2000). As of 2000, 18 percent of residents in these counties were in the 0-14 age group, 35 percent in the 15-44 age group, 26 percent in the 45-64 age group, and 21 percent were aged 65 and over (BEBR, University of Florida, 2000). Nearly 1.6 million people reside within 50 miles of the park, which includes the cities of Palatka, Pomona Park, Gainesville, St Augustine and the southern suburbs of Jacksonville (Census, 2000).

Existing Use of Adjacent Lands

Dunns Creek is located in Putnam County in the northeast portion of the state. It is bounded by Dunns Creek to the east and north, the unincorporated area of Satsuma to the west and the town of Pomona Park to the south. The park is partially bounded on the southwest side by U.S. Highway 17 and Sisco roads. Land uses in the areas surrounding the park primarily exist of agriculture and low density housing developments. Mixed-use and commercial development exists both north and south of the park in the cities of Palatka and Pomona Park.

Significant recreational opportunities exist within the Dunns Creek area. Public lands

including: the Dunns Creek Conservation Area, Caravelle Ranch Wildlife Management Area and Conservation Area, Ocala National Forest, Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area, Ravine Gardens State Park, Horseshoe Point Conservation Area, Haw Creek Preserve State Park, and the Lake George Conservation Area, exist within a short driving distance of Dunns Creek. Camping, hiking, swimming, picnicking, bicycling and hunting are the main recreational pursuits on these public lands. On the east, the park is defined by Dunns Creek, a tidal river flowing between Crescent Lake to the southeast and the St Johns River to the north and northwest of the park. Dunns Creek is heavily used for recreational boating, fishing and personal watercraft. The SRWMD owns land both across the creek and to the northwest of the park. It is expected that the recreational use of the creek will increase once the park is completely open for public use.

Planned Use of Adjacent Lands

According to the Putnam County Comprehensive Plan Future Land Use Map, Dunn's Creek is located within both agriculture and conservation zones. The agriculture zone recognizes the rural character of the area and restricts residential development to one unit per 5-10 acres. The conservation zone recognizes that the land is in public and/or semi-public ownership. Lands adjacent to the park are restricted to lower density developments because of the zoning within the area. Satsuma, located to the west of the park, is zoned largely as urban reserve area, which restricts development to one unit per acre up to one unit per five acres. The northern edge of Pomona Park, which abuts the southern boundary of Dunn's Creek, is zoned as an urban service area, which while allowing higher density developments than the reserve area, restricts development to a maximum of nine units per acre. The primary effects of adjacent land uses on the park derive from the heavy recreational uses of the river for boating, fishing, jet skiing, canoeing and kayaking. Future increases in the recreational boating population should be expected.

A highway expansion project that would four-lane U.S. Highway 1 for additional 24 miles from just south of Palatka to the Volusia County line is currently under study. The decision to four-lane U.S. Highway 17 could have significant impacts on the area surrounding the park and would dramatically change the existing rural landscape. The potential for commercial development along the park boundaries would increase substantially with this development, thus affecting the quality of life within the area as well as the environment.

PROPERTY ANALYSIS

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreation Resource Elements

This section assesses the unit's recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support individual recreation activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

Dunns Creek contains 6,222.39 acres of diverse natural communities and landscapes that will provide an abundance of recreational and educational activities. Among the major natural communities located here are sandhill, scrub, mesic and scrubby flatwoods, slope

forest, upland mixed forest, and many wetland communities. Located within an hour's drive of nearly 1.6 million people, Dunns Creek will have a major impact on the quality of life within the region.

Water Area

Bounded by Dunns Creek, the state park has six miles of frontage on the river alone. Dunns Creek also has three blackwater streams, with Hammock Branch being the largest, multiple seepage streams, floodplain swamp, depression marshes, baygall, and a few sandhill upland and sinkhole lakes and one prairie lake. These communities will provide for some outstanding educational and recreational opportunities for park visitors.

Shoreline

The state park is bounded on the north and eastern side by Dunns Creek. Approximately six river miles of shoreline exists within the confines of Dunns Creek, however, only about 2000 feet is truly accessible for recreation.

Significant Wildlife Habitat

Many of the natural communities existing at Dunns Creek provide significant wildlife habitat. Twenty-four designated animal species and nine designated plant species are found at the park including gopher tortoises, gopher frogs, wading birds, Etonia false rosemary, Sherman's fox squirrels, and black bears. The mix of habitat types at Dunns Creek serves to protect these and other species.

Natural Features

Dunns Creek State Park contains several notable natural features including Dunns Creek, Sugarbowl Lake, and the slope forests and seepage stream communities. Dunns Creek and Sugarbowl Lake are the most scenic of the natural features while the slope forests and seepage stream communities may be the most significant because of their association with the steepheads, the populations of rare plants and animals they support, and their visual appeal.

Archaeological and Historical Features

The history of the Dunns Creek and St Johns River area is quite rich, dating back to prehistoric times. Dunns Creek was occupied and utilized by native Americans during the full sequence of Precolumbian cultural periods from the Paleo Indians through the St Johns Periods.

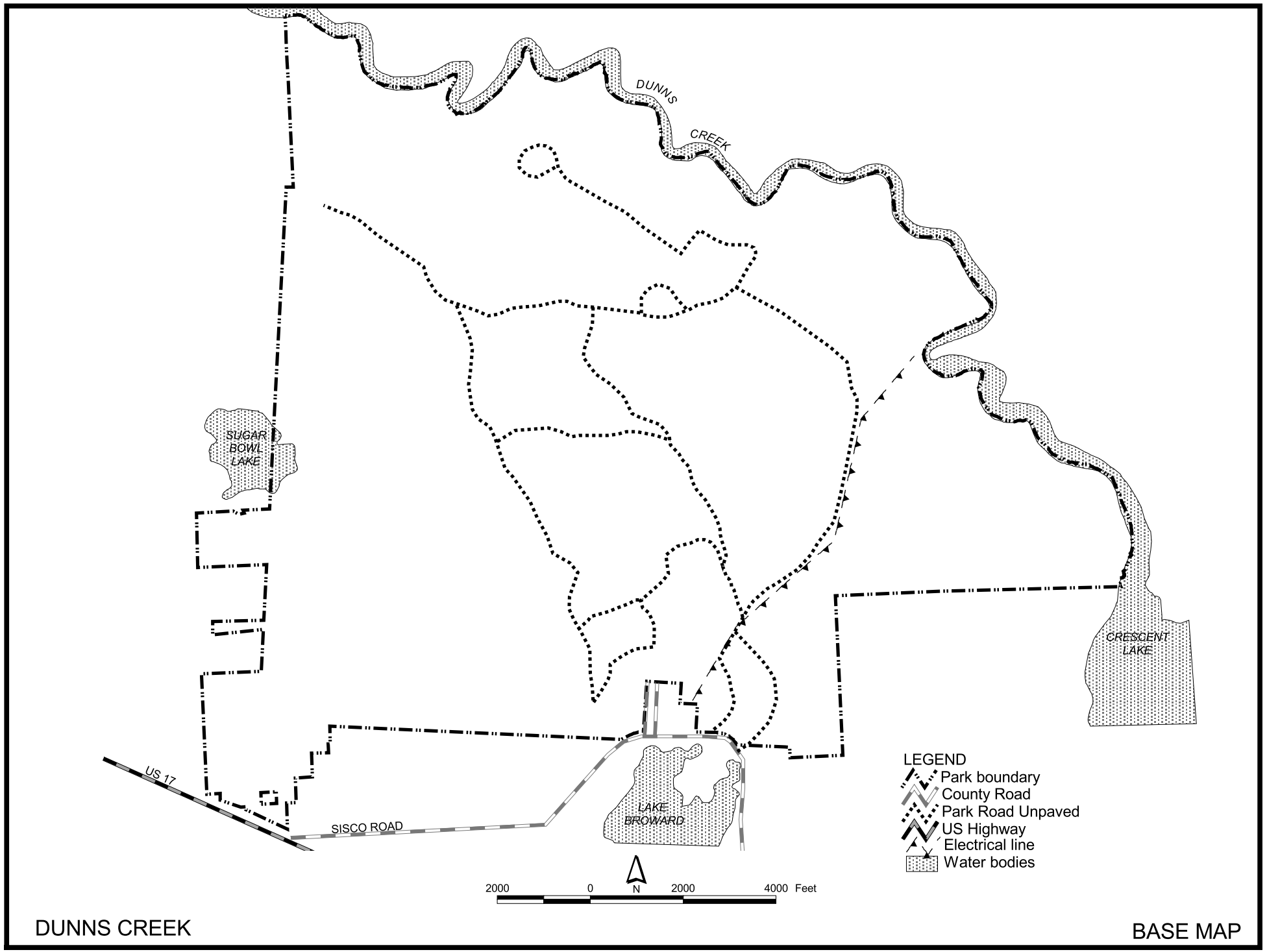
There is currently only one recorded archaeological site within the boundaries of Dunns Creek. 8PU723, Piney Bluff Landing, is an Orange through St. Johns II period shell midden located along the edge of Dunns Creek. Other artifacts dating to the Archaic Period have reportedly been recovered from Dunns Creek adjacent to the midden site (Florida Department of State: 8PU723, Newman and Dunbar 2002). The midden has been damaged by 20th century shell mining, and erosion by Dunns Creek, but remnants of the midden appear to be relatively intact.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads, trails and easements existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

Dunns Creek has a long history of use dating back to both prehistoric and historic times. The area around Dunns Creek and the St. Johns River in Putnam County was occupied and utilized by native Americans during the full sequence of Precolumbian cultural periods, beginning with the Paleo Indian, and continuing through the Archaic, Mount Taylor,



DUNNS CREEK

BASE MAP

Orange, Transitional, and St. Johns Periods.

The Spanish, French, and British, in turn, all claimed and explored the north Florida coast and the interior behind it, with the Spanish and British making land grants to encourage settlement (Crane 1981, Gannon 1996). From the times of Spanish exploration until about the mid to late 1800s, the land that has since become Dunns Creek, was mostly likely part of a larger plantation that produced such cash crops as sugar, molasses, rum, rice and indigo.

In the 1880s, the Dunns Creek property played an important role in the development of the Palatka area by housing a railroad station, post office, express office, general store and lodging facility developed by Mr. Henry W. Sisco along the Jacksonville, Tampa, and Key West Railroad. A farming, timbering and turpentine community, Sisco, grew up along this facility. In 1898, the station facility was sold to Mr. H. A. Ring and then eventually resold to the African American Masons to act as a retirement home. The Dunns Creek property eventually housed a hunt club in the mid 1900s and then was sold to the Nature Conservancy in the 1990s who, in turn, transferred ownership to the state for the continued preservation, restoration and management of its natural and cultural features in perpetuity by the Division.

Recreational Uses

Traditional recreational uses at Dunns Creek include hunting, fishing, and hiking. These activities have occurred in the past because of the property being part of a hunt club and because of its location along Dunns Creek and near the St Johns River. Hunting has not been allowed on the property since the Nature Conservancy acquired it. Fishing on Dunns Creek is actively managed by the Florida Fish and Wildlife Commission and will, with hiking, be important recreational components of the state park.

Other Uses

The St Johns River Water Management District monitors several wellheads across the property.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Dunns Creek, all wetland, sandhill, scrub, seepage stream, steephead, slope forest communities have been designated as protected zones as delineated on the conceptual land use plan. The entire area around the steepheads is especially sensitive ecologically and therefore access to this area will be limited to foot traffic only.

Existing Facilities

Recreation Facilities
Trailhead
Interpretive kiosk

Support Facilities
Restroom (1)
Entrance gate (1)
Trailhead parking (10 spaces)
Equipment shed

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan (CLUP), as funding becomes available.

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

Dunns Creek has the potential to provide major recreational and educational opportunities for northeast Florida. The conceptual land use plan proposes a campground, trails, picnic areas, a small boat ramp, a canoe/kayak launch, boardwalks and overlooks, and equestrian facilities that will serve to provide visitors with opportunities to explore the park and observe wildlife supported within its boundaries. Hiking, horseback riding, fishing, camping and wildlife observation will be the primary recreation activities provided for at the park. . Interpretive facilities such as kiosks will help foster the visitors' understanding of the surrounding environment and the management practices necessary to preserve the resources of the park. The proposed facilities will allow visitors to enjoy the park while protecting the integrity of the sensitive resources and habitats.

Recreation Facilities

Piney Bluff Landing Area. The area that will capture the visitor's interest the most is the Piney Bluff Landing Area. This section, located in the eastern section of the park, offers a scenic vista of Dunns Creek, exceptional wildlife viewing, and recreational canoeing, kayaking and fishing opportunities. This is the only area in the park where the Dunns Creek shoreline is truly accessible. Proposed facilities for this area include: two 30 site modern camping areas with bathhouses, up to 8 rustic cabins, a picnic area with two medium and one large shelter and scattered tables and grills, a boardwalk loop trail through the floodplain swamp with overlooks on Dunns Creek, several platforms to provide fishing access to the creek, a boat docking facility that will serve as a docking area for the proposed County riverboat tours and provide 12 boat slips, a canoe/kayak launch, a concession building with a restroom, and a parking lot (up to 70 spaces). It is proposed that the first 30 site standard camping loop be built near the river in an area of xeric hammock. A second 30-site loop should be developed in an area of mesic flatwoods to the west of the split in the park entrance road as shown on the CLUP. Up to eight rustic cabins are proposed to be located in the xeric hammock north of the main Piney Bluff Landing public use area. The concession

HITCHING AREA & TRAILHEAD

STEEPHEADS OVERLOOK

PRIMITIVE GROUP CAMP, TRAILHEAD & PARKING

GOPHER FROG POND PICNIC AND PRIMITIVE CAMPING AREA

PINEY BLUFF LANDING

SUGARBOWL LAKE OVERLOOK

SUGARBOWL LAKE

DUNNS CREEK

SEE SHEET 2 OF 2

WESTERN PICNIC AREA

MAINTENANCE AREA & RESIDENCES

TENT CAMPING AREA

TRAILHEAD

BLUE HOLE PICNIC AREA

RANGER STATION

CRESCENT LAKE

EQUESTRIAN CAMPING AREA

TRAILHEAD

U.S. 17

LAKE ROAD

SISCO ROAD

LAKE BROWARD

EAST MAINE STREET

OVERALL VIEW W/ PROTECTED ZONES

LEGEND

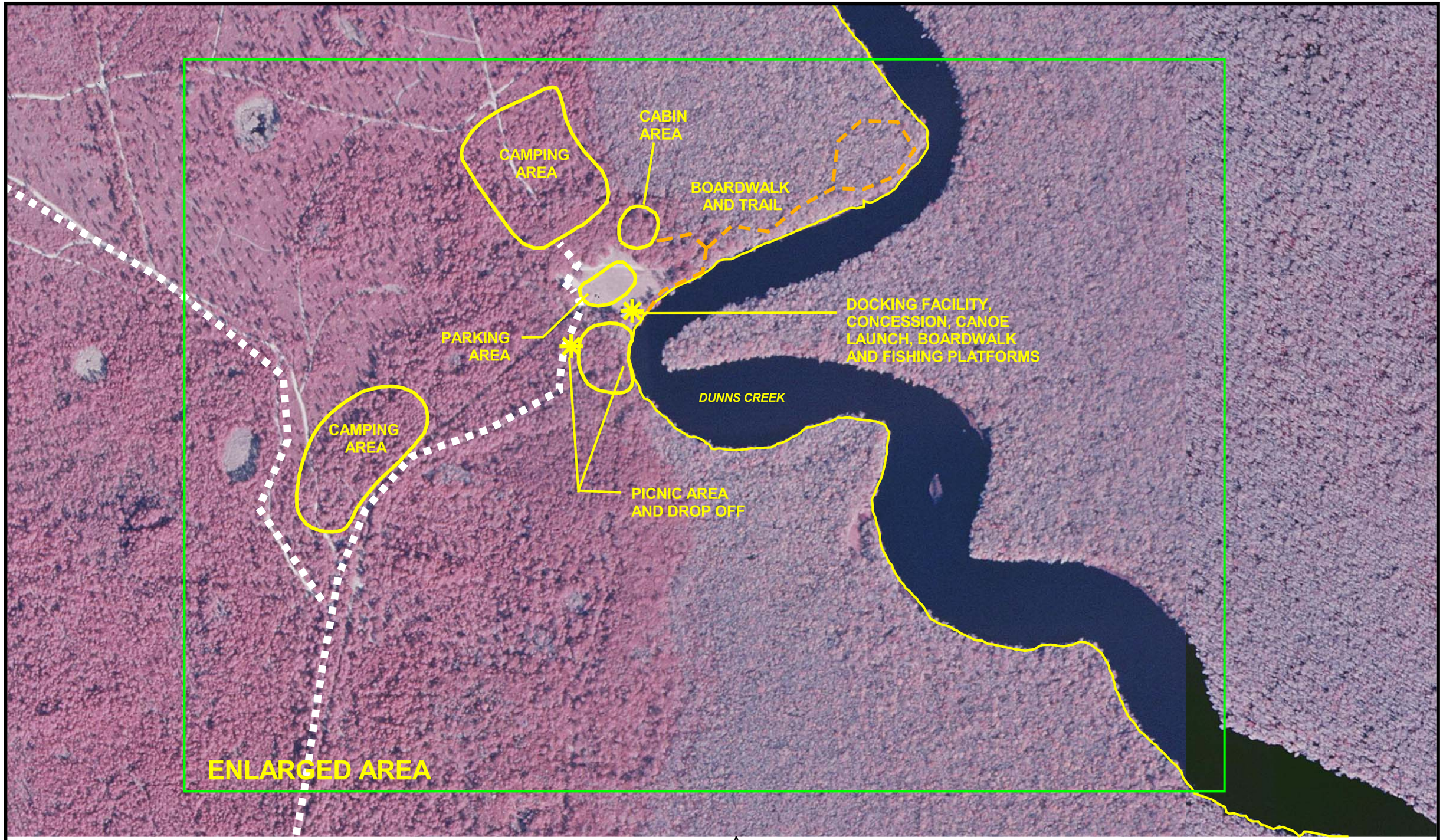
- HIKING TRAILS
- SHARED USE TRAILS
- EQUESTRIAN TRAILS
- PROPOSED PARK ROAD
- PROPOSED BOARDWALK
- PROPOSED FACILITIES
- PARK BOUNDARY

DUNNS CREEK STATE PARK

3000 0 N 3000 6000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning
ADVISORY GROUP DRAFT

CONCEPTUAL LAND USE PLAN
SHEET 1 OF 2



DUNNS CREEK STATE PARK

750 0 750 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

CONCEPTUAL LAND USE PLAN
SHEET 2 OF 2
PINEY BLUFF LANDING

building should be large enough to accommodate a canoe/kayak rental, a gift shop, interpretive exhibit area, and a restroom. An old house currently exists at this site. It is recommended that this house be torn down.

The proposed picnic area will be designed to double as a public assembly area to accommodate special events, such as large family reunions, church, social and tour groups. The large picnic shelter should be designed and located in such a position to function as a central pavilion or stage area for these events, and the design of the site will include open adequate open space for this function.

Park-operated or concessionaire services. A commitment to public/private partnerships between the Division and private businesses is a key recommendation of this plan. The partnerships will be assigned to deliver transportation, canoe/kayak outfitting, Outfitter's Tours, and other services to the visiting public. The proposed arrangement for qualified local private sector businesses to provide in-park transportation is intended to generate an appropriate level of public access to the state park while minimizing physical and aesthetic impacts to the protected landscape.

Park-operated or concessionaire services will be arranged to transport visitors from Piney Bluff Landing to the Gopher Pond Picnic and Primitive Camping Area, the steepheads, and the Sugarbowl Lake Overlook areas. The unique tours will provide interpretive tours along service roads in the northern portion of the state park, and will allow visitors an alternative mode of access to several of the natural features and primitive campsites along that route. The tour route will use only permanent service roads that are to be maintained for resource management activities. The tours will maintain a regular schedule in order to acclimate the wildlife to the disturbance, to insure quality wildlife viewing opportunities.

Equestrian camping area. There is a high demand among recreationists in the north central region of the state for more equestrian areas and Dunns Creek can meet some of this demand. The equestrian area will be located in the southeast corner of the park in an area of noticeably disturbed sandhill. This area will feature a 15 site modern campground, up to five additional equestrian tent camping sites, stables, and a bathhouse. The campsites should be located off the road and contain three highline-tethering poles and a watering station at each site. Both shared use and horse trails will be located throughout the park.

Primitive camping area. The primitive campsites will be developed in the mesic flatwoods between the proposed equestrian camping area and the maintenance/residences area. These sites should be walk-in tent sites and should contain three – five designated tent sites, fire rings, and a composting restroom. A pull-off parking area for 3-5 cars should be developed off the entrance road. The camping area should be designated as a pack-in/pack-out area in terms of garbage removal and Leave No Trace ethics should be promoted using appropriate signage.

Blue Hole picnic area. This area is located in the southwest corner of the park. It will be a hike-in picnic area that consists of a small picnic shelter and scattered tables and grills near the shoreline of Blue Pond, a sinkhole lake. Parking and a restroom for this picnic area will be located at the trailhead off U.S. Highway 17.

Gopher Frog Pond picnic and primitive camping area. This picnic/camping area will be located in the northwest section of the park, just north of Gopher Frog Pond. This area will contain scattered picnic tables and grills, two primitive campsites with fire rings, a composting restroom, and designated tent areas. It will be located near some of the most ecologically sensitive areas in the park and therefore will require monitoring. All facilities will be built a minimum 150-200 feet away from the frog pond. Hiking-only trails will lead

to Gopher Frog Pond and the steephead overlooks from the picnic/camping area. Horses and bikes will be prohibited from going to Gopher Frog Pond and the steephead overlook. Hitching posts and tethering poles will be located to the north of this area to act as a transition area between the shared use trails to the east and southwest and the hiking-only trails leading to these sensitive natural areas. A shared use trail will connect the picnic/camping area to the proposed Western Picnic Area. This trail will cross through some of the best sandhill habitat in the park and will allow access to the western half of the park. The camping area should be designated as a pack-in/pack-out area in terms of garbage removal and Leave No Trace ethics should be promoted using appropriate signage.

Steephead overlook. A boardwalk and overlook will be built near one of the steepheads ravines. The overlook will allow visitors to observe an unusual natural feature while preventing the erosion and other impacts that could occur with public use. This area will be hike-in only. It should be designated as a pack-in/pack-out area in terms of garbage removal and Leave No Trace ethics should be promoted using appropriate signage.

Western picnic area. This picnic area will be located in the western section of the park, just south of Sugarbowl Lake. It will feature a large picnic shelter, scattered tables and grills, a restroom, a trailhead and stabilized parking. This area will be developed if Putnam County purchases and develops a right-of-way off U.S. Highway 17 through the "St Johns Riverside Estates" neighborhood. It will allow additional access to the park from U.S. Highway 17. The area will connect via trail to the rest of the park.

Sugarbowl Lake overlook. A primitive overlook should be developed off the shared-use trail that runs from Gopher Frog Pond to the proposed Western Picnic Area. Interpretive signage, appropriate fencing and/or decking should be provided.

Primitive group camp and parking area. The primitive group camp will be located in a section of mesic flatwoods in the north central part of the park. This one-acre area will house a designated tent area, a fire ring, and a bathhouse. This area should be designated as a pack-in/pack-out area in terms of garbage removal and Leave No Trace ethics should be promoted using appropriate signage. A parking area will be located to the southeast, approximately 1000 feet from the group camp. The parking area will also serve as a trailhead.

Trails. Dunns Creek will have an extensive multi-use trail system that displays some of the ecological highlights of the park. The trails will be primarily shared use between equestrians, bicyclists, and hikers. In the western area of the park between the Gopher Frog Pond Primitive Picnic and Camping Area, the steephead ravines and Sugarbowl Lake area, the trails will be limited to hikers only in order to protect the unique natural features of the area. A section of trail in the middle part of the park will be limited to equestrians.

Trailheads. A trailhead is currently in existence at the park off U.S. Highway 17. Up to five additional trailheads are proposed for Dunns Creek. Each proposed trailhead will contain interpretive kiosks, equestrian hitching facilities, and a restroom. The proposed trailheads are to be located north of the Gopher Pond Primitive Picnic and Camping Area, near the Piney Bluff Landing Area, at the convergence between the entrance road at the equestrian camping area , and at the primitive group camp parking area. The trailhead to the north of the Gopher Frog Pond will not be open to vehicles, rather, it will be a point of transition from shared use trails to hiking only trails to protect the sensitive resources located in the vicinity. This trailhead will contain a corral for horses as well as a composting restroom and interpretive kiosks. The Piney Bluff Landing trailhead as well as

the primitive group camp area and entrance road/equestrian area trailheads will offer stabilized parking for up to 10 vehicles as well as the other facilities. The Western Picnic Area will house a trailhead with stabilized parking when it is developed. This area will connect via shared use trails to the rest of the park.

Interpretive exhibits. Interpretation is a major focus of the Florida State Park system. Interpretive displays and exhibits will be needed throughout the park including in the picnic areas, the campground and primitive camping areas, the equestrian area, along hiking trails and at overlook areas as well as other places. Potential interpretive themes for Dunns Creek include: rare and endangered species, the steepheads, the natural and cultural history of Dunns Creek, native American history, sinkhole lakes, wetlands ecology, the hydrology of Florida, and Leave-No-Trace ethics. It is recommended that an interpretive master plan be developed before any displays or exhibits being created.

Support Facilities

Paved entrance road. A paved entrance road should be developed in the eastern area of the park off Sisco Road. This two-lane road will follow the alignment of an existing jeep trail. It will connect to a spur road for the proposed equestrian camping area, and to the main park development proposed for the Piney Bluff Landing development area, then turn to the west to provide access to the proposed primitive camping area and trailhead. All necessary traffic and engineering studies required to determine compliance with the Putnam County Comprehensive Plan will be completed during the preliminary planning and design phases of the park development project.

Stabilized equestrian area road. A stabilized two-lane loop road should be built in the area shown on the CLUP. The loop should be one-way and have campsites built off it.

Ranger station. A large ranger station should be built on the park entrance road between the entrance and the equestrian area road. This ranger station will act as a primary contact and fee collection point, provide ranger office space and security.

Maintenance area and residences. A maintenance area and two park residences will need to be constructed in the eastern end of the park, between the equestrian area and the Dunns Creek Overlook Area. A three bay shop, a three bay equipment storage building, and a flammable storage building are proposed to help facilitate resource management and provide visitor services. Two park residences are recommended to help house staff and provide security on the park.

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 7. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

Recreation Facilities

Piney Bluff Landing Area
Standard camping area (2)
Camping area bathhouse (2)
Rustic cabins (8)
Boardwalk with fishing piers (2500 ft)
Boat docking facility (16 slips)
Picnic shelters (2 medium, 1 large)
Scattered tables and grills
Stabilized parking (70 vehicles)
Canoe/kayak launch
Concession building
Restroom
Fishing platforms (4 to 6)

Equestrian Area
Standard equestrian camping area (15 sites)
Equestrian tent camping sites (5)
Highline tethering poles (3 per site)

Stables
Camping area bathhouse

Tent Camping Area
Designated tent sites (3-5)
Fire rings (3-5)
Composting restroom
Stabilized parking (3-5 vehicles)

Blue Hole Pond Picnic Area
Small picnic shelter
Scattered tables and grills

Primitive Group Camp
Designated tent area
Campfire circle
Bathhouse
Parking area (20 spaces)
Composting restroom

Gopher Pond Primitive Area
Scattered tables and grills
Primitive campsites (2)
Fire rings (2)

Equestrian highline tethering poles and hitching posts (5)
Composting restroom

Western Picnic Area
Large picnic shelter
Scattered tables and grills
Composting restroom
Stabilized parking (10 spaces)

Sugarbowl Lake Overlook
Overlook area
Interpretive signage
Fencing/decking

Trailheads
Stabilized parking (10 spaces @ 2 possible sites, 20 spaces @ 1 site)
Interpretive displays
Composting restroom
Equestrian highline tethering poles (3 @ 5 possible sites)
Corral (1)

Support Facilities

Roads
Paved entrance road
Stabilitized equestrian campground road

Management Support
Ranger station
Three bay shop
Three bay equipment storage building
Flammable storage building
Ranger residences (2)

Existing Use and Optimum Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

The optimum carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 1.

Table 1-Existing Use and Optimum Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Camping						
Standard			240	240	240	240
Equestrian			60	60	60	60
Primitive			28	28	28	28
Primitive Group			60	60	60	60
Picnicking			248	496	248	496
Fishing						
Shoreline			80	160	80	160
Boating						
Canoeing/kayaking			15	30	15	30
Trails						
Equestrian			24	48	24	48
Shared use			100	200	100	200
Hiking			60	120	60	120
TOTAL	**0**	**0**	**923**	**1442**	**923**	**1442**

Optimum Boundary

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency. At this time, no lands are considered surplus to the needs of the park.

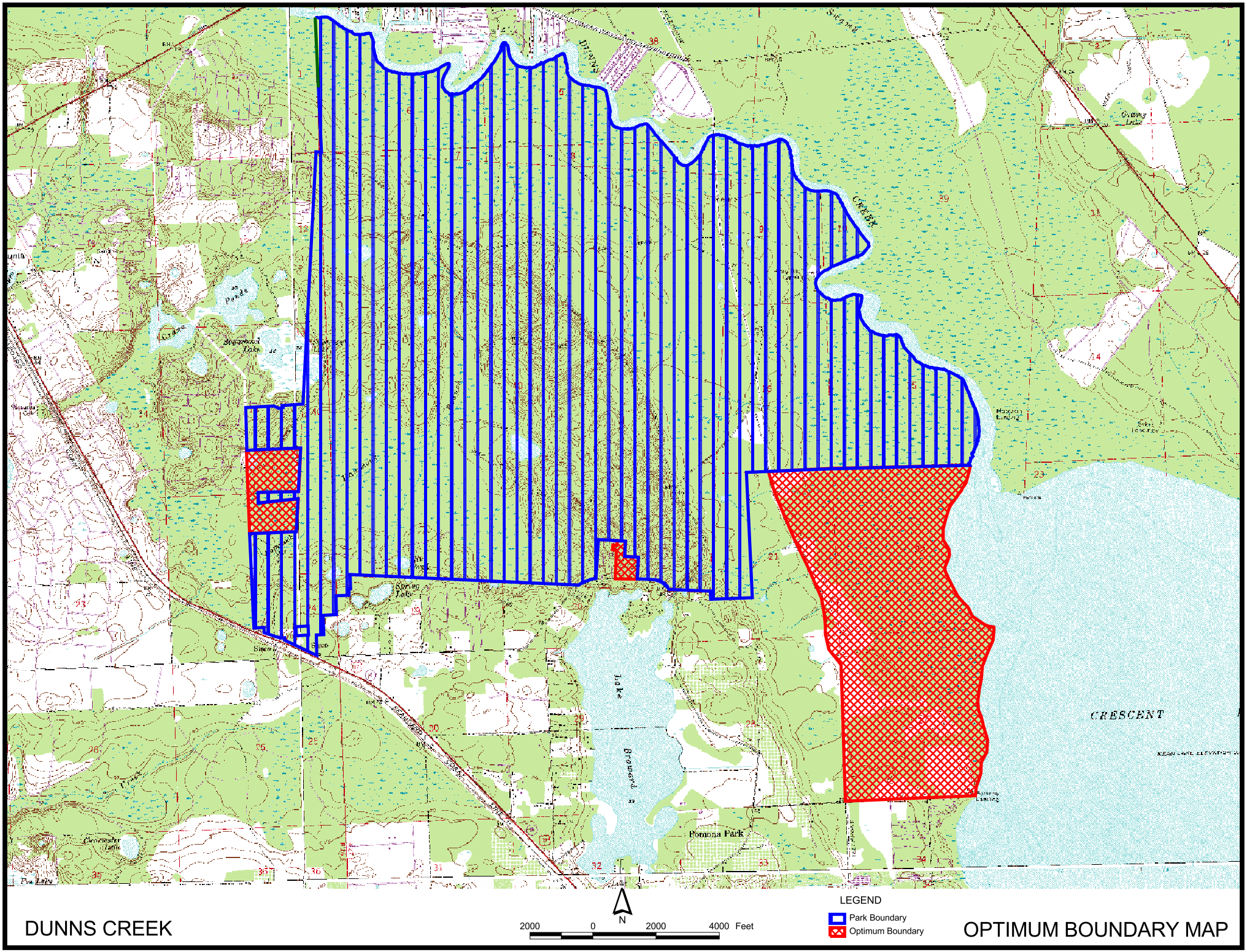
Identification of lands on the optimum boundary map is solely for planning purposes and not for regulatory purposes. A property’s identification on the optimum boundary map is not for use by any party or other government body to reduce or restrict the lawful right of private landowners. Identification on the map does not empower or require any government entity to impose additional or more restrictive environmental land use or zoning regulations. Identification is not to be used as the basis for permit denial or the imposition of permit conditions.

The optimum boundary map reflects lands identified for direct management by the Division as part of the park. These parcels may include public as well as privately owned

lands that improve the continuity of existing park lands, provide additional natural and cultural resource protection, and/or allow for future expansion of recreational activities.

The optimum boundary for Dunns Creek includes the potential acquisition of nearly 1700 acres. Among the parcels included in the optimum boundary are the following: a nearly 30 acre parcel is located between Cisco Road and the parks south central boundary, a 1400 acre parcel on the southeast end of the park that is currently a pine plantation, an inholding on the southwestern area of the park, and two parcels that would create a broader boundary on the park's western end.

On the southeast end of the park, the acquisition of the approximately 1,400-acre pine plantation would allow for the expansion of park facilities from the main part of the park to potentially the shore of Crescent Lake. The potential acquisition of the 30-acre parcel along the park's south central boundary could provide additional housing and shop capabilities as well as direct access to the central part of the park. The purchase of the inholding in the southwestern area of the park would allow for additional facilities within this area and allow the Division to own all lands within the park's boundaries. By acquiring the two parcels on the western boundary, the park could potentially connect the proposed western picnic area with U.S. Highway 17 (depending upon the county's purchase of a corridor between the two areas) and allow the park to protect the Hammock Branch watershed.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Park Boundary
Optimum Boundary
OPTIMUM BOUNDARY MAP
CRESCENT
Bonona Park

Addendum 1—Acquisition History and Advisory Group Documentation

Purpose and Sequence of Acquisition

The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) acquired Dunns Creek State Park to develop, operate and maintain the property for outdoor recreation, park, conservation, historic, and related purposes.

The Trustees obtained title to Dunns Creek State Park on October 10, 2001. About 4,544 acres of Dunns Creek State Park was purchased from The Nature Conservancy. The purchase was funded under the P2000/CARL program. The Trustees acquired the rest of the property through donation and exchange. On December 17, 2001, the Trustees leased Dunns Creek State Park to the Division of Recreation and Parks (DRP) for a period of fifty (50) years under Lease No. 4345. The lease will expire on December 16, 2051.

According to Lease No. 4345, the Division manages Dunns Creek State Park only for the conservation and protection of natural, historical, and cultural resources and for resource-based public outdoor recreation compatible with the conservation and protection of the property.

Title Interest

The Trustees holds fee simple title to Dunns Creek State Park.

Special Conditions on Use

Dunns Creek State Park is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in the Unit Management Plan of this property) are not consistent with the management purposes of the property.

Outstanding Reservations

There are no outstanding rights, reservations, and encumbrances that apply to Dunns Creek State Park.

Dunns Creek State Park
List of Advisory Group Members

The Honorable Brad Purcell
Putnam County Board of County Comissioners
Post Office Box 758
Palatka, Florida 32178-0758

The Honorable T. Alonzo Middleton
Mayor
City of Pomona Park
1775 Highway 17 South
Pomona Park, Florida 32181-0518

The Honorable Karl Flagg
Mayor
City of Palatka
201 North Second Street
Palatka, Florida 32177

Robert Rundle, Park Manager
Ravine Gardens State Park
Post Office Box 1096
Palatka, Florida 32412

Teddy Siehler, Chair
Putnam County Soil and Water Conservation District
Post Office Box 330
Pomona Park, Florida 32181

The Honorable Walt Thompson
The Nature Conservancy
222 South Westmont Drive, Suite 300
Altamonte Springs, Florida 32714-4269

Joe Dziak, President
Flagler County Audubon Society
Post Office Box 350695
Palm Coast, Florida 32135-0695

Robert Perez, Chair
Sierra Club, Suwannee-St. Johns Group
Post Office Box 217
Alachua, Florida 32616

Robbie Smith, President
Putnam County Environmental Council
Post Office Box 217
Lake Como, Florida 32157

Barbara Golden, Vice President
Putnam County Chamber of Commerce
Post Office Box 1920
Palatka, Florida 32178-0550

Mr. Larry Pritchett
Waterfront Development Committee
Putnam County Chamber of Commerce
Palatka, Florida 32178-1920

Mr. Ray Hetchka
Kayak Amelia
2701 Le Sabre Place
Fernandina Beach, Florida 32034

Ms. Mary E. Wells
S.H.A.D.O. Riders
27 Dog Branch Road
East Palatka, Florida 32131

Ms. Deborah Stewart-Kent
Florida Trail Association
North Florida Trailblazers Chapter
2740 Broadway Avenue
Jacksonville, Florida 32254

Ms. Cheri Roberts
Off-road Bicycle Representative
Post Office Box 605
Lake Como, Florida 32157

Ms. Lilian Malphurs
280 Pomona Landing Road
Crescent City, Florida 32112

Mr. Rick Wotring
189 Sisco Road
Pomona Park, Florida 32181

Jim Hester, President
Friends of Dunns Creek State Park
319 Tarpon Boulevard
Palatka, Florida 32177

Mr. Scott Crosby
Florida Division of Forestry
390 Holloway Road
Florahome, Florida 32140

Mr. Mike Abbott
Florida Fish and Wildlife Conservation Commission
Northeast Region
1239 S.W. 10th Street
Ocala, Florida 34474

Mr. Don West
Florida Division of Forestry
The Waccasassa Forestry Center
1600 Northeast 23rd Avenue
Gainesville, Florida 32609

Ms. M.E. Sarno
400 Sesco Road
Pomona Park, Florida 32181

The Advisory Group appointed to review the proposed land management plan for Dunns Creek State Park was held at the Pomona Park Community Center on May 14, 2003. Ms. M.E. Sarno represented Ms. Lillian Malphurs and Mr. Scott Crosby represented Mr. Don West. Mr. Mike Abbott, Mr. Joe Dziak, Mr. Robert Perez, and Ms. Deborah Stewart-Kent did not attend. All other appointed Advisory Group members were present. Ms. Stewart-Kent phoned in her comments prior to the meeting. Attending staff were Larry Fooks, Donald Forgione, Robert Rundle, J.B. Miller, Nicky Makruski, Lew Scruggs, and K.C. Bloom.

Ms. Bloom began the meeting by explaining the purpose of the advisory group and reviewing the meeting agenda. He also provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop and comments submitted by non-attending members of the Advisory Group. She then asked each member of the advisory group to express his or her comments on the plan.

Summary Of Advisory Group Comments

Mr. Walt Thompson expressed concerns about how the plan is going to be implemented in terms of staffing. He stated that the plan was well thought-out and good overall but clarification and improvements need to be made in terms of the staffing requirements of the park. **Mr. Fooks** replied that the long-term vision for the park is to have 8-10 full time employees including a park manager, assistant manager, biologist, park specialist, rangers and maintenance personnel. He also stated that an FTE position was requested this past budget cycle and two OPS positions will be requested later this summer for the next year's budget package. **Mr. Scruggs** stated that parks often get staffed once development occurs and that the basic staffing requested in this plan is of a more technical nature.

Mayor Karl Flagg asked about the role that local governments can play to help get the park going? **Ms. Bloom** stated that the best thing the local governments can do is to contact their legislative delegation and make them aware of the needs for developing the State Park. **Mayor Flagg** stated that the plan seemed like it was in order.

Ms. M.E. Sarno stated that in representing **Ms. Malphurs** she had a number of questions to ask including the following:

(1) How flexible is the plan?
(2) Is it possible to develop a boardwalk into the swamp?
(3) Will areas not currently accessible from the trails be made accessible through a ranger-led tour?
(4) Will a moonlight wagon ride be possible?
(5) How about looking into grants for handicapped accessibility programs?

Ms. Bloom replied that the plan is flexible to some degree as the Division was looking for comments from the Advisory Group. She described the unit management planning process in detail. **Mr. Rundle** stated that while boardwalks were already in the plan that if **Ms. Malphurs** could tell him where she would like a boardwalk it would at least be considered. He continued that ranger-led tours and moonlight wagon rides would also be considered but that those are more operational questions rather than ones needing addressing in the plan. **Mr. Fooks** stated that the Division always is looking to make its facilities ADA compliant and that the Division also aggressively pursues grant funding. **Mr. Larry Pritchett** expressed that as the plan reaches pretty far into the future, it should not rule out the possibility of capital projects not currently in the draft. He continued that he saw parallels between the facilities at Ravine Gardens and those possible at Dunns Creek and that, from an economic development standpoint for the county, Dunns Creek needs to have facilities which will attract tourists. **Mr. Pritchett** thought primitive cabins, an amphitheater, and covered picnic pavilions would be appropriate additional developments for the park. **Mr. Rundle** described the development of Ravine Gardens as a city park by the Civilian Conservation Corps in the 1930s and stated that some of the facilities at that park are more focused towards a different type of recreation. **Mr. Scruggs** asked what size amphitheater would be appropriate. **Mr. Pritchett** described that he was thinking of a facility that would be appropriate for school groups and small concerts with seating available for

approximately 200 people. **Mr. Scruggs** asked if a covered picnic pavilion would be suitable for those purposes. **Mr. Pritchett** agreed that that would be satisfactory.

Mr. Brad Purcell described the park as part of a county's ecotourism initiative and stated that it seemed like the Division was under-utilizing accessibility both to the park as well as to areas within the park. He stated his concerns as follows:

- Need road access to other areas of the park
- Has concerns about the Sisco Road entrance
- County has applied for money to improve Sisco Road but has not yet gotten it
- Park needs more facilities to draw visitors
- A boat ramp and a canoe launch would be desirable
- The equestrian facilities need to be increased in size and placed closer to the trail system
- SJRWMD is planning a canoe/kayak access at Murphy Creek
- The county has land at the end of Pomona Landing Road that could provide a pick-up point for a canoe trail
- An access point to the overlook at Sugarbowl Lake should be provided
- The Division should provide short bike trails as suggested at the public meeting
- Primitive campsites are excellent
- RV sites are a necessity
- A loop road is desirable
- In terms of a no-wake zone, the county will look at supporting one if a boat ramp is proposed.
- Need to preserve the archaeological site at Piney Bluff Landing which will limit development.
- Need restrooms and shelters on the trails.
- Need a western fire access gate
- A real emphasis needs to be placed on wildlife viewing opportunities
- Bank fishing facilities are needed
- Cabins should be considered
- Universal accessibility should be very important
- Pg. 20 refers to the impacts of a wellfield on the park. The county is employing a highly qualified firm to provide studies of the potential wellfield. The development potential around the park could have a greater impact on the park than a wellfield and this needs to be addressed.

Ms. Bloom responded that the Division would take the county's concerns into consideration. She continued that the Division has analyzed the park entrance possibilities for months and feels that it is in the best interest of the park from an economic, environmental and public usage standpoint to have the entrance off Sisco Road.

Mayor Alonzo Middleton stated that the plan is a good starting point. He suggested that the steepheads are an important area within the park and should be accessible but protected. **Mayor Middleton** also supported the concept of an entrance off of Sisco Road because of the cost and potential environmental impacts that a road off of U.S. Highway 17 would have on the park. He believes the park will be an economic benefit to the county.

Mr. Teddy Siehler stated that NRCS will help anyway possible in the development of the park. He stated that there is a lack of access to some areas of the park and that not having a loop road is a limitation.

Mr. Rick Wotring stated that as a Sisco Road resident, he is concerned about the impact of the park entrance on the residents and Lake Broward. He stated that other entrance routes would avoid traffic problems as well as the environmental impacts. **Mr. Wotring** also believes that a boat ramp is needed, more accessibility to the main features of the park is desirable, a museum could house local artifacts, and an idle speed zone is a necessity for safety and manatee protection on Dunns Creek.

Ms. Barbara Golden stated that the trail system needs to be made more accessible and suggested that

a shuttle could take people to the main natural features of the park. She suggested that cabins would be desirable as well as docking for kayaks. **Ms. Golden** stated that Dunns Creek is a link in a blueway that currently in the planning phases by the county and that an interpretive site on the heritage of the area would be appreciated. She also would like to see separate trails developed for horses, hikers and bikers.

Mr. Robbie Smith expressed approval of the plan and its content. He stated that he agrees with **Mr. Pritchett** and **Mr. Purcell** that the park needs to protect the natural and cultural resources but provide good development for public access. He stated concerns about the proposed county wellfield and its potential impacts on the park and believes that the key to a successful park will be people management.

Ms. Mary Wells discussed that as an equestrian, she was ok with the location of the equestrian facilities and was happy about the trail system. She feels that 15 fully developed sites with some primitive tent sites would be ideal. Ms. Wells stated that out-of-state visitors would come for five day to two week long stays at the park. She also felt that tethering lines and hitching posts would be more suitable than a corral at the Gopher Frog Pond trailhead area. She asked that all horse sites have shade and avoid gravel or rock as a campsite/trailhead substrate for the health of the horses. **Ms. Wells** also stated that eventually it would be nice to have single-track horse trails and that SHADO Riders are willing to help develop the trail system at the park.

Mr. Ray Hetchka expressed concerns about the staffing level of the park. He stated that paddlers can share a boat ramp but a sandy beach or separate launch is preferable. He felt that the equestrian facilities and the proposed blueway link are very good things for the area.

Mr. Scott Crosby described the importance of getting the park on the Great Florida Birding Trail. He suggested that some of the goals and objectives be clarified in the Resource Management Component and that an evaluation process to measure progress be developed in the plan. **Mr. Crosby** stated that it would be more cost effective to mark boundaries rather than fence them, that it would be important to have additional road access for fire-related emergencies. He also felt that the term "high grade timber" be better defined and the "BMP" for timber management be changed to "proper silvicultural practices." **Mr. Miller** responded that he would take **Mr. Crosby's** comments under consideration and that keys, locks and maps are already available to all local fire officials.

Ms Cheri Roberts suggested that as black bears are in the park, that the Division and State should pursue tying the conservation areas together to create a corridor for the bears and other wildlife. She felt that it could be best accomplished through additng areas at the park's northwest corner to the optimum boundary. **Ms. Roberts** also felt that shorter, more dynamic bike trails could be created in the southwest corner of the park.

Ms. Deborah Stewart-Kent could not make the meeting but stated by phone that she supported the plan, appreciated the separate hiking trails, and liked the inclusion of Leave-No-Trace ethics for interpretation and visitor management purposes.

Summary Of Additional Public Comments

Ms. Caroline Skidmore stated that the park should be kept as natural as possible. She stated that interpretive signage will be an important educational component of the park and that accessibility for all people will be crucial. She stated that private enterprise through park concessions could meet a lot of the needs discussed today. Ms. Skidmore believes the park shouldn't be "all things to all people" and that Pomona Landing would be a better site for a boat ramp than the park.

Ms. Bloom thanked the Advisory Group and public for their time and comments and stated that the Division staff would take them into consideration. The meeting was then adjourned.

Staff Recommendations

A number of excellent suggestions were received from the Advisory Group and at the public workshop the previous evening that will improve the management plan for Dunns Creek State Park.

Division staff responsible for the various components of the management plan will make revisions as needed. After the Advisory Group meeting, staff conducted an additional planning meeting on site to consider a loop road, boat ramp, amphitheater, cabins, additional equestrian tent camping sites, and to reconsider the location of the park entrance road. The Division staff feels that it is not in the best interest of the park to include the following:

- **Loop Road**

Although a loop road would be a good amenity and allow access to some additional areas of the park, the construction of a loop road to deliver visitors in private vehicles to all activity sites in the state park is not feasible since that action would result in unacceptable environmental impacts and development costs. Transportation in the state park, however, can be provided very effectively by trails and by concessionaires' transportation services using buggies or passenger vans to accommodate visitors of all ages, physical abilities and preferences. The Division should pursue a concessionaire from the local business community to provide this service for visitors to the park to allow additional access to some of the natural and recreational features on the western end of the park.

- **Boat Ramp**

Due to the amount of proposed development and very limited developable area at Piney Bluff Landing along with the potential impacts to the cultural site, a boat ramp should not be developed at the park at this time. The Florida Park Service staff has tried to accommodate as many uses as possible for the benefit of the greatest number of people at Dunns Creek. While the staff feels that boating is a great recreation activity, the Piney Bluff Landing site can only be used for a limited number of activities and unfortunately boating is not recommended.

- **Amphitheater**

Generally, civic amphitheaters that accommodate large groups, and the parking and other support facilities they require are not compatible with resource-based recreation properties such as Dunns Creek State Park. However, the Florida Park Service has an excellent record of partnerships with local communities to sponsor special events. Staff recommends that the proposed Piney Bluff Landing picnic area should be designed to allow for a variety of special events including musical performances, environmental education activities, family reunions, weddings, and other functions.

The Division staff feels that the following facilities would work well in the park and could help meet many of the goals that the county and local communities hope to achieve through the development of the park. These facilities will be added to the "Potential Uses and Proposed Facilities" section of the plan.

- **Cabins**

Cabins have long been a recreational amenity provided by the Florida Park Service. The Division staff feels that the provision of cabins at Dunns Creek State Park will serve to enhance the visitor experience at the park. Up to eight rustic cabins are recommended for development in the area of hammock north of Piney Bluff Landing.

- Equestrian Tent Sites

To further serve the equestrian user group at the park, up to five equestrian tent camping sites should be developed in the equestrian camping area along with the 15 modern campsites previously proposed in the plan.

- **Hitching posts/tethering poles**

Hitching posts and tethering poles are recommend for development at the Gopher Frog Pond trailhead rather than the corral that was previously proposed. The hitching posts and tethering poles will allow for more separation among individual horses.

- **Park-operated or Concessionaire Services**

A commitment to public/private partnerships between the Division and private businesses is a key recommendation of this plan. The partnerships will be assigned to deliver transportation, canoe/kayak outfitting, Outfitter's Tours, and other services to the visiting public. The proposed arrangement for qualified local private sector businesses to provide in-park transportation is intended to generate an appropriate level of public access to the state park while minimizing physical and aesthetic impacts to the protected landscape.

Park-operated or concessionaire services will be arranged to transport visitors from Piney Bluff Landing to the Gopher Pond Picnic and Primitive Camping Area, the steepheads, and the Sugarbowl Lake Overlook areas. The unique tours will provide interpretive tours along service roads in the northern portion of the state park, and will allow visitors an alternative mode of access to several of the natural features and primitive campsites along that route. The tour route will use only permanent service roads that are to be maintained for resource management activities. The tours will maintain a regular schedule in order to acclimate the wildlife to the disturbance, to insure quality wildlife viewing opportunities.

- **Sugarbowl Lake Overlook**

A primitive overlook should be developed off the shared-use trail that runs from Gopher Frog Pond to the proposed Western Picnic Area. Interpretive signage and appropriate fencing and/or decking should be provided.

Addendum 2—References Cited

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Addendum 3—Soil Descriptions

(1,2) Candler sand - This soil is strongly sloping to steep and excessively drained with a high water table at a depth of more than 80 inches. The available water capacity is very low or low in the surface layer and upper part of the subsurface layer. The permeability is rapid. Rainfall is rapidly absorbed, but runoff is rapid in areas without vegetation during intense rains. If a vegetation cover crop is not left on the surface, the hazard of erosion is severe. Most of the acreage of this soil is in natural vegetation that includes turkey oak and scrub live oak and a few longleaf pine. The understory vegetation includes pineland threeawn and bluestem.

(3) Myakka fine sand – This is a flatwoods soil which is nearly level and is poorly drained. Typically it has a high water table depth of less than 12 inches. The available water capacity is very low in the surface and subsurface layers, medium in the subsoil, and low in the substratum. The permeability is rapid. Typical natural vegetation is slash and longleaf pine, saw palmetto, gallberry, and pineland threeawn.

(4) Zolfo fine sand – This soil is nearly level and somewhat poorly drained. Typically it has a high water table depth of 24-40 inches. The available water capacity is medium in the surface, low in the subsurface, and medium to high in the subsoil. The upper soil layers have rapid permeability. Typical native vegetation includes longleaf pine, turkey oak, live oak, slash pine, and a sparse understory of wiregrass and bluestem.

(5,43) Placid fine sand, depressional – This is a very poorly drained, level soil. The typical high water table is above the surface for about 6 months per year. The available water capacity is high in the upper soils and low in the underlying material. The permeability is rapid. Typical native vegetation ranges from hardwoods such as cypress, black gum and red maple to marsh dominated by maidencane and sawgrass.

(6) Tavares fine sand, 0-5 % slopes – This soil is nearly level to gently sloping and is moderately well drained. The typical high water table depth is between 40–80 inches. The available water capacity is low with rapid permeability. Typical native vegetation is turkey oak, longleaf pine, and threeawn.

(7) Immokalee fine sand - This soil is level and poorly drained. It is typical of broad flatwood areas and long, narrow areas bordering drainageways. The typical high water table is at a depth of less than 12 inches. The available water capacity is typically low with fairly high permeability. Typical native vegetation is longleaf and slash pines with saw palmetto and gallberry in the understory.

(9) Pomona fine sand - This soil is poorly drained and nearly level. The typical high water table is at a depth of less than 12 inches. The available water capacity is typically low with rapid permeability. Typical native vegetation is longleaf and slash pines with saw palmetto and gallberry in the understory.

(12) Electra fine sand – This is a nearly level and poorly drained soil found primarily along drainageways in the flatwoods. The typical high water table is found between 25-40 inches deep. The available water capacity is low with rapid permeability which decreases with depth. Typical native vegetation includes scrub, live, and laurel oaks with bluestem and saw palmetto in the understory.

(13) St. Johns fine sand, depressional – This is a very poorly drained, level soil found in depressional areas in the flatwoods and uplands. The typical high water table is 1-2 ft. above the ground surface. The available water capacity is medium with rapid permeability which decreases with depth. Typical native vegetation includes bays, wax myrtle, gums and maples with maidencane and St. Johns wort in the understory.

(14) Cassia fine sand – This soil is nearly level and somewhat poorly drained found on small knolls in the flatwoods. The typical high water table is at a depth of 15-40 inches. The available water capacity is low with rapid permeability which decreases with depth. Typical native vegetation includes slash pine, live oak, saw palmetto and pineland threeawn.

(16) Adamsville sand - This soil is nearly level and somewhat poorly drained found on small knolls in the flatwoods. The typical high water table is at a depth of 20-40 inches. The available water capacity is low with rapid permeability. Typical native vegetation includes water, live and laurel oaks with some pines and a sparse understory which includes pineland threeawn and lopsided indiangrass.

(21) Apopka sand - This soil is sloping and is well drained and is on the uplands. The typical high water table is at a depth of more than 80 inches. The available water capacity is low with rapid permeability. Typical native vegetation includes turkey oak, longleaf pine and scattered live oaks with an understory of pineland threeawn and lopsided indiangrass.

(22) Tomoka muck – This organic soil is nearly level and very poorly drained. It formed in moderately thick beds of hydrophytic, non-woody plant remains and is typically found in depressional area in the flatwoods. The typical high water table at or above the surface except in extended droughts. The available water capacity is very high in the muck layer, low in the sandy area, and medium in the loamy layer. The permeability is rapid. Typical native vegetation includes bays, cypress, maples and other hardwoods. Some areas can contain marsh dominated by sawgrass and maiden cane.

(23) Palmetto fine snad - This soil is nearly level and poorly drained found in broad flatwood areas. The typical high water table is at a depth of 12 inches. The available water capacity is low with rapid permeability. Typical native vegetation includes lonleaf and slash pine with galberry and scattered palmetto in the understory.

(25) Narcoossee fine sand - This soil is nearly level and somewhat poorly drained found on small knolls and ridges in the flatwoods. The typical high water table is at a depth of 24-40 inches. The available water capacity is low with rapid permeability. Typical native vegetation includes scrub live oak, laurel oak, saw palmetto and pineland threeawn.

(26) Terra Ceia muck, frequently flooded - This soil is formed in organic material and is very poorly drained. It is found on broad to narrow floodplains along the St. Johns River and its tributaries. Slopes are concave or smooth with the gradient less than 1 percent.

Typically, the soil is black muck to a depth of about 64 inches or more. The water table is as much as 2 feet above the surface at times during the rainy season. It is at or above the surface for 6 to 9 months in most years and is seldom below a depth of 10 inches except during extended dry periods. Permeability is rapid throughout, but the internal drainage is impeded by the high water table. The available water capacity is high, natural fertility is moderate, and the organic matter content is high. Typical native vegetation includes sweet gum, red maple, cypress, bays and cabbage palm.

(27) Samsula muck - This organic soil is nearly level and very poorly drained. It formed in moderately thick beds of hydrophytic, non-woody plant remains and is typically found in depressional area. The typical high water table at or above the surface except in extended droughts. The available water capacity is very high in the muck layer and low in the underlying material. The permeability is rapid. Typical native vegetation includes bays, cypress, maples and other hardwoods. Some areas can contain marsh dominated by sawgrass and maiden cane.

(30) Hontoon muck - This organic soil is nearly level and very poorly drained. It formed in moderately thick beds of hydrophytic, non-woody plant remains and is typically found in depressional area in the flatwoods. The typical high water table at or above the surface except in extended droughts. The available water capacity is very high. The permeability is rapid. Typical native vegetation includes bays, cypress, maples and other hardwoods. Some areas can contain marsh dominated by sawgrass and maiden cane.

(34) Riviera fine sand - This soil is nearly level and poorly drained found on broad, low areas in the flatwoods. The typical high water table is at a depth of less than 12 inches. The available water

capacity is low with rapid permeability near the surface, decreasing with depth. Typical native vegetation includes longleaf and slash pine, cabbage palm with an understory of gallberry, wax myrtle and threeawn.

(39) Holopaw fine sand, depressional - This soil is nearly level and very poorly drained and is found in depressional areas in the flatwoods. The typical high water table is 1-2 feet above the ground surface. The available water capacity is low with rapid permeability which decreases with depth. Typical native vegetation includes cypress, sweetgum, red maple, and bays. Areas of sparse tree growth can have an understory component dominated by cordgrass and maiden cane.

(40) Paola fine sand 0-8% slopes – This soil is level to sloping, excessively drained and is located on ridges in the uplands. The soil has a high water table at a depth of more than 72 inches throughout the year. The available water capacity is very low and permeability is very rapid. Typical native vegetation is sand pine, scrub oaks and some saw palmetto.

(45,46) Astatula fine sand 0-15% slopes - This soil is nearly level to sloping and is excessively drained found on ridges and knolls in the uplands. The typical high water table is at a depth of more than 72 inches. The available water capacity is very low with very rapid permeability. Typical native vegetation includes longleaf pines, turkey oak, and scrub oaks. The understory is generally sparse dominated by threeawns and bluestem.

(52) Orsino fine sand 0-8% slopes - This soil is nearly level to sloping, moderately well drained and very rapidly permeable. It is found on slopes and ridges in the uplands. The typical high water table is at a depth of 40-60 inches. The available water capacity is low. Typical native vegetation includes oaks, saw palmetto, pineland threeawn and bluestems.

Addendum 4—Plant And Animal List

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Lichens		
Cladina evansii		
Cladina subtenuis		
Cladonia leporina		
Agavaceae		
Adam's needle	*Yucca filamentosa*	
Alismataceae		
Grassy arrowhead	*Sagittaria graminea*	
Bulltongue aroowhead	*Sagittaria lancifolia*	
Amaranthaceae		
Alligator weed	*Alternanthera philoxeroides* *	
Cottonweed	*Froelichia floridana*	
Amaryllidaceae		
Seven-sisters	*Crinum americanum*	
Anacardiaceae		
Winged sumac	*Rhus copallina*	
Poison-ivy	*Toxicodendron radicans*	
Poison sumac	*Toxicodendron vernix*	
Annonaceae		
Slimleaf pawpaw	*Asimina angustifolia*	
Flag pawpaw	*Asimina incana*	
Bigflower pawpaw	*Asimina obovata*	
Small fruited pawpaw	*Asimina parviflora*	
Apiaceae		
Coinwort	*Centella asiatica*	
Water hemlock	*Cicuta maculata*	
Fragrant eryngium	*Eryngium aromaticum*	
Button snakeroot	*Eryngium yuccifolium*	
Marshpennywort	*Hydrocotyle bonariensis*	
Apocynaceae (incl. Asclepidacae)		
Milkweed	*Asclepias humistrata*	
Milkweed	*Asclepias pedicellata*	
Aquatic milkweed	*Asclepias perennis*	
Florida matelea	*Matelea floridana*	21
Aquifoliaceae		
Carolina holly	*Ilex ambigua*	
Dahoon	*Ilex cassine*	
Large gallberry	*Ilex coriacea*	
Gallberry	*Ilex glabra*	
American holly	*Ilex opaca*	
Scrub holly	*Ilex arenicola*	
Araceae		
Jack-in-the-pulpit	*Arisaema triphyllum*	
Wild taro	*Colocasia esculentum* *	
Golden club	*Orontium aquaticum*	
Green arum	*Peltandra virginica*	
Water-lettuce	*Pistia stratiotes* *	
Araliaceae		
Devil's walking stick	*Aralia spinosa*	
Arecaceae		

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Needle palm	*Rhapidophyllum hystrix*	
Scrub palm	*Sabal etonia*	
Little blue stem palm	*Sabal minor*	
Cabbage palm	*Sabal palmetto*	
Saw palmetto	*Serenoa repens*	
Aristolochiaceae		
Virginia snakeroot	*Aristolochia serpentaria*	
Asteraceae		
Ragweed	*Ambrosia artemisiifolia*	
Florida Indian plantain	*Arnoglossum floridanum*	
Eastern silver aster	*Aster concolor*	
Elliott's aster	*Aster elliottii*	
White-topped aster	*Aster reticulatus*	
White-topped aster	*Aster tortifolius*	
Walter's aster	*Aster walteri*	
Saltbush	*Baccharis halimifolia*	
Saltwater falsewillow	*Balduina angustifolia*	
Soft greeneyes	*Berlandiera pumila*	
Florida greeneyes	*Berlandiera subacaulis*	
Common beggar's tick	*Bidens alba*	
Coastalplain chaffhead	*Carphephorus corymbosus*	
Deer tongue, vanillaleaf	*Carphephorus odoratissimus*	
Thistle	*Cirsium* sp.	
Horseweed	*Conyza canadensis*	
Slender scratchdaisy	*Croptilon divaricatum*	
Florida. elephant's foot	*Elephantopus elatus*	
Purple elephant's foot	*Elephantopus nudatus*	
Fireweed	*Erechtites hieracifolia*	
Daisy fleabane	*Erigeron quercifolius*	
White throughout	*Eupatorium album*	
Dog fennel	*Eupatorium capillifolium*	
Dog fennel	*Eupatorium compositifolium*	
False fennel	*Eupatorium leptophyllum*	
Justice weed	*Eupatorium leucolepis*	
Rough boneset	*Eupatorium pilosum*	
Slender goldenrod	*Euthamia caroliniana*	
Garberia	*Garberia heterophylla*	
Camphor plant	*Heterotheca subaxillaris*	
Hawkweed	*Hieracium gronovii*	
Shortleaf gayfeather	*Liatris tenuifolia*	
Rose-rush	*Lygodesmia aphylla*	
Cat tongue	*Melanthera nivea*	
Climbing hempweed	*Mikania scandens*	
Florida false sunflower	*Phoebanthus grandiflorus*	
Silver sword	*Pityopsis graminifolia*	
Salt marsh fleabane	*Pluchea odorata*	
Godfrey's fleabane	*Pluchea rosea*	
Blackroot	*Pterocaulon pycnostachyum*	
Goldenrod	*Solidago odora*	
Betulaceae		
American hornbeam	*Carpinus caroliniana*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Eastern hophornbeam	*Ostrya virginica*	
Bignoniaceae		
Cross-vine	*Bignonia capreolata*	
Trumpet vine	*Campsis radicans*	
Blechnaceae		
Netted chain fern	*Woodwardia areolata*	
Virginia chain fern	*Woodwardia virginica*	
Brassicaceae		
Pepper grass	*Lepidum virginicum*	
Bromeliaceae		
Air plant, wildpine	*Tillandsia bartramii*	
Spanish moss	*Tillandsia usneoides*	
Buddlejaceae		
Rustweed	*Polypremum procumbens*	
Burrmaniaceae		
Nodding nixie	*Apteria aphylla*	
Cactaceae		
Prickly-pear cactus	*Opuntia humifusa*	
Campanulaceae (incl. Lobeliaceae)		
Cardinalflower	*Lobelia cardinalis*	
Caprifoliaceae		
Elderberry	*Sambucus canadensis*	
Possum-haw viburnum	*Viburnum nudum*	
Celastraceae		
American strawberrybush	*Euonymus americanus*	
Chrysobalanaceae		
Gopher apple	*Licania michauxii*	
Cistaceae		
Carolina frostweed	*Helianthemum carolinianum*	
Drysand pinweed	*Lechea divaricata*	
Thymeleaf pinweed	*Lechea minor*	
Clethraceae		
Coastal sweetpepperbush	*Clethra alnifolia*	
Clusiaceae		
Coastalplain St. John's-wort	*Hypericum brachyphyllum*	
Roundpod St. John's-wort	*Hypericum cistifolium*	
Pineweed	*Hypericum gentianoides*	
St. Andrew's-cross	*Hypericum hypericoides*	
Dwarf St. John's-wort	*Hypericum mutilum*	
Fourpetal St. John's-wort	*Hypericum tetrapetalum*	
Virginia marsh St. John's-wort	*Triadenum virginicum*	
Commelinaceae		
Common dayflower	*Commelina diffusa*	
Whitemouth dayflower	*Commelina erecta*	
Grassleaf roseling	*Cuthbertia graminea*	
Convolvulaceae		
Pony-foot	*Dichondra caroliniensis*	
Moonflower	*Ipomoea alba*	
Tievine	*Ipomoea cordatotriloba*	
Coastalplain dawnflower	*Stylisma patens*	

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Cornaceae		
Flowering dogwood	*Cornus florida*	
Swamp dogwood	*Cornus foemina*	
Cupressaceae (incl. Taxodiaceae)		
Southern red cedar	*Juniperus virginiana*	
Pond cypress	*Taxodium ascendens*	
Bald cypress	*Taxodium distichum*	
Cyperaceae		
Capillary hairsedge	*Bulbostylis ciliatifolia*	
Ware's hairsedge	*Bulbostylis warea*	
Giant sedge	*Carex gigantea*	
Saw-grass	*Cladium jamaicense*	
Jointed flatsedge	*Cyperus articulatus*	
Swamp flatsedge	*Cyperus distinctus*	
Redroot flatsedge	*Cyperus erythrorhizos*	
Umbrella plant	*Cyperus involucratus* *	
Pinebarren flatsedge	*Cyperus retrorsus*	
Strawcolored flatsedge	*Cyperus stenolepis*	
Conecup spikerush	*Eleocharis tuberculosa*	
Umbrella sedge	*Fuirena scirpoidea*	
Baldwin's beaksedge	*Rhynchospora baldwinii*	
White-topped sedge	*Rhynchospora colorata*	
Fascicled beaksedge	*Rhynchospora fascicularis*	
Narrowfruit horned beaksedge	*Rhynchospora inundata*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Millet beaksedge	*Rhynchospora miliacea*	
Featherbristle beaksedge	*Rhynchospora oligantha*	
Tall nutgrass	*Scleria triglomerata*	
Cyrillaceae		
Titi	*Cyrilla racemiflora*	
Dennstaedtiaceae		
Bracken	*Pteridium aquilinum*	
Droseraceae		
Sundew	*Drosera intermedia*	
Dryopteridaceae		
Southern wood fern	*Dryopteris ludoviciana*	
Ebenaceae		
Persimmon	*Diospyros virginiana*	
Empetraceae		
Florida rosemary	*Ceratiola ericoides*	
Ericaceae		
Pipestem	*Agarista populifolia*	
Tarflower	*Bejaria racemosa*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Dangleberry	*Gaylussacia nana*	
Dangleberry	*Gaylussacia tomentosa*	
Hairy wicky	*Kalmia hirsuta*	
Fetter-bush	*Leucothoe racemosa*	
Rusty lyonia	*Lyonia ferruginea*	
Staggerbush	*Lyonia fruticosa*	
Maleberry	*Lyonia ligustrina*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Fetterbush	*Lyonia lucida*	
Piedmont staggerbush	*Lyonia mariana*	
Indian pipes	*Monotropa uniflora*	
Sweet pinxter azalea	*Rhododendron canescens*	
Swamp azalea	*Rhododendron viscosum*	
Tree sparkleberry	*Vaccinium arboreum*	
Highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowi*	
Elliott's blueberry	*Vaccinium elliottii*	
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Eriocaulaceae		
Flattened pipewort	*Eriocaulon compressum*	
Ten angle pipewort	*Eriocaulon decangulare*	
Ravenel's pipewort	*Eriocaulon ravenellii*	
Bantam-buttons	*Syngonanthus flavidulus*	
Escalloniaceae		
Virginia willow	*Itea virginica*	
Euphorbiaceae		
Three-seeded mercury	*Acalypha gracilens*	
Treadsoftly, spurge nettle	*Cnidoscolus stimulosus*	
Silver croton	*Croton argyranthemus*	
Rushfoil	*Croton michauxii*	
Chamber bitter	*Phyllanthus urinaria*	
Chinese tallow tree	*Sapium sebiferum* *	
Queen's-root	*Stillingia sylvatica*	
Wavyleaf noseburn	*Tragia urens*	
Fabaceae		
Mimosa	*Albizia julibrissin* *	
Lead-plant	*Amorpha fruticosa*	
Groundnut	*Apios americana*	
Pineland wild indigo	*Baptisia lecontei*	
Butterfly pea	*Centrosema virginianum*	
Redbud	*Cercis canadensis*	
Partridge pea	*Chamaecrista fasciculata*	
Sensitive pea	*Chamaecrista nictitans*	
Pursh's rattlebox	*Crotalaria purshii*	
Rabbit-bells	*Crotalaria rotundifolia*	
Feay's prairieclover	*Dalea feayi*	
Summer farewell	*Dalea pinnata*	
Tick clover	*Desmodium incanum*	
Coral bean	*Erythrina herbacea*	
Elliott's milkpea	*Galactia elliottii*	
Eastern milk-pea	*Galactia regularis*	
Downy milk-pea	*Galactia volubilis*	
Water locust	*Gleditsia aquatica*	
Carolina indigo	*Indigofera caroliniana*	
Japanese clover	*Kummerowia striata* *	
Hairy lespedeza	*Lespedeza hirta*	
Skyblue lupine	*Lupinis diffusus*	
Sensitive brier	*Mimosa quadrivalvis*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Buckroot	*Pediomelum canescens*	
Brownhair snoutbean	*Rhynchosia cinerea*	
Doubleform snoutbean	*Rhynchosia difformis*	
Dollarleaf	*Rhynchosia reniformis*	
Bladderpod	*Sesbania vesicaria*	
Scurf hoary-pea	*Tephrosia chrysophylla*	
Florida hoary pea	*Tephrosia florida*	
Fagaceae		
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Laurel oak	*Quercus hemisphaerica*	
Bluejack oak	*Quercus incana*	
Turkey oak	*Quercus laevis*	
Laurel oak	*Quercus laurifolia*	
Sand post oak	*Quercus margaretta*	
Dwarf live oak	*Quercus minima*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Bluff oak	*Quercus sinuata*	
Live oak	*Quercus virginiana*	
Gentianaceae		
White sabatia	*Sabatia brevifolia*	
Coastal rosegentian	*Sabatia calycina*	
Haemodoraceae		
Redroot	*Lachnanthes caroliniana*	
Haloragaceae		
Combleaf mermaidleaf	*Proserpinaca pectinata*	
Hamamelidaceae		
American witchhazel	*Hamamelis virginiana*	
Sweetgum	*Liquidambar styraciflua*	
Hippocastanaceae		
Red buckeye	Aesculus pavia	
Hydrangeaceae		
Climbing hydrangea	*Decumaria barbara*	
Hypoxidaceae		
Yellow stargrass	*Hypoxis curtissii*	
Fringed yellow stargrass	*Hypoxis juncea*	
Juglandaceae		
Water hickory	*Carya aquatica*	
Pignut hickory	*Carya glabra*	
Juncaceae		
Shore rush	*Juncus marginatus*	
Large head rush	*Juncus megacephalus*	
Lamiaceae		
Beautyberry	*Callicarpa americana*	
Etonia rosemary	*Conradina etonia*	14
Musky mint	*Hyptis alata*	
Tropical bushmint	*Hyptis mutabilis* *	
Water hoarhound	*Lycopus rubellus*	
Horse mint	*Monarda punctata*	
Lyre-leaf sage	*Salvia lyrata*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Lauraceae		
Camphor tree	*Cinnamomum camphora* *	
Redbay	*Persea borbonia*	
Scrub bay	*Persea humilis*	
Swampbay	*Persea palustris*	
Lentibulariaceae		
Blue butterwort	*Pinguicula caerulea*	8, 41
Yellow butterwort	*Pinguicula lutea*	8, 41
Small butterwort	*Pinguicula pumila*	
Florida yellow bladderwort	*Utricularia floridana*	
Loganiaceae		
Yellow jessamine	*Gelsemium sempervirens*	
Lycopodiaceae		
Foxtail club-moss	*Lycopodiella alopecuroides*	
Lythraceae		
Swamp loosestrife	*Decodon verticillatus*	
Magnoliaceae		
Southern magnolia	*Magnolia grandiflora*	
Sweet bay	*Magnolia virginiana*	
Malvaceae		
Swamp hibiscus	*Hibiscus coccineus*	
Virginia saltmarsh mallow	*Kosteletzkya virginica*	
Melastomataceae		
Savannah meadowbeauty	*Rhexia alifanus*	
Pale meadowbeauty	*Rhexia mariana*	
Nuttall's meadowbeauty	*Rhexia nuttallii*	
Menyanthaceae		
Floating hearts	*Nymphoides aquatica*	
Moraceae		
Red mulberry	*Morus rubra*	
Myricaceae		
Wax myrtle	*Myrica cerifera*	
Nymphaeaceae		
Spatterdock	*Nuphar lutea*	
American white waterlily	*Nymphaea odorata*	
Nyssaceae		
Swamp tupelo	*Nyssa biflora*	
Olacaceae		
Tallowwood, hog plum	*Ximenia americana*	
Oleaceae		
Carolina ash	*Fraxinus caroliniana*	
Green ash	*Fraxinus pennsylvanica*	
Wild olive	*Osmanthus americanus*	
Onagraceae		
Primrose willow	*Ludwigia peruviana*	
Ludwigia virgata		
Orchidaceae		
Tuberous grasspink	*Calopogon tuberosus*	
Green-fly orchid	*Epidendrum conopseum*	21
Toothpetal false reinorchid	*Habenaria floribunda*	
Rose pogonia	*Pogonia ophioglossoides*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Osmundaceae		
Cinnamon fern	*Osmunda cinnamomea*	26
Royal fern	*Osmunda regalis*	26
Oxalidaceae		
Creeping woodsorrel	*Oxalis corniculata*	
Pinaceae		
Sand pine	*Pinus clausa*	
Slash pine	*Pinus elliottii*	
Longleaf pine	*Pinus palustris*	
Pond pine	*Pinus serotina*	
Loblolly pine	*Pinus taeda*	
Poaceae or Gramineae		
Blue maidencane	*Amphicarpum muhlenbergianum*	
Bushy beard grass	*Andropogon glomeratus*	
Elliott's bluestem	*Andropogon gyrans*	
Splitbeard bluestem	*Andropogon ternarius*	
Broomsedge	*Andropogon virginicus*	
Wiregrass	*Aristida beyrichiana*	
Arrowfeather	*Aristida purpurescens*	
Bottlebrush threeawned	*Aristida spiciformis*	
Switch cane	*Arundinaria gigantea*	
Southern sand-spur	*Cenchrus echinatus*	
Spikegrass	*Chasmanthium laxum*	
Needleleaf witchgrass	*Dicanthelium aciculare*	
Rough witchgrass	*Dicanthelium leucothrix*	
Eggleaf witchgrass	*Dicanthelium ovale*	
Fall witchweed	*Digitaria cognata*	
Saltmarsh fingergrass	*Eustachys glauca*	
Shortleaf skeletongrass	*Gymnopogon brevifolius*	
Cogongrass	*Imperata cylindrica* *	
Hairawn muhly	*Muhlenbergia capillaris*	
Woods grass	*Oplismenus hirtellus*	
Beaked panicum	*Panicum anceps*	
Maidencane	*Panicum hemitomum*	
Torpedo grass	*Panicum repens* *	
Redtop panicum	*Panicum rigidulum*	
Warty panicum	*Panicum verrucosum*	
Field paspalum	*Paspalum laeve*	
Bahia grass	*Paspalum notatum* *	
Thin paspalum	*Paspalum setaceum*	
Vaseygrass	*Paspalum urvillei* *	
Yellow bristlegrass	*Setaria parviflora*	
Little bluestem	*Schizachyrium scoparium*	
Lopsided indiangrass	*Sorghastrum secundum*	
Sand cordgrass	*Spartina bakeri*	
Smutgrass	*Sporobolus indicus* *	
Pineywoods dropseed	*Sporobolus junceus*	
Perennial sandgrass	*Triplasis americana*	
Eastern gamagrass	*Tripsacum dactyloides*	
Polygalaceae		
Bog bachelor's button	*Polygala lutea*	

*** Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Wild bachelor's button	*Polygala nana*	
Coastalplain milkwort	*Polygala setacea*	
Polygonaceae		
Dogtongue wild buckwheat	*Erigonum tomentosum*	
Jointweed	*Polygonella gracilis*	
Mild water-pepper	*Polygonum hydropiperoides*	
Polypodiaceae		
Resurrection fern	*Pleopeltis polypodioides*	
Pontederiaceae		
Water hyacinth	*Eichhornia crassipes**	
Pickerel-weed	*Pontederia cordata*	
Ranunculaceae		
Swamp leatherflower	*Clematis crispa*	
Netleaf leatherflower	*Clematis reticulata*	
Rhamnaceae		
Supplejack, rattan vine	*Berchemia scandens*	
Rosaceae		
May haw	*Crataegus aestivalis*	
Parsley haw	*Crataegus marshallii*	
One-flowered haw	*Crataegus uniflora*	
Red chokeberry	*Photinia pyrifolia*	
Cherry laurel	*Prunus caroliniana*	
Black cherry	*Prunus serotina*	
Swamp rose	*Rosa palustris*	
Highbush blackberry	*Rubus argutus*	
Sand blackberry	*Rubus cuneifolius*	
Southern dewberry	*Rubus trivialis*	
Rubiaceae		
Buttonbush	*Cephalanthus occidentalis*	
Poor Joe	*Diodia teres*	
Buttonweed	*Diodia virginiana*	
Coastal bedstraw	*Galium hispidulum*	
Innocence	*Hedyotis procumbens*	
Clustered mille graine	*Hedyotis uniflora*	
Partridge berry	*Mitchella repens*	
Fevertree	*Pinckneya bracteata*	
Tropical mexican clover	*Richardia brasiliensis* *	
Rutaceae		
Toothache tree	*Zanthoxylum clava-herculis*	
Salicaceae		
Coastal plain willow	*Salix caroliniana*	
Salviniaceae		
Water spangles	*Salvinia minima*	
Sapindaceae (incl. Aceraceae)		
Red maple	*Acer rubrum*	
Sapotaceae		
False buckthorn	*Sideroxylon lanuginosum*	
Gopherwood buckthorn	*Sideroxylon lycioides*	
Tough bully	*Sideroxylon tenax*	
Sarraceniaceae		
Hooded pitcher-plant	*Sarracenia minor*	37

* **Non-native Species**

Dunns Creek State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Saururaceae		
Lizard's-tail	*Saururus cernuus*	
Scrophulariaceae		
False foxglove	*Agalinis fasciculata*	
Blue hyssop	*Bacopa caroliniana*	
Hedge hyssop	*Gratiola hispida*	
Sweet broom	*Scoparia dulcis*	
Yaupon blacksenna	*Seymaria pectinata*	
Smilacaceae		
Wild bamboo	*Smilax auriculata*	
Sawbriar, Wild sarsaparilla	*Smilax glauca*	
Bamboo-vine	*Smilax laurifolia*	
Sarsaparilla vine	*Smilax pumila*	
Hogbrier	*Smilax tamnoides*	
Coral greenbrier	*Smilax walteri*	
Styraceae		
American snowbell	*Styrax americanus*	
Theaceae		
Loblolly bay	*Gordonia lasianthus*	
Thelypteridaceae		
Marsh fern	*Thelypteris palustris*	
Tiliaceae		
Basswood	*Tilia americana var. caroliniana*	
Ulmaceae		
American elm	*Ulmus ameriana*	
Urticaceae		
False nettle	*Boehmeria cylindrica*	
Verbenaceae		
Capeweed	*Phyla nodiflora*	
Violaceae		
Common blue violet	*Viola sororia*	
Viscaceae		
Mistletoe	*Phoradendron serotinum*	
Vitaceae		
Pepper vine	*Ampelopsis arborea*	
Virginia creeper	*Parthenocissus quinquefolia*	
Summer grape	*Vitis aestivalis*	
Muscadine grape	*Vitis rotundifolia*	
Frost grape	*Vitis vulpina*	
Xyridaceae		
Coastalplain yelloweyed grass	*Xyris ambigua*	
Baldwin's yelloweyed grass	*Xyris baldwiniana*	
Carolina yelloweyed grass	*Xyris caroliniana*	
Zingiberaceae		
Garland-flower, White gingerlily	*Hedychium coronarium* *	

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
	FISH	
shortnose sturgeon	*Acipenser brevirostrum*	53
longnose gar	*Lepisosteus osseus*	53
Florida Gar	*Lepisosteus platyrhincus*	53
bowfin	*Amia calva*	53
American eel	*Anguilla rostrata*	53
blueback herring	*Alosa aestivalis*	53
yellowfin menhaden	*Brevoortia smithi*	53
Atlantic menhaden	*Brevoortia tyrannus*	53
gizzard shad	*Dorosoma cepedianum*	53
threadfin shad	*Dorosoma petenense*	53
Atlantic thread herring	*Opisthonema oglinum*	53
redfin pickerel	*Esox americanus*	53
chain pickerel	*Esox niger*	53
golden shiner	*Notemigonus crysoleucas*	53
taillight shiner	*Notropis maculatus*	53
sailfin shiner	*Pteronotropis hypselopterus*	53,54
lake chubsucker	*Erimyzon sucetta*	53
snail bullhead	*Ameiurus brunneus*	53
white catfish	*Ameiurus catus*	53
yellow bullhead	*Ameiurus natalis*	53
brown bullhead	*Ameiurus nebulosus*	53
channel catfish	*Ictalurus punctatus*	53
tadpole madtom	*Noturus gyrinus*	53
speckled madtom	*Noturus leptacanthus*	53
pirate perch	*Aphredoderus sayanus*	53
Atlantic needlefish	*Strongylura marina*	53
golden topminnow	*Fundulus chrysotus*	50,53
lined topminnow	*Fundulus lineolatus*	50,53
Seminole killfish	*Fundulus seminolis*	53
flagfish	*Jordanella floridae*	46
pygmy killifish	*Leptolucania ommata*	46
bluefin killifish	*Lucania goodei*	53
mosquitofish	*Gambusia holbrooki*	29,46,50,53
least killifish	*Heterandria formosa*	46,50,53
sailfin molly	*Poecilia latipinna*	46, 53
brook silverside	*Labidesthes sicculus*	46, 53
inland silverside	*Menidia beryllina*	53
striped bass	*Morone saxatilis*	53
sunshine bass	*Morone saxatilis* X *M. chrysops*	53
Everglades pygmy sunfish	*Elassoma evergladei*	53
Okefenokee pygmy sunfish	*Elassoma okefenokee*	53
blue-spotted sunfish	*Enneacanthus gloriosus*	53
red-breasted sunfish	*Lepomis auritus*	53
warmouth	*Lepomis gulosus*	53
bluegill	*Lepomis macrochirus*	46,50,53
dollar sunfish	*Lepomis marginatus*	53
red-eared sunfish	*Lepomis microlophus*	46,53
spotted sunfish	*Lepomis punctatus*	46,53
largemouth bass	*Micropterus salmoides*	46,50,53

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
speckled perch	*Pomoxis nigromaculatus*	53
swamp darter	*Etheostoma fusiforme*	53
Irish pompano	*Diapterus auratus*	53
blue tilapia	*Oreochromis aureus* *	53
striped mullet	*Mugil cephalus*	53
naked goby	*Gobiosoma bosci*	53
clown goby	*Microgobius gulosus*	53
southern flounder	*Paralichthys lethostigma*	53
hogchoker	*Trinectes maculatus*	53
	AMPHIBIANS	
Frogs And Toads		
Southern Cricket Frog	*Acris gryllus*	26, 29, 49
Oak toad	*Bufo quercicus*	13,14,15, 49
Southern Toad	*Bufo terrestris*	18, 21
Greenhouse Frog	*Eleutherodactylus planirostris* *	13, 21
Eastern Narrowmouth Toad	*Gastrophryne carolinensis*	8, 29, 49
Green Treefrog	*Hyla cinerea*	21, 29, 49
Southern Spring Peeper	*Hyla crucifer bartramiana*	26, 29
Pine Woods Treefrog	*Hyla femoralis*	8, 29, 49
Squirrel Treefrog	*Hyla squirella*	21, 49
Little Grass Frog	*Pseudacris ocularis*	49
Eastern Spadefoot Toad	*Scaphiopus holbrookii*	21
Gopher frog	*Rana capito*	13, 49
Bronze frog	*Rana clamitans*	18, 53, 54
Pig Frog	*Rana grylio*	49, 53
River Frog	*Rana heckscheri*	33
Southern Leopard Frog	*Rana utricularia*	26, 29, 49
Salamanders And Newts		
Two-toed Amphiuma	*Amphiuma means*	54
Dwarf Salamander	*Eurycea quadridigitata*	54
Southeastern Slimy Salamander	*Plethodon grobmoni*	53,54
Rusty Mud Salamander	*Pseudotriton montanus floridanus*	54
	REPTILES	
Crocodiles		
American Alligator	*Alligator mississippiensis*	53, 54
Turtles		
Florida Softshell	*Apalone ferox*	53
Florida Snapping Turtle	*Chelydra serpentina*	53
Gopher Tortoise	*Gopherus polyphemus*	8, 13, 14, 15
Striped Mud Turtle	*Kinosternon baurii*	53
Peninsula Cooter	*Pseudemys floridana peninsularis*	53
Florida Redbelly Turtle	*Pseudemys nelsoni*	53
Florida Box Turtle	*Terrapene carolina*	8, 21
Lizards		
Green Anole	*Anolis carolinensis*	8, 21, 26
Six-lined racerunner	*Cnemidophorus sexlineatus*	8, 13, 14, 15
Peninsula mole skink	*Eumeces egregius*	13
Five-lined Skink	*Eumeces fasciatus*	8, 13, 21

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Southern Fence Lizard	*Sceloporus undulatus*	13
Ground Skink	*Scincella lateralis*	18, 21
Snakes		
Cottonmouth	*Agkistrodon piscivorus*	53, 54
Southern Black Racer	*Coluber constrictor*	MTC
Eastern Diamondback Rattlesnake	*Crotalus adamanteus*	8, 13
Ringneck Snake	*Diadophis punctatus*	8, 21
Corn Snake	*Elaphe guttata*	MTC
Yellow Rat Snake	*Elaphe obsoleta*	21
Eastern Mud Snake	*Farancia abacura*	53
Eastern Coachwhip	*Masticophis flagellum*	13
Eastern Coral Snake	*Micrurus fulvius*	21
Florida Banded Water Snake	*Nerodia fasciata*	53
Rough Green Snake	*Opheodrys aestivus*	8, 21
Dusky Pigmy Rattlesnake	*Sistrurus miliarius*	8, 13
Ribbon Snake	*Thamnophis sauritus*	8, 21, 29
Garter Snake	*Thamnophis sirtalis*	8
	BIRDS	
Grebes		
Pied-billed Grebe	*Podilymbus podiceps*	53
Pelicans		
Brown Pelican	*Pelecanus occidentalis*	OF
Cormorants		
Double-crested Cormorant	*Phalacrocorax auritus*	53
Anhingas		
Anhinga	*Anhinga anhinga*	46, 53
Herons, Egrets and Bitterns		
Great Blue Heron	*Ardea herodias*	46, 53
Cattle Egret	*Bubulcus ibis* *	46
Green Heron	*Butorides virescens*	53
Great Egret (Common)	*Casmerodius alba*	53
Little Blue Heron	*Egretta caerulea*	46, 53
Snowy Egret	*Egretta thula*	53
Tricolored Heron	*Egretta tricolor*	53
Ibis and Spoonbills		
White Ibis	*Eudocimus albus*	33
Glossy Ibis	*Plegadis falcinellus*	33
Storks		
Wood Stork	*Mycteria americana*	33, 53
Waterfowl		
Wood Duck	*Aix sponsa*	46
Mottled Duck (Florida)	*Anas fulvigula*	46
Hooded Merganser	*Lophodytes cucullatus*	46, 53
Red-breasted Merganser	*Mergus serrator*	46
New World Vultures		
Black Vulture	*Coragyps atratus*	MTC
Turkey Vulture	*Cathartes aura*	MTC
Hawks, Eagles, and Kites		
Red-tailed Hawk	*Buteo jamaicensis*	21

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Red-shouldered Hawk	*Buteo lineatus*	8, 21
Swallow-tailed Kite	*Elanoides forficatus*	OF
Bald Eagle	*Haliaeetus leucocephalus*	26, 53
Osprey	*Pandion haliaetus*	53
Falcons and Caracaras		
Merlin	*Falco columbarius*	53
American Kestrel	*Falco sparverius*	81
Pheasants, Grouse, Quail and Turkeys		
Wild Turkey	*Meleagris gallopavo*	MTC
New World Quails		
Northern Bobwhite	*Colinus virginianus*	8, 21
Rails and Coots		
American Coot	*Fulica americana*	53
Common Moorhen (Gallinule)	*Gallinula chloropus*	33
Purple Gallinule	*Poryphyrula martinica*	33
Sora	*Porzana carolina*	33
Cranes		
Sandhill Crane	*Grus canadensis*	46, 49
Plovers and Lapwings		
Common Snipe	*Gallinago gallinago*	46
Solitary Sandpiper	*Tringa solitaria*	46
Pigeons and Doves		
Common Ground Dove	*Columbina passerina*	81
Mourning Dove	*Zenaida macroura*	8, 21, 81
Old World Cuckoos		
Yellow-billed Cuckoo	*Coccyzus americanus*	21
Owls		
Great Horned Owl	*Bubo virginianus*	21, 26
Eastern Screech-Owl	*Otus asio*	21
Barred Owl	*Strix varia*	13, 21
Nightjars		
Chuck-will's-widow	*Caprimulgus carolinensis*	8, 14
Common Nighthawk	*Chordeiles minor*	OF
Swifts		
Chimney Swift	*Chaetura pelagica*	OF
Kingfishers		
Belted Kingfisher	*Ceryle alcyon*	33, 53
Woodpeckers		
Northern Flicker	*Colaptes auratus*	21
Pileated Woodpecker	*Dryocopus pileatus*	21, 26, 33
Red-headed Woodpecker	*Melanerpes erythrocephalus*	13
Red-bellied Woodpecker	*Melanerpes carolinus*	MTC
Downy Woodpecker	*Picoides pubescens*	13, 21
Yellow-bellied Sapsucker	*Sphyrapicus varius*	8, 21
Tyrant Flycatchers		
Great Crested Flycatcher	*Myiarchus crinitus*	8, 13, 21
Eastern Phoebe	*Sayornis phoebe*	21
Eastern Kingbird	*Tyrannus tyrannus*	21
Gray Kingbird	*Tyrannus dominicensis*	21

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Shrikes		
Loggerhead Shrike	*Lanius ludovicianus*	81
Vireos and Allies		
Yellow-throated Vireo	*Vireo flavifrons*	21, 26
White-eyed Vireo	*Vireo griseus*	21, 26
Red-eyed Vireo	*Vireo olivaceus*	21
Crows and Jays		
American Crow	*Corvus brachyrhynchos*	MTC
Fish Crow	*Corvus ossifragus*	53
Blue Jay	*Cyanocitta cristata*	21
Swallows		
Barn Swallow	*Hirundo rustica*	OF
Tree Swallow	*Tachycineta bicolor*	OF
Tits and Allies		
Tufted Titmouse	*Parus bicolor*	MTC
Carolina Chickadee	*Poecile carolinensis*	21, 26
Wrens		
Carolina Wren	*Thryothorus ludovicianus*	8, 21, 26
Old World Warblers		
Blue-gray Gnatcatcher	*Polioptila caerulea*	21, 26
Thrushes		
Eastern Bluebird	*Sialia sialis*	81
Swainson's Thrush	*Catharus ustulatus*	21
American Robin	*Turdus migratorius*	MTC
Mockingbird and Thrashers		
Gray Catbird	*Dumetella carolinensis*	8, 21
Northern Mockingbird	*Mimus polyglottos*	MTC
Brown Thrasher	*Toxostoma rufum*	8, 13
New World Warblers		
Yellow-rumped Warbler	*Dendroica coronata*	8, 21
Palm Warbler	*Dendroica palmarum*	21
Chestnut-sided Warbler	*Dendroica pensylanica*	21
Pine Warbler	*Dendroica pinus*	33
Common Yellowthroat	*Geothlypis trichas*	14
Black-and-white Warbler	*Mniotilta varia*	21
Kentucky Warbler	*Oporornis formosus*	21
Northern Parula	*Parula americana*	8, 21
Prothonotary Warbler	*Protonotaria citrea*	33
Ovenbird	*Seiurus aurocapillus*	21
American Redstart	*Setophaga ruticilla*	21
Tanagers		
Summer Tanager	*Piranga rubra*	21
Sparrows and Allies		
Eastern Towhee	*Pipilo erythrophthalmus*	8, 14
Cardinals, Grosbeaks and Buntings		
Northern Cardinal	*Cardinalis cardinalis*	MTC
Blackbirds and Allies		
Red-winged Blackbird	*Agelaius phoeniceus*	46
Eastern Meadowlark	*Sturnella magna*	81
Boat-tailed Grackle	*Quiscalus mexicanus*	46, 53

*** Non-native Species**

Dunns Creek State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Common Grackle	*Quiscalus quiscula*	46
	MAMMALS	
Marsupials		
Virginia Opossum	*Didelphis virginiana*	MTC
Bats		
Rafinesque's Big-eared Bat	*Plecotus rafinesquii*	33
Edentates		
Nine-banded Armadillo	*Dasypus novemcinctus* *	MTC
Lagomorphs		
Eastern Cottontail	*Sylvilagus floridanus*	8, 21
Rodents		
Eastern Woodrat	*Neotoma floridana*	21
Cotton Mouse	*Peromyscus gossypinus*	21
Hispid Cotton Rat	*Sigmodon hispidus*	8
Southeastern Pocket Gopher	*Geomys pinetis*	13
Southern Flying Squirrel	*Glaucomys volans*	21
Gray Squirrel	*Sciurus carolinensis*	MTC
Sherman's Fox Squirrel	*Sciurus niger shermani*	13
Canids		
Gray Fox	*Urocyon cinereoargenteus*	MTC
Felids		
Bobcat	*Felis rufus*	MTC
Mustelids		
River Otter	*Lutra canadensis*	26, 53
Procyonids		
Raccoon	*Procyon lotor*	MTC
Ursids		
Florida Black Bear	*Ursus americanus floridanus*	18, 21
Artiodactyls		
White-tailed Deer	*Odocoileus virginianus*	MTC
Wild Pig	*Sus scrofa* *	MTC

*** Non-native Species**

TERRESTRIAL

1. Beach Dune
2. Bluff
3. Coastal Berm
4. Coastal Rock Barren
5. Coastal Strand
6. Dry Prairie
7. Maritime Hammock
8. Mesic Flatwoods
9. Coastal Grasslands
10. Pine Rockland
11. Prairie Hammock
12. Rockland Hammock
13. Sandhill
14. Scrub
15. Scrubby Flatwoods
16. Shell Mound
17. Sinkhole
18. Slope Forest
19. Upland Glade
20. Upland Hardwood Forest
21. Upland Mixed Forest
22. Upland Pine Forest
23. Xeric Hammock

PALUSTRINE

24. Basin Marsh
25. Basin Swamp
26. Baygall
27. Bog
28. Bottomland Forest
29. Depression Marsh
30. Dome
31. Floodplain Forest
32. Floodplain Marsh
33. Floodplain Swamp
34. Freshwater Tidal Swamp
35. Hydric Hammock
36. Marl Prairie
37. Seepage Slope
38. Slough
39. Strand Swamp
40. Swale
41. Wet Flatwoods
42. Wet Prairie

LACUSTRINE

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake
46. Flatwood/Prairie Lake
47. Marsh Lake

LACUSTRINE—Continued

48. River Floodplain Lake
49. Sandhill Upland Lake
50. Sinkhole Lake
51. Swamp Lake

RIVERINE

52. Alluvial Stream
53. Blackwater Stream
54. Seepage Stream
55. Spring-Run Stream

ESTUARINE

56. Estuarine Composite Substrate
57. Estuarine Consolidated Substrate
58. Estuarine Coral Reef
59. Estuarine Grass Bed
60. Estuarine Mollusk Reef
61. Estuarine Octocoral Bed
62. Estuarine Sponge Bed
63. Estuarine Tidal Marsh
64. Estuarine Tidal Swamp
65. Estuarine Unconsolidated Substrate
66. Estuarine Worm Reef

MARINE

67. Marine Algal Bed
68. Marine Composite Substrate
69. Marine Consolidated Substrate
70. Marine Coral Reef
71. Marine Grass Bed
72. Marine Mollusk Reef
73. Marine Octocoral Bed
74. Marine Sponge Bed
75. Marine Tidal Marsh
76. Marine Tidal Swamp
77. Marine Unconsolidated Substrate
78. Marine Worm Reef

SUBTERRANEAN

79. Aquatic Cave
80. Terrestral Cave

MISCELLANEOUS

81. Ruderal
82. Developed

MTC Many Types Of Communities

OF Overflying

Addendum 5—Designated Species List

Rank Explanations
For FNAI Global Rank, FNAI State Rank, Federal Status, And State Status

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1	=	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	=	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
G4	=	apparently secure globally (may be rare in parts of range)
G5	=	demonstrably secure globally
GH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GX	=	believed to be extinct throughout range
GXC	=	extirpated from the wild but still known from captivity or cultivation
G#?	=	tentative rank (e.g.,G2?)
G#G#	=	range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	=	rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	=	rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	=	same as above, but validity as subspecies or variety is questioned.
GU	=	due to lack of information, no rank or range can be assigned (e.g., GUT2).
G?	=	not yet ranked (temporary)
S1	=	Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2	=	Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4	=	apparently secure in Florida (may be rare in parts of range)
S5	=	demonstrably secure in Florida
SH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX	=	believed to be extinct throughout range
SA	=	accidental in Florida, i.e., not part of the established biota
SE	=	an exotic species established in Florida may be native elsewhere in North America
SN	=	regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
SU	=	due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?	=	not yet ranked (temporary)

Rank Explanations
For FNAI Global Rank, FNAI State Rank, Federal Status, And State Status

LEGAL STATUS

N = Not currently listed, nor currently being considered for listing,by state or federal agencies.

FEDERAL **(Listed by the U. S. Fish and Wildlife Service - USFWS)**

LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT = Proposed for listing as Threatened Species.

C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A) = Endangered due to similarity of appearance.

T(S/A) = Threatened due to similarity of appearance.

STATE

Animals **(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)**

LE = Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.

LT = Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.

LS = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

Plants **(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)**

LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Dunns Creek State Park

Designated Species

Plants

Common Name/ *Scientific Name*	**Designated Species Status** FDA	USFWS	FNAI
Etonia false rosemary *Conradina etonia*	E		G1, S1
spoon-leaved sundew *Drosera intermedia*	T		G5, S3
green fly orchid *Epidendrum conopseum*	CE		
Scrub holly *Ilex arenicola*			G5,T3, S3
dry sand pinweed *Lechea divaricata*	E		G2, S2
Florida milkvine *Matelea floridana*	E		G2, S2
cinnamon fern *Osmunda cinnamomea*	CE		
royal fern *Osmunda regalis* var. *spectabilis*	CE		
scrub bay *Persea humilus*			G3, S3
Florida willow *Salix floridana*	E		G2, S2
gum bully *Sideroxylon lycioides*	E		G5, S2
coontie *Zamia pumila*	CE		

Dunns Creek State Park

Designated Species

Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
INVERTEBRATES			
Blue purse-web spider *Sphodros abboti*			G?, S?
FISH			
Shortnose sturgeon *Acipenser brivirostrum*		LE	G3, S1
Snail bullhead *Ameiurus brunneus*			G4, S3
AMPHIBIANS			
Florida gopher frog *Rana capito*	LS		G4, S3
REPTILES			
American alligator *Alligator mississippiensis*	LS	T(S/A)	G5, S4
Eastern diamondback rattlesnake *Crotalus adamanteus*			G5, S3
Gopher tortoise *Gopherus polyphemus*	LS		G3, S3
BIRDS			
Great egret *Ardea alba*			G5, S4
Little blue heron *Egretta caerulea*	LS		G5, S4
Snowy egret *Egretta thula*	LS		G5, S4
Tricolored heron *Egretta tricolor*	LS		G5, S4
Swallow-tailed kite *Elanoides forficatus*			G4, S2S3
White ibis *Eudocimus albus*	LS		G5, S4
Merlin *Falco columbarius*			G4, SU
Florida sandhill crane *Grus canadensis pratensis*	LT		G5, S2S3
Southern bald eagle *Haliaeetus leucocephalus*	LT	LT	G4, S3
Wood stork *Mycteria americana*	LE	LE	G4, S2
Osprey			

Dunns Creek State Park

Designated Species

Animals

Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
Pandion haliaetus			G5, S3S4
Brown pelecan			
Pelecanus occidentalis	LS		G4, S3
Glossy ibis			
Plegadis falcinellus			G2, S2
American redstart			
Setophaga ruticilla			G5, S3
MAMMALS			
Rafinesque's big-eared bat			
Corynorhinus rafinesquii			G3, S3?
Sherman's fox squirrel			
Sciurus niger shermani	LS		G5T2, S2
Florida black bear			
Ursus americanus floridanus	LT		G5T2, S2
Manatee			
Trichechus manatus	LE		G2, S2

Addendum 6—Timber Management Analysis

The timber assessment was conducted by David White, a forester with The Nature Conservancy. The timber management zones that follow correspond with the burn zones map.

Management Zone A

Burn units A-3, A-4, and A-5 consist mainly of fire-suppressed sandhill with an overstory of turkey oaks (*Quercus laevis*), sand live oak (*Quercus geminata*), and bluejack oak (*Quercus incana*). A small portion of the overstory density is contributed by a relatively low density of longleaf pine (<40 stems per acre, diameter range of 10-16 inches, averaging 13 inches). A-5 appears to have a higher density of longleaf pine in the overstory than does A-3 and A-4. This overstory of longleaf has contributed to some regeneration within these burn units. However, because of past fire-suppression, conditions for longleaf regeneration are not optimal. The understory is typical of these sites with species such as wiregrass (*Aristida* spp.), pawpaw (*Asimina* spp.) and gopher apple (*Licania michauxii*) being common. With increased fire on the site, a reduction in the density of competing oaks and exposure of the mineral soil is sure to increase regeneration opportunities of both longleaf pine and wiregrass.

Burn units A-6 and A-8 are very similar in terms of species composition. They too (like 3,4 and 5) are sandhill sites. However the oak component has a lower density and correspondingly the longleaf pine component has a higher density (>50 stems per acre). This overstory of longleaf is somewhat patchy. Where an overstory of longleaf exists, regeneration is relatively good. Because of the overall healthier condition of the community, longleaf regeneration is more prevalent and the understory has a higher density of wiregrass. Within these burn units there are patches of sand pine. These areas are fairly concentrated in the western portions of the burn units near the main access road. The stands of mature sand pine in these areas are fairly dense at 500+ stems per acre and basal areas ranging between 70-120 square feet per acre. Diameters in these stands range between 6 and 13 inches, averaging 9 inches.

A major objective of restoration for these sandhill units is the elimination of this invading species. In the restoration plan, the sand pine in these burn units is scheduled to be harvested in the next year or two while leaving all existing longleaf pine. With the removal of the overstory of sand pine comes the challenge of controlling the regeneration of these pines. Regular prescribed burns in these sandhill areas should eliminate most of the regeneration, however because of the serotinous nature of the cones (i.e.- opens with fire), viable cones can lie dormant for several years before opening. It is recommended that a hot controlled burn be utilized in areas of heavy regeneration 1-2 years after sand pine harvest and in subsequent years to completely eliminate sand pine from the community. There are no known cultural sites within this area of potential harvest.

Management Zone B

The principal natural community within burn units B-4, B-5, and B-6 is sandhill. The dominant overstory in these units are similar to the sandhill sites described for Management Zone A (especially A-6 and A-8). The oak species (turkey, sand live and sand post oak) make up approximately half of the overstory with the other half comprised of longleaf pine and sand pine. The longleaf is more evenly distributed over the sand hill with more distinct patches of mature sand pine. The longleaf on the site ranges between 40 and 100 stems per acre with basal areas ranging between 10 and 50 square feet per acre. Diameters range between 9 and 15 inches averaging 12 inches. In areas of higher longleaf density, all age classes exist from grass stage seedlings through mature pines. Also, a somewhat even distribution of these age classes is present in many areas of the sandhill community in this management zone.

The sand pine, as mentioned, is present in numerous patches ranging in size from 1 acre to over 20 acres. These stands are mature and estimated to be over 20 years old. The stands of mature sand pine in these areas are fairly dense at 500+ stems per acre and basal areas ranging between 70-120 square feet per acre. Diameters in these stands range between 6 and 13 inches, averaging 9 inches. Outside of these readily definable patches of sand pine, there exists scattered mature sand pine in very low density (<10 stems per acre). The greater the distance from these patches, generally the lower the

density of the individual stems. Most of these sand pine stands are found in the east and northeast portions of B-6, west and southwest portions of B-5 (the majority of which can be seen from the main road splitting Management Zone B), and the southern portion of B-4. There are no known cultural sites within this area of potential harvest.

Management Zone C

Every burn unit within management zone C (with the exception of C-10) has some amount of timber harvest as a component of the restoration plan within the next 5 years. Even C-10 will eventually be harvested (2040) to maintain a distribution of sand pine age classes represented within the scrub. The management zone is split almost evenly between the sandhill community on the south half and the scrub community on the north half. Each community will be discussed individually as to timber resources present.

Sandhill community (C-1,C-2,C-3, south half of C-4 and C-5)-- Most of this community consists of an overstory of several oak species and longleaf pine with patches of invading sand pine interspersed. In many areas of this unit, a relatively good distribution of mature longleaf is present as is some successful longleaf regeneration. The longleaf on the site ranges between 40 and 100 stems per acre with basal areas ranging between 10 and 50 square feet per acre. Diameters range between 9 and 15 inches averaging 12 inches. Most seedlings are still in the grass stage and need a release treatment (reduction by means of fire) of the oak overstory. The frequency of the sand pine presence increased as you move north in the management zone. The split between the sandhill community and scrub lines on a line that roughly splits C-4 into northern (scrub) and southern (sandhill) halves.

Most of the stands of sand pine within the sandhill areas of the management zone are of similar size to those described for management zones A and B. The stands of mature sand pine in these areas are fairly dense at 500+ stems per acre and basal areas ranging between 70-120 square feet per acre. Diameters in these stands range between 6 and 12 inches, averaging 9 inches. However, burn units C-3 and C-4 contain much older and much more marketable stands of sand pine. As older stands, these areas have somewhat lower densities (300-400 stems per acre), but much higher average diameters (range of 9-16 inches, averaging 12 inches) and similar basal areas (averaging 70 square feet per acre). Heights in this stand for dominant and co-dominant trees range between 60 and 70 feet. Because of the older stand age and, correspondingly, the larger average diameters, these stands contain a relatively high percentage of plylog size timber compared to the other stands that contain almost 100% pulpwood size timber. Planning for the locations of skid trails and loading zones will consider slope and will be planned to minimize soil erosion.

Scrub community (North half of C-4 and C-5, south half of C-6 and C-7, and all of C-8,C-9 and C-10). On Dunns Creek State Park, this community is typified by an overstory of sand pine with an understory consisting of such evergreen shrub species as myrtle oak (*Quercus myrtifolia*), sand live oak, crooked wood (*Lyonia ferruginea*) and saw palmetto (*Serenoa repens*). Because of dry soils and competition from the sand pine overstory and understory shrubs, herbs and grasses are sparse in mature scrub habitats. Typical herbaceous species include milk-peas (*Galactia* spp.) and bluestem (*Andropogon* spp.). Lichens (*Cladonia* spp.) form extensive patches on the forest floor.

Sand pine stands are found extensively throughout the scrub area, with some larger older stands (> 35 years old) intermixed with pre-merchantable (< 18 years in age) and younger merchantable stands (18-25 years old). The majority of the older stands with similar size characteristics to those described above (400-500 stems per acre, diameter range of 8-14 inches, averaging 10 inches, and basal areas averaging 80 square feet per acre). These older stands are found principally in the interior of C-8 (80% of entire burn unit) and the eastern third of C-9 and the areas in the northern half of C-4. The balance of the scrub community has stands ranging in age from 15 to 25 years. These younger stands typically exhibit very high densities (800-1,000 stems per acre), small diameters (3-7 inches, averaging 5 inches) and high basal areas (>60 square feet per acre) due to the high density. The majority of these

younger stands are found in the north half of C-5, south half of C-6 and C-7, exterior of C-8, western two-thirds of C-9, and C-10. There are no known cultural sites within this area of potential harvest.

Management Zone F

Burn units F-2,F-3 and F-4 consist mainly of even-aged, naturally-regenerated stands of principally slash pine (*Pinus elliottii*) and scattered pond pine (*Pinus serotina*). It is estimated that this stand is between 20 and 25 years old. There are approximately 300-400 stems per acre with some areas exhibiting a higher density than other areas. The entire management zone is a mix of mesic to wet flatwoods with many areas of wet prairie interspersed. The density of the pine overstory seems to be inversely related to the soil saturation of the site. That is, the wetter areas tend to have lower slash pine densities and higher hardwood densities. The diameter range is 7-11 inches, averaging 9 inches with heights in the 50-55 feet range and basal areas in the 60-70 square feet per acre range. Pulpwood and Chip-n-saw size product classes are present within the stand. A mid-story of red maple, swamp bay and sweetgum is prevalent particularly in the wet flatwoods and wet prairie communities. The understory is principally composed of gallberry, saw palmetto and fetterbush with a herbaceous component of bluestem and red root.

An approximately 30-acre slash pine plantation is located in the south half of F-3 and the southwest corner of F-4. The plantation is between 15 and 20 years old with diameters ranging from 6-10 inches and averaging 8 inches and heights averaging 50 feet. The density of the plantation, as one would expect, is greater than the adjacent natural stand. A range of 400-500 stems per acre and basal areas similar to that of the natural stand (60-70 square feet per acre) are present in the plantation. A thinning of approximately half of the basal area of these stands is recommended in the restoration plan to decrease density, reduce fuel load and allow more light to the understory. Thinning will be conducted at a time when southern pine beetle activity in the general area is at a minimum. The desired environmental conditions will be such that the residual stand is not unduly stressed at the time of harvest so as to reduce the probability of beetle infestation. No known cultural resources are present in these potential harvest areas.

Addendum 7—Priority Schedule And Cost Estimates

Estimates are developed for the funding and staff resources needed to implement the management plan based on goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers, and partnerships with agencies, local governments and the private sector for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Resource Management

1. Continue inventory of plants and animals. 0-5 years. **Estimated Cost: $35,000.**
2. Implement prescribed burning program to restore natural communities. 0-5 years. **Estimated Cost: $10,000/yr. recurring.**
3. Implement exotic plant and animal removal program with priority to feral hogs and cogon grass. 0-5 years. **Estimated Cost $10,000.**
4. Establish a hydrological monitoring program for surface and ground waters. 0-5 years. **Estimated Cost: $10,000.**
5. Inventory and protect cultural resources, including a Level I archaeological survey. 0-3 years. **Estimated Cost: $30,000.**
6. Establish monitoring measures to monitor the recorded archaeological site for erosion, vegetation intrusion, animal burrowing, and human disturbance. 1-2 years. **Estimated Cost: $1,000, plus $1,000/year in recurring costs.**
7. Interpret the cultural resources of the park in their context to educate park visitors about the park's and area's prehistory and history through interpretive signs and programs. 2-5 years. **Estimated Cost: $15,000, plus $3,000/year in recurring costs.**
8. Develop and implement a written plan to protect and preserve the recorded archaeological site from erosion, slumpage, animal burrowing, root damage and tree fall, and vandalism. 2-3 years. **Estimated Cost: $3,000.**
9. Improve public awareness and encourage protection and stewardship of the park's cultural resources through education, interpretation, and enforcement of agency rules and regulations. 1-5 years. **Estimated Cost: $3,000, plus $1,000/year in recurring costs.**
10. Seek grant funding for research projects to document the prehistory and history of the park, Dunns Creek, the St. Johns River, and the surrounding area. 1-3 years. **Estimated Cost: $1,500.**
11. Install boundary fence along all upland perimeters. 0-2 years. **Estimated Cost: $100,000.**

Administration

1. Secure park FTE positions. 0-3 years. **Estimated Cost: Unknown.**

Dunns Creek State Park

Priority Schedule And Cost Estimates

Item	Quantity	Unit	Unit Price	Multiplier	Amount
Blue Hole Pond Picnic Area					
Small Picnic Shelter	1.000	ea.	$21,000.00	1.00	$21,000.00
Equestrian Camping Area					
Equestrian Campground	1.000	ea.	$150,000.00	1.00	$150,000.00
Equestrian Highline Tethering Poles	20.000	ea.	$150.00	1.00	$3,000.00
Equestrian Stable	1.000	ea.	$70,000.00	1.00	$70,000.00
Medium Bathhouse	1.000	ea.	$135,000.00	1.00	$135,000.00
Stabilized Tent Sites	5.000	ea.	$500.00	1.00	$2,500.00
Gopher Pond Primitive Area					
Equestrian Highline Tethering Poles	5.000	ea.	$150.00	1.00	$750.00
Fire Rings	2.000	ea.	$75.00	1.00	$150.00
Stabilized Tent Sites	2.000	ea.	$500.00	1.00	$1,000.00
Interpretive Facilities					
Interpretive Exhibits and Displays	1.000	LS	$50,000.00	1.00	$50,000.00
Interpretive Master Plan	1.000	ea.	$6,000.00	1.00	$6,000.00
Maintenance Area					
3 Bay Equipment Shelter	1.000	ea.	$125,000.00	1.00	$125,000.00
3 Bay Shop Building	1.000	ea.	$145,000.00	1.00	$145,000.00
Flammable/Small Storage Building	1.000	ea.	$9,600.00	1.00	$9,600.00
Ranger Residence (woodframe)	2.000	ea.	$170,000.00	1.00	$340,000.00
Piney Bluff Landing Area					
10 Ft Elevated Boardwalk	2500.000	LF	$100.00	1.00	$250,000.00
Boat Docking Facility	16.000	slip	$9,000.00	1.00	$144,000.00
Cabins and Furnishings	8.000	ea.	$120,000.00	1.00	$960,000.00
Canoe Launch	1.000	ea.	$20,000.00	1.00	$20,000.00
Concession Building	1.000	ea.	$90,000.00	1.00	$90,000.00
Demolish house	1.000	ea.	$50,000.00	1.00	$50,000.00
Fishing Platform / Deck	6.000	ea.	$50,000.00	1.00	$300,000.00
Large Picnic Shelter	1.000	ea.	$65,000.00	1.00	$65,000.00
Medium Bathhouse	2.000	ea.	$135,000.00	1.00	$270,000.00
Medium Picnic Restroom	1.000	ea.	$115,000.00	1.00	$115,000.00
Medium Picnic Shelter	2.000	ea.	$36,000.00	1.00	$72,000.00
Stabilized Parking (70 cars)	7.000	per 10	$2,500.00	1.00	$17,500.00
Standard Camping Area	2.000	ea.	$500,000.00	1.00	$1,000,000.00
Primitive Group Camp					
Campfire Circle	1.000	ea.	$1,500.00	1.00	$1,500.00
Medium Bathhouse	1.000	ea.	$135,000.00	1.00	$135,000.00
Primitive Group Camp	1.000	ea.	$150,000.00	1.00	$150,000.00
Stabilized Parking (10 Car)	2.000	per 10	$2,500.00	1.00	$5,000.00

NOTE: These preliminary cost estimates, based on Divisions standards, do not include costs for site-specific elements not evident at the conceptual level of planning. Additional costs should be investigated before finalizing budget estimates. All items fall in the new facility construction category © of the uniform cost accounting system required by ch. 259.037 F.S.

Dunns Creek State Park

Priority Schedule And Cost Estimates

Item	Quantity	Unit	Unit Price	Multiplier	Amount
Sugarbowl Lake Overlook					
Overlook	1.000	LS	$15,000.00	1.00	$15,000.00
Tent Camping Area					
Composting (Clivus) Restroom	1.000	ea.	$20,000.00	1.00	$20,000.00
Fire Rings	5.000	ea.	$75.00	1.00	$375.00
Stabilized Parking (10 Car)	0.500	per 10	$2,500.00	1.00	$1,250.00
Stabilized Tent Sites	5.000	ea.	$500.00	1.00	$2,500.00
Western Picnic Area					
Composting (Clivus) Restroom	1.000	ea.	$20,000.00	1.00	$20,000.00
Large Picnic Shelter	1.000	ea.	$65,000.00	1.00	$65,000.00
Stabilized Parking (10 Car)	1.000	per 10	$2,500.00	1.00	$2,500.00
Support Facilities					
Large Ranger Station	1.000	ea.	$145,000.00	1.00	$145,000.00
Picnic Tables & Grills	1.000	LS	$5,000.00	1.00	$5,000.00
Stabilized Road	0.750	mile	$140,000.00	1.00	$105,000.00
Two Lane Road (paving)	3.000	mile	$310,000.00	1.00	$930,000.00
				Sub-Total	$6,115,625.00
				20 Percent Contingency Fee	$1,223,125.00
				Total	**$7,338,750.00**

NOTE: These preliminary cost estimates, based on Divisions standards, do not include costs for site-specific elements not evident at the conceptual level of planning. Additional costs should be investigated before finalizing budget estimates. All items fall in the new facility construction category © of the uniform cost accounting system required by ch. 259.037 F.S.

Descriptions Of Natural Communities Developed By FNAI

This summary presents the hierarchical classification and brief descriptions of 82 Natural Communities developed by Florida Natural Areas Inventory and identified as collectively constituting the original, natural biological associations of Florida.

A Natural Community is defined as a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment. For more complete descriptions, see Guide to the Natural Communities of Florida, available from Florida Department of Natural Resources.

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

Natural Community Groups - defined by landform, substrate, and vegetation.

Natural Community Type - defined by landform and substrate; soil moisture condition; climate; fire; and characteristic vegetation.

TERRESTRIAL - Upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by saturation or inundation for more than 10% of the growing season.

XERIC UPLANDS - very dry, deep, well-drained hills of sand with xeric-adapted vegetation.

Sandhill - upland with deep sand substrate; xeric; temperate; frequent fire (2-5 years); longleaf pine and/or turkey oak with wiregrass understory.

Scrub - old dune with deep fine sand substrate; xeric; temperate or subtropical; occasional or rare fire (20 - 80 years); sand pine and/or scrub oaks and/or rosemary and lichens.

Xeric Hammock - upland with deep sand substrate; xeric-mesic; temperate or subtropical; rare or no fire; live oak and/or sand live oak and/or laurel oak and/or other oaks, sparkleberry, saw palmetto.

COASTAL UPLANDS - substrate and vegetation influenced primarily by such coastal (maritime) processes as erosion, deposition, salt spray, and storms.

Beach Dune - active coastal dune with sand substrate; xeric; temperate or subtropical; occasional or rare fire; sea oats and/or mixed salt-spray tolerant grasses and herbs.

Coastal Berm - old bar or storm debris with sand/shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; buttonwood, mangroves, and/or mixed halophytic herbs and/or shrubs and trees.

Coastal Grassland - coastal flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; grasses, herbs, and shrubs with or without slash pine and/or cabbage palm.

Coastal Rock Barren - flatland with exposed limestone substrate; xeric; subtropical; no fire; algae, mixed halophytic herbs and grasses, and/or cacti and stunted shrubs and trees.

Coastal Strand - stabilized coastal dune with sand substrate; xeric; subtropical or temperate; occasional or rare fire; dense saw palmetto and/or seagrape and/or mixed stunted shrubs, yucca, and cacti.

Maritime Hammock - stabilized coastal dune with sand substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods and/or live oak.

Shell Mound - Indian midden with shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods.

MESIC UPLANDS - dry to moist hills of sand with varying amounts of clay, silt or organic material; diverse mixture of broadleaved and needleleaved temperate woody species.

Bluff - steep slope with rock, sand, and/or clay substrate; hydric-xeric; temperate; sparse grasses, herbs and shrubs.

Slope Forest - steep slope on bluff or in sheltered ravine; sand/clay substrate; mesic-hydric; temperate; rare or no fire; magnolia, beech, spruce pine, Shumard oak, Florida maple, mixed hardwoods.

Upland Glade - upland with calcareous rock and/or clay substrate; hydric-xeric; temperate; sparse mixed grasses and herbs with occasional stunted trees and shrubs, e.g., eastern red cedar.

Upland Hardwood Forest - upland with sand/clay and/or calcareous substrate; mesic; temperate; rare or no fire; spruce pine, magnolia, beech, pignut hickory, white oak, and mixed hardwoods.

Upland Mixed Forest - upland with sand/clay substrate; mesic; temperate; rare or no fire; loblolly pine and/or shortleaf pine and/or laurel oak and/or magnolia and spruce pine and/or mixed hardwoods.

Upland Pine Forest - upland with sand/clay substrate; mesic-xeric; temperate; frequent or occasional fire; longleaf pine and/or loblolly pine and/or shortleaf pine, southern red oak, wiregrass.

ROCKLANDS - low, generally flat limestone outcrops with tropical vegetation; or limestone exposed through karst activities with tropical or temperate vegetation.

Pine Rockland - flatland with exposed limestone substrate; mesic-xeric; subtropical; frequent fire; south Florida slash pine, palms and/or hardwoods, and mixed grasses and herbs.

Rockland Hammock - flatland with limestone substrate; mesic; subtropical; rare or no fire; mixed tropical hardwoods, often with live oak.

Sinkhole - karst feature with steep limestone walls; mesic-hydric; subtropical or temperate; no fire; ferns, herbs, shrubs, and hardwoods.

MESIC FLATLANDS - flat, moderately well-drained sandy substrates with admixture of organic material, often with a hard pan.

Dry Prairie - flatland with sand substrate; mesic-xeric; subtropical or temperate; annual or frequent fire; wiregrass, saw palmetto, and mixed grasses and herbs.

Mesic Flatwoods - flatland with sand substrate; mesic; subtropical or temperate; frequent fire; slash

pine and/or longleaf pine with saw palmetto, gallberry and/or wiregrass or cutthroat grass understory.

Prairie Hammock - flatland with sand/organic soil over marl or limestone substrate; mesic; subtropical; occasional or rare fire; live oak and/or cabbage palm.

Scrubby Flatwoods - flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; longleaf pine or slash pine with scrub oaks and wiregrass understory.

PALUSTRINE - Wetlands dominated by plants adapted to anaerobic substrate conditions imposed by substrate saturation or inundation during 10% or more of the growing season. Includes non-tidal wetlands; tidal wetlands with ocean derived salinities less than 0.5 ppt and dominance by salt-intolerant species; small (less than 8 ha), shallow (less than 2 m deep at low water) water bodies without wave-formed or bedrock shoreline; and inland brackish or saline wetlands.

WET FLATLANDS - flat, poorly drained sand, marl or limestone substrates.

Hydric Hammock - lowland with sand/clay/organic soil, often over limestone; mesic-hydric; subtropical or temperate; rare or no fire; water oak, cabbage palm, red cedar, red maple, bays, hackberry, hornbeam, blackgum, needle palm, and mixed hardwoods.

Marl Prairie - flatland with marl over limestone substrate; seasonally inundated; tropical; frequent to no fire; sawgrass, spikerush, and/or mixed grasses, sometimes with dwarf cypress.

Wet Flatwoods - flatland with sand substrate; seasonally inundated; subtropical or temperate; frequent fire; vegetation characterized by slash pine or pond pine and/or cabbage palm with mixed grasses and herbs.

Wet Prairie - flatland with sand substrate; seasonally inundated; subtropical or temperate; annual or frequent fire; maidencane, beakrush, spikerush, wiregrass, pitcher plants, St. John's wort, mixed herbs.

SEEPAGE WETLANDS - sloped or flat sands or peat with high moisture levels maintained by downslope seepage; wetland and mesic woody and/or herbaceous vegetation.

Baygall - wetland with peat substrate at base of slope; maintained by downslope seepage, usually saturated and occasionally inundated; subtropical or temperate; rare or no fire; bays and/or dahoon holly and/or red maple and/or mixed hardwoods.

Seepage Slope - wetland on or at base of slope with organic/sand substrate; maintained by downslope seepage, usually saturated but rarely inundated; subtropical or temperate; frequent or occasional fire; sphagnum moss, mixed grasses and herbs or mixed hydrophytic shrubs.

FLOODPLAIN WETLANDS - flat, alluvial sand or peat substrates associated with flowing water courses and subjected to flooding but not permanent inundation; wetland or mesic woody and herbaceous vegetation.

Bottomland Forest - flatland with sand/clay/organic substrate; occasionally inundated; temperate; rare or no fire; water oak, red maple, beech, magnolia, tuliptree, sweetgum, bays, cabbage palm, and mixed hardwoods.

Floodplain Forest - floodplain with alluvial substrate of sand, silt, clay or organic soil; seasonally inundated; temperate; rare or no fire; diamondleaf oak, overcup oak, water oak, swamp chestnut oak, blue palmetto, cane, and mixed hardwoods.

Floodplain Marsh - floodplain with organic/sand/alluvial substrate; seasonally inundated; subtropical; frequent or occasional fire; maidencane, pickerelweed, sagittaria spp., buttonbush, and mixed emergents.

Floodplain Swamp - floodplain with organic/alluvial substrate; usually inundated; subtropical or temperate; rare or no fire; vegetation characterized by cypress, tupelo, black gum, and/or pop ash.

Freshwater Tidal Swamp - river mouth wetland, organic soil with extensive root mat; inundated with freshwater in response to tidal cycles; rare or no fire; cypress, bays, cabbage palm, gums and/or cedars.

Slough - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; pop ash and/or pond apple or water lily.

Strand Swamp - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; cypress and/or willow.

Swale - broad, shallow channel with sand/peat substrate; seasonally inundated, flowing water; subtropical or temperate; frequent or occasional fire; sawgrass, maidencane, pickerelweed, and/or mixed emergents.

BASIN WETLANDS - shallow, closed basin with outlet usually only in time of high water; peat or sand substrate, usually inundated; wetland woody and/or herbaceous vegetation.

Basin Marsh - large basin with peat substrate; seasonally inundated; temperate or subtropical; frequent fire; sawgrass and/or cattail and/or buttonbush and/or mixed emergents.

Basin Swamp - large basin with peat substrate; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; vegetation characterized by cypress, blackgum, bays and/or mixed hardwoods.

Bog - wetland on deep peat substrate; moisture held by sphagnum mosses, soil usually saturated, occasionally inundated; subtropical or temperate; rare fire; sphagnum moss and titi and/or bays and/or dahoon holly, and/or mixed hydrophytic shrubs.

Coastal Interdunal Swale - long narrow depression wetlands in sand/peat-sand substrate; seasonally inundated, fresh to brackish, still water; temperate; rare fire; graminoids and mixed wetland forbs.

Depression Marsh - small rounded depression in sand substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; frequent or occasional fire; maidencane, fire flag, pickerelweed, and mixed emergents, may be in concentric bands.

Dome Swamp - rounded depression in sand/limestone substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; cypress, blackgum, or bays, often tallest in center.

LACUSTRINE - Non-flowing wetlands of natural depressions lacking persistent emergent vegetation except around the perimeter.

Clastic Upland Lake - generally irregular basin in clay uplands; predominantly with inflows, frequently without surface outflow; clay or organic substrate; colored, acidic, soft water with low mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Coastal Dune Lake - basin or lagoon influenced by recent coastal processes; predominantly sand substrate with some organic matter; salinity variable among and within lakes, and subject to saltwater intrusion and storm surges; slightly acidic, hard water with high mineral content (sodium, chloride).

Coastal Rockland Lake - shallow basin influence by recent coastal processes; predominantly barren oolitic or Miami limestone substrate; salinity variable among and within lakes, and subject to saltwater intrusion, storm surges and evaporation (because of shallowness); slightly alkaline, hard water with

high mineral content (sodium, chloride).

Flatwoods/Prairie Lake - generally shallow basin in flatlands with high water table; frequently with a broad littoral zone; still water or flow-through; sand or peat substrate; variable water chemistry, but characteristically colored to clear, acidic to slightly alkaline, soft to moderately hard water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Marsh lake - generally shallow, open water area within wide expanses of freshwater marsh; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

River Floodplain Lake - meander scar, backwater, or larger flow-through body within major river floodplains; sand, alluvial or organic substrate; colored, alkaline or slightly acidic, hard or moderately hard water with high mineral content (sulfate, sodium, chloride, calcium, magnesium); mesotrophic to eutrophic.

Sandhill Upland Lake - generally rounded solution depression in deep sandy uplands or sandy uplands shallowly underlain by limestone; predominantly without surface inflows/outflows; typically sand substrate with organic accumulations toward middle; clear, acidic moderately soft water with varying mineral content; ultra-oligotrophic to mesotrophic.

Sinkhole Lake - typically deep, funnel-shaped depression in limestone base; occurs in most physiographic regions; predominantly without surface inflows/outflows, but frequently with connection to the aquifer; clear, alkaline, hard water with high mineral content (calcium, bicarbonate, magnesium).

Swamp Lake - generally shallow, open water area within basin swamps; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

RIVERINE - Natural, flowing waters from their source to the downstream limits of tidal influence and bounded by channel banks.

Alluvial Stream - lower perennial or intermittent/seasonal watercourse characterized by turbid water with suspended silt, clay, sand and small gravel; generally with a distinct, sediment-derived (alluvial) floodplain and a sandy, elevated natural levee just inland from the bank.

Blackwater Stream - perennial or intermittent/seasonal watercourse characterized by tea-colored water with a high content of particulate and dissolved organic matter derived from drainage through swamps and marshes; generally lacking an alluvial floodplain.

Seepage Stream - upper perennial or intermittent/seasonal watercourse characterized by clear to lightly colored water derived from shallow groundwater seepage.

Spring-run Stream - perennial watercourse with deep aquifer headwaters and characterized by clear water, circumneutral pH and, frequently, a solid limestone bottom.

SUBTERRANEAN - Twilight, middle and deep zones of natural chambers overlain by the earth's crust and characterized by climatic stability and assemblages of trogloxenic, troglophilic, and troglobitic organisms.

Aquatic Cave - cavernicolous area permanently or periodically submerged; often characterized by troglobitic crustaceans and salamanders; includes high energy systems which receive large quantities

of organic detritus and low energy systems.

Terrestrial Cave - cavernicolous area lacking standing water; often characterized by bats, such as Myotis spp., and other terrestrial vertebrates and invertebrates; includes interstitial areas above standing water such as fissures in the ceiling of caves.

MARINE/ESTUARINE (The distinction between the Marine and Estuarine Natural Communities is often subtle, and the natural communities types found under these two community categories have the same descriptions. For these reasons they have been grouped together.) - Subtidal, intertidal and supratidal zones of the sea, landward to the point at which seawater becomes significantly diluted with freshwater inflow from the land.

Consolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of nonliving compacted or coherent and relatively hard, naturally formed mass of mineral matter (e.g., coquina limerock and relic reefs); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Unconsolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of loose mineral matter (e.g., coralgal, gravel, marl, mud, sand and shell); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Octocoral Bed - expansive subtidal area occupied primarily by living sessile organisms of the Class Anthozoa, Subclass Octocorallia (e.g., soft corals, horny corals, sea fans, sea whips, and sea pens); sponges, stony corals, nondrift macrophytic algae and seagrasses spares, if present.

Sponge Bed - expansive subtidal area occupied primarily by living sessile organisms of the Phylum Porifera (e.g., sheepswool sponge, Florida loggerhead sponge and branching candle sponge); octocorals, stony corals, nondrift macrophytic algae and seagrasses sparse, if present.

Coral Reef - expansive subtidal area with elevational gradient or relief and occupied primarily by living sessile organisms of the Class Hydrozoa (e.g., fire corals and hydrocorals) and Class Anthozoa, Subclass Zoantharia (e.g., stony corals and black corals); includes deepwater bank reefs, fringing barrier reefs, outer bank reefs and patch reefs, some of which may contain distinct zones of assorted macrophytes, octocorals, & sponges.

Mollusk Reef - substantial subtidal or intertidal area with relief from concentrations of sessile organisms of the Phylum Mollusca, Class Bivalvia (e.g., molluscs, oysters, & worm shells); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Worm Reef - substantial subtidal or intertidal area with relief from concentrations of sessile, tubicolous organisms of the Phylum Annelida, Class Polychaeta (e.g., chaetopterids and sabellarids); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Algal Bed - expansive subtidal, intertidal or supratidal area, occupied primarily by attached thallophytic or mat-forming prokaryotic algae (e.g, halimeda, blue-green algae); octocorals, sponges, stony corals and seagrasses sparse, if present.

Grass Bed - expansive subtidal or intertidal area, occupied primarily by rooted vascular macrophytes, (e.g., shoal grass, halophila, widgeon grass, manatee grass and turtle grass); may include various epiphytes and epifauna; octocorals, sponges, stony corals, and attached macrophytic algae sparse, if present.

Composite Substrate - expansive subtidal, intertidal, or supratidal area, occupied primarily by Natural Community elements from more than one Natural Community category (e.g., Grass Bed and Algal Bed species; Octocoral and Algal Bed species); includes both patchy and evenly distributed occurrences.

Tidal Marsh - expansive intertidal or supratidal area occupied primarily by rooted, emergent vascular macrophytes (e.g., cord grass, needlerush, saw grass, saltwort, saltgrass and glasswort); may include various epiphytes and epifauna.

Tidal Swamp - expansive intertidal and supratidal area occupied primarily by woody vascular macrophytes (e.g., black mangrove, buttonwood, red mangrove, and white mangrove); may include various epiphytes and epifauna.

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Physiography

Upland - high area in region with significant topographic relief; generally undulating
Lowland - low area in region with or without significant topographic relief; generally flat to gently sloping
Flatland - generally level area in region without significant topographic relief; flat to gently sloping
Basin - large, relatively level lowland with slopes confined to the perimeter or isolated interior locations
Depression - small depression with sloping sides, deepest in center and progressively shallower towards the perimeter
Floodplain - lowland adjacent to a stream; topography influenced by recent fluvial processes
Bottomland - lowland not on active floodplain; sand/clay/organic substrate

Hydrology

occasionally inundated - surface water present only after heavy rains and/or during flood stages
seasonally inundated - surface water present during wet season and flood periods
usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas
subtropical - community generally occurs in areas that experience occasional frost, but where freezing temperatures are not frequent enough to cause true winter dormancy
temperate - community generally occurs in areas that freeze often enough that vegetation goes into winter dormancy

Fire

annual fire - burns about every 1-2 years
frequent fire - burns about every 3-7 years
occasional fire - burns about every 8-25 years
rare fire - burns about every 26-100 years
no fire - community develops only when site goes more than 100 years without burning

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

anise - *Illicium floridanum*
bays:
  swamp bay -*Persea palustris*
  gordonia -*Gordonia lasianthus*
  sweetbay -*Magnolia virgiana*
beakrush - *Rhynchospora* spp.
beech - *Fagus grandifolia*
blackgum - *Nyssa biflora*
blue palmetto - *Sabal minor*
bluestem - *Andropogon* spp.
buttonbush - *Cephalanthus occidentalis*
cabbage palm - *Sabal palmetto*
cacti - *Opuntia* and *Harrisia* spp.,
  predominantly *stricta* and *pentagonus*
cane - *Arundinaria gigantea* or *A. tecta*
cattail - *Typha* spp.
cedars:
  red cedar - *Juniperus silicicola*
  white cedar - *Chamaecyparis thyoides* or *C. henryi*
cladonia - *Cladonia* spp.
cypress - *Taxodium distichum*
dahoon holly - *Ilex cassine*
diamondleaf oak - *Quercus laurifolia*
fire flag - *Thalia geniculata*
Florida maple - *Acer barbatum*
gallberry - *Ilex glabra*
gums:
  tupelo - *Nyssa aquatica*
  blackgum - *Nyssa biflora*
  Ogeechee gum - *Nyssa ogeche*
hackberry - *Celtis laevigata*
hornbeam - *Carpinus caroliniana*
laurel oak - *Quercus hemisphaerica*
live oak - *Quercus virginiana*
loblolly pine - *Pinus taeda*
longleaf pine - *Pinus palustris*
magnolia - *Magnolia grandiflora*
maidencane - *Panicum hemitomon*
needle palm - *Rhapidophyllum hystrix*
overcup oak - *Quercus lyrata*
pickerel weed - *Pontederia cordata* or *P. lanceolata*
pignut hickory - *Carya glabra*
pop ash - *Fraxinus caroliniana*
pond apple - *Annona glabra*
pond pine - *Pinus serotina*
pyramid magnolia - *Magnolia pyramidata*
railroad vine - *Ipomoea pes-caprae*
red cedar - *Juniperus silicicola*
red maple - *Acer rubrum*
red oak - *Quercus falcata*
rosemary - *Ceratiola ericoides*
sagittaria - *Sagittaria lancifolia*
sand pine - *Pinus clausa*
saw palmetto - *Serenoa repens*
sawgrass - *Cladium jamaicensis*
scrub oaks - *Quercus geminata, Q. chapmanii, Q. myrtifolia,Q. inopina*
sea oats - *Uniola paniculata*
seagrape - *Coccoloba uvifera*
shortleaf pine - *Pinus echinata*
Shumard oak - *Quercus shumardii*
slash pine - *Pinus elliottii*
sphagnum moss - *Sphagnum* spp.
spikerush - *Eleocharis* spp.
spruce pine - *Pinus glabra*
St. John's wort - *Hypericum* spp.
swamp chestnut oak - *Quercus prinus*
sweetgum - *Liquidambar styraciflua*
titi - *Cyrilla racemiflora*, and *Cliftonia monophylla*
tuliptree - *Liriodendron tulipfera*
tupelo - *Nyssa aquatica*
turkey oak - *Quercus laevis*
water oak - *Quercus nigra*
waterlily - *Nymphaea odorata*
white cedar - *Chamaecyparis thyoides*
white oak - *Quercus alba*
willow - *Salix caroliniana*
yucca - *Yucca aloifolia*

Management Procedures For
Archaeological And Historical Sites And Properties
On State -- Owned Or Controlled Lands
(Revised August, 1995)

A. GENERAL DISCUSSION

Archaeological and historic sites are defined collectively in 267.021(3), F.S., as "historic properties" or "historic resources." They have several essential characteristics that must be recognized in a management program.

First of all, they are a finite and non-renewable resource. Once destroyed, presently existing resources, including buildings, other structures, shipwreck remains, archaeological sites and other objects of antiquity, cannot be renewed or revived. Today, sites in the State of Florida are being destroyed by all kinds of land development, inappropriate land management practices, erosion, looting, and to a minor extent even by well-intentioned professional scientific research (e.g., archaeological excavation). Measures must be taken to ensure that some of these resources will be preserved for future study and appreciation.

Secondly, sites are unique because individually they represent the tangible remains of events that occurred at a specific time and place.

Thirdly, while sites uniquely reflect localized events, these events and the origin of particular sites are related to conditions and events in other times and places. Sites can be understood properly only in relation to their natural surroundings and the activities of inhabitants of other sites. Managers must be aware of this "systemic" character of historic and archaeological sites. Also, it should be recognized that archaeological sites are time capsules for more than cultural history; they preserve traces of past biotic communities, climate, and other elements of the environment that may be of interest to other scientific disciplines.

Finally, the significance of sites, particularly archaeological ones, derives not only from the individual artifacts within them, but equally from the spatial arrangement of those artifacts in both horizontal and vertical planes. When archaeologists excavate, they recover, not merely objects, but also a record of the positions of these objects in relation to one another and their containing matrix (e.g., soil strata). Much information is sacrificed if the so-called "context" of archaeological objects is destroyed or not recovered, and this is what archaeologists are most concerned about when a site is threatened with destruction or damage. The artifacts themselves can be recovered even after a site is heavily disturbed, but the context -- the vertical and horizontal relationships -- cannot. Historic structures also contain a wealth of cultural (socio-economic) data that can be lost if historically sensitive maintenance, restoration or rehabilitation procedures are not implemented, or if they are demolished or extensively altered without appropriate documentation. Lastly, it should not be forgotten that historic structures often have associated potentially significant historic archaeological features that must be considered in land management decisions.

B. STATUTORY AUTHORITY

Chapter 253, Florida Statutes ("State Lands") directs the preparation of "single-use" or "multiple-use" land management plans for all state-owned lands and state-owned sovereignty submerged lands. In this document, 253.034(4), F.S., specifically requires that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites, as well as other fragile resources..."

Chapter 267, Florida Statutes is the primary historic preservation authority of the state. The importance of protecting and interpreting archaeological and historic sites is recognized in 267.061(1)(a), F.S.:The rich and unique heritage of historic properties in this state, representing more than 10,000 years of human presence, is an important legacy to be valued and conserved for present and future generations. The destruction of these nonrenewable historic resources will engender a significant loss to the state's quality of life, economy, and cultural environment. It is therefore declared to be state policy to:

1. Provide leadership in the preservation of the state's historic resources; [and]
2. Administer state-owned or state-controlled historic resources in a spirit of stewardship and trusteeship;...

Responsibilities of the Division of Historical Resources in the Department of State pursuant to 267.061(3), F.S., include the following:

1. Cooperate with federal and state agencies, local Governments, and private organizations and individuals to direct and conduct a comprehensive statewide survey of historic resources and to maintain an inventory of such responses.
2. Develop a comprehensive statewide historic preservation plan.
3. Identify and nominate eligible properties to the National Register of Historic Places and otherwise administer applications for listing properties in the National Register of Historic Places.
4. Cooperate with federal and state agencies, local governments, and organizations and individuals to ensure that historic resources are taken into consideration at all levels of planning and development.
5. Advise and assist, as appropriate, federal and state agencies and local governments in carrying out their historic preservation responsibilities and programs.
6. Carry out on behalf of the state the programs of the National Historic Preservation Act of 1966, as amended, and to establish, maintain, and administer a state historic preservation program meeting the requirements of an approved program and fulfilling the responsibilities of state historic preservation programs as provided in subsection 101(b) of that act.
7. Take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources to foster an appreciation of Florida history and culture. Prior to the acquisition, preservation, interpretation, or operation of a historic property by a state agency, the Division shall be provided a reasonable opportunity to review and comment on the proposed undertaking and shall determine that there exists historic authenticity and a feasible means of providing for the preservation, interpretation and operation of such property.
8. Establish professional standards for the preservation, exclusive of acquisition, of historic resources in state ownership or control.
9. Establish guidelines for state agency responsibilities under subsection (2).

Responsibilities of other state agencies of the executive branch, pursuant to 267.061(2), F.S., include:

1. Each state agency of the executive branch having direct or indirect jurisdiction over a proposed state or state-assisted undertaking shall, in accordance with state policy and prior to the approval of expenditure of any state funds on the undertaking, consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places. Each such agency shall afford the division a reasonable opportunity to comment with regard to such an undertaking.
2. Each state agency of the executive branch shall initiate measures in consultation with the division to assure that where, as a result of state action or assistance carried out by such agency, a historic property is to be demolished or substantially altered in a way that adversely affects the character, form, integrity, or other qualities that contribute to [the] historical, architectural, or archaeological value of the property, timely steps are taken to determine that no feasible and prudent alternative to the proposed demolition or alteration exists, and, where no such alternative is determined to exist, to assure that timely steps are taken either to avoid or mitigate the adverse effects, or to undertake an appropriate archaeological salvage excavation or other recovery action to document the property as it existed prior to demolition or alteration.
3. In consultation with the division [of Historical Resources], each state agency of the executive branch shall establish a program to locate, inventory, and evaluate all historic properties under the agency's ownership or control that appear to qualify for the National Register. Each such agency shall exercise caution to assure that any such historic property is not inadvertently

transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.

4. Each state agency of the executive branch shall assume responsibility for the preservation of historic resources that are owned or controlled by such agency. Prior to acquiring, constructing, or leasing buildings for the purpose of carrying out agency responsibilities, the agency shall use, to the maximum extent feasible, historic properties available to the agency. Each agency shall undertake, consistent with preservation of such properties, the mission of the agency, and the professional standards established pursuant to paragraph (3)(k), any preservation actions necessary to carry out the intent of this paragraph.

5. Each state agency of the executive branch, in seeking to acquire additional space through new construction or lease, shall give preference to the acquisition or use of historic properties when such acquisition or use is determined to be feasible and prudent compared with available alternatives. The acquisition or use of historic properties is considered feasible and prudent if the cost of purchase or lease, the cost of rehabilitation, remodeling, or altering the building to meet compliance standards and the agency's needs, and the projected costs of maintaining the building and providing utilities and other services is less than or equal to the same costs for available alternatives. The agency shall request the division to assist in determining if the acquisition or use of a historic property is feasible and prudent. Within 60 days after making a determination that additional space is needed, the agency shall request the division to assist in identifying buildings within the appropriate geographic area that are historic properties suitable for acquisition or lease by the agency, whether or not such properties are in need of repair, alteration, or addition.

6. Consistent with the agency's mission and authority, all state agencies of the executive branch shall carry out agency programs and projects, including those under which any state assistance is provided, in a manner which is generally sensitive to the preservation of historic properties and shall give consideration to programs and projects which will further the purposes of this section.

Section 267.12 authorizes the Division to establish procedures for the granting of research permits for archaeological and historic site survey or excavation on state-owned or controlled lands, while Section 267.13 establishes penalties for the conduct of such work without first obtaining written permission from the Division of Historical Resources. The Rules of the Department of State, Division of Historical Resources, for research permits for archaeological sites of significance are contained in Chapter 1A-32, F.A.C.

Another Florida Statute affecting land management decisions is Chapter 872, F.S. Section 872.02, F.S., pertains to marked grave sites, regardless of age. Many state-owned properties contain old family and other cemeteries with tombstones, crypts, etc. Section 872.05, F.S., pertains to unmarked human burial sites, including prehistoric and historic Indian burial sites. Unauthorized disturbance of both marked and unmarked human burial site is a felony.

C. MANAGEMENT POLICY

The choice of a management policy for archaeological and historic sites within state-owned or controlled land obviously depends upon a detailed evaluation of the characteristics and conditions of the individual sites and groups of sites within those tracts. This includes an interpretation of the significance (or potential significance) of these sites, in terms of social and political factors, as well as environmental factors. Furthermore, for historic structures architectural significance must be considered, as well as any associated historic landscapes.

Sites on privately owned lands are especially vulnerable to destruction, since often times the economic incentives for preservation are low compared to other uses of the land areas involved. Hence, sites in public ownership have a magnified importance, since they are the ones with the best chance of survival over the long run. This is particularly true of sites that are state-owned or controlled, where the basis of management is to provide for land uses that are minimally destructive of resource values.

It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

The generalized management policy recommended by the Division of Historical Resources includes the following:

1. State land managers shall coordinate all planned activities involving known archaeological or historic sites or potential site areas closely with the Division of Historical Resources in order to prevent any kind of disturbance to significant archaeological or historic sites that may exist on the tract. Under 267.061(1)(b), F.S., the Division of Historical Resources is vested with title to archaeological and historic resources abandoned on state lands and is responsible for administration and protection of such resources. The Division will cooperate with the land manager in the management of these resources. Furthermore, provisions of 267.061(2) and 267.13, F.S., combined with those in 267.061(3) and 253.034(4), F.S., require that other managing (or permitting) agencies coordinate their plans with the Division of Historical Resources at a sufficiently early stage to preclude inadvertent damage or destruction to known or potentially occurring, presently unknown archaeological and historic sites. The provisions pertaining to human burial sites must also be followed by state land managers when such remains are known or suspected to be present (see 872.02 and 872.05, F.S., and 1A-44, F.A.C.)

2. Since the actual resources are so poorly known, the potential impact of the managing agency's activities on historic archaeological sites may not be immediately apparent. Special field survey for such sites may be required to identify the potential endangerment as a result of particular management or permitting activities. The Division may perform surveys, as its resources permit, to aid the planning of other state agencies in their management activities, but outside archaeological consultants may have to be retained by the managing agency. This would be especially necessary in the cases of activities contemplating ground disturbance over large areas and unexpected occurrences. It should be noted, however, that in most instances Division staff's knowledge of known and expected site distribution is such that actual field surveys may not be necessary, and the project may be reviewed by submitting a project location map (preferably a 7.5 minute U.S.G.S. Quadrangle map or portion thereof) and project descriptive data, including detailed construction plans. To avoid delays, Division staff should be contacted to discuss specific project documentation review needs.

3. In the case of known significant sites, which may be affected by proposed project activities, the managing agency will generally be expected to alter proposed management or development plans, as necessary, or else make special provisions to minimize or mitigate damage to such sites.

4. If in the course of management activities, or as a result of development or the permitting of dredge activities (see 403.918(2)(6)a, F.S.), it is determined that valuable historic or archaeological sites will be damaged or destroyed, the Division reserves the right, pursuant to 267.061(1)(b), F.S., to require salvage measures to mitigate the destructive impact of such activities to such sites. Such salvage measures would be accomplished before the Division would grant permission for destruction of the affected site areas. The funding needed to implement salvage measures would be the responsibility of the managing agency planning the site destructive activity. Mitigation of historic structures at a minimum involves the preparation of measured drawings and documentary photographs. Mitigation of archaeological resources involves the excavation, analysis and reporting of the project findings and must be planned to

occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).

5. For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological site is discouraged. There are many endangered sites in Florida (on both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.

6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).

7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

In addition to the above management policy for archaeological and historic sites on state-owned land, special attention shall be given to those properties listed in the National Register of Historic Places and other significant buildings. The Division recommends that the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1990) be followed for such sites.

The following general standards apply to all treatments undertaken on historically significant properties.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of

missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

Divisions of Historical Resources staff are available for technical assistance for any of the above listed topics. It is encouraged that such assistance be sought as early as possible in the project planning.

D. MANAGEMENT IMPLEMENTATION

As noted earlier, 253.034(4), F.S., states that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites..." The following guidelines should help to fulfill that requirement.

1. All land managing agencies should contact the Division and send U.S.G.S. 7.5 minute quadrangle maps outlining the boundaries of their various properties.

2. The Division will in turn identify site locations on those maps and provide descriptions for known archaeological and historical sites to the managing agency.

3. Further, the Division may also identify on the maps areas of high archaeological and historic site location probability within the subject tract. These are only probability zones, and sites may be found outside of these areas. Therefore, actual ground inspections of project areas may still be necessary.

4. The Division will send archaeological field recording forms and historic structure field recording forms to representatives of the agency to facilitate the recording of information on such resources.

5. Land managers will update information on recorded sites and properties.

6. Land managers will supply the Division with new information as it becomes available on previously unrecorded sites that their staff locate. The following details the kind of information the Division wishes to obtain for any new sites or structures that the land managers may report:

A. Historic Sites

(1) Type of structure (dwelling, church, factory, etc.).

(2) Known or estimated age or construction date for each structure and addition.

(3) Location of building (identify location on a map of the property, and building placement, i.e., detached, row, etc.).

(4) General Characteristics: (include photographs if possible) overall shape of plan (rectangle, "L" "T" "H" "U", etc.); number of stories; number of vertical divisions of bays; construction materials (brick, frame, stone, etc.); wall finish (kind of bond, coursing, shingle, etc.); roof shape.

(5) Specific features including location, number and appearance of:
(a) Important decorative elements;
(b) Interior features contributing to the character of the building;

(c) Number, type, and location of outbuildings, as well as date(s) of construction;
(d) Notation if property has been moved;
(e) Notation of known alterations to building.

B. Archaeological Sites

(1) Site location (written narrative and mapped location).
(2) Cultural affiliation and period.
(3) Site type (midden, burial mound, artifact scatter, building rubble, etc.).
(4) Threats to site (deterioration, vandalism, etc.).
(5) Site size (acreage, square meters, etc.).
(6) Artifacts observed on ground surface (pottery, bone, glass, etc.).
(7) Description of surrounding environment.

7. No land disturbing activities should be undertaken in areas of known archaeological or historic sites or areas of high site probability without prior review by the Division early in the project planning.

8. Ground disturbing activities may proceed elsewhere but land managers should stop disturbance in the immediate vicinity of artifact finds and notifies the Division if previously unknown archaeological or historic remains are uncovered. The provisions of Chapter 872, F.S., must be followed when human remains are encountered.

9. Excavation and collection of archaeological and historic sites on state lands without a permit from the Division are a violation of state law and shall be reported to a law enforcement officer. The use of metal detectors to search for historic artifacts shall be prohibited on state lands except when authorized in a 1A-32, F.A.C., research permit from the Division.

10. Interpretation and visitation which will increase public understanding and enjoyment of archaeological and historic sites without site destruction or vandalism is strongly encouraged.

11. Development of interpretive programs including trails, signage, kiosks, and exhibits is encouraged and should be coordinated with the Division.

12. Artifacts found or collected on state lands are by law the property of the Division. Land managers shall contact the Division whenever such material is found so that arrangements may be made for recording and conservation. This material, if taken to Tallahassee, can be returned for public display on a long term loan.

E. ADMINISTERING AGENCY

Questions relating to the treatment of archaeological and historic resources on state lands may be directed to:

Compliance Review Section
Bureau of Historic Preservation
Division of Historical Resources
R.A. Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250

Contact Person: **Susan M. Harp**
Historic Preservation Planner
Telephone (850) 245-6333
Suncom 205-6333
FAX (850) 245-6437