Price's Scrub State Park

Advisory Group Draft
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
September 2018

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INTRODUCTION

Price's Scrub State Park is located in northwest Marion County, adjacent to the Alachua County line (see Vicinity Map). Interstate 75 contours the eastern part of the property and County Road 320 touches the southwestern part of the property. The Park contains one entrance point accessible through County Road 320 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Price's Scrub State Park was initially acquired on November 23, 2002 with funds from the Greenways and Trails Florida Forever program. Currently, the park comprises 962.28 acres, with approximately 868 upland and 87 jurisdictional wetland acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on May 29, 2003, the Trustees leased (Lease Number 4425) the property to DRP under a 50-year lease. The current lease will expire on May 28, 2053.

Price's Scrub is designated single-use to provide public outdoor recreation and other park-related uses. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

Purpose and Significance of the Park

The purpose of Price's Scrub State Park is to provide for resource-based public outdoor recreation activities that are compatible with the conservation and protection of the park's lands. Price's Scrub's blend of upland mixed woodland, depression marsh, scrub, scrubby flatwoods, and sinkhole lakes provides unique recreational opportunities such as horseback riding, hiking and bicycling, while protecting the natural and cultural resources of the property.

Park Significance

- The site has at least fifteen natural communities, including scrub, upland mixed woodland, scrubby flatwoods, and sinkhole lake. The scrub is one of the northernmost occurrences of this community in north central peninsular Florida.

- The park has one of the highest biodiversity ratings in Marion County due to the mosaic of upland mixed woodlands with ridges of scrub among mesic and scrubby flatwoods.

- The property plays an important role in the proposed connection of regionally important conservation lands including the Cross Florida Greenway, Paynes Prairie Preserve State Park/Lochloosa Wildlife Conservation Area, and Goethe State Forest.

Price's Scrub State Park is classified as a state park in the DRP's unit classification system. In the management of a 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 park's natural, aesthetic and educational attributes.

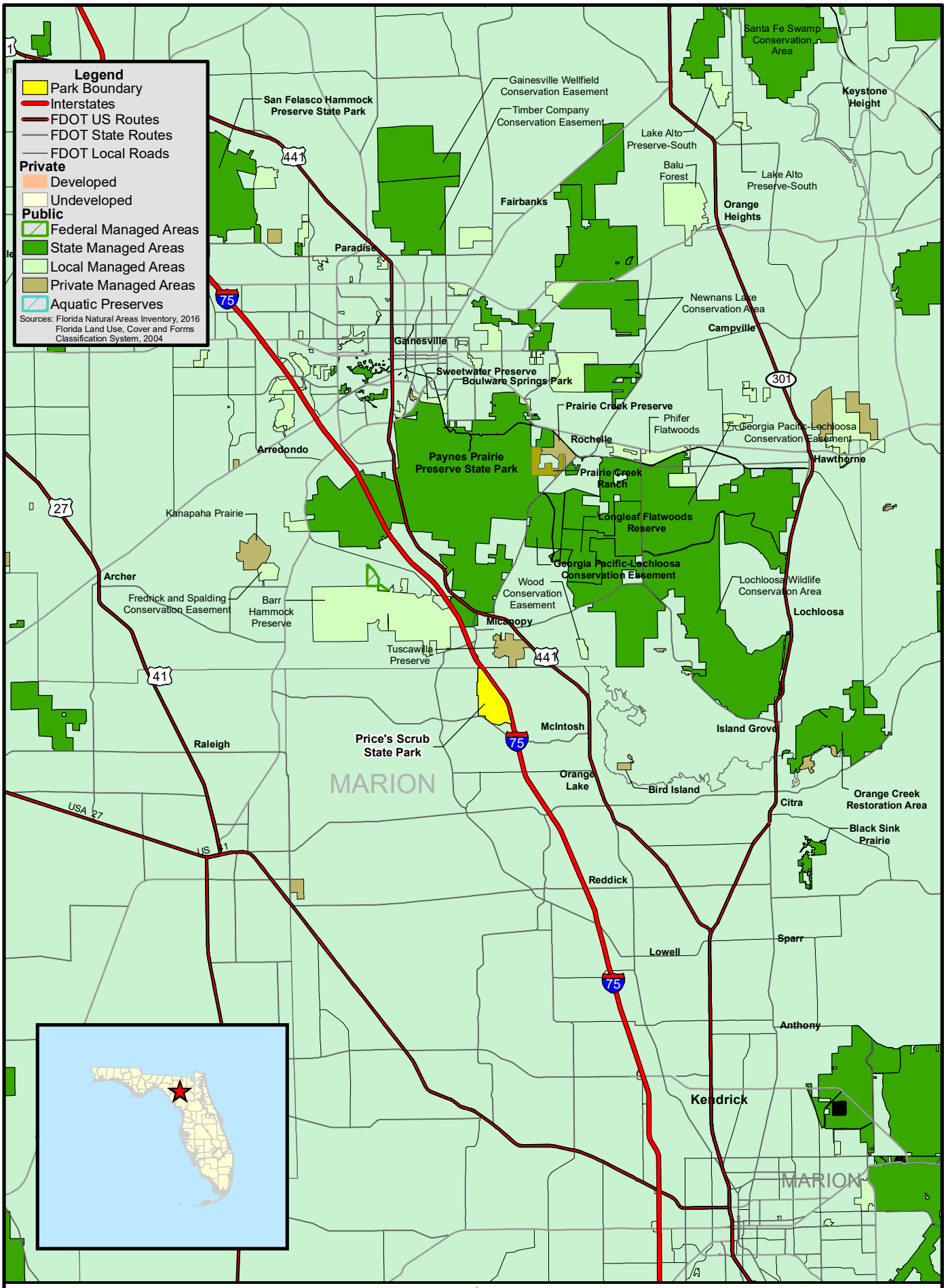
Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Price's Scrub State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the 2004 approved plan.

The plan consists of three interrelated components: the Resource Management Component, the Land Use Component and the Implementation Component. The Resource Management Component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management needs and issues are identified, and measurable management objectives are established for each of the park's management goals and resource types. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, imperiled species management, cultural resource management and restoration of natural conditions.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, and current public uses and existing development, measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives identify use areas and propose the types of facilities and programs as well as the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1) measures that will be used to evaluate the DRP's implementation progress, (2)



PRICE'S SCRUB

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0 1.25 2.5 5 Miles

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VICINITY MAP

PRICE'S SCRUB STATE PARK

N

0 0.1 0.2 0.4 Miles

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Date of aerial; 2011

REFERENCE MAP

timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

All development and resource alteration proposed 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.

In accordance with 253.034(5) F.S., the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of the DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purposes of resource-based outdoor recreation and conservation.

DRP has determined that 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) would not be consistent with this plan or the management purposes of the park.

DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. For example, a concessionaire could be authorized to sell merchandise and food and to rent recreational equipment for use in the park. A concessionaire may also be authorized to provide specialized services, such as interpretive tours, or overnight accommodations when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

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 Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to the DRP 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 affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the OM that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Park Management Goals

The following park goals express DRP's long-term intent in managing the state park:

- Provide administrative support for all park functions.
- Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats of the park.
- Maintain, improve or restore imperiled species populations and habitats in the park.

- Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
- Protect, preserve and maintain the cultural resources of the park.
- Provide public access and recreational opportunities in the park.
- Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

Management Coordination

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

The Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service (FFS), 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 (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites.

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on [INSERT Dates], respectively. Meeting notices were published in the Florida Administrative Register, [INSERT publication date, VOL/ISSUE], included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Price's Scrub is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park 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 Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) in accordance with Chapter 258, Florida Statutes, 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. Management measures expressed in this plan are consistent with the DRP's overall mission in natural systems management. Cited references are contained in Addendum 3.

The DRP's philosophy of resource management is natural systems management. Primary emphasis is placed on restoring and maintaining, to the degree possible, the natural processes that shaped the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes and should not imperil other native species or seriously compromise the park values.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events or persons. This goal often entails 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 can be affected by conditions and events that occur beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program that assesses resource conditions, evaluates management activities and refines management actions, and reviews local comprehensive plans and development permit applications for park/ecosystem impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to reference management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-dependent natural communities. Table 1 reflects the management zones with the acres of each zone.

Table 1. Price's Scrub State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
PRS-1A	39.16	Y	Y
PRS-1B	79.06	Y	Y
PRS-1C	72.35	Y	Y
PRS-1D	8.05	Y	Y
PRS-2A	132.44	Y	Y
PRS-2B	132.33	Y	Y
PRS-2C	27.89	Y	Y
PRS-2D	52.66	Y	Y
PRS-3	359	Y	Y
PRS-3A	59.36	Y	Y

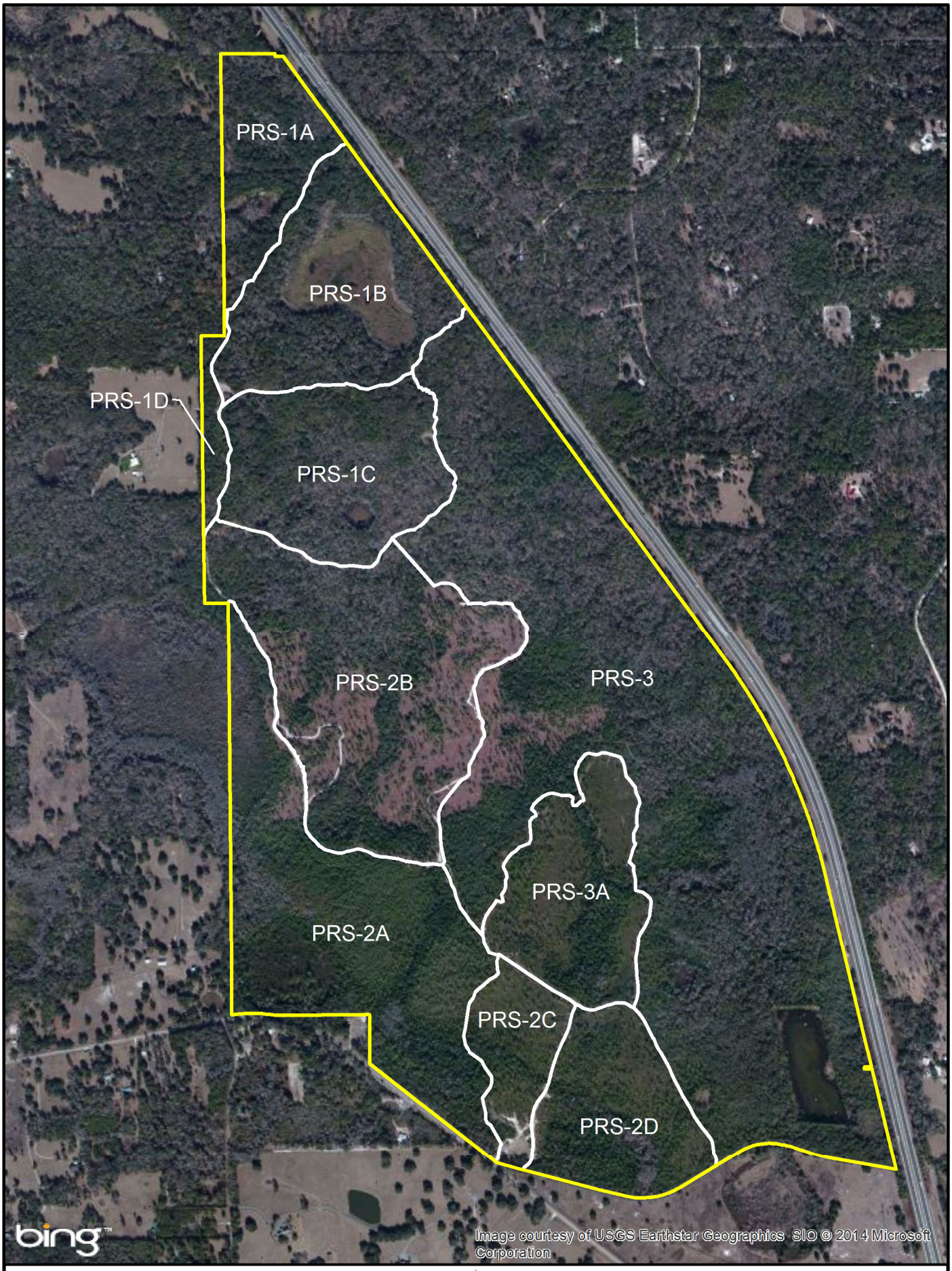
Resource Description and Assessment

Natural Resources

Topography

Price's Scrub State Park is located in the Central Highlands region of Florida within the Mid-Peninsula Zone of the state. More specifically, it is in the Fairfield Hills physiographic province just south of the Alachua Lake-Cross Valley province (Scott 1992). The Fairfield Hills constitute one of the larger expanses of higher ground in the area. Fairfield Hills is a Pleistocene-age sand ridge that overlies the less permeable Miocene-age sediments of the Hawthorn Group. It is believed to be a beach ridge, a relict Atlantic coastal feature (White 1970).

The southern half of Price's Scrub State Park is generally higher than the northern half. Elevations gradually decrease from a maximum of about 280 feet above mean sea level (msl) in the southeast part of the park to 150 feet above msl in the center of the park at the upper edge of a steep-sided ravine known locally as Brownlee Creek Ravine. The lowest elevations (78-90 feet msl) occur in the northern third of the park at a large sinkhole lake and along the north boundary. Though the northern part of the park is generally lower in elevation, it has a rolling topography and contains a finger of higher land (190 feet msl) that projects into the park from the west (see Topographic Map). Topographic alterations in the park are few, with the most notable being the large borrow pit in the southeastern corner of the property. Other alterations include a short drainage ditch located near the mid-point of the western boundary of the park and some moderately deep firelines that were constructed during the January 2003 wildfire at the southern end of the property.



PRICE'S SCRUB

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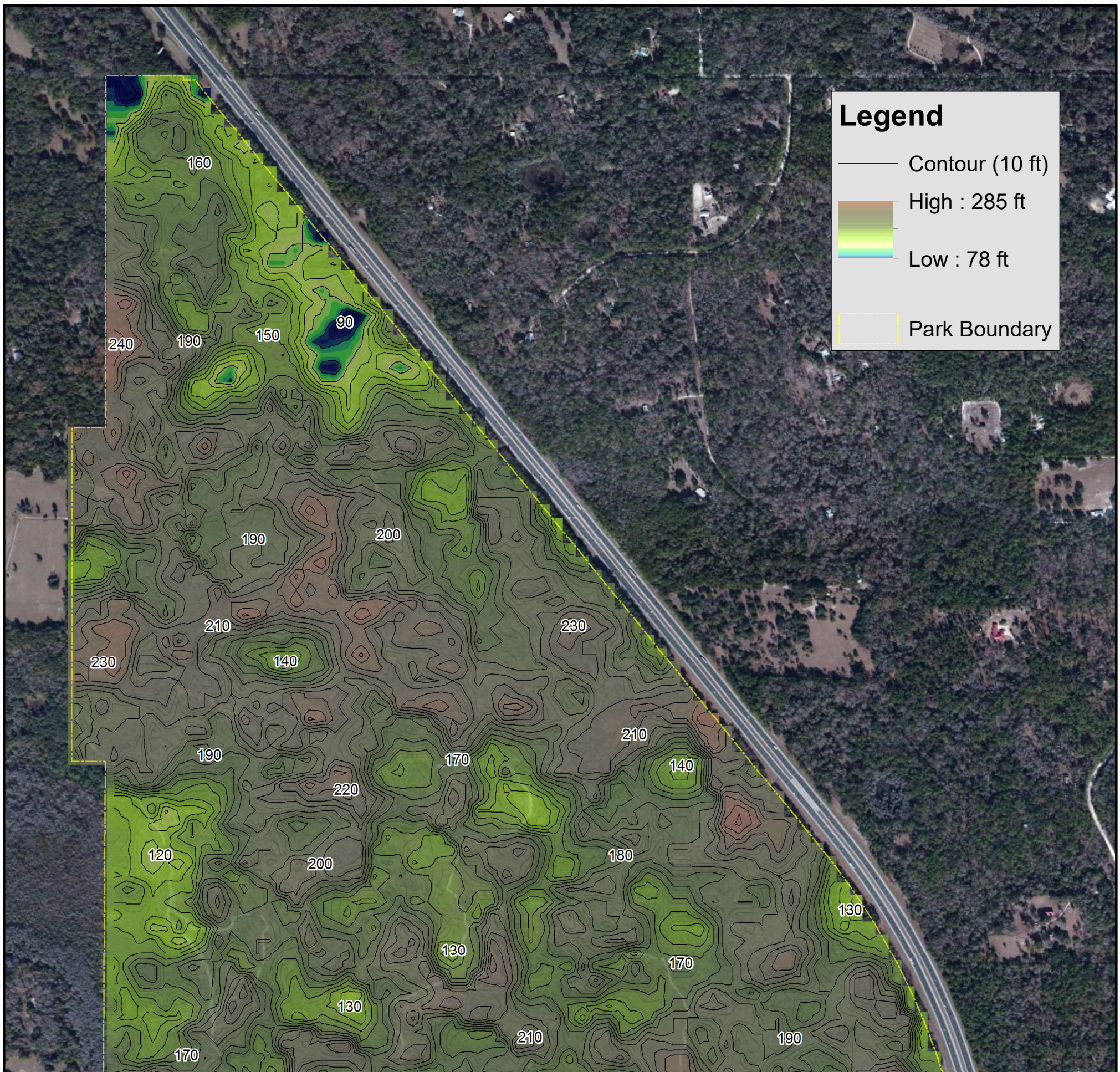
Date of aerial; 2011

MANAGEMENT ZONES MAP



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Date of aerial; 2011

TOPOGRAPHIC MAP

Geology

Price's Scrub State Park is positioned almost directly along the transect line of a series of samples that the Florida Geological Survey collected in order to develop a geologic map of Florida (Scott et al. 2001). According to that map, the uppermost layer in the Price's Scrub area consists of the Hawthorn Group's Coosawhatchie Formation, which is of Miocene age. This layer is roughly 50 feet thick and overlies an Eocene-age formation called the Ocala Limestone, which is slightly more than 100 feet thick in this area. Beneath the Ocala Limestone is the Avon Park Formation, also of Eocene age, which in this part of Florida occurs at depths greater than 100 feet below msl.

Deposition of the Hawthorn Group occurred about 12-25 million years ago when seas were muddy and uneven erosion of the land was followed by submergence. In the Marion County area, the Hawthorn Group's Coosawhatchie Formation is exposed or is covered by a thin overburden. The Coosawhatchie deposit contains clays and sandy clays that vary in color from yellow to green, gray, or blue, as well as beds of quartz sand and sandy phosphatic limestone. Occasionally the sands will contain a dolomitic component and, rarely, the dominant lithology will be dolostone or limestone. Permeability of the Coosawhatchie sediments is generally low, leading to the formation of an intermediate confining system for the aquifer (Scott et al. 2001). However, the porosity and soluble nature of the limestone in the Hawthorn layer does give rise to some karst features in the area.

Boulders and irregular masses of chert or flint may be common near the top of the Ocala Limestone, which was formerly known as the Ocala Group (Scott 1992). Eroded surfaces of Ocala Limestone deposits are usually covered by a thin layer of sands or sandy clays from younger deposits such as the Hawthorn Group.

The Avon Park Formation, also of Eocene age, is composed of dolomite with some limestone and gypsum and seams of peat or lignite interspersed. This formation may be over 200 feet thick in the Price's Scrub area.

Soils

According to the general soils map of Marion County, Florida, about 14 different soil types are present in Price's Scrub State Park (see Soils Map). Detailed descriptions of these soils are provided in Addendum 4. Electra sand strongly correlates with the occurrence of scrub in the park, while Pomona sand correlates with scrubby flatwoods (U.S. Department of Agriculture, Soil Conservation Service 1979).

The soils in the park are organized into three soil associations: Sparr-Lochloosa-Tavares, Lynne-Pomona-Pompano, and Blichton-Flemington-Kanapaha. The Sparr-Lochloosa-Tavares association consists of nearly level to sloping, somewhat poorly drained and moderately well drained soils. Some of the soils are sandy to a depth of 20 to 40 inches and are loamy below that, while others are sandy throughout. These soils are typical of upland forests and mesic flatwoods. This soil association occurs in the northern portion of Price's Scrub, especially along Brownlee Creek.

The Lynne-Pomona-Pompano association is prevalent in the southern portion of the park. This association has nearly level, poorly drained soils, some sandy to a depth of 22 to 80 inches and weakly cemented within a depth of 30 inches. Some soils are loamy and clayey in the lower layers, and others are sandy throughout. These soils typically support flatwoods. The Blichton-Flemington-Kanapaha association occurs in the extreme northern and mid-eastern portions of Price's Scrub. This association occurs on nearly level to strongly sloping lands and contains poorly drained soils that are sandy to a depth of less than 20 to more than 40 inches. The soils are loamy or clayey below and are characteristic of uplands in the area.

Minerals

No mineral deposits of commercial value are known to exist in the park. The removal of soil from the borrow pit for use as fill material in constructing Interstate 75 (I-75) occurred before the State of Florida acquired the property.

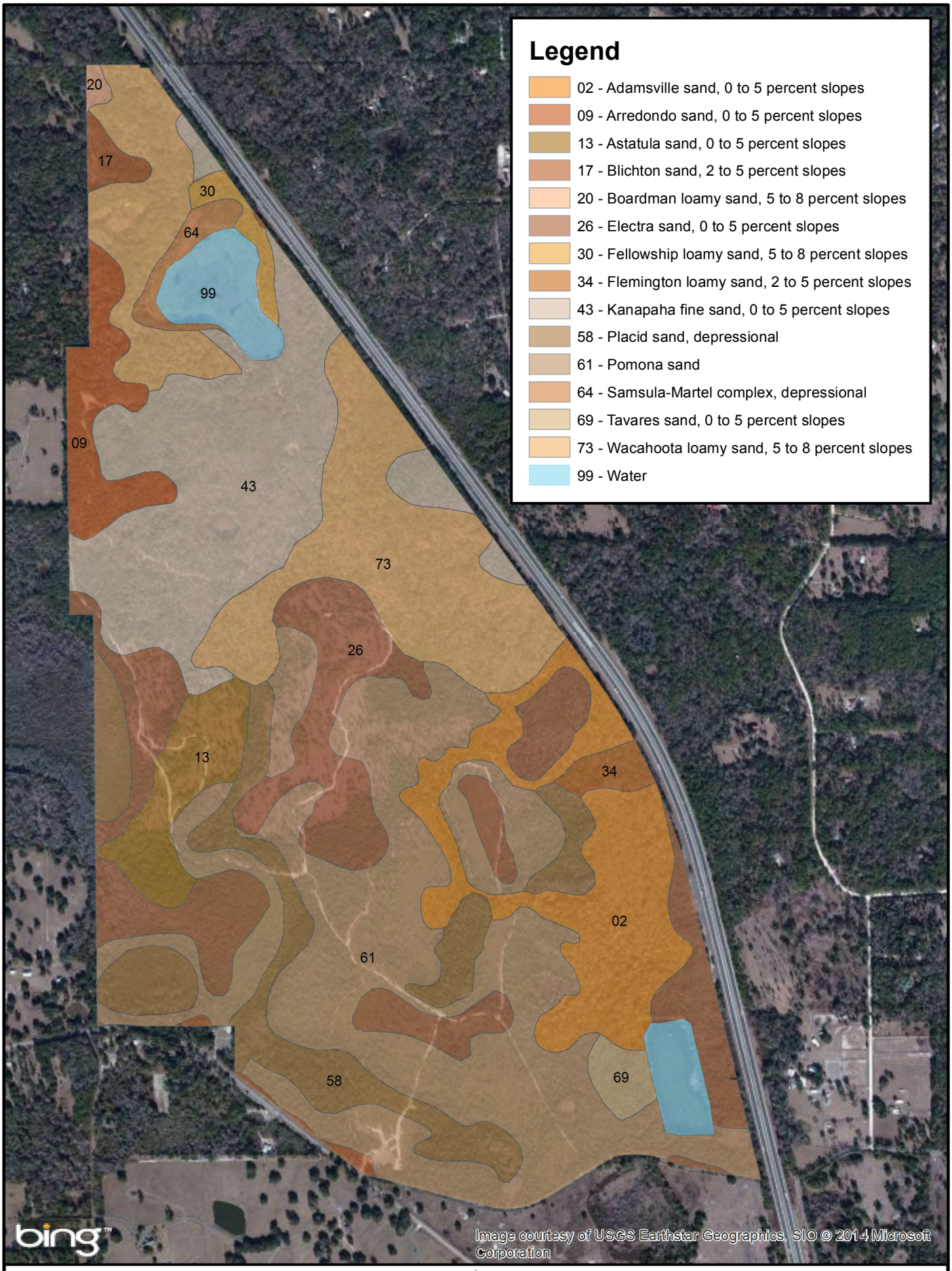
Hydrology

Price's Scrub State Park contains one moderately large sinkhole lake, known locally as Water Lily Pond, in the northern part of the park, several smaller sinkhole lakes, and a large borrow pit in the southeast corner near I-75. The borrow pit may be spring-fed. Seepage streams drain the property, generally from south to north. Smaller, unnamed seepage streams eventually coalesce to form Brownlee Creek, which flows northeasterly through a deep ravine to I-75, then exits the park via a culvert system underneath I-75 and wends its way to Tuscawilla Lake near Micanopy.

Water Lily Pond and several small sinkhole lakes are located in the northern part of the park. At least ten depression marshes and several dome swamps are scattered about the property. Other wetlands in the park include baygalls of varying sizes and shapes and a small portion of a large basin swamp that extends onto private property to the west.

Other than the borrow pit, hydrological resources within Price's Scrub State Park are largely intact. Historic aerial photographs indicate that the borrow pit was excavated during construction of I-75 in the 1960s. A culvert reportedly extends from the borrow pit south under old Hickman Road, which forms the southeastern boundary of the property. A short, east-west oriented drainage ditch is located on the western side of the property, near the north-south midpoint. Based on interpretation of historic aerial photographs, the ditch has probably been in place since at least the late 1930s. Trees now grow along the sides and bottom of the ditch.

According to professional hydrogeologists, Price's Scrub falls within the Silver Springs Groundwater Basin, but seasonally there may be some overlap with the Rainbow Springs Basin (Phelps 1994; Lane and Hoenstine 1991). Groundwater resources in the park include the surficial aquifer and the Floridan aquifer. The



PRICE'S SCRUB

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Date of aerial; 2011

SOILS MAP

potentiometric surface for the Upper Floridan aquifer in the area of the park is in the 50 to 55-foot range. Technically, the groundwater and surface waters within Price's Scrub fall under the jurisdiction of the Southwest Florida Water Management District (SWFWMD), the eastern boundary of which follows I-75, a convenient albeit artificial reference line. However, the park's main hydrologic feature, Brownlee Creek, flows easterly beneath I-75 to Tuscawilla Lake near Micanopy, which is under jurisdiction of the St. Johns River Water Management District (SJRWMD). Consequently, the park's strongest hydrologic ties are actually to lands lying within the SJRWMD.

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes of the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. Specific management objectives and actions for natural community management, exotic species management, imperiled species management [and population restoration] are discussed in the Resource Management Program section of this component.

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). 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 that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, 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. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

When a natural community within a park reaches the desired future condition, it is considered to be in a "maintenance condition." Required actions for sustaining a community's maintenance condition may include; maintaining optimal fire return intervals for fire dependent communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions (including historic water flows and water quality), preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those that are imperiled or endemic), and preserving intact ecotones that link natural communities across the landscape.

Prices Scrub State Park contains 15 distinct natural communities as well as five altered landcover types (see Natural Communities Map). A list of plants and animals known to occur in the park is contained in Addendum 5.

Limestone Outcrop (not depicted on Natural Communities Map)
Desired future condition: Limestone outcrops are associated with karst topography and are often found within other features such as sinkholes, or as isolated features within mesic hammocks and upland hardwood forests. Various ferns, mosses and smaller herbs typically grow on the limestone surface or in crevices. Characteristic species in north Florida will include partridgeberry (*Mitchella repens*), brittle maidenhair fern (*Adiantum tenerum*), netted chain fern (*Woodwardia areolata*), jack-in-the-pulpit (*Arisaema triphyllum*), southern shield fern (*Thelypteris kunthii*), and various species of panicgrass (*Panicum* spp.). Other rare fern species may also occur on limestone outcrops.

Description and assessment: Scattered limestone exposures occur in the upland hardwood forest and mesic hammock areas in Price's Scrub. These occur as medium sized boulders in the uplands and scattered exposures on the banks of Brownlee Creek. Due to the limited size and distribution of the limestone outcrops, they are not depicted on the natural community map for the park. No listed species or non-native invasive species have been found in direct association with the limestone outcrops in the park.

General management measures: Limestone outcrops must be protected from disturbance, particularly from damage caused by foot and bicycle traffic. Measures must be taken to prevent runoff and erosion from degrading limestone outcrops, particularly along Brownlee Creek. Mapping limestone outcrops and surveying for any associated imperiled plants will be necessary to ensure their protection.

Mesic Flatwoods
Desired future condition: In the typical mesic flatwoods of north Florida, the dominant pine will usually be longleaf pine (*Pinus palustris*). Native herbaceous groundcover will cover at least 50% of the area at a height of less than three feet. Saw palmetto (*Serenoa repens*) will comprise no more than 50% of the total shrub cover, also at a height of less than three feet. Other shrub species may include gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), runner oak (*Quercus elliottii*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). These shrubs will generally be knee-high or less in height. Few if any large trunks of saw palmetto will run prostrate along the ground. This community will have minimal topographic relief and the soils will contain a hardpan layer within a few feet of the surface, which impedes percolation. Due to these factors, water may saturate the sandy surface soils for periods during the wet season, but lengthy droughts may occur during the dry season. The Optimal Fire Return Interval for this community is 2-3 years.

Description and assessment: The mesic flatwoods natural community occurs in the southern part of Price's Scrub in association with scrubby flatwoods, scrub, wet flatwoods, and baygall. The canopy is dominated by loblolly pine (*Pinus taeda*), slash pine (*Pinus elliottii*), and pond pine (*Pinus serotina*). Scattered sand pines (*Pinus clausa*) grow in the ecotone between the scrubby flatwoods and mesic flatwoods. To date, no longleaf pines have been located in the mesic flatwoods. In some areas, particularly along the southeast boundary (formerly known as Hickman

Legend

- MF - Mesic Flatwoods - 162.19 ac.
- MEH - Mesic Hammock - 108.73 ac.
- SC - Scrub - 37.01 ac.
- SCF - Scrubby Flatwoods - 190.93 ac.
- UHF - Upland Hardwood Forest - 150.40 ac.
- UMW - Upland Mixed Woodland - 49.83 ac.
- WF - Wet Flatwoods - 8.57 ac.
- XH - Xeric Hammock - 1.21 ac.
- BM - Basin Marsh - 11.41 ac.
- BG - Baygall - 83.85 ac.
- DM - Depression Marsh - 14.98 ac.
- DS - Dome Swamp - 7.77 ac.
- SKLK - Sinkhole Lake - 24.87 ac.
- SST - Seepage Stream - 3.23 ac.
- BA - Borrow Area - 12.85 ac.
- CD - Canal/ditch - 0.28 ac.
- DV - Developed - 1.45 ac.
- SHF - Successional Hardwood Forest - 92.76 ac.

PRICE'S SCRUB

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0 250 500 1,000 Feet

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NATURAL COMMUNITIES
EXISTING CONDITIONS

Road), the mesic, scrubby, and wet flatwoods have become heavily invaded by oaks, with an expanding canopy of laurel oak (*Quercus laurifolia*) and water oak (*Quercus nigra*). Red maple (*Acer rubrum*), loblolly bay (*Gordonia lasianthus*), sweetbay (*Magnolia virginiana*) and other tree and shrub species have expanded outward from baygall and wet flatwoods margins into the mesic flatwoods, further reducing light penetration to the groundcover in places. The understory is composed of a mixture of saw palmetto and other species typical of mesic flatwoods in this area of the state, including gallberry, fetterbush, rusty staggerbush (*Lyonia ferruginea*), and wax myrtle (*Myrica cerifera*). Herbaceous cover is sparse but increases along the park trails due to edge effect. The condition of the mesic flatwoods is generally good except for loss of the longleaf pine overstory and overall reduced diversity in the groundcover.

Historic aerial photographs indicate that in 1937 and 1949, the mesic flatwoods were largely intact but with an extremely open canopy. Evidence of cattle grazing in the understory was discernible, but no clearing for concentrated agricultural production was apparent. In the late 1990s, a 400-acre timber harvest removed some of the pine overstory in the mesic flatwoods, but the harvest primarily affected the scrubby flatwoods and scrub. In 2003, a wildfire killed much of the older pine overstory in the mesic flatwoods and also resulted in suppression operations which produced moderately deep plow lines in many areas within the mesic flatwoods. Once the state acquired the property in 2002, preparations were made for introducing prescribed fire to the mesic, scrubby and wet flatwoods at Price's Scrub. The park's prescribed burn program was initiated in 2012.

General management measures: Restoration of the open canopy and groundcover diversity currently lacking in the mesic flatwoods will continue through the use of dormant and growing season prescribed burns. Park staff is actively coordinating with the Florida Forest Service (FFS) and the Florida Highway Patrol (FHP) to minimize impacts from prescribed fire operations on the adjacent Interstate 75. Regular prescribed fire will initially determine the distribution and relative abundance of currently established pine species. If conditions warrant, restoration of longleaf pine will be attempted through under-planting. If an increase in prescribed fire frequency proves insufficient for removing established offsite hardwood canopy species, then mechanical and chemical treatments will be utilized to aid in management of those species. Selective timbering may be appropriate in this community. Non-native invasive plants such as Japanese climbing fern (*Lygodium japonicum*), rose natalgrass (*Melinis repens*), Caesarweed (*Urena lobata*), and showy crotalaria (*Crotalaria spectabilis*) will be monitored and treated annually.

<u>Mesic Hammock</u>
Desired future condition: Mesic hammock is a well-developed evergreen hardwood and/or palm forest which can occur, with variation, through much of peninsular Florida. Live oak (*Quercus virginiana*) will typically dominate the canopy, which is often dense. Cabbage palm (*Sabal palmetto*) may be intermixed in the canopy and in the understory as well. In north Florida, southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*) and pignut hickory (*Carya glabra*)

will often be components in the subcanopy; laurel oak (*Quercus laurifolia*) and water oak (*Quercus nigra*) may occur as well. The shrubby understory may be dense or open, tall or short, and will typically be composed of saw palmetto *(Serenoa repens*), American beautyberry (*Callicarpa americana*), American holly (*Ilex opaca*), gallberry (*Ilex glabra*) and sparkleberry (*Vaccinium arboreum*). The groundcover may be sparse and patchy but will generally contain panicgrasses (*Panicum* spp.), switchgrass (*Panicum virgatum*), sedges, and various ferns and forbs. Vines and epiphytes will be abundant on live oaks and on cabbage palms and other subcanopy trees. Mesic hammocks will generally have sandy soils with some organic materials intermixed, and there may be a thick layer of leaf litter at the surface. Mesic hammocks will rarely be inundated and are not considered to be fire-adapted communities; typically, they are shielded from fire.

Description and assessment: At Price's Scrub State Park, mesic hammock occurs in close association with upland hardwood forest, sinkhole lake, depression marsh, seepage stream, and successional hardwood forest in the north part of the property, and with upland mixed woodland, mesic flatwoods, and successional hardwood forest on the east side of the property. In some areas, it is difficult to distinguish among these communities due to decades of fire suppression and previous agricultural clearing. Aerial photographs from 1949 show that approximately 25 acres associated with mesic hammock at the north end of the park were cleared for intensive agricultural operations across four locations. Those areas are now occupied by successional hardwood forest. Condition of the mesic hammock ranges from good in the intact areas to fair in the previously cleared areas.

The mesic hammock canopy in in the park is diverse, with large live oaks, swamp chestnut oak (*Quercus michauxii*), water oak, and sweetgum among the tree species. Drier sites in the mesic hammock also have pignut hickory and southern magnolia in the canopy. The subcanopy contains the aforementioned species, as well as sugarberry (*Celtis laevigata*), loblolly pine, eastern hophornbeam (*Ostrya virginiana*), bluebeech (*Carpinus caroliniana*), and red maple. Shrub strata include subcanopy species as well as dogwoods (*Cornus* spp.), Carolina basswood (*Tilia americana* var. *caroliniana*), buckeye (*Aesculus pavia*), and others. Herbaceous diversity is highest in the moister edges. Species include jack-in-the-pulpit (*Arisaema triphyllum*), birdbill woodoats (*Chasmanthium ornithorhynchum*), woodsgrass (*Oplismenus hirtellus*), ebony spleenwort (*Asplenium platyneuron*), and Cherokee bean (*Erythrina herbacea*). Several vines, including two rare species, angle-pod (*Gonolobus suberosus*) and Florida spiny pod (*Matelea floridana*), have been documented in the mesic hammock as well.

General management measures: Management of the mesic hammock is closely tied to protection of the seepage stream system. Park staff will work to maintain the quality of the seepage stream system through regular monitoring and stabilization of any erosion problems originating in the mesic hammock. Ground disturbing activities that would affect the populations of angle-pod and Florida spiny pod will be avoided. Several of the non-native invasive plants documented in the park occur in the mesic hammock. These include coral ardisia (*Ardisia crenata*) and Japanese

climbing fern dispersed in the interior of management zones, and Caesarweed, tropical soda apple (*Solanum viarum*), and showy crotalaria found along the road/trail system. In particular, Japanese climbing fern is well established around the margins of the sinkhole lake and depression marsh at the north end of the property. Infestations there are treated regularly to prevent further spread into the mesic hammock. Staff will continue to monitor and treat these species annually to prevent additional dispersal. Areas of successional hardwood forest that were historically mesic hammock will be monitored for recovery of mesic hammock components.

Scrub

Desired future condition: Within north Florida scrub habitats, the dominant plant species will include sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), saw palmetto (*Serenoa repens*), and rusty staggerbush (*Lyonia ferruginea*). There will be a variety of oak age classes/heights among the different scrub patches. There will be scattered openings in the canopy with bare patches of sand that support many imperiled and/or endemic plant species; these species will be regularly flowering and replenishing their seed banks. Sand pine (*Pinus clausa*), where present, will usually not be dominant in abundance, percent cover, or height. Some areas of mature sand pine may occur. The Optimal Fire Return Interval for this community will be regionally variable, but typically 4-15 years when aiming to achieve a mosaic of burned and unburned areas.

Description and assessment: In Price's Scrub State Park, three north/south oriented stands of scrub occur on slightly higher ridges located within the broader landscape of scrubby flatwoods, mesic flatwoods, and baygall swales in the southern portion of the property. The most prevalent pine canopy contains a mixture of loblolly pine, sand pine, and occasionally longleaf pine. The dense shrub layer includes myrtle oak, sand live oak, and Chapman's oak, as well as saw palmetto, fetterbush, rusty staggerbush, and Florida rosemary (*Ceratiola ericoides*). Groundcover species are limited in number and distribution, with the greatest concentration occurring along service roads. Species include sandyfield beaksedge (*Rhychospora megalocarpa*), coastalplain chaffhead (*Carphephorous corymbosus*), and several lichens (*Cladonia evansii, Cladonia subtenuis*, and *Cladonia leporina*).

Human disturbance of the scrub community is evident in 1949 aerial photographs, with a visible footprint that is likely much older. In 1949, the network of flatwoods and scrub in the southern portion of the park had a distinctly open canopy, with scattered pines at very low density and the appearance of historic or ongoing cattle grazing, which was also verified by longtime local residents. The pine overstory was harvested from the scrub and surrounding areas in the early 1990s (Muller and Associates 2004). Prior to the harvest, aerial photographs indicated that a 30-40% canopy cover existed in both the scrub and wet flatwoods. Following the harvest, loblolly pine naturally seeded in, producing an abnormally high density in the scrub canopy. Numerous linear disturbances are apparent in the scrub, ranging from historic trails to more recent ORV trails and wildfire suppression lines. In January 2003, a wildfire burned through the scrub and surrounding flatwoods. The wildfire

was followed in 2008 by a roller chopping operation that treated the westernmost scrub stand and the surrounding scrubby flatwoods. The isolated patches of scrub in the park are too small and discontinuous to support many scrub endemics. The general condition of the scrub is good to fair.

General management measures: A significant factor in successful management of the scrub will be applying prescribed fire frequently in the surrounding flatwoods. Mechanical treatment of the shrub layer in the scrub will be necessary to facilitate application of prescribed fire in this community in a manageable way, given the proximity of I-75. In addition, removal of loblolly pine from the overstory through a combination of mechanical treatment and prescribed fire will be necessary. Selective timber management may be appropriate in this community. A service road/trail is already established on a significant portion of the ecotone between the scrub and scrubby flatwoods. This trail system will be assessed for possible relocation to reduce impacts on that highly sensitive transition zone and to allow for more effective application of prescribed fire to the scrub. Management of non-native invasive species in the scrub will occur annually to prevent expansion of the known populations and detect any new occurrences.

Scrubby Flatwoods

Desired future condition: In north Florida, the dominant tree species in the interior of scrubby flatwoods will usually be longleaf pine (*Pinus palustris*). Mature sand pines (*Pinus clausa*) will typically not be present. There will be a diverse shrubby understory, often with patches of bare white sand. A scrub-type oak "canopy" will vary in height from 3-8 feet, and a variety of oak age classes/heights will occur across the landscape. Dominant shrubs will include sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), saw palmetto (*Serenoa repens*), rusty staggerbush (*Lyonia ferruginea*), and tarflower (*Bejaria racemosa*). Cover by herbaceous species will often total well below 40 percent. The Optimal Fire Return Interval for this community is regionally variable, but areas may be burned as frequently as every 3-8 years when burn prescriptions are designed to achieve a mosaic of burned and unburned areas.

Description and assessment: Scrubby flatwoods is the dominant natural community type in the southern half of Price's Scrub. It is flanked by ridges of scrub on the east and west sides and an area of mesic flatwoods at the south end. This network of flatwoods is bordered primarily by upland hardwood forest and mesic hammock on the north and east sides, and baygall and upland mixed woodland on the south and west sides. The canopy in the scrubby flatwoods consists of scattered loblolly pines and remnant sand pines. A limited number of remnant longleaf pines are also present at a few sites. The highly diverse shrub layer includes scrub oaks such as Chapman's oak, sand live oak, and myrtle oak, as well as saw palmetto, wild olive (*Cartrema americana*), gallberry, red bay (*Persea borbonia*), red chokeberry (*Photinia pyrifolia*), fetterbush, rusty staggerbush, tarflower and others. The groundcover is limited in diversity and coverage, but includes bracken fern (*Pteridium aquilinum*), sandyfield beaksedge, bottlebrush threeawn (*Aristida spiciformis*), candyroot (*Polygala nana*), yellow hatpins (*Syngonanthus flavidulus*),

broomsedge (*Andropogon virginicus*), coastalplain chaffhead, and several lichens *(Cladonia* spp.).

The condition of the scrubby flatwoods at Price's Scrub ranges from good to fair. As with the scrub, human disturbance in the scrubby flatwoods is evident in the 1949 aerial photographs, with a visible footprint that is likely much older. In 1949, the network of flatwoods and scrub in the southern portion of the park had a distinctly open canopy, with scattered pines at very low density and the appearance of historic or ongoing cattle grazing, which was also indicated by longtime local residents. An 18-acre area in the center of the scrubby flatwoods appears to have been used for more intensive agricultural purposes, based on the 1949 aerial photos that show it as having a distinctly different appearance than the surrounding area. The pine overstory was harvested from the scrubby flatwoods and surrounding areas in the early 1990s (Muller and Associates 2004). Following the harvest, loblolly pine naturally seeded into areas of the scrubby flatwoods, giving it an abnormally high density in the canopy.

Numerous linear disturbances are visible in the scrubby flatwoods, ranging from historic trails to more recent ORV trails and wildfire suppression lines. In January 2003, a wildfire burned through the scrub and surrounding flatwoods, causing additional mortality in the remnant pine overstory. Mechanical treatment (roller chopping) of the northernmost 100 acres of scrubby flatwoods was conducted in 2008.

General management measures: One of the primary tools for managing scrubby flatwoods is continued and expanded restoration of prescribed fire in the landscape. Restoration of overgrown scrubby flatwoods to a more characteristic condition through prescribed fire alone would require the gradual buildup of sufficient pyrogenic materials at the edges of the community to fuel a fire intense enough to reach the scrub oak canopy and move through the heart of the scrub. This process can take many years. Because the proximity of I-75 makes the use of prescribed fire even more challenging than in a less smoke sensitive area, it will be necessary to mechanically treat overgrown sites to lower the fuel structure and open the closed canopy before initiating prescribed burns. The preferred fire return interval for the scrubby flatwoods at Price's Scrub is 8-15 years.

Mechanical treatment to facilitate prescribed fire application has been completed in some areas, and regular use of both these techniques will continue in management of this system. Selective timber management may be appropriate in this community. Ongoing monitoring and management of feral hogs (*Sus scrofa*), and annual monitoring and treatment of non-native invasive plants including showy crotalaria, rose natalgrass, Caesarweed, and others will occur as they are detected. The imperiled blue butterwort (*Pinguicula caerulea*) has been recorded at one location along a service road through the scrubby flatwoods. This location should be monitored and any management of that section of service road, including disking or widening it as a fireline, should include consideration of that species.

Upland Hardwood Forest

Desired future condition: Upland hardwood forest is a mature, closed canopy hardwood forest typically occurring on slopes and rolling hills with generally mesic conditions. Overstory tree species in north Florida will generally include southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*), live oak (*Quercus virginiana*), pignut hickory (*Carya glabra*), laurel oak (*Quercus laurifolia*), Florida maple (*Acer saccharum* subsp. *floridanum*), and swamp chestnut oak (*Quercus michauxii*). Understory species will include trees and shrubs such as American holly (*Ilex opaca*), flowering dogwood (*Cornus florida*), eastern redbud (*Cercis canadensis*), red bay (*Persea borbonia*), horse sugar (*Symplocos tinctoria*), eastern hophornbeam (*Ostrya virginiana*), and beautyberry (*Callicarpa americana*). The groundcover will consist of shade-tolerant herbaceous species, sedges and vines.

Description and assessment: The upland hardwood forest at Price's Scrub is located in the northern and eastern areas of the property, typically occurring with mesic hammock, seepage stream and successional hardwood forest. Topographic relief in the northern areas of upland hardwood forest is extreme in the area of the seepage stream, Brownlee Creek. In this area, the upland hardwood forest resembles that which might be seen in northwestern Florida. The canopy of the upland hardwood forest at Price's Scrub is characterized by live oak, swamp chestnut oak, pignut hickory, sweetgum, southern magnolia, and cabbage palm. The shrub layer includes red bay, southern red cedar (*Juniperus virginiana*), sugarberry, bluebeech, sparkleberry, American holly, devil's walkingstick (*Aralia spinosa*), American beautyberry, and others. Understory diversity in the upland hardwood forest is highest in wetter areas near the depression marsh sites. Understory species include spring cleavers (*Galium aparine*), variable witchgrass (*Dichanthelium commutatum*), birdbill woodoats, chain ferns (*Woodwardia* spp.), and others. Numerous vines also occur, including Carolina jessamine (*Gelsemium sempervirens*), smilax species, and muscadine grape (*Vitis rotundifolia*). An imperiled species, angle pod, has also been found at multiple locations in the upland hardwood forest.

For the most part, the upland hardwood forest at Price's Scrub is in good to fair condition, with the primary exception being a 50+ acre historic farm site with intensive agricultural alterations visible on the landscape in the 1949 aerial photograph of the area. That site, originally either upland hardwood forest, upland mixed woodland, or possibly upland pine, is now a successional hardwood area that needs significant restoration activity to return it to a more natural condition. While the other sites cleared for agricultural fields further north and east in Price's Scrub were visibly returning to a forested cover type in the 1964 aerial photographs, the 50+ acre farm site was still in active agricultural use.

General management measures: Upland hardwood forests typically require little active management. The main management strategy for this community is to protect it from disturbance or fragmentation. One major concern in managing upland hardwood forest at Price's Scrub will be to prevent impacts such as erosion from initiating there and spreading downslope and affecting the seepage stream as

well. If erosion becomes problematic, park staff will need to implement corrective measures such as stabilization of disturbed areas. Management of non-native invasive plants within this natural community is an ongoing priority. Together, the upland hardwood forest and mesic hammock are the two most heavily invaded natural communities within Price's Scrub. Coral ardisia, Caesarweed, tropical soda apple, showy crotalaria, and others have all become established in the upland hardwood forest at varying levels. In addition, a population of cogongrass (*Imperata cylindrica*) occurs in the upland hardwood forest along I-75. Annual monitoring and treatment of these populations will continue in order to prevent further spread. Feral hogs remain a potential threat to this natural community as well. If a feral hog presence becomes evident, removal efforts will be implemented.

Upland Mixed Woodland

Desired future condition: Dominant tree species in north Florida will include longleaf pine (*Pinus palustris*), southern red oak (*Quercus falcata*), sand post oak (*Quercus margaretta*), and mockernut hickory (*Carya tomentosa*). Hardwood tree species will frequently be dominant or co-dominant with pines. Flowering dogwood (*Cornus florida*) and pignut hickory (*Carya glabra*) may be present, as well as sub-canopy species such as sparkleberry (*Vaccinium arboreum*). Percent herbaceous cover will be comparable to that of sandhill, attaining a height of 3-4 feet during spring and summer. In some areas, grasses and forbs will reach heights of 6-8 feet or more during the fall due to blooming of taller grass species such as yellow indiangrass (*Sorghastrum nutans*), silver plumegrass (*Saccharum alopecuroides*), and big bluestem (*Andropogon gerardii*). In old growth conditions, the oaks and hickories are commonly 150-200 years old. The Optimal Fire Return Interval for this community is two to five years, depending on the fire frequency in adjacent natural communities.

Description and assessment: The upland mixed woodland community often serves as a transition zone between upland pine or sandhill and adjacent upland hardwood forest or mesic hammock. Like upland pine, it is fire-adapted, has longleaf pine as the dominant pine species, and has a strong presence of southern red oak and mockernut hickory in the canopy, along with scattered sand post oaks. However, upland mixed woodland typically lacks wiregrass as a dominant groundcover, and the oaks and hickories may be co-dominant with the longleaf pines. Being a transitional community, upland mixed woodland is very susceptible to succession to upland hardwood forest when there is a lack of frequent fire. As a result of fire suppression and targeted development, very few intact examples of this community remain in north-central Florida.

Relying on mapped locations of key species such as mockernut hickory and southern red oak, it is evident that at least three areas of upland mixed woodland either occur now or once occurred in the northern and eastern areas of Price's Scrub. Long-term fire exclusion has resulted in the upland mixed woodland being in generally poor condition and difficult to distinguish from successional hardwood forest and upland hardwood forest without additional extensive survey. At least one location of remnant upland mixed woodland species in the park falls within a site that had once been cleared for agricultural purposes, as referenced in an 1895

United States Geological Survey topographic map (Williston quadrangle), and visible in 1937 and 1949 aerial photographs, illustrating the lasting impact of human land use on this natural community type.

General management measures: The DRP will need to conduct additional field surveys to verify the historic extent of this community. Documentation of the distribution of remnant species will be needed as well. When accurate maps of upland mixed woodland occurrence are developed, restoration will commence. Restoration and improvement of the upland mixed woodland community will entail the reintroduction of frequent fire (2-5 year return interval) and the removal of offsite hardwood species. The park will postpone the planting of longleaf pines until the canopy is sufficiently open to allow longleaf seedlings to survive. Annual monitoring and treatment of non-native invasive plants, including coral ardisia, Caesarweed and mimosa (*Albizia julibrissin*), will continue in an effort to prevent further spread. Feral hogs have been documented in the upland mixed woodlands in the southeastern corner of Price's Scrub. Removal of these animals will continue as they are detected.

Wet Flatwoods

Desired future condition: Depending on the region of the state, dominant pines will usually be longleaf pine (*Pinus palustris*), slash pine (*Pinus elliottii*), pond pine (*Pinus serotina*), and/or loblolly pine (*Pinus taeda*). Pond cypress (*Taxodium ascendens*) may reach canopy size in some locations. The canopy will be open, with pines widely scattered and of variable age classes. The subcanopy will include sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), and loblolly bay (*Gordonia lasianthus*). Native herbaceous cover will be at least 80 percent. Pitcherplants (*Sarracenia* spp.) and other plants such as terrestrial orchids may be present, and abundant in some areas. Common shrubs will include fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), titi (*Cyrilla racemiflora*), and wax myrtle (*Myrica cerifera*). The Optimal Fire Return Interval for this community is 2-4 years.

Description and assessment: The wet flatwoods community in Price's Scrub occurs in the southeast corner of the property, where it is surrounded by mesic flatwoods and a narrow baygall. As a result of timber harvesting in the early 1990s and a destructive wildfire in 2003, the canopy is relatively open, consisting of slash pine, pond pine, and loblolly pine. The shrub layer includes red maple, laurel oak, sweetgum, loblolly bay, sweetbay, gallberry), dahoon holly (*Ilex cassine*), wax myrtle, and others. Dominant herbs include netted chain fern, Virginia chain fern (*Woodwardia virginica*), marsh fern (*Thelypteris palustris*), false nettle (*Boehmeria cylindrica*), and maidencane (*Panicum hemitomon*). With the recent reintroduction of prescribed fire, the wet flatwoods community is now in good condition.

General management measures: Management of the wet flatwoods will focus on restoring and maintaining a natural fire regime. Park staff is working actively with the FFS and the FHP to minimize impacts from prescribed fire operations on the adjacent Interstate 75. Regular prescribed fire will initially determine the

distribution and relative abundance of currently established pine species. If conditions warrant, restoration of longleaf pine will occur through under-planting.

Xeric Hammock

Desired future condition: This community is typically considered a late successional stage of scrub or sandhill that generally occurs in small isolated patches on excessively well drained soils. Vegetation will consist of a low closed canopy dominated by sand live oak (*Quercus geminata*), which provides shady conditions. Other typical species may include Chapman's oak (*Quercus chapmanii*) and laurel oak (*Quercus laurifolia*). Sand pine, slash pine, or longleaf pine (*Pinus clausa, P. elliottii, P. palustris*, respectively) may also be minor components. Understory species will include saw palmetto (*Serenoa repens*), fetterbush (*Lyonia lucida*), myrtle oak (*Quercus myrtifolia*), yaupon holly (*Ilex vomitoria*), Hercules' club (*Zanthoxylum clava-herculis*), and Florida rosemary (*Ceratiola ericoides*). A sparse groundcover layer of wiregrass (*Aristida stricta* var. *beyrichiana*) and other herbaceous species may exist, but typically will be absent. A continuous layer of leaf litter may be present. Overgrown scrub in need of fire and/or mechanical treatment should not be confused with true xeric hammock.

Description and assessment: A small area of xeric hammock, approximately one acre in size, occurs on the northwestern boundary of the park. This area likely would have been scrub or scrubby flatwoods historically, but it is isolated by a road and cannot be burned safely due to the lack of a boundary fireline in the area and the impracticality of installing one at that location. The area has a canopy of scrub oaks, mainly sand live oak, and there are some sand pines in the overstory. The condition of the xeric hammock is fair.

General management measures: This area will be managed as xeric hammock. Due to the xeric hammock's small size and its location on the park boundary, it will be impractical to attempt restoration to scrub or scrubby flatwoods.

Basin Marsh

Desired future condition: Basin marshes contain emergent herbaceous and low shrub species which dominate most of the area and maintain an open vista. Trees will be few, and if present, will occur primarily in the deeper portions of the community. There will be little accumulation of dead grassy fuels due to frequent burning. The soil surface will be visible through the vegetation when the community is not inundated. Dominant vegetation will include maidencane (*Panicum hemitomon*), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* spp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and coastalplain willow (*Salix caroliniana*). The Optimal Fire Return Interval for this community is 2-10 years depending on the fire frequency of adjacent communities.

Description and assessment: A basin marsh of approximately 50 acres in size straddles the west boundary of Price's Scrub State Park. The basin marsh occurs primarily on private property adjacent to the park, but over 10 acres of marsh

extend across the boundary line into the park. The condition of the basin marsh within the park is considered to be fair.

Historical aerial photographs from 1937 to 1949 show the basin marsh as an open herbaceous wetland, subject to intermittent periods of high water. On the adjacent property, the basin marsh was historically divided by fence lines, but that wasn't evident for the portion lying within Price's Scrub. A ditch/canal that was installed in the basin marsh crosses over onto park property and connects to a western streamlet of the Brownlee Creek ravine system. This ditch may have been excavated to help drain the basin marsh for agricultural purposes, and it probably is having an impact on present day hydrological function and woody plant encroachment. The basin marsh has become invaded by hardwoods over the past 60 years, including coastalplain willow, black gum (*Nyssa sylvatica*), sweetgum, and red maple.

General management measures: The DRP will assess the function and extent of the canal/ditch within the basin marsh. The DRP will also discuss with adjacent landowners and the FFS the possibility of introducing prescribed fire to the entire basin marsh, across property boundaries. Initial contact has already been made with the adjacent landowners regarding this topic.

Baygall

Desired future condition: A baygall is a wet, densely forested, peat-filled depression typically found near the base of a slope. Seepage from adjacent uplands will maintain saturated conditions. The canopy will consist of medium to tall trees, mainly sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), and/or swamp bay (*Persea palustris*). Occasionally pines (*Pinus* spp.) may also be sparsely distributed. A thick understory consisting of gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), dahoon (*Ilex cassine*), and red maple (*Acer rubrum*) will be typical. Climbing vines such as greenbrier (*Smilax* spp.) and muscadine grape (*Vitis* spp.) will usually be abundant. The dominant baygall species are fire intolerant, indicating that this community experiences fire only infrequently. The Optimal Fire Return Interval is 25-100 years. Fires from adjacent communities should be allowed to enter the baygall ecotone.

Description and assessment: Small pockets and stringers of baygall are scattered through the southern part of the park, associated with seepage streams, mesic flatwoods, scrubby flatwoods, wet flatwoods, and swales between the scrub ridges. Baygall canopy species in the park include loblolly bay, swamp tupelo (*Nyssa sylvatica var. biflora*), red maple, and sweetgum. The shrub layer includes canopy species as well as sweetbay, dahoon holly, large gallberry, Virginia willow (*Itea virginica*), and swamp bay. The herbaceous layer is somewhat limited, with lizard's tail (*Saururus cernuus*), chain ferns (*Woodwardia* spp.), and cinnamon fern (*Osmunda cinnamomea*) occurring in most locations. Thick brambles of laurel greenbrier (*Smilax laurifolia*), and muscadine grape are common. A small dome swamp is located at the southern terminus of the southernmost baygall. The Price's Scrub baygalls are generally in good condition, but they require more frequent fire to improve overall condition.

General management measures: Prescribed fires will be allowed to burn into the edges of the baygalls to maintain a natural and diverse ecotone. Non-native invasive plants in the baygalls, including Japanese climbing fern and mimosa, will be monitored and treated annually to prevent further spread.

Depression Marsh

Desired future condition: Depression marshes in north Florida, because they are characteristically dominated by low emergent herbaceous and shrub species, usually provide open vistas. Trees will be few, and if present will occur primarily in the deeper portions of the community. There will be little accumulation of dead grassy fuels due to frequent fire. The soil surface will often be visible through the vegetation when the community is not inundated. Dominant vegetation may include maidencane (*Panicum hemitomon*), panic grasses (*Panicum* spp.), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* spp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and coastalplain willow (*Salix caroliniana*). The Optimal Fire Return Interval for this community is 2-10 years, depending on the fire frequency in adjacent communities.

Description and assessment: At Price's Scrub, depression marshes occur in mesic hammock, scrubby flatwoods, and mesic flatwoods. Two types of depression marshes have been found: herbaceous dominated marshes with concentric bands of vegetation and open water bodies resembling small ponds with vegetation only around the outer rim. The largest depression marsh is located in the north end of the property northwest of the large sinkhole lake. The karstic terrain in the northern portion of Price's Scrub indicates that the depression marshes in that area probably originated from sinkholes. Outer bands of vegetation may include a perimeter canopy of sweetgum, red maple, swamp tupelo, and water oak, followed by a shrub band of buttonbush, coastalplain willow, elderberry (*Sambucus canadensis*), sawtooth blackberry (*Rubus argutus*), and the imperiled pondspice (*Litsea aestivalis*). Species in the herbaceous layer range from maidencane, blue maidencane (*Amphicarpum muhlenbergianum*), and chalky bluestem (*Andropogon virginicus* var. *glaucus*) to soft rush (*Juncus effusus*) and floating bladderwort (*Utricularia inflata*). Floating aquatic plants occurring in open water areas of some of the depression marshes include duckweed (*Lemna* spp.), Pacific mosquitofern (*Azolla filiculoides*), and water spangles (*Salvinia minima*). Overall, the depression marshes are in fair to good condition, but all require the restoration of fire to improve their condition.

General management measures: Where possible, the depression marshes should be treated with prescribed fire often enough to restore the natural fire return interval and prevent succession to forested wetlands. The secondary management strategy is to control and eradicate the feral hog population within Price's Scrub. In addition, the park's one population of pondspice, an imperiled species, occurs along the margin of a depression marsh located in the southeastern part of the park. This particular marsh needs additional management focus to protect and maintain the pondspice plants in place and to promote recruitment.

Dome Swamp

Desired future condition: A dome swamp is an isolated, forested depression wetland occurring within a fire-maintained matrix such as mesic flatwoods. The characteristic dome appearance is attributable to the growth of smaller trees on the outer edge (shallower water and less peat) and larger trees in the interior. Pond-cypress (*Taxodium ascendens*) will typically dominate, but swamp tupelo (*Nyssa sylvatica* var*. biflora*) may also form pure stands or occur as a co-dominant. Sub-canopy species in north Florida will generally include red maple (*Acer rubrum*), dahoon holly (*Ilex cassine*), swamp bay (*Persea palustris*), sweetbay (*Magnolia viginiana*), and loblolly bay (*Gordonia lasianthus*). Shrubs will be absent to moderately common (a function of fire frequency), and may include Virginia willow (*Itea virginica*), fetterbush (*Lyonia lucida*), buttonbush (*Cephalanthus occidentalis*), and wax myrtle (*Myrica cerifera*). Herbaceous cover will be absent to dense and include ferns, maidencane (*Panicum hemitomon*), sedges (*Carex* spp.), lizard's tail (*Saururus cernuus*), and sphagnum moss (*Sphagnum* spp.). Vines and epiphytes will be common. Maintaining the appropriate hydrology and fire frequency will be critical for preserving the structure and species composition of the community. Dome swamps should generally burn on the same frequency as adjacent fire-type communities, with fires being allowed to burn across ecotones naturally. Fires in dome swamps should be appropriately planned for intervals of two to ten years to avoid buildup of high fuel loads.

Description and assessment: Price's Scrub contains several dome swamps. One is located in the southeastern part of the park just north of old Hickman Road, and two others are associated with drainages on the east and west sides of the park. Relatively small in size and dominated by an even-aged canopy of swamp tupelo and sweetgum, the southeastern dome swamp is currently in good condition. A second dome swamp is associated with a small seepage stream system that feeds into Brownlee Creek, and a third is located in an area of mesic hammock on the east side of the property. Their canopies consist of swamp tupelo, red maple, sweetgum, and Carolina ash (*Fraxinus caroliniana*).

General management measures: Prescribed fires in adjacent fire-maintained natural communities will be allowed to burn through the ecotone into the dome swamps periodically, under conditions appropriate for restoring the natural transition zone and maintaining the natural fire regime essential to dome management. Removal of offsite hardwoods in the dome swamp may be necessary, depending on water level fluctuations and the results of future prescribed burns. Park staff will regularly monitor the dome for the appearance of invasive exotic plant species and remove any found.

Sinkhole Lake

Desired future condition: Sinkhole lakes are relatively permanent and typically deep lakes formed in depressions within a limestone base and are characterized by clear water with a high mineral content. Vegetation may be completely absent from some sinkhole lakes, while in others the vegetative cover may range from a fringe of emergent species to complete coverage by floating plants. Typical plant species in north Florida will include smartweed (*Polygonum hydropiperoides*), duckweed

(*Lemna* spp.), bladderwort (*Utricularia* spp.), and rushes (*Juncus* spp.). Actions necessary to achieve desired conditions will include minimizing disturbances that cause unnatural erosion and sedimentation, and minimizing pollution that might affect connected aquifer systems.

Description and assessment: A sizable sinkhole lake known as Water Lily Pond (Muller and Associates 2004) is located in the northern part of Price's Scrub. This area has karstic features that include the sinkhole lake, some depression marshes that may have originated from sinkholes, and a significant topographic relief associated with the sinkhole lake and seepage stream drainages. Water Lily Pond has concentric bands of vegetation similar to that around some of the depression marshes within the park. An outer band of shrubs, located in an area subject to alternating periods of inundation, includes red maple, sweetgum, swamp tupelo, dahoon holly, buttonbush, wax myrtle and others. An interior band of emergent and submersed vegetation consists of maidencane, blue maidencane, cattail (Typha latifolia), marsh marigold (*Bidens* sp.), floating bladderwort, Pacific mosquitofern, and duckweed. A band of sphagnum moss overlying a deep, submerged organic layer separates the vegetative bands from the open water in the center of the sinkhole lake. A number of smaller sinkhole lakes are distributed in the northern half of Price's Scrub within areas of upland hardwood forest, upland mixed woodland, and successional hardwood forest. Areas around two of these lakes were largely cleared during the intensive agricultural modifications that were discernible in the 1937 and 1949 aerial photographs.

It is apparent from the 1937 and 1949 aerial photographs that the large sinkhole lake was then dominated by open water. In 2014, that condition had changed dramatically to one in which a mix of low shrubs and herbaceous vegetation had become dominant. It is possible that the hydrology of the lake was altered prior to 1949. An agricultural clearing is visible in aerial photographs taken at that time. The clearing occupied the entire western border of the sinkhole lake and extended to the large depression marsh just northwest of the lake. It is also possible that construction of Interstate 75 in the 1960s somehow affected the natural hydrology of the lake. Aerial photographs from 1964 reveal that a large cleared area of exposed sand connected the edge of Interstate 75 with the northeast corner of the sinkhole lake at that time. Also, locations along the western and southern edges of the lake appear to have been scooped out or altered, possibly to facilitate drainage away from the interstate. The northern edge of the lake has a distinct bank which is experiencing erosion. Overall, the condition of the sinkhole lakes ranges from good to fair.

General management measures: In the management of sinkhole lakes, the emphasis must be on protection. The edges of Water Lily Pond need to be protected from impacts that could accelerate erosion and sedimentation. Increased erosion, particularly on the north bank, could cause a decline in water quality, especially if a karst window is present. Access to most of the sinkhole lakes in the park is currently limited due to trail locations and low public visitation. Protection of the quality and quantity of groundwater and surface water feeding the sinkhole lakes is an additional management consideration. It is possible that, after further

assessment, some of the depression marshes at the north end of the park may be reclassified as sinkhole lakes. A survey of the depression marshes will be conducted for the purpose of evaluating their potential for reclassification as sinkhole lakes. Removal of non-native invasive plants from the sinkhole lakes, particularly Peruvian primrosewillow (*Ludwigia peruviana*), should be initiated, with annual follow-up.

Seepage Stream

Desired future condition: Seepage streams are narrow, relatively short, perennial or intermittent streams formed by water that has percolated from adjacent uplands. As seepage streams are typically sheltered by a dense overstory of broad-leaved hardwoods which block out much of the sunlight, the flora will often be depauperate, but filamentous algae may be present, as well as ferns and liverworts growing in clumps at the stream's edge. Water in the stream will be clear to slightly colored, and it will have a fairly slow flow rate and fairly constant temperature. The bottom substrate will typically be sandy, but may include gravel or limestone.

Description and assessment: Price's Scrub contains a seepage stream system known locally as Brownlee Creek. Located in the central and northern parts of the property, the system includes several smaller streamlets which drain from south to north and feed into the two main arms of Brownlee Creek. Brownlee Creek eventually passes through a culvert under Interstate 75, then northeast to the southwestern end of Tuscawilla Lake. The seepage stream system consists of narrow, mostly clear, tannic-colored streams with sandy bottoms. It follows a twisting, turning course through karst terrain, producing deep cuts that create steep ravines. At the northern end of the park, Brownlee Creek passes through upland hardwood forest and mesic hammock, which are some of the highest quality communities on the property. Based on interpretation of 1949 aerial photographs, the uplands immediately surrounding Brownlee Creek remain largely intact, with agricultural clearing concentrated mainly west of the stream system.

The overall condition of the seepage stream in the park is good. The course of the seepage stream is devoid of vegetation on much of the lower and upper streambanks due to dense shade from the surrounding forests and the rapid flow of water in the stream. The streambanks are fragile and are experiencing erosion in some areas. In one location, it appears that a historic crossing or access point for the stream has resulted in erosion of the western bank. In another location, an old service road crosses one of the streamlets feeding the eastern arm of Brownlee Creek, causing serious bank erosion. Several populations of angle-pod, an imperiled species, occur along the streambank.

General management measures: Protection of seepage stream systems is largely dependent on protection of their watersheds. In the case of Brownlee Creek, the primary management need is to protect the quality and quantity of water not only entering the seepage stream but also exiting it at Tuscawilla Lake. Another key management need is stabilization and protection of the fragile and eroding locations on the streambanks. In at least one location, culverts will be installed to stabilize

erosion and facilitate access so fire management equipment can approach closer to Interstate 75. Streambanks will be surveyed for populations of imperiled plant species, and protective measures will be taken as needed.

Altered Landcover Types

Borrow Area

Desired future condition: The borrow area in the southeast corner of the park has functioned as a permanent pond since the 1960s. It is not targeted for restoration in the next management period. While the pond is clearly rectangular in shape and highly unnatural, plants that have become established on the edges of the pond, and in its interior, provide some degree of wetland habitat similar to that found in a natural depression marsh.

Description and assessment: As clearly seen in 1964 aerial photographs, a large borrow pit was created in the southeast corner of Price's Scrub during construction of Interstate 75. This borrow area evolved into an artificial pond which, according to local residents, had open water with a sandy bottom in the 1970s and 1980s and was used locally for swimming, fishing, and skinny dipping. By 2014, the borrow area pond had vegetation established around its edges and extending into the interior, and its vegetative cover resembled that of a depression marsh. A shrub band of wax myrtle, buttonbush, coastalplain willow, and Peruvian primrosewillow rings the pond, and dense stands of maidencane, blue maidencane, cattail, and marsh marigold cover much of the interior. One of the imperiled bird species documented in the park, little blue heron (*Egretta caerulea*), has been observed at the borrow area pond. Proximity of the pond to the public parking area makes it a convenient destination for some park visitors, and littering has increased in the area.

General management measures: The borrow area pond will be surveyed and monitored for presence and expansion of non-native invasive plants and animals. Populations of Peruvian primrosewillow are known to occur along the pond edges, and those plants will be removed. Feral hogs have been found around the margins of the pond, and ongoing removal efforts will focus on that area.

Canal/Ditch

Desired future condition: If restoration is identified as an appropriate and necessary measure and is deemed feasible, the desired future condition for the ditch described below will be a natural drainage with a more meandering course and less deeply incised embankments.

Description and assessment: An east/west running ditch on the west side of the park apparently connects basin marsh located on adjacent private property to the west with the seepage stream system to the east that feeds into Brownlee Creek, and eventually Tuscawilla Lake. The ditch has been in place for several decades, based on the size of the trees growing from its banks and the fact that it appears on the 1937 aerial photographs. The total length of the ditch is unknown and the portion on the adjacent private property has not yet been explored. However, in the

1937 aerial photographs, the ditch appears to extend well into the central-northern section of the basin marsh, and it is possible that it cuts across the entire width of the marsh.

General management measures: The ditch will be mapped and its condition assessed in order to better understand its impact on hydrology in the park, as well as on the adjacent property. Occasional survey for non-native invasive plants and for signs of erosion will be conducted.

Developed
Desired future condition: There are no current plans to convert the developed area in the park back to its original natural community. However, park managers will attempt to minimize the effects that developed areas have on adjacent natural areas.

Description and assessment: Price's Scrub State Park contains one developed area, which includes a grassy parking lot with a pump house, non-potable water, picnic tables, a kiosk and porta-let facilities. The developed area is bounded by a split-rail fence and is accessible from Marion County Highway 320.

General management measures: Resource management in this developed area will focus on removal of all priority invasive plant species (see FLEPPC Category I and II species: Table 3 in the Exotic and Nuisance Species section of this plan). Of particular concern are species that could possibly be introduced through equestrian use (feed, manure, grooming), given the extent of that type of recreational activity in the park. Ongoing maintenance of the site and all future considerations for developed areas within the park will prioritize proper stormwater and wastewater management and evaluate compatibility of the developed site with prescribed fire management in adjacent natural areas.

Road (not depicted on Natural Communities Map)
Desired future condition: The road/trail system within Price's Scrub will be managed to maintain appropriate access to the property while reducing impacts on hydrologic function, prescribed fire management, and natural community health.

Description and assessment: Price's Scrub contains one main, northwesterly running, unpaved road along with several smaller side trails that serve as multi-use recreational trails and service roads/firelines. The primary road, Trail A, has been augmented with offsite fill material taken from coastal spoil piles in central Florida. This has resulted in the introduction of offsite shell material along the road corridor. A total of 9.1 miles of road/trail/fireline are established. A historic stagecoach road, located along the northwest boundary of the park, is heavily eroded in places and may require significant stabilization and restoration for access to continue there. However, only a portion of the stagecoach road actually extends onto park property. The south boundary of the park east of the visitors' parking area partially follows the centerline of an old, abandoned paved road. DRP does not have any plans to maintain that road.

General management measures: Roads will be maintained using measures appropriate for maintaining access while limiting impacts on surrounding natural communities. Road management will also take into consideration the roads' designation as multi-use recreational trails. The ownership of the old stagecoach road will be reviewed and verified, and consideration will be given to implementing stabilization measures for the portion within the park.

Successional Hardwood Forest

Desired future condition: Successional hardwood forest occurs in six distinct locations within Price's Scrub State Park. In each location, the long-term restoration goal is to restore the original natural community if possible. The target natural communities are upland hardwood forest, mesic hammock, upland mixed woodland, and possibly one area of upland pine. Further survey and assessment will be necessary to establish the boundaries of each community type to be restored.

Description and assessment: The successional hardwood forest areas in the park are all the result of clearing for agricultural purposes prior to 1937. Six distinct areas in the northern part of the park, ranging in size from six acres to 50+ acres, were fully or partially cleared of native vegetation. Three of the areas were clearly used as cropland sites, the largest of these being a historic farmstead whose footprint was apparent on an 1895 United States Geological Survey topographic map, the Williston quadrangle.

The purpose of the other three clearings seems to have been either for cropland or for intensive cattle grazing, with some plantation pine establishment possible as well. By 1964, only the 50+ acre site was still in agricultural production, and the other five appeared to be reverting to forested cover types. By 2011, all six sites contained fully established closed-canopy forests dominated by fast growing pioneer hardwoods such as laurel oak, water oak, and/or sweetgum, with some remnant pines as well. These woodlands are either natural habitats (i.e., upland mixed woodland, upland pine, or mesic hammock) that have been invaded due to lengthy fire suppression, or old fields that have succeeded to hardwood forest. The subcanopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Successional hardwood forests can contain remnant species of the former natural community such as beautyberry, muscadine, sparkleberry, and others. Restoration of these forests will require mechanical tree removal and the reintroduction of fire. Where characteristic herbaceous species have been extirpated, reintroduction via seed or containerized plants may be necessary to restore natural species composition and community function.

General management measures: Substantial effort will be required to restore pyrogenic natural communities in areas that were converted to agricultural use and later succeeded to successional hardwood forest. These areas will not be targeted for restoration until a more extensive survey has been completed to determine the original natural community type in each location. There are indications that restoration of the mesic hammock and upland hardwood forest canopy and shrub layers has been occurring naturally over time. However, at least two of the

successional hardwood forest areas originally contained some amount of upland mixed woodland species. Achieving the desired future condition of upland mixed woodland in these two areas will require a significant amount of additional thinning, planting, and restoration effort. Selective timber management may be appropriate in this altered land cover type. Non-native invasive plants will be monitored and treated annually in these areas. Feral hog management will be ongoing. Additional plant surveys will be conducted in the park, mainly targeting key indicator species that may help determine what natural communities were originally in the various successional hardwood forest sites.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

A small number of imperiled species have been documented within Price's Scrub State Park. Additional surveys should be conducted to determine the full extent of the population of each known species, as well as to potentially detect additional imperiled species within the property.

Pondspice, an endangered shrub, occurs in one depression marsh on the southeast side of Price's Scrub. In 2016, over 150 individuals were documented on the outer rim of the depression marsh and on the ecotone extending into the adjoining flatwoods. This represents an increase from the 80 individuals documented in 2005. This population of pondspice has been affected by feral hog rooting in the past. Ongoing management of feral hogs and careful application of prescribed fire in the depression marsh and surrounding flatwoods will be critical to protection of this population.

Blueflower butterwort, a perennial carnivorous herb that is listed as threatened, occurs in one known location in the park. In 2005, three individuals were located on a ruderal wet service road bordering the scrub and scrubby flatwoods in the southwestern part of the property. Surveys in 2012 and 2016 were unable to locate the population again. Additional surveys should be conducted to determine if the species is still present at that location, and if more individuals occur in other areas of the park. Preservation of blue butterwort in the park will require restoration of fire to the scrub and scrubby flatwoods and protection of the known site along the road from disturbance during road maintenance or during fireline widening or maintenance.

Two species in the milkweed family, Florida spiny pod and angle pod, have been recorded in the park. Eight individuals of the endangered Florida spiny pod have been located in the mesic hammock in the northeastern part of the property. Plants were detected while in flower, allowing species confirmation. Multiple individuals (100+) of the threatened angle pod were discovered in the upland hardwood forest

and mesic hammock communities, close to the seepage stream and within the ravine system. Management of these species will require maintaining the quality of the upland hardwood forest and seepage stream communities by preventing erosion and by conducting additional surveys to map their distribution on the property.

One imperiled mammal species has been observed within the park, the Florida black bear (*Ursus americanus floridanus*), which is a species of special concern. Occasional sightings have been reported by neighbors and by management staff.

One imperiled reptile, the threatened gopher tortoise (*Gopherus polyphemus*), has been documented within Price's Scrub. Burrows have been recorded in scrubby flatwoods and mesic flatwoods, mainly along the road/trail system where the habitat is more open. Additional surveys for gopher tortoise should be conducted utilizing the line transect distance sampling methodology adopted by FWC for this species in 2015.

Two imperiled bird species have been documented in the park, little blue heron at the borrow pit in the southeastern corner of the property and swallow-tailed kite (*Elanoides forficatus)* foraging over the pine flatwoods.

Additional surveys for imperiled invertebrates should be conducted to determine if any are present on the property.

Table 2 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 2. Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
Pondspice *Litsea aestivalis*			LE	G3, S2	1, 4, 7, 10	Tier 2, Tier 4

Table 2. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Angle pod *Gonolobus suberosus* (=*Matelea gonocarpos*)			LT		2, 10	Tier 1
Florida spiny pod *Matelea floridana*		.	LE	G2, S2	1, 10	Tier 1, Tier 4
Blueflower butterwort *Pinguicula caerulea*			LT		1, 4, 10	Tier 2, Tier 4
REPTILES						
Gopher tortoise *Gopherus polyphemus*	ST			G3, S3	1,6,7,8,10,13	Tier 1, Tier 3
BIRDS						
Little blue heron *Egretta caerulea*	SSC			G5, S4	4	Tier 1, Tier 2
Swallow-tailed kite *Elanoides forficatus*				G5, S2	1	Tier 1, Tier 2
MAMMALS						
Florida black bear *Ursus americanus floridanus*	ST			G5T2, S2	1,4,10	Tier 1

Management Actions:

1. Prescribed Fire
2. Exotic Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from visitor impacts (establish buffers)/law enforcement
11. Decoys (shorebirds)
12. Vegetation planting
13. Outreach and Education
14. Other

Monitoring Level:

Tier 1.	Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms, or other district specific methods used to communicate observations.
Tier 2.	Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.
Tier 3.	Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.
Tier 4.	Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.
Tier 5.	Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Detailed management goals, objectives and actions for imperiled species in this park are discussed in the Resource Management Program section of this component and the Implementation Component of this plan.

Exotic and Nuisance Species

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock, and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage.

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from

which nuisance cases may arise include venomous snakes or raccoons and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with the DRP's Nuisance and Exotic Animal Removal Standard.

Detailed management goals, objectives and actions for management of invasive exotic plants and exotic and nuisance animals are discussed in the Resource Management Program section of this component.

Price's Scrub has a moderately low population of non-native invasive plants. However, the species that are known to occur on the property are among the more challenging to manage due to prolific reproduction, vectoring by wildlife and recreational users, and other dispersal mechanisms. A comprehensive invasive plant survey was first conducted in 2012. Annual monitoring, treatment of all known infestations, and additional survey work have all taken place since then and will continue.

The most widespread invasive exotic plant in the park is Caesarweed. With populations concentrated along the road/trail system, Caesarweed is undoubtedly being spread within the park by equipment, wildlife, and equestrian users due to the tendency of its seeds to adhere to clothing, hair, and equipment. Other non-native invasive species concentrated along the road/trail system include showy crotalaria and tropical soda apple.

Several invasive species are spreading from the road/trail system further into the park's natural communities. This is particularly true in the northern end of the property which has had a long history of human presence and associated disturbance. Coral ardisia and Japanese climbing fern occur in multiple locations within the northern management zones. Japanese climbing fern also continues to be detected in wet drainages throughout the park, including in scrubby flatwoods and scrub areas.

Non-native invasive trees including Chinese tallowtree (*Triadica sebifera*), mimosa (*Albizia julibrissin*), Chinaberrytree (*Melia azedarach*), camphortree (*Cinnamomum camphora*), and wild citrus *(Citrus* spp.) occur in scattered locations in the park, all likely introduced through the historic human presence in the area.

Cogongrass has become established on the eastern boundary of the property, adjacent to an infestation on the Interstate 75 right-of-way. Rose natalgrass occurs along the edge of a trail in the mesic flatwoods. Bahiagrass (*Paspalum notatum*) has been utilized as groundcover in the road/trail system and in the grass parking lot at the south end of the park. It should be monitored for possible spread into intact natural habitat. Peruvian primrose willow is well established around the artificial pond at the south end of the property.

Feral hogs have been managed at Price's Scrub since 2006. Trapping and removal of hogs has been conducted by volunteers and staff, and more recently by contractors. The hog population in the park has been kept at a low level, but

constant vigilance is necessary to prevent population growth and the accompanying threat to native and imperiled species. Pondspice, in particular, has been directly impacted by feral hog rooting in the past, and it should be protected from any future impacts if at all possible.

In 2002, the red bay ambrosia beetle (*Xyloborus glabratus*) was first detected in the United States in southeast Georgia. The beetle carries the fungal pathogen (*Raffaelea lauricola*, which it transmits to red bay trees (*Persea borbonia*) and other species in the Lauraceae family, causing laurel wilt disease and death. The beetle and its associated pathogen spread rapidly, and by 2005 it had appeared in Duval County, Florida. In 2009, the disease was discovered in Marion County and it began to kill red bays throughout the county. Since 2009, red bay ambrosia beetles (and laurel wilt disease) have spread throughout most of Florida and into many of the neighboring states.

The pattern of infection in Florida is for trees to be top-killed. Many trees continue to re-sprout from their roots afterwards. It may be that members of the Lauraceae family will continue to survive in shrub form as the remnant root systems continue to re-sprout. At this point, much remains unknown about the long term impacts of this disease on red bays and other members of the Lauraceae family.

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC 2015). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species

Common and Scientific Name	FLEPPC Category	Distribution	Management Zone (s)
PLANTS			
Albizia julibrissin Mimosa	I	1	PRS-2D
Ardisia crenata Coral ardisia (Scratchthroat)	I	2	PRS-1A, PRS-1B, PRS-2A, PRS-2C
Cinnamomum camphora Camphortree	I	2	PRS-1C, PRS-3
Dioscorea bulbifera Air-potato	I	2	PRS-2A
Imperata cylindrica Cogongrass	I	1	PRS-2D
		2	PRS-3
Ludwigia peruviana Peruvian primrosewillow	I	1	PRS-3
Lygodium japonicum	I	1	PRS-3

Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Japanese climbing fern		2	PRS-1A, PRS-1B
Melia azedarach Chinaberrytree	II	1	PRS-1B
Melinis repens Rose natalgrass	I	6	PRS-2C, PRS-2D
Solanum viarum Tropical soda apple	I	2	PRS-1A, PRS-1B
Triadica sebifera Chinese tallowtree	I	1	PRS-1B
Urena lobata Caesarweed	1	2	PRS-1B, PRS-1C, PRS-2B
		6	PRS-1A

Distribution Categories:

0 No current infestation: All known sites have been treated and no plants are currently evident.

1 Single plant or clump: One individual plant or one small clump of a single species.

2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.

3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.

4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.

5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.

6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Special Natural Features

Foremost among the special natural features in the park are the deep ravine/seepage stream system in the northern part of the property, scattered remnant areas of upland mixed woodland, and small patches of scrub. Each of these natural communities is restricted in its range in Florida and worthy of focused protection and restoration.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled

properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. 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 assessment is usually a cause for concern. Poor describes 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 is needed to reestablish physical stability.

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

There are no criteria for determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the park's history, including construction and resource management efforts, would all be significant.

The following is a summary of the FMSF inventory. In addition, this inventory contains the evaluation of significance.

Prehistoric and Historic Archaeological Sites

Desired future condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Price's Scrub lies within the North-Central Florida archaeological area (Milanich 1994). Twenty-two archaeological sites are recorded in the FMSF for the park, ranging from the Paleoindian Period (10,000 B.C. – 8,000 B.C.) to the early twentieth century. Twenty-one of the sites have prehistoric components, one has a historic component, and one has both prehistoric and historic components (Dunbar and Newman 2005). The majority of the sites appear to be from the Archaic period (8500 B.C.-1000 B.C.) and most consist of lithic scatter.

During the Spanish colonial period, the Price's Scrub property would have been located in borderland wilderness along the Spanish mission chain. However, it would have also been near some of the significant frontier sites of the First Spanish Period, including the Richardson site and Rancho de la Chua, and it was in the vicinity of the DeSoto expedition route. The greatest amount of historical activity in Price's Scrub likely took place during and following the Second Seminole War, in 1835. Located between two Seminole War forts, Fort Micanopy and Fort Drane, Price's Scrub may have been the site of a military road connecting the two (Dunbar and Newman 2005). In addition, the 1895 Williston quadrangle map depicted a farmstead within Price's Scrub, which is likely the site of a 50+ acre agricultural field still visible in 1937 through 1964 aerial photographs.

Sixteen of the known sites at Price's Scrub were identified in an archaeological survey conducted in 1974 (Milanich 1974). Of the sixteen sites, the most extensive was MR00189, which is located at the north end of the property. Milanich noted that this site was significant because of the density of scatter, the expansive period of site occupation, and the intactness of strata, the combination of which would provide a rare opportunity for possible further elucidation of artifact sequencing in the Archaic period in north-central Florida. Milanich recommended further archaeological investigation at the site. However, when archaeologists from the CARL Archaeological Program, Bureau of Archaeological Research, conducted an inspection of the site in 2005, they concluded that further testing was unnecessary (Dunbar and Newman 2005).

Three co-located sites (MR00184, MR00185, and MR00186) are associated with a highly-disturbed area within the park, the borrow pit site. However, an area adjacent to the borrow pit has been identified as a possible site of in situ Paleoindian occupation and was recommended for additional survey and testing for that reason (Milanich 1974).

The prehistoric/historic site (MR00193) was initially reported by Milanich as lacking a house, but the 2005 survey of the property by CARL archaeologists identified scattered remnants (red brick and limestone cobbles) of a structure depicted on the

1895 Williston fifteen-minute quadrangle map of the area (Dunbar and Newman 2005).

Six additional sites were identified during the 2005 archaeological survey of Price's Scrub (Dunbar and Newman 2005). However, portions of the property (central and west-central areas) were inaccessible during the survey period due to significant hurricane damage and wind-throw. Additional survey may be needed in those areas.

Prehistoric site MR03283 has some ceramic components among the lithic scatter found in a road cut and along a powerline corridor in the park. CARL archaeologists postulated that the pottery sherds were most likely representative of the Alachua culture but could also have been from the Woodland occupation (Dunbar and Newman 2005). Collectively, the prehistoric sites within Price's Scrub may be eligible contributors to a National Register district. However, significant additional exploration would need to be completed for this to be confirmed.

Historic site MR03289, Old Buggy Road, is a late nineteenth century road that is depicted on the 1895 quadrangle map of the area. Portions of this road are still in use. The road lies partially within Price's Scrub State Park and partially on adjacent private property. Archaeologists have noted similarities between the Old Buggy Road as it cuts through steeply sloping terrain on the property and old tram roads that were constructed in the late 1800s in phosphate mining areas just west of Price's Scrub (Dunbar and Newman 2005).

There is an apparent history of looting in one part of the park. This was reported by private citizens and has been visually affirmed by park staff.

No predictive model has been completed for the park.

Condition assessment: The majority of the sites are currently in fair to good condition. Some looting apparently occurred historically, and in 2017, looting activity was witnessed by park staff. Many of the prehistoric sites at Price's Scrub are relatively undisturbed. However, a borrow pit created during construction of Interstate 75 appears to have caused significant disturbance to one group of sites (MR00184, MR00185, and MR00186), and historic road and fireline construction has caused additional disturbance to some other sites. Site MR00189, for example, has a history of disturbance but retains intact strata below the disturbance layer. Therefore, protection from further disturbance is highly important. In addition, significant erosion is occurring on Old Buggy Road (MR03289).

Currently, the primary threats to archaeological sites in the park are disturbances associated with roads/firebreaks and feral hog rooting, as well as incidental collection by park visitors as they encounter exposed artifacts.

General management measures: Immediate management recommendations will focus on protection and preservation of the cultural sites. All sites should be visited on a regular basis to ensure protection from looting, feral hog damage, erosion and

trail impacts. Although the feral hog population in the park has been kept at a low level, even single hogs can cause significant damage to archaeological sites, so constant vigilance is warranted. Park staff will devise and implement a protocol for scheduling site visits and for monitoring and documenting any changes in condition of the cultural sites. Attempts should be made to secure funding for additional archaeological survey in the park. Meanwhile, park staff should be aware of the possibility of encountering undocumented sites when exploring less visited parts of the property. As vegetation changes over time in response to management practices, additional cultural resources may become exposed.

Historic Structures

Desired future condition: All significant historic structures and landscapes that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Price's Scrub State Park does not have any historic structures.

Condition assessment: Not applicable.

General management measures: Not applicable.

Collections

Desired future condition: All historic, natural history and archaeological objects within the park that represent Florida's cultural periods, significant historic events or persons, or natural history specimens are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Prices Scrub State Park does not have any collections.

Condition assessment: Not applicable.

General management measures: Not applicable.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
MR00184 Hickman Prairie Northeast #22	Prehistoric/possible Paleoindian and Early Archaic	Archaeological Site	NE	F	P
MR00185 Hickman Prairie Northeast #23	Prehistoric/possible Paleoindian and Early Archaic	Archaeological Site	NE	F	P
MR00186 Hickman Prairie Northeast #24	Prehistoric/Middle Archaic - possible Paleoindian and Early Archaic	Archaeological Site	NE	F	P
MR00187 Simonton Ridge #25	Prehistoric/believed to be Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00188 Simonton Ridge #26	Prehistoric/believed to be Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00189 Simonton Ridge #27	Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	G	P
MR00190 Simonton Ridge #28	Prehistoric/probably Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00191 Simonton Ridge #29	Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00192 Simonton Ridge #30	Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00193 Simonton Ridge #31	Prehistoric/Historic	Archaeological Site	NE	G	P
MR00194 Simonton Ridge #32	Prehistoric/Unspecified	Archaeological Site	NE	F	P

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture / Period**	**Description**	**Significance**	**Condition**	**Treatment**
MR00195 Simonton Ridge #33	Prehistoric/Unspecified	Archaeological Site	NE	F	P
MR00196 Simonton Ridge #34	Prehistoric/believed to be Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	G	P
MR00197 Simonton Ridge #35	Archaic, 8500 B.C.-1000 B.C.	Archaeological Site	NE	F	P
MR00198 Simonton Ridge #36	Prehistoric/Unspecified	Archaeological Site	NE	P	P
MR00199 Simonton Ridge #37	Prehistoric/Unspecified	Archaeological Site	NE	P	P
MR03279 Prices Scrub 1	Prehistoric/Probably Middle Archaic or later	Archaeological Site	NE	F	P
MR03280 Prices Scrub 2	Prehistoric/Probably Middle Archaic or later	Archaeological Site	NE	F	P
MR03281 Prices Scrub 3	Prehistoric/probably Middle Archaic or later	Archaeological Site	NE	F	P
MR03282 Prices Scrub 4	Prehistoric/probably Middle Archaic or later	Archaeological Site	NE	F	P
MR03283 Prices Scrub 5	Prehistoric/possibly Woodland or Alachua A.D. 1250 - A.D. 1600	Archaeological Site	NE	F	P
MR03289 Old Buggy Road/ Stagecoach Road	Nineteenth century American, 1821-1899; Twentieth century American, 1900-present	Archaeological Site	NE	F	P

Significance:

NRL	National Register listed
NR	National Register eligible
NE	not evaluated
NS	not significant

Condition:

G	Good
F	Fair
P	Poor
NA	Not accessible
NE	Not evaluated

Recommended Treatment:

RS	Restoration
RH	Rehabilitation
ST	Stabilization
P	Preservation
R	Removal
N/A	Not applicable

Resource Management Program

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of the DRP's management goals for Price's Scrub State Park. Please refer to the Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While, the DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

The goals, objectives and actions identified in this management plan will serve as the basis for developing annual work plans for the park. The ten-year management plan is based on conditions that exist at the time the plan is developed. The annual work plans provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

Natural Resource Management

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

Objective A: Conduct/obtain an assessment of the park's hydrological restoration needs.

Action 1 Assess restoration needs of known hydrological impairments within Price's Scrub State Park, including the following: east-west running ditch connected to privately owned wetland on western boundary, topographic alterations caused by heavy equipment use (i.e., road and fireline installation), erosion on the historic buggy road along the northwest boundary, and impacts from historic land use practices on the west side of Water Lily Pond.

Action 2 Coordinate with the Florida Department of Transportation (FDOT) in assessing the impacts of Interstate 75 on Price's Scrub State Park. Assessment targets should include runoff generated along the east side of the park, streamlets contributing to the Brownlee Creek system, and the borrow pit pond and its associated natural wetlands located at the southeast corner of the park.

Price's Scrub is part of the Florida Ridge Watershed and is located on the boundary between SJRWMD and SWFWMD jurisdictions. The property falls within the eastern edge of the SWFWMD, the boundary of which follows I-75 as a convenient, human-

made reference line. Because the park's main hydrologic feature, Brownlee Creek, feeds into Tuscawilla Lake to the northeast, its strongest hydrologic connection is to lands in the SJRWMD.

The Brownlee Creek ravine system and its associated topography within Price's Scrub are the primary features requiring hydrological assessment, protection, and restoration. In the drier elevated plateau at the southern end of the property, the hydrologic impairments are associated with historic fire management and public access. Parallel firelines from wildfire management have altered hydrology in localized areas of the scrubby flatwoods, and establishment of the trail/service road/fireline system has resulted in linear spoil piles, erosion, and impoundments, which in some places have impacted surface flow. The DRP will conduct assessments of these hydrologic impairments in order to rank and prioritize restoration needs over the next ten years.

In the northern part of the park, the steep ravines of Brownlee Creek and the dramatic change in elevation along the historic buggy road have generated specific hydrologic and erosion concerns that will be assessed by park staff. Aerial photographs from 1949 reveal that the land between Water Lily Pond and the depression marsh to its northwest had once been entirely cleared for agricultural purposes. Additionally, there is photographic evidence that the banks of Water Lily Pond were compromised during construction of I-75, possibly for drainage purposes. These areas will be surveyed and mapped with a specific emphasis on determining possible hydrologic impacts.

The construction of I-75 in the 1960s adversely affected the hydrology of Price's Scrub, most notably on the east side of the property. In at least two locations, significant erosion and sedimentation are occurring from runoff leaving the interstate right-of-way and flowing into mesic hammock and streamlets in the park. DRP staff will review and assess these current I-75 impacts, as well as probable past impacts of interstate construction on the borrow pit, the adjacent depression marsh, and a referenced spring in that general location.

Objective B: Restore natural hydrological conditions and functions to approximately 15 acres of baygall, depression marsh, mesic flatwoods, and scrubby flatwoods natural communities.

Action 1	Install three low-water crossings and one culvert system.
Action 2	Rehabilitate 0.3 miles of historic fire plow lines.
Action 3	Work with FDOT to stabilize erosion from I-75 into the park.
Action 4	Protect the northwestern depression marsh from impacts of erosion along Old Buggy Road and resultant sedimentation in the marsh.

The DRP will review the footprint of the road/trail/fireline system within the park for possible impacts on hydrology, including obstruction or alteration of surface drainage. The current footprint of this system has three mapped locations that will require hydrologically transparent stabilization to provide continued access for management vehicles, particularly wildland fire engines. In these locations, low

water crossings comprised of geo-web and inert materials (e.g., granite gravel) need to be installed to reduce damage to waterways where vehicular access crossings are required. In addition, an eroded streamlet crossing located on a closed road in the park requires culvert installation. This will serve the dual purpose of preventing future erosion and providing access to the dead-end road as a contingency line for fire management. Appropriate actions for restoring topographic and soil disturbances may include closing roads, filling ditches, reshaping contours, rerouting foot traffic, and planting native vegetation as needed.

The depression marshes in the park are experiencing encroachment by woody vegetation due to lack of fire and possibly also due to altered hydrology. Offsite trees that are invading the depression marshes should be girdled or felled. The vegetated perimeters of these wetlands may require hand-girdling or felling of trees, or mechanical treatment to lower vegetation height and enable fires to penetrate further into the depression marsh ecotone. Treatments should be planned to prevent or minimize impacts on soils and topography.

Natural Communities Management

Goal: Restore and maintain the natural communities/habitats of the park.

The DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as smaller scale natural communities' improvements. Following are the natural community management objectives and actions recommended for Price's Scrub State Park.

Objective A: Complete a comprehensive floral and faunal survey and update the park's baseline plant and animal list.

Action 1 Update the park's animal list using targeted surveys, with special emphasis on invertebrates, fish, reptiles and amphibians.

Action 2 Update the park's plant list through ongoing survey efforts.

A significant number of floral and faunal species have been added to the park list since approval of the park's previous unit management plan, but additional work is needed, particularly for fauna. DRP staff will cooperate with other agencies and volunteer groups in completing surveys designed to target under-documented taxa.

<u>Prescribed Fire Management</u>

Prescribed fire is used to mimic natural lightning-set fires, which are one of the primary natural forces that shaped Florida's ecosystem. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida's imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wild land fuels.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

Objective B: Within 10 years, have 450 acres of the park maintained within the optimum fire return interval.

Action 1 Develop/update annual burn plan.

Action 2 Manage fire dependent communities by burning between 67 and 207 acres annually.

Action 3 Conduct mechanical fuel treatment activities on 25 acres of fire-type habitat (scrubby flatwoods, scrub, successional hardwood forest).

Many of the natural communities in Price's Scrub State Park are fire dependent, or at least fire influenced. The scrub, flatwoods, and upland mixed woodland natural communities require burning for long-term maintenance of diversity and community health. Several wetland communities such as baygall, dome swamp, and depression marsh are influenced by fire in the landscape. Fire is particularly important along ecotones with fire-dependent communities. The maintenance of natural ecotones between these communities is important for plant and animal species that are adapted to those transitional areas. The use of hard firebreaks such as roads and disked lines along ecotones is discouraged for this reason, and some sections of road along scrub ecotones may require re-routing or closing to restore natural conditions.

Snags (dead standing trees) provide important habitat for a variety of wildlife species in fire-type communities. Woodpeckers use snags for nesting and roosting purposes, and the cavities created by woodpeckers provide homes for other birds (e.g., southeastern kestrel, eastern bluebird, and screech owl) and for some mammals as well (e.g., flying squirrel). Snags that do not pose a hazard to facilities or visitors should be left standing as wildlife habitat. Prescribed burners should identify snags that would likely provide suitable habitat for cavity nesters and protect those snags from igniting during burns to the extent possible. Snags that are smoldering after a burn should be extinguished without delay. That management approach would enhance fireline security and lessen the likelihood that snags near the fireline would torch and have to be felled. The protection of snags in parks demonstrates a high degree of sensitivity toward natural resource management.

Table 5 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

Table 5. Prescribed Fire Management		
Natural Community	**Acres**	**Optimal Fire Return Interval (Years)**
Wet Flatwoods	8.58	3-5
Mesic Flatwoods	162.17	2-5
Scrubby Flatwoods	190.94	3-10
Upland Mixed Woodland	49.83	2-10
Scrub	37.02	7-15
Basin Marsh	11.41	2-20
Depression Marsh	14.97	3-5
Baygall	83.85	25-100
Successional Hardwood Forest	25.17	2-10
Annual Target Acreage	67.66 to 206.95 acres/year	

The park is divided into zones primarily based on existing firebreaks and roads (see Management Zones Map). Pre-burn preparation is an important consideration when applying fire to areas that have had fire excluded for long periods. This is particularly true at Price's Scrub due to the fuel types, the history of fire exclusion, and the proximity of Interstate 75. Perimeter and internal firebreaks should be maintained and established according to agency policy. They should provide for adequate park protection and safe prescribed fire application. The complexity of the burn unit, including the structure and height of the fuel within the zone and the receptiveness of fuels adjacent to the zone, should be taken into account when preparing firebreaks. The general guideline for fireline preparation is that firelines should be twice as wide as the fuel heights adjacent to the fireline (i.e., ten-foot high fuels adjacent to the line = 20-foot wide fireline).

Mechanical treatment of fuels adjacent to the fireline may be needed in order to burn a zone safely, particularly in scrub and flatwoods. Perimeter and primary contingency lines need to be wide enough for defense and to allow a type-6 fire engine to move safely down the line. When installing or widening firebreaks, vegetation along the boundary/fence line should generally be removed first to allow the perimeter break to function as such. An exception to this may be where wetlands, large native trees, or protected plant species are present along the line but pose no threat to line defense. If any additional widening of a fireline is needed, it can be done on the zone side of the firebreak.

Preparation and planning for wildfires or escaped prescribed burns within the park should be components of the park's prescribed burn plan. Preferred fire suppression techniques and guidelines should be identified and discussed with local FFS staff as a component of pre-planning. Sensitive resources such as wetlands, imperiled species and cultural sites should be identified and mapped and that information conveyed to FFS prior to any suppression activities.

Fire season and fire-return interval are both critical components of a fire regime. In most cases, the goal is for all burns to be conducted during the natural lightning season, given staffing and weather constraints. However, dormant season burns are favorable for initial fuel reduction, when values at risk require highly specific wind directions, and as a last resort to prevent the zone from going into backlog status. The scrub and scrubby flatwoods should ideally be burned in the growing season, but dormant season burning may be required for fuel reduction and desired fire weather conditions. Humidity and live fuel moisture content may need to be in the lower range to ensure that fire carries well and there is combustion of the shrub layer in scrub, successional hardwood forest, and fire-excluded, oak-invaded natural communities. To achieve a successful scrub or scrubby flatwoods burn, it may also be necessary to mow the woody vegetation to decrease fuel heights and reduce shading of fuels beneath the canopy.

Consideration of duff moisture content in wet flatwoods, mesic flatwoods, and baygall ecotones is important. Field checks of moisture content in duff layers throughout the zone should be conducted prior to a burn to ensure moisture content is adequate. This is critical for prevention of overstory pine loss due to smoldering of deep duff, as well as for smoke management on the adjacent Interstate 75. Accumulated duff should be burned off gradually, not exceeding one inch of depth on average with each burn. When possible, the mesic and wet flatwoods zones at Price's Scrub should be burned during the growing season now that initial fuel reduction burns have been completed. The depression marshes should be incorporated into burns with the surrounding natural communities, but only under conditions which prevent muck and duff deposits from igniting, to reduce risks of prolonged smoke production.

Fire management within upland mixed woodland in the park will focus on reducing the total amount of successional and offsite hardwood cover, encouraging native herbaceous groundcover, and restoring the community to an earlier successional stage. Girdling, tree-cutter mowing, and herbiciding of invading oaks may be required to facilitate restoration of this community. To avoid any potential non-target impacts on critical remnant non-target species including post oak, southern red oak, and mockernut hickory, it is recommended that soil-active herbicides not be used in upland mixed woodlands. It is important that the results of management practices be monitored. Post burn evaluations that include review of established photo points should be conducted to assess progress toward restoration goals and to determine if adaptations to management practices are needed.

Prescribed fire is planned for each burn zone at the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

Based upon the fire return intervals and acreage figures for the natural communities within the park, optimally at least 67 acres should be burned each

year to maintain the natural communities within their target fire return intervals. Park staffing, funding and weather conditions will influence the ability of the park to keep natural communities within their optimal fire return intervals. Not all zones will be burned within the maximum recommended fire return intervals, while others may be burned more frequently. Some fire-type acres will be unavailable for burning until conditions within the management zone allow.

In order to track fire management activities, the DRP maintains a statewide burn database. The database allows staff to track various aspects of each park's fire management program including individual burn zone histories and fire return intervals, staff training and experience, backlog, etc. The database is also used for annual burn planning which allows the DRP to document fire management goals and objectives on an annual basis. Each quarter the database is updated and reports are produced that track progress towards meeting annual burn objectives.

Natural Community Restoration

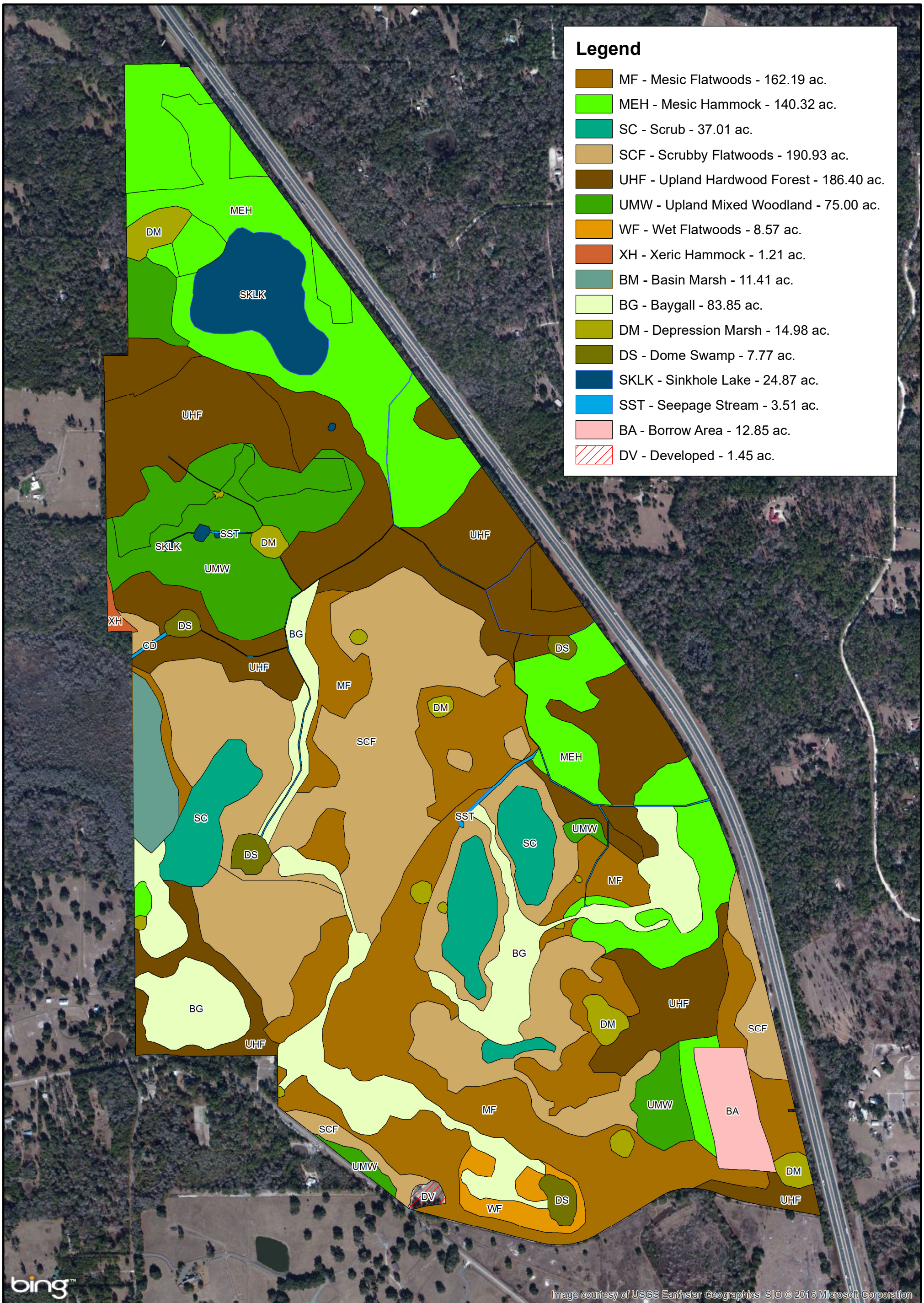
In some cases, the reintroduction and maintenance of natural processes is not enough to reach the desired future conditions for natural communities in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that may include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural community restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, and small-scale vegetation management.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the scrubby flatwoods, mesic flatwoods, upland mixed woodland and upland hardwood forest communities (see Desired Future Conditions Map).

Objective C: Conduct habitat/natural community restoration activities on 50 acres of upland mixed woodland natural community.

Action 1 Develop/update a site-specific restoration plan.
Action 2 Implement the restoration plan.
Action 3 Remove offsite hardwoods in upland mixed woodland sites through a combination of chemical and mechanical means.



PRICE'S SCRUB

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0 250 500 1,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

NATURAL COMMUNITIES
DESIRED FUTURE CONDITIONS

Action 4 Initiate groundcover restoration by introducing prescribed fire and following up with seeding or planting of appropriate species.

An upland mixed woodland restoration plan will be developed for the park to guide yearly restoration work. Surveys of remnant vegetation and the locations of key indicator species indicate that several upland mixed woodland sites may have been cleared for production agriculture prior to 1949. These areas have been heavily invaded by offsite hardwoods. Boundaries of historic upland mixed woodland will be mapped through intensive survey and ground-truthing. Once remnant areas are mapped, aggressive removal of water oak, laurel oak, sweetgum and other offsite and/or invading tree species will begin.

Laurel oak and water oak now occur in such thick densities that the groundcover has become completely shaded. Historic agricultural practices also significantly impacted groundcover diversity and distribution. These areas will require special focus to restore a natural fire regime and to recover the remnant groundcover species that are being suppressed. In some areas, a tree cutter or girdling may be useful in reducing the stems of offsite hardwoods. Herbicide treatments may be needed to control resprouting from rootstocks. Options for removal include contract treatments of large areas or small-scale treatments using park staff and volunteers. The selected option will depend upon mapped community boundaries and future funding levels, and will influence the number of acres removed on an annual basis. A removal plan for these areas will be developed and implemented as part of the annual work plan. Following hardwood removal, groundcover plantings will be required to augment the very sparse native ground cover already existing. Maintenance of the restored areas will require application of prescribed fire within the recommended fire return interval. Long-term monitoring will be accomplished as part of the burn photo point process.

Natural Community Improvement

Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. Following are the natural community/habitat improvement actions recommended at the park.

Objective D: Conduct natural community/habitat improvement activities on 75 acres of mesic flatwoods and scrubby flatwoods natural communities.

Action 1 Develop/update a site specific restoration plan.

Action 2 Under-plant longleaf pine tubelings in natural densities in 75 acres of mesic and scrubby flatwoods.

Portions of the mesic flatwoods and scrubby flatwoods in the south part of the park could be improved by under-planting with longleaf pine tubelings at low densities (100 to 200 trees per acre). The longleaf pine canopy has been almost entirely lost there because of historic human activities in the flatwoods, including apparent cattle grazing, broad scale thinning, localized clearing, previous timber harvests, and wildfires. The pond pine, loblolly pine, and slash pine that have replaced the

longleaf pine now form a mixed canopy. Photo points will be established in the project area to monitor project success over time.

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats in the park.

The DRP strives to maintain and restore viable populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FWC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the USFWS, FWC, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Objective A: Develop/Update baseline imperiled species occurrence inventory lists for plants and animals.

Objective B: Monitor and document three selected imperiled animal species in the park.

Action 1 Implement monitoring protocols for one imperiled animal species, the gopher tortoise, using the line transect distance sampling method to first establish baseline population numbers.

Action 2 Monitor two imperiled bird species, the little blue heron and

swallow-tailed kite, which have been documented at Price's Scrub during regular management activities and seasonal bird count surveys.

Initial surveys that identified locations of gopher tortoise burrows along park trails were conducted in 2005. Anecdotal observations of burrow locations were made from 2005 to 2015, but a full survey has not been completed. Complete surveys of suitable habitat will be conducted using line transect distance sampling methodology currently identified by the FWC as the appropriate method for obtaining accurate population measurements.

Ongoing bird surveys by staff and volunteers may expand the list of imperiled birds observed at Price's Scrub. Efforts will focus on recording observations of known imperiled species while expanding the park's bird list.

Local residents have submitted occasional reports of Florida black bear (*Ursus americanus floridanus*) sightings in Price's Scrub. Park staff will follow up on bear reports as they are received and attempt to gather additional documentation.

Objective C: Monitor and document four selected imperiled plant species in the park.

Action 1 Develop monitoring protocols for two selected imperiled plant species, including pondspice and Florida spiny pod.

Action 2 Implement monitoring protocols for four imperiled plant species, including the two listed in Action 1 above as well as blueflower butterwort and angle pod.

Pondspice has been documented in one location in the park, bordering a depression marsh in the southeast corner of the property. In 2016, approximately 150 individuals were observed. A written protocol will be developed to monitor population status. The protocol will include census of individual plants, reproduction, feral hog damage, and response to initiation of prescribed fire in the surrounding mesic and scrubby flatwoods.

Florida spiny pod has been observed at one location in upland hardwood forest in the northeastern part of Price's Scrub. In May 2005, eight individual plants were observed in flower. Surveys will be conducted to look for additional individuals and further document the population extent. A written monitoring protocol will be developed for this species.

One population of blueflower butterwort was observed in the park in 2005. At that time, three individual plants were recorded on the edge of a woods trail/service road bordering the scrubby flatwoods and scrub in the southwestern part of the park. Follow-up surveys in 2012 and 2016 were unable to relocate those individual plants. Additional surveys will be conducted to search for this species in the known location and in other similar locations. It is possible the individual plants were impacted by trail maintenance or recreational or management use, varying microsite hydrology, or ongoing fire suppression that has altered site suitability to

support the species. In order to avoid potential impacts on remnant plants, additional intensive survey will be conducted before reintroducing fire to the site or conducting any fireline preparations.

Angle pod has been documented in the northeastern part of the park, associated with upland hardwood forest and mesic hammock areas around Brownlee Creek and associated streamlets. These sites need protection from disturbance and erosion. A survey of the Brownlee Creek ravine and streamlet system will be conducted, and concurrent with that, there will be additional survey for angle pod and other possible site-appropriate listed plants. In 2005, over 100 individual angle pod plants were observed across seven different locations. Additional locations were mapped between 2005 and 2015. Ongoing survey for this species will occur concurrently with other land management activities.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.

The DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective A: Annually treat 42 acres of non-native, invasive plant species in the park.

Action 1	Annually develop/update a non-native, invasive plant management work plan.
Action 2	Implement annual work plan by treating 42 acres in the park annually, and by continuing maintenance and follow-up treatments as needed.

Initial survey for non-native, invasive plants at Price's Scrub was conducted in 2004 and 2005. At that time, cogongrass, coral ardisia, Caesarweed, and mimosa were the invasive species identified in the park. From 2005 to 2016, additional targeted surveys identified eight more FLEPPC-listed category I and II species at Price's Scrub. Each year, all known locations are treated through in-house efforts. Each year, however, additional locations of those species have been discovered through survey work and land management activities.

DRP staff will develop a management plan for non-native invasive plants at Price's Scrub. This plan will formalize the management actions that have been in place on the ground from 2012 through 2016. The plan will include maps of infested areas by management zone and will determine priorities for treatment. The plan will provide guidance for subsequent annual work plans. The number of acres of exotic plants treated per year is likely to vary depending on the status of established infestations and any new infestations that might occur or be detected during the management plan period. However, the annual goal will remain the same, to treat all known infestations at Price's Scrub every year. It is more important to keep this

relatively non-impacted property free of expanding invasive plant populations than it is to put efforts into densely infested properties elsewhere.

Priority should be given to FLEPPC Category I and II species when treating exotic plant species in the park. Non-invasive exotic plants that occur within the park will be removed whenever possible (e.g., century plant (*Agave americana*). A plan and schedule should be developed that complies with DRP standards for scouting and mapping invasive exotics in every zone within the park. Areas that have sources of particularly aggressive species will need to be scouted more frequently. Finding new populations of invasive exotic plants before they become established will help prevent larger infestations from occurring and reduce the cost and effort needed to control them. All known and newly detected locations of exotic plants should be GPSed and mapped. Established, up-to-date control technologies will be utilized for each species treated.

Objective B: Develop and implement measures to prevent the introduction and spread of invasive exotic plants into the park.

Action 1 Develop and adopt preventative measures to avoid the introduction and spread of invasive exotic plants into the park.

Invasive exotic plants are often introduced or spread to natural areas by equipment, within fill dirt or mulch, and in ornamental plantings. The park has implemented a protocol to inspect equipment and fill dirt and ensure that whatever equipment or materials enter the park are free of any reproductive parts of non-native invasive plants. In addition, the park should develop an invasive exotic plant outreach and education program for adjacent neighbors that will encourage them to remove invasive species and replace them with native plants. Given that the primary recreational use of the park is equestrian, a targeted educational campaign should be developed to help this user group reduce their contribution to the spread of species along the trails, particularly Caesarweed and tropical soda apple.

Objective C: Implement control measures on 1 nuisance and exotic animal species in the park.

Action 1 Trap and remove feral hogs as needed when populations are detected.

The two primary non-native animal species of concern at Price's Scrub are feral hogs and nine-banded armadillos (*Dasypus novemcinctus*). Control activities will focus on areas where feral hogs and nine-banded armadillos are causing the most damage. One of the areas of greatest concern is the depression marsh that has the only known population of pondspice in the park. This location has been impacted by feral hog rooting in the past, and it should be closely monitored for this type of damage in the future. Park staff, volunteers, and contractors will actively remove feral hogs and armadillos from the property. Beginning in 2005, feral hogs have been trapped and removed from Price's Scrub whenever populations are located. There have been previous reports of feral dogs and feral cats on the property. When these animals are located, they will be captured and removed if possible, and deposited with the county animal control facility.

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Price's Scrub State Park.

Goal: Protect, preserve and maintain the cultural resources of the park.

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. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include, but are not limited to concurrence with the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to the DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of the DHR.

Objective A: Assess and evaluate 22 of 22 recorded cultural resources in the park.

Action 1	Complete 22 assessments/evaluations of archaeological sites.
Action 2	Complete 0 Historic Structures Reports (HSR's) for historic buildings and cultural landscape. Prioritize stabilization, restoration and rehabilitation projects.

The primary threats to archaeological sites in the park include ground disturbance along roads and firebreaks, erosion, feral hog rooting, and incidental collection by park visitors as they encounter exposed artifacts. Excavation of the borrow pit during construction of Interstate 75 appears to have caused significant disturbance to one group of sites (MR00184, MR00185, and MR00186).

If a comprehensive evaluation is required at any site, it will be conducted by a professional archaeologist. There are no historic structures in the park.

Objective B: Compile reliable documentation for all recorded historic and archaeological resources.

Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.
Action 2	Conduct Level 1 archaeological survey for 1 priority area identified by predictive model or other previous study.
Action 3	Develop and adopt a Scope of Collections Statement.

Although no predictive model has been completed for Price's Scrub, the property has received relatively extensive scrutiny from archaeologists, including Milanich (1974) and Dunbar and Newman (2005). All known cultural sites are currently recorded with the FMSF. If additional sites are found, they will be documented and submitted to the FSMF as well.

Milanich has recommended that site MR00189, located at the north end of the park, receive additional archaeological investigation. However, archaeologists Dunbar and Newman had a different opinion when they evaluated the site in 2005 and concluded that further testing was unnecessary. Nevertheless, since Milanich considered the site to be significant, additional survey of MR00189 may be in order. Other sites may also warrant additional investigation, particularly those that Dunbar and Newman were unable to access in 2005 due to post-hurricane impacts such as toppled trees and debris.

Attempts should be made to secure funding for additional archaeological survey in the park. Meanwhile, park staff should be aware of the possibility of encountering undocumented sites when exploring less visited parts of the property.

Currently, Price's Scrub State Park does not maintain any collections. Nevertheless, the park should develop a Scope of Collections statement. This statement should describe the focus of the park and establish clear guidelines for acquisition or acceptance of collection items if the decision is eventually made to have a collection. Having a Scope of Collections does not mean that the park must acquire or accept items for a collection. It merely guides the development of any collection and the acceptance of donations to the park.

Objective C: Bring 3 of 22 recorded cultural resources into good condition.

Action 1	Design and implement regular monitoring programs for 22 cultural sites.
Action 2	Create and implement a cyclical maintenance program for each cultural resource.

Park personnel occasionally visit cultural sites in Price's Scrub during the normal course of park operations. Establishment of a formal monitoring process, however, would generate baseline information that could be used as a standard of comparison in guiding future management of sites. To that end, park staff will develop a simple, repeatable protocol for tracking changes at the 22 sites, including a procedure for recording concerns and needed actions. Baseline photographs to be

used for comparison purposes should be part of the protocol. Photographs would need to be retaken only if it became apparent that conditions had changed at any of the sites. Sites should be monitored at least once every two years.

Most of the known sites in the park are in fair condition with the exception of MR00189 and MR00193, which are in good condition, and MR00198 and MR00199 which are in poor condition. To elevate the condition of MR00198 and MR00199 from poor to fair, each site will need to be stabilized to prevent further deterioration from erosion. In addition, the Old Buggy Road (MR03289) is experiencing increased erosion and the feasibility of stabilizing the road should be evaluated. A portion of Old Buggy Road is located outside the Price's Scrub property, and any action taken to stabilize the site will require coordination with property owners along the west boundary of the park. Protection of all sites from additional disturbance or looting is very important.

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 DRP's statutory responsibilities and an analysis of the park's resource needs and values. 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 those communities specifically managed as early successional.

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute. Timber management will be re-evaluated during the next revision of this management plan.

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation. Price's Scrub State Park does not have an adopted mosquito control plan at this time.

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 located in the Implementation Component of this management plan.

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 are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The considered recommendations of the land management review team and updated this plan accordingly.

Price's Scrub State Park has not been subject to a land management review.

LAND USE COMPONENT

Introduction

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP). 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. Additional input is received through public workshops, and through environmental and recreational-user groups. With this approach, the DRP 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 expressed 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 park interaction with other facilities.

Price’s Scrub is located within Marion County, about 12 miles south of Gainesville and 20 miles north of Ocala, in the north central part of the state. Approximately 599,500 people live within 30 miles of the park (U.S. Census 2010). According to U.S. Census data, approximately 17% of residents in Marion County identify as black, Hispanic or Latino, or another minority group. About 54% of the Marion County population is of working age, which is defined

as being between 16 and 65 years old. Marion County's per capita personal income ranked 37th statewide at $33,800, below the statewide average of $44,429 (BEBR 2016).

The table below identifies significant resource-based recreation opportunities within 15 miles of Price's Scrub State Park.

Table 6. Resource-Based Recreational Opportunities Near Price's Scrub State Park

Name	Biking	Hiking	Swim / Beach Access	Boating / Paddling	Fishing	Wildlife Viewing	Overnight Stay	Hunting	Equestrian Facilities
Boulware Springs Park (City of Gainesville)	✓	✓				✓			✓
Kanapaha Prairie (The Conservation Fund)						✓			
Barr Hammock Preserve (Alachua County)	✓	✓				✓			
Tuscawilla Preserve (Alachua Conservation Trust)	✓	✓				✓			✓
Longleaf Flatwoods Reserve (St. Johns River Water Management District)	✓	✓				✓	✓		✓
Prairie Creek Preserve (Alachua Conservation Trust)	✓	✓				✓			✓
Paynes Prairie Preserve State Park (FDEP)	✓	✓		✓	✓	✓	✓		✓

The park is located in the North Central Vacation Region, which includes Alachua, Bradford, Columbia, Dixie, Gadsden, Gilchrist, Hamilton, Jefferson, Lafayette, Leon, Levy, Madison, Suwannee, Taylor, Union, and Wakulla counties (Visit Florida 2014). According to the 2014 Florida Visitor Survey, approximately 1.8% of domestic visitors to Florida visited this region. Roughly 89% visitors to the region traveled to the North Central for leisure purposes. The top activities for domestic visitors were visiting friends or relatives. Winter (36%) was the

most popular travel season, but fall visitation was a close second at 34%. Nearly all visitors traveled by non-air (91%), reporting an average of 3.7 nights and spending an average of $63 per person per day (Visit Florida 2014).

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for freshwater beach activities, saltwater boat fishing, saltwater and freshwater boat ramp use, freshwater (boat and non-boat) fishing, paddling, visiting archaeological and historic sites, wildlife viewing, nature study, bicycle riding, hiking, horseback riding, picnicking, camping, and hunting are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

The land around Price's Scrub is less developed than the nearest main urban areas surrounding it, which includes Ocala to the south and Gainesville to the north. Most of the land within 15 miles of the park are of rural nature or conservation areas. Those existing conservation areas in the region include the Tuscawilla Preserve and Paynes Prairie Preserve State Park. Southbound of Price's Scrub is Town and Country Farms, a facility for horse racing. Four Outstanding Florida Waters are near Price's Scrub State Park: Orange Lake/River Styx/Cross Creek, Lochloosa Lake, Paynes Prairie Preserve State Park and Marjorie Kinnan Rawlings Historic State Park. I-75 runs along the eastern borders of the preserve, with most of the land surrounding the park being forests, pasture lands, and farms. The nearest town to Price's Scrub is Micanopy, a historic town where tourism is the main source of revenue.

Planned Use of Adjacent Lands

Marion County is average in size in comparison to other counties in Florida, accounting for approximately 350,000 residents (BEBR 2016). Marion County has grown almost 75% since 1990, and is projected to reach 474,000 residents by 2040. Most of the county's population is concentrated around the metropolitan area of Ocala. The Future Land Use Element Map of Marion County shows that most of the land adjacent to Price's Scrub is zoned as Rural Land, Rural Community or Preservation Land (Marion County 2014).

In the Marion County Comprehensive Plan for 2035, the county's vision focuses on implementing strategies that will enhance the livability of the county and preserve its natural, cultural and physical resources to discourage urban sprawl, promote sustainable, energy efficient land-use patterns, reduce pollution, and provide for economic development opportunities. Since most of the adjacent

land around Price's Scrub State Park is of Rural zoning, the land use designation will focus on agricultural use, low-density residential units on large lots or family divisions and associated housing related to farms or other agricultural-related commercial or industrial uses. Since the area is mostly rural, there are not any existing or planned major developments in adjacent lands that would affect Price's Scrub.

Florida Greenways and Trails System

The Florida Greenways and Trails System (FGTS) is made up of existing, planned and conceptual non-motorized trails and ecological greenways that form a connected, integrated statewide network. The FGTS serves as a green infrastructure plan for Florida, tying together the greenways and trails plans and planning activities of communities, agencies and non-profit organizations throughout Florida. Trails include paddling, hiking, biking, multi-use and equestrian trails. The Office of Greenways and Trails maintains a priority trails map and gap analysis for the FGTS to focus attention and resources on closing key gaps in the system.

In some cases, existing or planned priority trails run through or are adjacent to state parks, or they may be in close proximity and can be connected by a spur trail. State parks can often serve as trailheads, points-of-interest, and offer amenities such as camping, showers and laundry, providing valuable services for trail users while increasing state park visitation.

Price's Scrub Greenway plays a role in the proposed connection of Paynes Prairie Preserve State Park/Lochloosa Wildlife Conservation Area to the north and northeast in Alachua County to the Goethe State Forest to the west and southwest in Levy County, and helps the proposed connection to the Cross-Florida Greenway. This planned Northwest Marion Greenway is a part of the Marion County Comprehensive Plan. Price's Scrub was also included in an Opportunity Corridor that is part of the Greenways and Trails Council's statewide plan. This corridor connects the Cross-Florida Greenway with Paynes Prairie Preserve State Park/Lochloosa Wildlife Conservation Area and the Goethe State Forest.

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.

Recreational Resource Elements

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

Land Area

Price's Scrub is in Florida's Central Highlands within the Mid-Peninsula Zone of the state. It is in the Fairfield Hills physiographic province, just south of the Alachua Lake Cross Valley; it is one of the largest areas of higher ground in the area. The park contains nearly 900 acres of scrub, upland hardwood forest, upland mixed woodland, and flatwoods.

This variety of land types in the property makes it appropriate for activities such as hiking, biking, and horseback riding. Park lands provide significant area for many recreational amenities, including shared-use trails, nature study, picnicking, possibly primitive camping and wildlife observation.

Water Area

Price's Scrub property contains one natural sinkhole lake, known as Waterlily, and also a spring fed borrow pit, near I-75 in the southeast. A seepage stream, known locally as Brownlee Creek, drains the property from the south in a north to northeasterly direction, under I-75. At least four depression marshes are scattered on the property, and wet flatwoods make up a significant portion of the southern part of Price's Scrub Greenway.

Recreational access to the bodies of water in the property is limited. Shoreline fishing in the borrow pit pond is possible.

Natural Scenery

Price's Scrub does not have any officially recognized scenic resources. However, the rolling hills in the northern part of the property do provide a scenic view of the sinkhole lake. The tree-canopied historic stagecoach road is also picturesque.

Significant Habitat

Price's Scrub has a variety of natural communities, ranging from scrub to seepage stream. According to FNAI, 15 types of natural communities occur within the greenway, providing a range of habitats for the various species of plants and animals. Trails running through a variety of natural communities create a unique experience for education and interpretation. The most common natural communities in the park are upland hardwood forest, mesic flatwoods, and scrubby flatwoods. Two of the natural communities in the park are considered imperiled in Florida, making Price's Scrub a rare and unique region in the state.

Natural Features

Two of the natural communities found within the park, scrub and seepage stream, are ranked by FNAI as S2, imperiled in Florida, which makes the area a rare sight for visitors. Throughout the park there are significant opportunities for wildlife viewing, nature walks, and rare natural community sightseeing.

Archaeological and Historical Features

Most of the park's cultural sites are minor prehistoric campsites providing limited opportunities for historical interpretation. A one-mile section of the Ocala-Micanopy segment of the historic Tampa-Lake City stagecoach road is on the western part of this property. The stagecoach road on the property reportedly was a connecting route from Micanopy to Flemington. The road remnant provides opportunities for interpreting 19th and early 20th century transportation systems in north central Florida.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails 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

The Price's Scrub land does not appear to have been intensively used recently. The site appears relatively intact, other than some recent and historical logging, former farmland, and the borrow pit in the southeast corner. Approximately 400 acres in the southern part of the property was logged for pines in the early 1990's, but the groundcover was left relatively intact. The borrow pit was dug during the construction of I-75, according to local residents. It is shown in the 1970 aerial photograph included in the 1979 soil survey of Marion County. That photograph also shows two cleared areas, now revegetated, south and southwest of the sinkhole lake. Local residents suggest that those areas are former land for crops such as tobacco, cotton, and vegetables. Much of the area did not receive electricity until the 1940's and 1950's, which would explain the remnant chimney and tin roofs that were used for fires to cure tobacco. It is also speculated that cattle used to graze on Price's Scrub. It is believed that the old stagecoach road on the property was a connecting route from Micanopy to Flemington.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation.

The park is identified as Preservation Lands in the Marion County future land use map. This designation is intended to recognize publicly or privately owned properties intended for conservation purposes and operated by contractual agreement with or managed by a federal, state, regional or local government or

non-profit agency. Development for recreation, scientific research, education and training facilities, public facilities or services, etc. in this designation shall be limited to result in minimal impact to the preservation of the area as allowed under the contractual agreement (Marion County 2014). There are no expected conflicts between the future land use or zoning designations. Future land zoning is consistent with the current zoning for Price's Scrub.

It is important to note that for the areas in the park that are contiguous uplands of water bodies, densities in these areas shall be at no more than two dwelling units per gross acre if aerobic septic systems are used and no more than one dwelling unit per gross acre if conventional septic systems are used.

Current Recreational Use and Visitor Programs

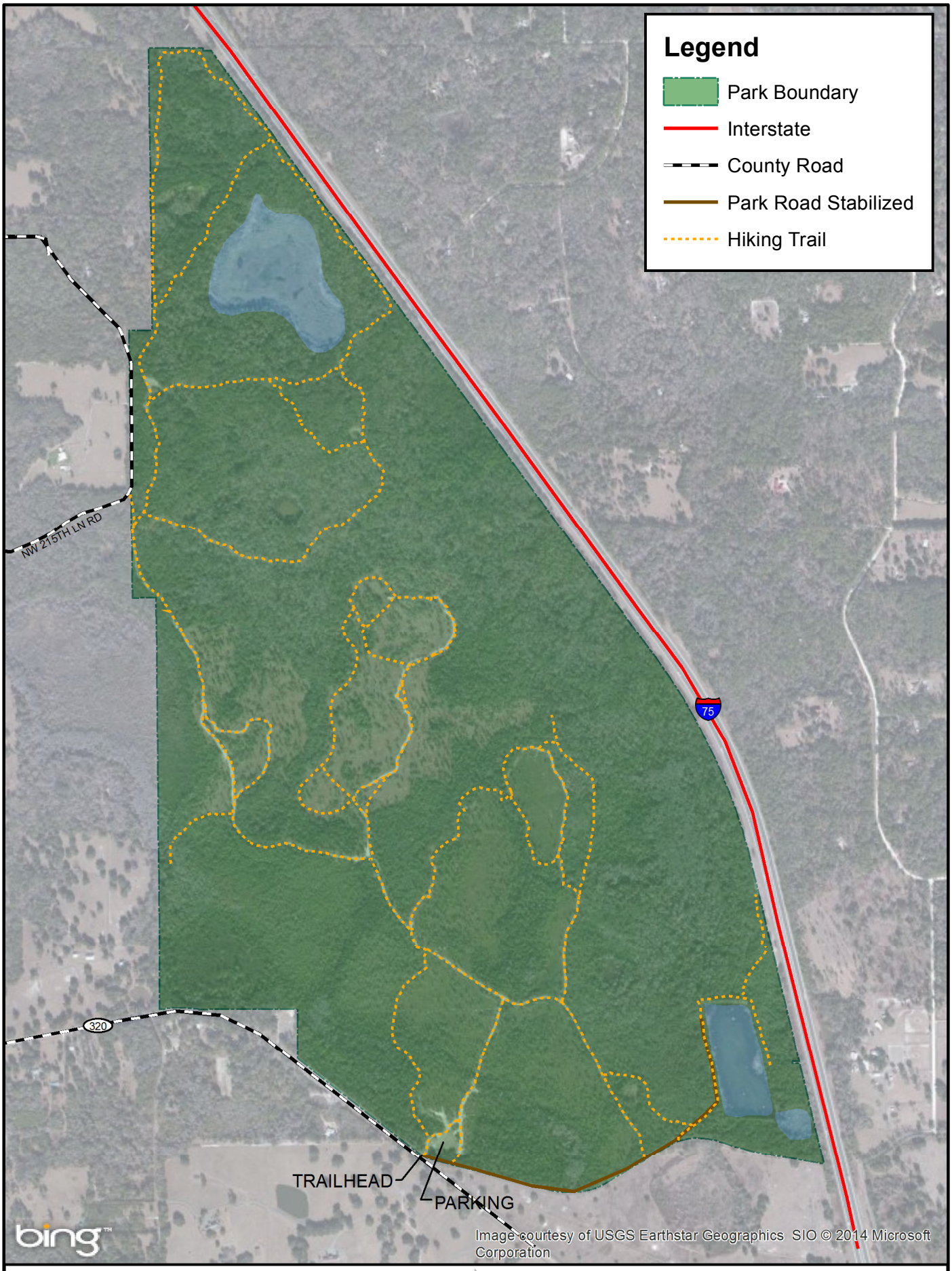
Currently the only public uses of Price's Scrub are passive uses such as hiking and equestrian activities. There is a trailhead and a few hiking/biking friendly trails with no support facilities are onsite. There are no active land uses. The entire area is forested or in lakes/marshes. Existing woods, roads, trails and fire lines, and access points are shown on the base map.

Price's Scrub State Park recorded 1,291 visitors in FY 2015/2016. By DRP estimates, the FY 2015/2016 visitors contributed $117,993 in direct economic impact, the equivalent of adding 2 jobs to the local economy (FDEP 2016).

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 Price's Scrub State Park, all wetlands and floodplain as well as seepage stream and known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.



PRICE'S SCRUB

N

0 250 500 1,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

BASE MAP

Existing Facilities

Price's Scrub has one access point, located off CR 320 on the southwest boundary of the property. The trailhead is also located at this access point. There are no other existing facilities at this site (See Base Map).

Recreation Facilities

Entrance/Trailhead	Trails
Trailhead	Shared-use trail (9.1 miles)
Parking area	

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting (see Conceptual Land Use Plan). The conceptual land use plan is modified or amended, as new information becomes available regarding the park's natural and cultural resources or trends in recreational uses, in order to adapt to changing conditions. Additionally, the acquisition of new parkland may provide opportunities for alternative or expanded land uses. The DRP develops a detailed development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available.

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource

impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. 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, park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

The existing recreational activities and programs of this state park are appropriate to the natural and cultural resources contained in the park and should be continued. New and/or improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current recreational carrying capacity of 136 users per day.

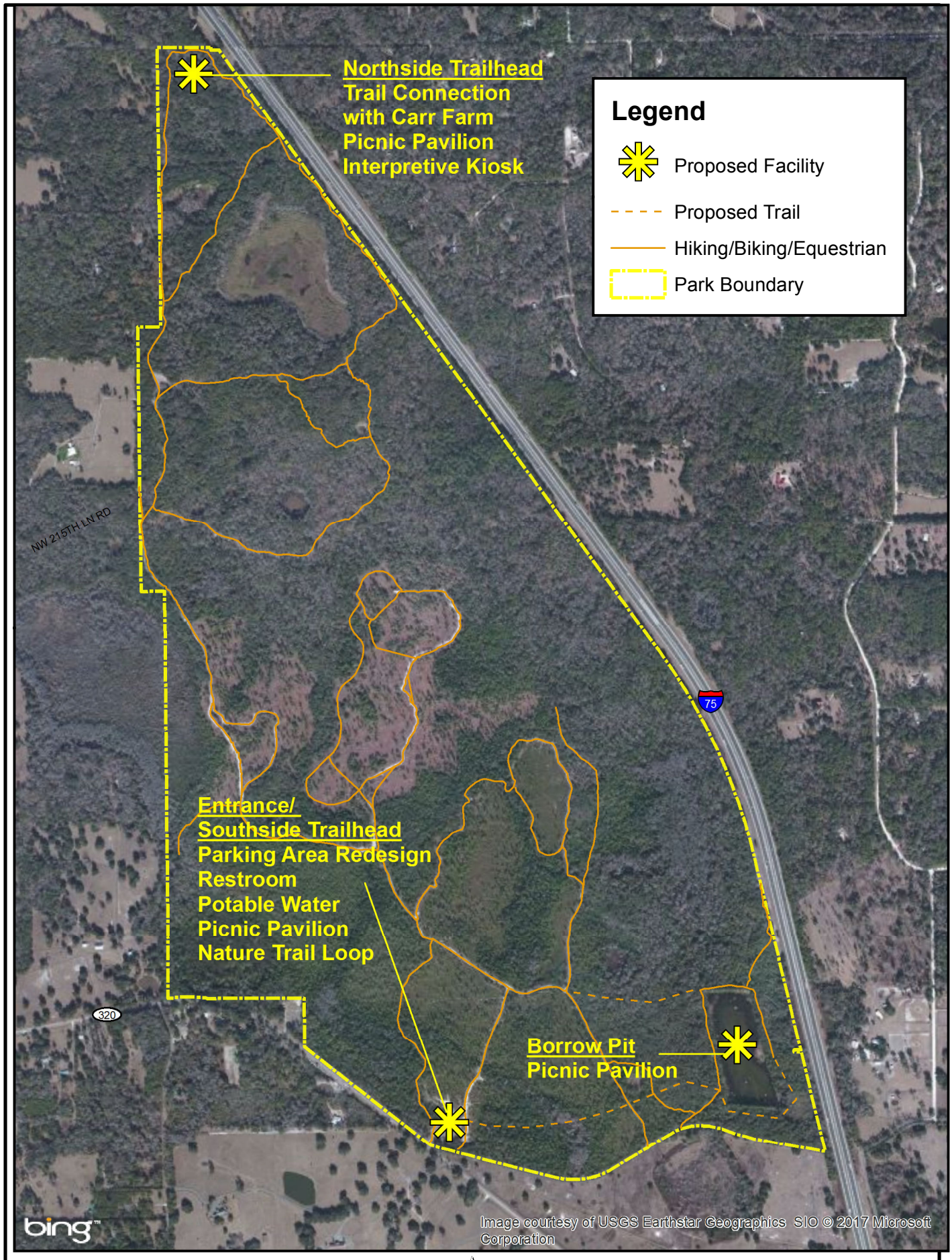
The park will continue to provide opportunities for hiking, biking, horseback riding, picnicking, and wildlife observation. Interpretive programs will continue to be offered.

Objective: Expand the park's recreational carrying capacity by 140 users per day.

Picnicking opportunities will be expanded with the addition of picnic tables and pavilions at the Entrance/Southside Trailhead and the proposed Northside Trailhead and Borrow Pit Pond Picnic Area. Hiking opportunities will be added with the development of a nature trail from the Entrance/Southside Trailhead to the Borrow Pit Pond Picnic Area.

Objective: Continue to provide the current repertoire of 1 interpretive, educational and recreational programs on a regular basis.

Interpretive materials are provided at the Entrance/Southside Trailhead that describe the parks natural and cultural history.



PRICE'S SCRUB STATE PARK

N

0 250 500 1,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

CONCEPTUAL LAND USE PLAN

Objective: Develop 1 new interpretive, educational and recreational programs.

A self-guided nature walk will be provided along the proposed nature trail. Wayside signs will be installed to interpret the parks natural and cultural history for trail users.

Proposed Facilities

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Price's Scrub State Park:

Objective: Maintain all public and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve/repair 2 existing facilities and 1.25 miles of trail.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

Entrance/Southside Trailhead

Recommended improvements include the addition of two picnic pavilions with a few more scattered tables. The existing portable toilet will be replaced with a permanent restroom facility and a potable water supply. The parking area should be redesigned to meet the needs of various trail user groups.

Trails

A nature trail will be provided from the entrance/trailhead to the Borrow Pit Pond. Interpretive information will be provided at the trailhead and at designated points along the nature trail to offer visitors a self-guided experience where they can learn about the park's natural/cultural history and unique hydrology. Interpretive information and upgraded wayfinding markers will be placed at appropriate points along the rest of the park's nine mile shared-use trail system.

Objective: Construct 2 new facilities.

Borrow Pit Pond Picnic Area

The installation of a pavilion overlooking the pond will provide trail users with a scenic resting and picnicking spot along the trail system.

Northside Trailhead Area

The addition of a trailhead on the northside was discussed. It was agreed that the construction of this facility would make sense only if and when a trail connection is established with the Carr Farm property to the north. The Carr Farm is currently on the Florida Forever acquisition list. Facilities that should be provided at this trailhead include a small picnic pavilion, a few scattered picnic tables, and an interpretive kiosk.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates (Table 8) located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist DRP in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes. New facilities and improvements to existing facilities recommended by the plan include:

Recreation Facilities

Entrance Trailhead

Picnic Pavilion (2)
Restroom
Potable water
Parking area redesign

Northside Trailhead

Picnic pavilion
Scattered picnic tables
Interpretive kiosk

Trails
Borrow pit nature trail (1.25 mi.)
Trail wayfinding markers

Borrow Pit Pond Picnic Area
Picnic pavilion

Recreational 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 6).

The recreational 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 6.

Table 7. Recreational Carrying Capacity

	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity / Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Trails						
Shared Use	60	120			60	120
Nature			25	100	25	100
Picnicking	8	16	20	40	28	56
TOTAL	**68**	**136**	**45**	**140**	**113**	**276**

*Existing capacity revised from approved plan according to DRP guide

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.

The optimum boundary includes the Florida Forever Carr Farm project to the northwest. Additional Carr Family parcels have been included to the west of the park. The total area for the optimum boundary properties is approximately 1,475 acres. Acquisition of these properties will protect additional natural and cultural resources, provide additional recreation opportunities, and improve park operations and management.

Legend

Park Boundary

Acquisition

bing

Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation

PRICE'S SCRUB

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

OPTIMUM BOUNDARY MAP

IMPLEMENTATION COMPONENT

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems, and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the Division of Recreation and Parks (DRP) progress toward achieving resource management, operational and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

Management Progress

Since the approval of the last management plan for Price's Scrub State Park in 2004, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Park Administration and Operations

- Recruited new volunteers for trail monitoring and maintenance.
- Maintained facilities at trailhead for park visitors.

Resource Management

Natural Resources

- Installed 3.5 miles of fireline to facilitate prescribed burning (2013 & 2014).
- Installed 0.4 miles of fuelbreak to facilitate prescribed burning (2014).
- Halted illegal harvest of *Lyonia* spp. and worked with FWC on enforcement action (2015).
- Conducted 2 prescribed burns treating 80 acres of flatwoods (2016).
- Completed survey of endangered pondspice (2016).
- Developed bird list in coordination with volunteers from Alachua Audubon Society (2016).
- Completed 190 acres of fuel reduction mowing in scrub and flatwoods to facilitate prescribed burning (2017).

Cultural Resources

- Detected cultural site looting activites and worked with FWC on enforcement action (2017).

Recreation and Visitor Services

- Created new visitor trail map (2016).

Park Facilities

- Constructed pumphouse (2015).

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 8) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, several continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide the DRP's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the DRP can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 8 may need to be adjusted during the ten-year management planning cycle.

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$100,000**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	UFN	**$100,000**
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Conduct/obtain an assessment of the park's hydrological needs.**	Assessment conducted	LT	**$30,000**
Action 1	Assess restoration needs of known hydrological impairments	Assessment conducted	LT	$23,000
Action 2	Assess I-75 impacts	Assessment conducted	LT	$7,000
Objective B	**Restore natural hydrological conditions and functions to approximately 15 acres of baygall, depression marsh, mesic flatwoods, and scrubby flatwoods natural communities.**	# Acres restored or with restoration underway	UFN	**$70,000**
Action 1	Install three low-water crossings and one culvert system.	# Crossings/culverts installed	UFN	$25,000
Action 2	Rehabilitate 0.3 miles of historic fire plow lines.	Miles rehabilitated	UFN	$10,000
Action 3	Work with FDOT to stabilize erosion from I-75 into the park.	Stabilization completed	UFN	$2,000
Action 4	Protect the northwestern depression marsh from impacts of erosion along Old Buggy Road and resultant sedimentation in the marsh.	Protection measures implemented	UFN	$33,000

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal III: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Complete a comprehensive floral and faunal survey and update the park's baseline plant and animal list.**	Survey completed/updated	LT	**$28,000**
Action 1	Update the park's animal list using targeted surveys, with special emphasis on invertebrates, fish, reptiles and amphibians.	List updated	LT	$25,000
Action 2	Update the park's plant list through ongoing survey efforts.	List updated	LT	$3,000
Objective B	**Within 10 years have 450 acres of the park maintained within optimal fire return interval.**	# Acres within fire return interval target	LT	**$178,000**
Action 1	Develop/update annual burn plan.	Plan updated	C	$16,000
Action 2	Manage fire dependent communities for ecosystem function, structure and processes by burning between 67 - 207 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	$155,500
Action 3	Conduct mechanical fuel treatment activities on 25 acres of fire-type habitat.	# Acres treated	UFN	$6,500
Objective C	**Conduct habitat/natural community restoration activities on 50 acres of upland mixed woodland natural community.**	# Acres restored or with restoration underway	UFN	**$228,000**
Action 1	Develop/update site specific restoration plan	Plan developed/updated	LT	$3,000
Action 2	Implement restoration plan	# Acres with restoration underway	UFN	$50,000
Action 3	Remove offsite hardwoods in upland mixed woodland sites through a combination of chemical and mechanical means.	# Acres treated	UFN	$75,000
Action 4	Initiate groundcover restoration by introducing prescribed fire and following up with seeding or planting of appropriate species.	# Acres treated	UFN	$100,000
Objective D	**Conduct natural community/habitat improvement activities on 75 acres of mesic flatwoods and scrubby flatwoods natural communities.**	# Acres improved or with improvements underway	UFN	**$24,000**
Action 1	Develop/update a site specific restoration plan.		LT	$4,000
Action 2	Underplant longleaf pine tubelings in natural densities in 75 acres of mesic and scrubby flatwoods.		UFN	$20,000

* 2015 Dollars
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LT = actions within 10 years
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UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.**	List updated	C	**$2,000**
Objective B	**Monitor and document 3 selected imperiled animal species in the park.**	# Species monitored	C	**$12,000**
Action 1	Implement monitoring protocols for one imperiled animal species, the gopher tortoise, using transect distance sampling method to first establish baseline population numbers.	# Protocols developed	ST	$10,000
Action 2	Monitor two imperiled bird species, the little blue heron and swallow-tailed kite, which have been documented at Price's Scrub during regular management activities and seasonal bird count surveys.	# Species monitored	C	$2,000
Objective C	**Monitor and document 4 selected imperiled plant species in the park.**	# Species monitored	C	**$4,000**
Action 1	Develop monitoring protocols for 4 selected imperiled plant species including pondspice and Florida spiny pod.	# Protocols developed	ST	$1,000
Action 2	Implement monitoring protocols for four imperiled plant species, including the two listed in Action 1 above as well as blueflower butterwort and angle pod.	# Species monitored	C	$3,000

Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat 42 acres of exotic plant species in the park.**	# Acres treated	C	**$11,000**
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/updated	C	$1,000
Action 2	Implement annual work plan by treating 42 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented	C	$10,000
Objective B	**Develop and implement measures to prevent the introduction and spread of invasive exotic plants into the park.**	Measures developed	ST	**$1,000**
Action 1	Develop and adopt preventative measures to avoid the introduction and spread of invasive exotic plants into the park.	Measures implemented	ST	$1,000
Objective C	**Implement control measures on 1 exotic and nuisance animal species in the park.**	# Species for which control measures	C	**$5,000**
Action 1	Trap and remove feral hogs as needed when populations are detected.	Trapping implemented	C	$5,000

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal VI: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate 22 of 22 recorded cultural resources in the park.**	Documentation complete	LT	**$5,000**
Action 1	Complete 22 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	LT	$5,000
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites.**	Documentation complete	LT	**$6,000**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$5,000
Action 2	Conduct Level 1 archaeological survey for priority areas identified by previous study.	Survey completed	UFN	
Action 3	Develop and adopt a Scope of Collections Statement.	Document completed	ST	$1,000
Objective C	**Bring 3 of 22 recorded cultural resources into good condition.**	# Sites in good condition	LT	**$4,000**
Action 1	Design and implement regular monitoring programs for 22 cultural sites	# Sites monitored	C	$2,000
Action 2	Create and implement a cyclical maintenance program for each cultural resource.	Programs implemented	C	$2,000

Goal VII: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 136 users per day.**	# Recreation/visitor	C	**$100,000**
Objective B	**Expand the park's recreational carrying capacity by 140 users per day.**	# Recreation/visitor	UFN	**$100,000**
Objective C	**Continue to provide the current repertoire of 1 interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	C	**$5,000**
Objective D	**Develop 1 new interpretive, educational and recreational programs.**	# Interpretive/education programs	UFN	**$7,000**

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$111,000**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$50,000**
Objective C	**Improve and/or repair 2 existing facilities and 1.25 miles of trail.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$310,000**
Objective D	**Construct 2 new facilites.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$50,000**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	UFN	**$100,000**

Summary of Estimated Costs

Management Categories		**Total Estimated Manpower and Expense Cost* (10-years)**
Resource Management		**$678,000**
Administration and Support		**$200,000**
Capital Improvements		**$410,000**
Recreation Visitor Services		**$423,000**
Law Enforcement Activities	Note: Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.	

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Price's Scrub State Park Acquisition History

LAND ACQUISITION HISTORY REPORT	
Park Name	Price's Scrub State Park
Date Updated	10/28/2016
County	Marion County, Florida
Trustees Lease Number	Lease No. 4425
Legal Description	A legal description is available upon request from the Department of Environmental Protection
Current Park Size	962.28 acres
Purpose of Acquisition	The State of Florida acquired Price's Scrub State Park to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered floral and fauna.

Acquisition History (incudes only acquisitions with areas of 10 acres or more)

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
MDID 3338934	11/19/2002	Neil Durazzo and Frank Vecchiarelli	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees)	936.695	Warranty Deed

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No. 4425	5/29/2003	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	The State of Florida Department of Environmental Protection, Office of Greenways and Trails	50 years	5/28/2003

Outstanding Issue	Type of Instrument	Brief Description of the Outstanding Issue	Term of the Outstanding Issue
There are no known deed-related outstanding issues such as restrictions and reservations			

Addendum 2—Advisory Group Members and Report

List

Report

Addendum 3—References Cited

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Addendum 4—Soil Descriptions

(02) Adamsville sand, 0 to 5 percent slopes – This is a nearly level to gently sloping, somewhat poorly drained soil that occurs as small and large areas in the flatwoods and along the lower slopes of the sandy uplands. The water table rises to within 10 to 20 inches of the surface for less than 2 weeks during wet periods, but remains at 20 to 40 inches for cumulative periods of 2 to 6 months during most years. It recedes to a depth of more than 40 inches during dry periods.

Included with this soil in mapping are a few areas of a similar soil that is fine sand, is extremely acid or has a slope of 5 to 8 percent. Also included are small areas of Candler, Pomana, Pompano, and Tavares soils. Included soils make up about 15 percent of any one mapped area.

(09) Arredondo sand, 0 to 5 percent slopes – This is a nearly level to gently sloping, well drained soil that occurs as both small and large areas in the upland. This soil occurs as broad rolling areas of the upland. It has the profile described as representative of the series. The water table is at a depth of more than 72 inches.

In a representative profile the surface layer is dark grayish brown sand about 7 inches thick. The subsurface layer is mixed yellowish brown and dark yellowish brown sand about 11 inches thick. The subsoil extends to a depth of 90 inches or more. In sequence downward, it is 28 inches of yellowish brown sand mottled with strong brown, 19 inches of strong brown sand having a few white mottles, 5 inches of strong brown loamy sand, and 20 inches of strong brown fine sandy loam.

Included with this soil in mapping are small areas of Candler, Kendrick, Hague, Gainesville, and Sparr soils; a few small areas where the surface layer is fine sand, loamy sand, and loamy fine sand; a few areas of a similar soil, where the slope is 5 to 8 percent; and, in the south-central part of the county, spots where 35 to 65 inches of strongly acid to medium acid fine sand overlies limestone. Also included are rock outcrop sinkholes, and a few small depressions where a very dark gray or black surface layer 8 to 24 inches thick overlies ray sand. Included soils make up about 20 percent of any one mapped area.

(13) Astatula sand, 0 to 5 percent slopes – This is nearly level to gently sloping, excessively drained soil that occurs as small and large areas in the upland. It has the profile described as representative of the series. To a depth of 40 inches or more, many of the sand grains are uncoated. The water table is at a depth of more than 72 inches.

Included with this soil in mapping are a few areas of a similar soil, where the texture is fine sand; a few small areas where the slope is 5 to 12 percent; and small areas of a similar excessively drained soil that is sandy clay loam below a depth of 40 to 80 inches. Also included are a few small areas of Candler, Electra, Pompano, Adamsville, and Tavares soils. Included soils make up about 12 percent of any one mapped area.

(17) Blichton sand, 2 to 5 percent slopes – This is a gently sloping, poorly drained soil occurring as both small and large areas in the upland. It has the profile described as representative of the series. The water table is within a depth of 10 inches for 1 month to 4 months during most years. During dry periods it re- cedes to a depth of more than 40 inches.

Included with this soil in mapping are a few small areas of a similar soil that is moderately eroded; some areas, of a similar soil, where the volume of plinthite within a depth of 60 inches is less than 5 percent of any one horizon; and a few small areas where 20 to 40 inches of pale brown and yellowish brown sand overlies sandy clay loam. Also included are some spots of Kanapaha, Flemington, Lochloosa, and Sparr soils; a few small areas, of a similar soil, where the subsurface layer and the upper 20 inches of the subsoil are 5 to 35 percent gravel or rock fragments less than 3 inches in diameter; and spots of a similar soil that has a slope of 0 to 2 percent. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up about 15 percent of any one mapped area.

(20) Boardman loamy sand, 5 to 8 percent slopes – This is a sloping, poorly drained soil on seepy hillsides in the upland. It has the profile described as representative of the series. Hillside seepage raises the water table to within 10 inches of the surface for 1 month to 4 months during most years. Surface runoff is rapid.

Included with this soil in mapping are a few small areas, of a similar soil, where the slope is 2 to 5 or 8 to 12 percent; small areas of Blichton, Fellowship, Flemington, Micanopy, and Wacahoota soils; a few small areas where the subsurface layer is gravelly and sandy and the subsoil is gravelly and loamy. Also included are a few areas, of a similar soil, where the content of gravel is less than 5 percent and a few small areas where the soil is moderately eroded. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up about 20 percent of any one mapped area.

(26) Electra sand, 0 to 5 percent slopes – This is a nearly level to gently sloping, somewhat poorly drained soil that occurs as small and large areas in the flatwoods and the sandy uplands. The water table fluctuates between 25 to 40 inches for cumulative periods of 4 months during most years, but recedes to a depth of more than 40 inches during drier periods.

Included with this soil in mapping are small areas, of a similar soil, where the texture is fine sand and a few small areas of a soil having a slope of 5 to 8 percent. Also included are small areas of Astatula, Candler, Lynne, Placid, and Pomona soils. Included soils make up about 20 percent of any one mapped area.

(30) Fellowship loamy sand, 5 to 8 percent slopes – This is a sloping, poorly drained soil on short, sharp- breaking slopes and long hillsides of the upland. It has a profile that is similar to the one described as representative of the series, but the surface layer is 1 inch to 3 inches thinner and the subsoil is slightly thinner. Surface runoff is rapid, and the hazard of erosion is severe. The soil ranges, by volume, from 5 to 20 percent gravel or rock fragments less than 3 inches in diameter. Wetness is caused by hillside seepage and the slowly permeable material, which severely restricts internal drainage. The water table is perched in the surface layer and the upper part of the subsoil. It is within 10 inches of the surface for about 1 month to 4 months during wet periods.

Included with this soil in mapping are small areas of a similar soil that is eroded; small areas of Flemington, Blichton, and Micanopy soils; and areas of a similar soil that is more than 35 percent gravel or phosphatic rock fragments. Also included are a few areas, of a similar soil, where the slope is 8 to 12 percent. Gullies have formed in a few cleared areas, and rock outcrop and sinkholes occur in many areas. The gullies, the rock outcrop, and the sinkholes are identified by spot symbols on the soil map. Included soils make up about 20 percent of any one mapped area.

(34) Flemington loamy sand, 2 to 5 percent slopes – This is a gently sloping, poorly drained soil that occurs as small and large areas of the upland. The hazard of erosion is moderate because the infiltration rate is slow and surface runoff is medium. The subsurface layer and the upper part of the subsoil are saturated with a perched water table for 1 month to 4 months during most years.

Included with this soil in mapping are small areas of Fellowship, Blichton, Lochloosa, Micanopy, and Kanapaha soils; small areas, of a similar soil, where the surface layer is fine sand and the subsoil is sandy clay loam or sandy clay; and small areas where the subsoil is more than 5 percent plinthite. Also included are small areas of a similar soil that has a slope of 0 to 2 or 5 to 8 percent. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up about 20 percent of any one mapped area.

(**43) Kanapaha fine sand, 0 to 5 percent slopes** – This is a nearly level to gently sloping, poorly drained soil that occurs as small areas in the upland. The water table is within about 10 inches of the surface for periods of 1 month to 3 months during most years.

Included with this soil in mapping are a few small areas of a similar soil that is more than 5 percent plinthite within a depth of 60 inches and a few small areas where the subsurface layer and the upper 20 inches of the subsoil are, by volume, 5 to more than 35 percent rock fragments one-quarter inch to 3 inches in size. Also included are spots of Arredondo, Blichton, and Sparr soils and a few small areas, of a similar soil, where the slope is 5 to 8 percent. The rock outcrop

and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up less than 25 percent of any one mapped area.

(58) Placid sand, depressional – This is a very poorly drained soil in small depressions and along poorly defined drainageways of the flatwoods and in shallow depressions on sandy ridges. It has the profile described as representative of the series. Slopes are 0 to 2 percent. The water table is within 10 inches of the surface for more than 6 months during most years. Most depressions are covered with water for 6 months or more annually. Surface water is usually 2 to 18 inches deep, but in places is as deep as 18 to 30 inches during wet periods.

Included with this soil in mapping are small areas of Adamsville, Pompano, and Pomona soils; small areas where organic material is 10 to 24 inches deep over sandy material; and some areas of a very poorly drained soil where a thick, dark colored surface layer is underlain by sandy clay loam at a depth below 40 to 80 inches. Also included are small areas of a very poorly drained soil where a black or very dark gray sandy surface layer 24 to 32 inches thick is underlain by gray sandy material to a depth of more than 80 inches. Included soils make up about 20 percent of any one mapped area.

(61) Pomona sand – This is a poorly drained soil that occurs as small and large areas in the flatwoods and as small areas adjacent to wet depressions on sandy ridges. Slopes are 0 to 2 percent. During most years the water table is within 10 inches of the surface for 1 month to 3 months and fluctuates between 10 and 40 inches for 6 months or more. During dry periods it recedes to a depth of more than 40 inches.

Included with this soil in mapping are small areas of a similar soil, where the surface layer is fine sand or a weakly cemented layer is at a depth of 30 to 40 inches. Also included are small areas of Electra, Lynne, Pompano, and Placid soils. Included soils make up about 20 percent of any one mapped area.

(64) Samsula-Martel complex, depressional – This complex has a nearly level to gentle slope (0 to 2 percent) and a concave down-and-across-slope shape. It is a very poorly drained soil that formed in herbaceous organic material over sandy, loamy, and clayey marine deposits. The water table is at the surface (0 inches), and available water capacity is high (to about 10.8 inches). Ponding is frequent.

This complex is comprised of Samsula and similar soils (38 percent), Martel variant and similar soils (32 percent), and minor components (30 percent). The latter are Placid, depressional (15 percent) and Pompano, depressional (15 percent) soils.

In a typical profile, muck extends to a depth of 31 inches, with sand occurring from 11 to 49 inches below the surface. The lower layers are comprised of sandy clay (42 to 73 inches) mixed in with sandy clay loam (49 to 60 inches).

(69) Tavares sand, 0 to 5 percent slopes – This is a nearly level to gently sloping, moderately well drained sandy soil that occurs as small and large areas in the broad sandy flatwoods and along the lower slopes of the deep sandy uplands. The water table fluctuates between 40 to 60 inches for cumulative periods of 6 months or more during most years. During wet periods it may rise to within 30 to 40 inches of the surface for periods of less than 60 days. It recedes to a depth of more than 60 inches during droughty periods.

Included with this soil in mapping are a few small areas of a similar soil, where the slope is 5 to 8 percent. Also included are small areas of Adamsville, Candler, Apopka, and Pompano soils. Included soils make up about 15 percent of any one mapped area.

(73) Wacahoota loamy sand, 5 to 8 percent slopes – This is a sloping, poorly-drained soil that occurs as small, sharp-breaking areas or large areas on long slopes in the uplands. It is saturated with a water table that, as a result of hillside seepage, is within 10 inches of the surface for 1 month to 4 months during most years. Surface runoff is medium.

Included with this soil in mapping are a few spots of Blichton, Boardman, Fellowship, and Flemington soils and a few small areas where the soil is 25 to more than 35 percent gravel or rock fragments less than 3 inches in diameter. Also included are spots of a soil similar to Wacahoota loamy sand and some areas of a Blichton soil, both of which have slopes of 2 to 5 or 8 to 12 percent. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up less than 20 percent of any one mapped area.

Addendum 5—Plant and Animal List

Price's Scrub State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)

LICHENS

Deer moss	*Cladonia evansii*
Jester lichen	*Cladonia leporina*
Reindeer lichen	*Cladonia subtenuis*
Christmas lichen	*Cryptothecia rubrocincta*

BRYOPHYTES

Sphagnum moss	*Sphagnum* sp.

PTERIDOPHYTES

Ebony spleenwort	*Asplenium platyneuron*
American waterfern	*Azolla filiculoides*
Rattlesnake fern	*Botrychium virginianum*
Nodding club-moss	*Lycopodiella cernua*
Japanese climbing fern	*Lygodium japonicum* *
Cinnamon fern	*Osmunda cinnamomea*
Royal fern	*Osmunda regalis* var. *spectabilis*
Golden polypody	*Phlebodium aureum*
Resurrection fern	*Pleopeltis polypodioides* var. *michauxiana*
Tailed bracken	*Pteridium aquilinum var. pseudocaudatum*
Water spangles	*Salvinia minima* *
Netted chain fern	*Woodwardia areolata*
Virginia chain fern	*Woodwardia virginica*

GYMNOSPERMS

Red cedar	*Juniperus virginiana*
Sand pine	*Pinus clausa*
Slash pine	*Pinus elliottii*
Longleaf pine	*Pinus palustris*
Pond pine	*Pinus serotina*
Loblolly pine	*Pinus taeda*
Pond-cypress	*Taxodium ascendens*

ANGIOSPERMS

MONOCOTS

American century plant	*Agave americana* *
Blue maidencane	*Amphicarpum muhlenbergianum*
Broomsedge bluestem	*Andropogon virginicus*
Chalky bluestem	*Andropogon virginicus* var. *glaucus*
Greendragon	*Arisaema dracontium*

Price's Scrub State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Jack-in-the-pulpit	*Arisaema triphyllum*	
Bottlebrush threeawn	*Aristida spiciformis*	
Switchcane	*Arundinaria gigantea*	
Birdbill woodoats	*Chasmanthium ornithorhynchum*	
Flatsedge	*Cyperus* sp.	
Witchgrass	*Dichanthelium* sp.	
Variable witchgrass	*Dichanthelium commutatum*	
Florida yam	*Dioscorea floridana*	
Green-fly orchid	*Epidendrum conopseum*	
Purple lovegrass	*Eragrostis spectabilis*	
Pinewoods fingergrass	*Eustachys petraea*	
Cogongrass	*Imperata cylindrica* *	
Soft rush	*Juncus effusus* subsp. *solutus*	
Carolina redroot	*Lachnanthes caroliana*	
Duckweed	*Lemna* sp.	
Rose natalgrass	*Melinis repens* *	
Woodsgrass	*Oplismenus hirtellus*	
Beaked panicgrass	*Panicum anceps*	
Maidencane	*Panicum hemitomon*	
Narrowfruit horned beaksedge	*Rhynchospora inundata*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Millet beaksedge	*Rhynchospora miliacea*	
Mexican clover	*Richardia* sp.	
Dwarf palmetto	*Sabal minor*	
Cabbage palm	*Sabal palmetto*	
Bulltongue arrowhead	*Sagittaria lancifolia*	
Woolgrass	*Scirpus cyperinus*	
Tall nutgrass	*Scleria triglomerata*	
Saw palmetto	*Serenoa repens*	
Bristlegrass	*Setaria* sp.	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Cat greenbrier	*Smilax glauca*	
Laurel greenbrier	*Smilax laurifolia*	
Sarsaparilla vine	*Smilax pumila*	
Yellow hatpins	*Syngonanthus flavidulus*	
Bartram's airplant	*Tillandsia bartramii*	
Ball moss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Cattail	*Typha* sp.	
Coastalplain yellow-eyed grass	*Xyris ambigua*	
Carolina yelloweyed grass	*Xyris caroliniana*	
Bog yelloweyed grass	*Xyris difformis*	
Adam's needle	*Yucca filimentosa*	

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)

DICOTS

Red maple	*Acer rubrum*
Red buckeye	*Aesculus pavia*
Foxglove	*Agalinis* sp.
Hammock snakeroot	*Ageratina jucunda*
Mimosa	*Albizia julibrissin* *
Common ragweed	*Ambrosia artemisiifolia*
Bastard false indigo	*Amorpha fruticosa*
Peppervine	*Ampelopsis arborea*
Groundnut	*Apios americana*
Devil's walkingstick	*Aralia spinosa*
Coral ardisia; scratchthroat	*Ardisia crenata* *
Virginia snakeroot	*Aristolochia serpentaria*
Milkweed	*Asclepias* sp.
Savannah milkweed	*Asclepias pedicellata*
Showy milkwort	*Asemeia violacea*
Slimleaf pawpaw	*Asimina angustifolia*
Groundsel tree; sea-myrtle	*Baccharis halimifolia*
Tarflower	*Bejaria racemosa*
Beggarticks	*Bidens alba*
Burmarigold	*Bidens laevis*
Crossvine	*Bignonia capreolata*
False nettle; bog hemp	*Boehmeria cylindrica*
American bluehearts	*Buchnera americana*
American beautyberry	*Callicarpa americana*
Trumpet creeper	*Campsis radicans*
Florida paintbrush	*Carphephorus corymbosus*
Vanillaleaf	*Carphephorus odoratissimus*
Hairy chaffhead	*Carphephorus paniculatus*
American hornbeam	*Carpinus caroliniana*
Wild olive	*Cartrema americana*
Pignut hickory	*Carya glabra*
Mockernut hickory	*Carya tomentosa*
Sugarberry; hackberry	*Celtis laevigata*
Common buttonbush	*Cephalanthus occidentalis*
Florida rosemary	*Ceratiola ericoides*
Partridge pea	*Chamaecrista fasciculata*
Camphor-tree	*Cinnamomum camphora* *
Atlantic pigeonwings	*Clitoria mariana*
Tread-softly	*Cnidoscolus stimulosus*
American squawroot	*Conopholis americana*
Swamp dogwood	*Cornus foemina*
Flowering dogwood	*Cornus florida*
Parsley hawthorn	*Crataegus marshallii*
Michaux's hawthorn	*Crataegus michauxii*
Showy rattlebox	*Crotalaria spectabilis* *

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Dodder	*Cuscuta* sp.	
Common persimmon	*Diospyros virginiana*	
Pink sundew	*Drosera capillaris*	
Tall elephantsfoot	*Elephantopus elatus*	
Oakleaf fleabane	*Erigeron quercifolius*	
Prairie fleabane	*Erigeron strigosus*	
Early whitetop fleabane	*Erigeron vernus*	
Coralbean; Cherokee bean	*Erythrina herbacea*	
Dogfennel	*Eupatorium capillifolium*	
Slender flattop goldenrod	*Euthamia caroliniana*	
Goosegrass	*Galium aparine*	
Caribbean purple everlasting	*Gamochaeta antillana*	
Southern beeblossom	*Gaura angustifolia*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Blue huckleberry	*Gaylussacia frondosa* var. *tomentosa*	
Yellow jessamine	*Gelsemium sempervirens*	
Angularfruit milkvine; angle pod	*Gonolobus suberosus*	MH, UHF
Loblolly bay	*Gordonia lasianthus*	
Rough hedgehyssop	*Gratiola hispida*	
Queen-devil	*Hieracium gronovii*	
Innocence; roundleaf bluet	*Houstonia procumbens*	
Manyflower marshpennywort	*Hydrocotyle umbellata*	
Sandweed	*Hypericum fasciculatum*	
St. Andrew's-cross	*Hypericum hypericoides*	
Fourpetal St. John's-wort	*Hypericum tetrapetalum*	
Dahoon	*Ilex cassine*	
Large gallberry	*Ilex coriacea*	
Gallberry	*Ilex glabra*	
American holly	*Ilex opaca*	
Carolina indigo	*Indigofera caroliniana*	
Hairy indigo	*Indigofera hirsuta* *	
Tievine	*Ipomoea cordatotriloba*	
Cypressvine	*Ipomoea quamoclit* *	
Juba's bush	*Iresine diffusa*	
Virginia willow	*Itea virginica*	
Wicky	*Kalmia hirsuta*	
Woodland lettuce	*Lactuca floridana*	
Virginia pepperweed	*Lepidium virginicum*	
Hairy lespedeza	*Lespedeza hirta*	
Gayfeather	*Liatris* sp.	
Sweetgum	*Liquidambar styraciflua*	
Pondspice	*Litsea aestivalis*	DM
Glade lobelia	*Lobelia glandulosa*	
Peruvian primrosewillow	*Ludwigia peruviana* *	
Creeping primrosewillow	*Ludwigia repens*	
Rusty staggerbush	*Lyonia ferruginea*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Fetterbush	*Lyonia lucida*	
Piedmont staggerbush	*Lyonia mariana*	
Southern magnolia	*Magnolia grandiflora*	
Sweetbay	*Magnolia virginiana*	
Florida spiny pod; FL milkvine	*Matelea floridana*	MH
White sweetclover	*Melilotus albus* *	
Florida Keys hempvine	*Mikania cordifolia*	
Partridgeberry	*Mitchella repens*	
Spotted beebalm	*Monarda punctata*	
Indianpipe	*Monotropa uniflora*	
Wax myrtle	*Myrica cerifera*	
American lotus	*Nelumbo lutea*	
American white waterlily	*Nymphaea odorata*	
Big floatingheart	*Nymphoides aquatica*	
Little floatingheart	*Nymphoides cordata*	
Swamp tupelo	*Nyssa sylvatica* var. *biflora*	
Blackgum	*Nyssa sylvatica*	
Eastern hophornbeam	*Ostrya virginiana*	
Virginia creeper	*Parthenocissus quinquefolia*	
Purple passionflower	*Passiflora incarnata*	
Red bay	*Persea borbonia*	
Silk bay	*Persea borbonia* var. *humilis*	
Swamp bay	*Persea palustris*	
Red chokeberry	*Photina pyrifolia*	
Chamber bitter	*Phyllanthus urinaria* *	
Blueflower butterwort	*Pinguicula caerulea*	RD
Rosy camphorweed	*Pluchea baccharis*	
Fiddler's spurge	*Poinsettia heterophylla*	
Orange milkwort	*Polygala lutea*	
Candyroot	*Polygala nana*	
Combleaf mermaidweed	*Proserpinaca pectinata*	
Carolina laurelcherry	*Prunus caroliniana*	
Black cherry	*Prunus serotina*	
Flatwoods plum; ~~H~~hog plum	*Prunus umbellata*	
Blackroot	*Pterocaulon pycnostachyum*	
Bastard white oak	*Quercus austrina*	
Chapman's oak	*Quercus chapmanii*	
Southern red oak	*Quercus falcata*	
Sand live oak	*Quercus geminata*	
Laurel oak; diamond oak	*Quercus laurifolia*	
Swamp chestnut oak	*Quercus michauxii*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Post oak	*Quercus stellata*	
Live oak	*Quercus virginiana*	
Pale meadowbeauty	*Rhexia mariana*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Winged sumac	*Rhus copallinum*	
Sawtooth blackberry	*Rubus pensilvanicus*	
Carolina willow	*Salix caroliniana*	
Lyreleaf sage	*Salvia lyrata*	
American elder; elderberry	*Sambucus nigra* subsp. *canadensis*	
Lizard's tail	*Saururus cernuus*	
Danglepod	*Sesbania herbacea*	
Indian hemp; Cuban jute	*Sida rhombifolia*	
American black nightshade	*Solanum americanum*	
Twoleaf nightshade	*Solanum diphyllum* *	
Tropical soda apple	*Solanum viarum* *	
Goldenrod	*Solidago* sp.	
Elliott's aster	*Symphyotrichum elliottii*	
Carolina basswood	*Tilia americana* var. *caroliniana*	
Eastern poison ivy	*Toxicodendron radicans*	
Chinese tallowtree	*Triadica sebifera* *	
Forked bluecurls	*Trichostema dichotomum*	
Bluejacket; Ohio spiderwort	*Tradescantia ohiensis*	
Winged elm	*Ulmus alata*	
American elm	*Ulmus americana*	
Caesarweed	*Urena lobata* *	
Floating bladderwort	*Utricularia inflata*	
Zigzag bladderwort	*Utricularia subulata*	
Sparkleberry	*Vaccinium arboreum*	
Highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowii*	
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Rusty blackhaw	*Viburnum rufidulum*	
Common blue violet	*Viola sororia*	
Muscadine	*Vitis rotundifolia*	

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

INVERTEBRATES

Beetles

Eastern Eyed Click Beetle	*Alaus oculatus*	MTC
S. Sculptured Pine Borer	*Chalcophora georgiana*	MF, SCF
Sculptured Pine Borer	*Chalcophora virginiensis*	MF, SCF

Spiders

Spinybacked Orbweaver	*Gasteracantha cancriformis*	MTC
Orchard Orbweaver	*Leucauge venusta*	MTC
Spotted Orbweaver	*Neoscona domiciliorum*	MTC
Golden Silk Orbweaver	*Nephila clavipes*	MTC

Grasshoppers (GH)

Leather-colored Bird GH	*Schistocerca alutacea*	MTC
American Bird GH	*Schistocerca americana*	MTC

Ticks, Flies, Wasps, and Ants

Lone Star Tick	*Amblyomma americanum*	MTC
Red Velvet Ant; Cow Killer	*Dasymutilla occidentalis*	MTC
Yellow-fly	*Diachlorus ferrugatus*	MTC
Red Imported Fire Ant	*Solenopsis invicta* *	MTC

Dragonflies and Damselflies

Ebony Jewelwing	*Calopteryx maculata*	SST
Eastern Pondhawk	*Erythemis simplicicollis*	MTC
Eastern Amberwing	*Perithemis tenera*	SKLK

Butterflies and Moths

Gulf Fritillary	*Agraulis vanillae*	MTC
White Peacock	*Anartia jatrophae*	SKLK
Red-banded Hairstreak	*Calycopis cecrops*	MTC
Rosy Maple Moth	*Dryocampa rubicunda*	MTC
Barred Yellow	*Eurema daira*	MTC
Zebra Heliconian	*Heliconius charithonia*	MTC
Carolina Satyr	*Hermeuptychia sosybius*	MEH
Common Buckeye	*Junonia coenia*	MTC
Giant Swallowtail	*Papilio cresphontes*	MTC
Eastern Tiger Swallowtail	*Papilio glaucus*	MTC
Palamedes Swallowtail	*Papilio palamedes*	MTC
Eastern Black Swallowtail	*Papiliio polyxenes*	MTC
Cloudless Sulphur	*Phoebis sennae*	MTC
Pearl Crescent	*Phyciodes tharos*	MTC
Pine Webworm	*Pococera robustella*	MF, SCF
Whirlabout	*Polites vibex*	MTC
Long-tailed Skipper	*Urbanus proteus*	MTC

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
AMPHIBIANS		
Frogs and Toads		
Southern Cricket Frog	*Acris gryllus*	DM, BM, DS
Southern Toad	*Anaxyrus terrestris*	MTC
Greenhouse Frog	*Eleutherodactylus planirostris* *	MTC
Green Treefrog	*Hyla cinerea*	MTC
Pig Frog	*Lithobates grylio*	BG, BM, DS
Southern Leopard Frog	*Lithobates sphenocephalus*	BM, DM, DS
REPTILES		
Turtles		
Gopher Tortoise	*Gopherus polyphemus*	SC, SCF, MF
Snakes		
Southern Black Racer	*Coluber constrictor priapus*	MTC
E. Diamond-backed Rattlesnake	*Crotalus adamanteus*	SC, SCF, MF
Scarlet Kingsnake	*Lampropeltis elapsoides*	SCF, UMW, MF
Lizards		
Green Anole	*Anolis carolinensis*	MTC
Six-lined Racerunner	*Aspidoscelis sexlineata*	SC, SCF
Eastern Glass Lizard	Ophisaurus ventralis	MF, MEH
Southeastern Five-lined Skink	*Plestiodon inexpectatus*	MF, MEH
Florida Worm~~l~~lizard	*Rhineura floridana*	SC, SCF
Eastern Fence Lizard	*Sceloporus undulatus*	MTC
BIRDS		
Waterfowl		
Black-bellied Whistling Duck	*Dendrocygna autumnalis*	IM, OF
Canada Goose	*Branta canadensis*	IM, OF
Wood Duck	*Aix sponsa*	IM, OF
Turkeys		
Wild Turkey	*Meleagris gallopavo*	MTC
Pigeons and Doves		
Mourning Dove	*Zenaida macroura*	MTC
Cuckoos and Anis		
Yellow-billed Cuckoo	*Coccyzus americanus*	UHF, UMW, MEH
Rails and Coots		

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Common Gallinule	*Gallinula galeata*	BM, IM
American Coot	*Fulica americana*	IM
Cranes		
Sandhill Crane	*Antigone canadensis*	BM, OF
Anhingas		
Anhinga	*Anhinga anhinga*	IM
Herons, Egrets, and Bitterns		
Great Blue Heron	*Ardea herodias*	BM, IM
Great Egret	*Ardea alba*	BM, IM
Little Blue Heron	*Egretta caerulea*	BM, IM
Ibis and Spoonbills		
White Ibis	*Eudocimus albus*	BM, IM
New World Vultures		
Black Vulture	*Coragyps atratus*	MTC, OF
Turkey Vulture	*Cathartes aura*	MTC, OF
Osprey		
Osprey	*Pandion haliaetus*	IM, OF
Hawks, Eagles, and Kites		
Swallow-tailed Kite	*Elanoides forficatus*	OF
Bald Eagle	*Haliaeetus leucocephalus*	OF
Red-shouldered Hawk	*Buteo lineatus*	MTC, OF
Red-tailed Hawk	*Buteo jamaicensis*	MF, OF
Owls		
Great Horned Owl	*Bubo virginianus*	MTC
Barred Owl	*Strix varia*	MEH, BG, DS
Nightjars		
Chuck-will's-widow	*Antrostomus carolinensis*	UHF, MEH, SHF
Kingfishers		
Belted Kingfisher	*Megaceryle alcyon*	IM
Woodpeckers		
Red-bellied Woodpecker	*Melanerpes carolinus*	MTC
Downy Woodpecker	*Picoides pubescens*	MTC
Northern Flicker	*Colaptes auratus*	UMW, OF
Pileated Woodpecker	*Dryocopus pileatus*	UMW, UHF, SHF

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Tyrant Flycatchers		
Eastern Phoebe	*Sayornis phoebe*	MTC
Great Crested Flycatcher	*Myiarchus crinitus*	MTC
Vireos and Allies		
White-eyed Vireo	*Vireo griseus*	MTC
Yellow-throated Vireo	*Vireo flavifrons*	MF
Blue-headed Vireo	*Vireo solitarius*	UHF, UMW, SHF
Red-eyed Vireo	*Vireo olivaceus*	UHF, MEH, SHF
Crows and Jays		
Blue Jay	*Cyanocitta cristata*	MTC
American Crow	*Corvus brachyrhynchos*	MTC, OF
Fish Crow	*Corvus ossifragus*	BM, OF
Swallows		
Purple Martin	*Progne subis*	OF
Tree Swallow	*Tachycineta bicolor*	OF
Tits and Allies		
Carolina Chickadee	*Poecile carolinensis*	MTC
Tufted Titmouse	*Baeolophus bicolor*	MTC
Wrens		
House Wren	*Troglodytes aedon*	MTC
Carolina Wren	*Thryothorus ludovicianus*	MTC
Kinglets		
Ruby-crowned Kinglet	*Regulus calendula*	MTC
Old World Warblers		
Blue-gray Gnatcatcher	*Polioptila caerulea*	MF, WF, SHF
Thrushes		
Hermit Thrush	*Catharus guttatus*	UHF, MEH, SHF
Mockingbirds and Thrashers		
Gray Catbird	*Dumetella carolinensis*	MTC
Brown Thrasher	*Toxostoma rufum*	MTC
Northern Mockingbird	*Mimus polyglottos*	MTC
Waxwings		
Cedar Waxwing	*Bombycilla cedrorum*	BG, DS, OF
New World Warblers		
Black-and-white Warbler	*Mniotilta varia*	MTC

* Non-native species ^ Garden species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Orange-crowned Warbler	*Oreothlypis celata*	UMW, SHF
Common Yellowthroat	*Geothlypis trichas*	BM, DM, BG, WF
Northern Parula	*Setophaga americana*	MTC
Palm Warbler	*Setophaga palmarum*	MF, RD, DV
Pine Warbler	*Setophaga pinus*	MF, SCF, WF, UMW
Yellow-rumped Warbler	*Setophaga coronata*	MTC
Yellow-throated Warbler	*Setophaga dominica*	MF, UMW
Prairie Warbler	*Setophaga discolor*	BM, BG
Sparrows and Allies		
Eastern Towhee	*Pipilo erythrophthalmus*	MTC
Chipping Sparrow	*Spizella passerina*	MF, RD, DV
Swamp Sparrow	*Melospiza georgiana*	BM, DM
Cardinals, Grosbeaks, and Allies		
Summer Tanager	*Piranga rubra*	MF, UMW, SHF
Northern Cardinal	*Cardinalis cardinalis*	MTC
Blue Grosbeak	*Passerina caerulea*	MF
Indigo Bunting	*Passerina cyanea*	BM, MF
Blackbirds and Allies		
Red-winged Blackbird	*Agelaius phoeniceus*	MTC
Eastern Meadowlark	*Sturnella magna*	DV, OF
Brown-headed Cowbird	*Molothrus ater*	MTC
Finches and Allies		
American Goldfinch	*Spinus tristis*	MTC, OF
MAMMALS		
Didelphids		
Virginia Opossum	*Didelphis virginiana*	MTC
Edentates		
Nine-banded Armadillo	*Dasypus novemcinctus* *	MTC
Shrews and Moles		
Southern Short-tailed Shrew	*Blarina carolinensis*	MEH
Carnivores		
Bobcat	*Lynx rufus*	MTC
Florida Black Bear	*Ursus americanus floridanus*	BG, DS, MEH, MF
Artiodactyls		
White-tailed Deer	*Odocoileus virginianus*	MTC

* Non-native species ^ Garden species

Price's Scrub State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Feral Hog	*Sus scrofa* *	MTC
Rodents		
Eastern Gray Squirrel	*Sciurus carolinensis*	MTC
Lagomorphs		
Eastern Cottontail	*Sylvilagus floridanus*	MTC

* Non-native species ^ Garden species

TERRESTRIAL

Beach Dune	BD
Coastal Berm	CB
Coastal Grassland	CG
Coastal Strand	CS
Dry Prairie	DP
Keys Cactus Barren	KCB
Limestone Outcrop	LO
Maritime Hammock	MAH
Mesic Flatwoods	MF
Mesic Hammock	MEH
Pine Rockland	PR
Rockland Hammock	RH
Sandhill	SH
Scrub	SC
Scrubby Flatwoods	SCF
Shell Mound	SHM
Sinkhole	SK
Slope Forest	SPF
Upland Glade	UG
Upland Hardwood Forest	UHF
Upland Mixed Woodland	UMW
Upland Pine	UP
Wet Flatwoods	WF
Xeric Hammock	XH

PALUSTRINE

Alluvial Forest	AF
Basin Marsh	BM
Basin Swamp	BS
Baygall	BG
Bottomland Forest	BF
Coastal Interdunal Swale	CIS
Depression Marsh	DM
Dome Swamp	DS
Floodplain Marsh	FM
Floodplain Swamp	FS
Glades Marsh	GM
Hydric Hammock	HH
Keys Tidal Rock Barren	KTRB
Mangrove Swamp	MS
Marl Prairie	MP
Salt Marsh	SAM
Seepage Slope	SSL
Shrub Bog	SHB
Slough	SLO
Slough Marsh	SLM
Strand Swamp	STS

Wet Prairie ..... WP

LACUSTRINE

Clastic Upland Lake ..... CULK
Coastal Dune Lake ..... CDLK
Coastal Rockland Lake ..... CRLK
Flatwoods/Prairie ..... FPLK
Marsh Lake ..... MLK
River Floodplain Lake..... RFLK
Sandhill Upland Lake ..... SULK
Sinkhole Lake ..... SKLK
Swamp Lake..... SWLK

RIVERINE

Alluvial Stream ..... AST
Blackwater Stream ..... BST
Seepage Stream ..... SST
Spring-run Stream ..... SRST

SUBTERRANEAN

Aquatic Cave ..... ACV
Terrestrial Cave ..... TCV

ESTUARINE

Algal Bed ..... EAB
Composite Substrate ..... ECPS
Consolidated Substrate ..... ECNS
Coral Reef ..... ECR
Mollusk Reef..... EMR
Octocoral Bed ..... EOB
Seagrass Bed ..... ESGB
Sponge Bed..... ESPB
Unconsolidated Substrate..... EUS
Worm Reef..... EWR

MARINE

Algal Bed ..... MAB
Composite Substrate ..... MCPS
Consolidated Substrate ..... MCNS
Coral Reef ..... MCR
Mollusk Reef ..... MMR
Octocoral Bed ..... MOB
Seagrass Bed ..... MSGB
Sponge Bed ..... MSPB
Unconsolidated Substrate ..... MUS
Worm Reef ..... MWR

ALTERED LANDCOVER TYPES

Abandoned field/Abandoned pasture ..... AFP
Agriculture ..... AG
Artificial Pond ..... AP
Borrow Area ..... BA
Canal/ditch ..... CD
Clearcut pine plantation ..... CPP
Clearing/Regeneration CL
Developed ..... DV
Impoundment ..... IM
Invasive exotic monoculture ..... IEM
Pasture - improved ..... PI
Pasture - semi-improved ..... PSI
Pine plantation ..... PP
Restoration Natural Community ..... RNC
Road ..... RD
Spoil area ..... SA
Successional hardwood forest ..... SHF
Utility corridor ..... UC

MISCELLANEOUS

Many Types of Communities ..... MTC
Overflying ..... OF

Addendum 6—Imperiled Species Ranking Definitions

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 Fish and Wildlife Conservation 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 fabricated 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 or 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 or 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)

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

LEGAL STATUS

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.

EXPE, XE..... Experimental essential population. A species listed as experimental and essential.

EXPN, XN .... Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

ANIMALS .. (Listed by the Florida Fish and Wildlife Conservation Commission - FWC)

FE ..... Federally-designated Endangered

FT ..... Federally-designated Threatened

FXN..... Federally-designated Threatened Nonessential Experimental Population

FT(S/A) ..... Federally-designated Threatened species due to similarity of appearance

ST..... Listed as Threatened Species by the FWC. 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 therefore is destined or very likely to become an endangered species within the near future.

SSC..... Listed as Species of Special Concern by the FWC. 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 that, in the near 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.

Addendum 7—Cultural Information

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- **a)** are associated with events that have made a significant contribution to the broad patterns of our history; and/or
- **b)** are associated with the lives of persons significant in our past; and/or
- **c)** embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- **d)** have yielded, or may be likely to yield, information important in prehistory or history.

2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- **a)** a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
- **b)** a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- **c)** a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- **d)** a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; ora reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- **e)** a property achieving significance within the past 50 years, if it is of exceptional importance.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Addendum 9—County Comprehensive Plan Compliance

Insert County Comprehensive Plan Compliance