

Land Stewardship Division

*3301 Gun Club Road MSC 7320
West Palm Beach, Florida 33406*



*Kissimmee River
Management Areas
Five-Year
General Management Plan
2008-2013
March, 2008*



Kissimmee River Management Areas Five-Year General Management Plan (2008 – 2013)

March, 2008

Land Stewardship Division
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Table of Contents

List of Maps & Tables -----	3
List of Appendices -----	4
Executive Summary -----	5
2. Management Plan Purpose -----	9
2.1 Management Area Goals and Objectives -----	9
3. Introduction and Site History -----	15
4. Resource Inventory -----	21
4.1 Hydrology -----	21
4.2 Soils -----	30
4.3 Natural Communities -----	34
4.4 Wildlife -----	40

4.5	Cultural Resources	41
5.	Natural Resource Management	49
5.1	Restoration Projects	49
5.1.1	Monitoring	52
5.2	Vegetation Management	54
5.2.1	Exotic/Invasive Plants	55
5.2.2	Rare, Threatened and Endangered Species	56
5.2.3	Forest Resources	58
5.2.4	Range Resources	59
5.3	Fire	62
5.3.1	Fire History	62
5.3.2	Prescribed Fire Planning	65
5.3.3	Wildfire Suppression	66
5.4	Wildlife Management	66
5.4.1	Game Management	67
5.4.2	Exotic/Invasive Species	67
5.4.3	Rare, Threatened and Endangered Species	68
6.	Public Use	69
6.1	Resource Protection	75
6.2	Environmental Education	76
7.	Administration	76
7.1	Planning and Budgeting	76
7.2	Infrastructure	78
7.3	Personnel and Equipment	78
7.4	Volunteers and Alternative Work Force	78
7.5	Contractual Management	79
7.6	Management Review	80

Maps & Tables

Maps

1.	Upper River (Pool A) Management Areas -----	7
2.	Low River (Pool C and D and Paradise Run) Management Units -----	8
3.	Upper River and other public lands -----	12
4.	Low River and other public lands -----	13
5.	Lower River U.S. Geolocal Survey Quadrangle Map -----	14
6.	Upper River Historic Hydrology -----	24
7.	Lower River Historic Hydrology -----	25
8.	Hydrologic Basins -----	26
9.	Upper River Surface Waters -----	27
10.	Lower River Surface Waters -----	28
11.	Kissimmee River Topographic Relief Map -----	29
12.	Soils Map -----	32
13.	Natural Communities -----	36
14.	Pool A Natural Communities -----	37
15.	Pool C Natural Communities -----	38
16.	Pool D Natural Communities -----	39
17.	Company town of KICCO -----	42
18.	Portion of 1861 Military Relief Map -----	46
19.	1856 Military Map of the Interior of Florida -----	47
20.	Kissimmee River Restoration Plan -----	51
21.	Exotic Treatment History -----	57
22.	Grazing Leases -----	61
23.	Fire History Maps for KICCO (Pool A) -----	63
24.	Fire History Maps for Pools C&D -----	64
25.	KICCO Wildlife Management Area -----	72
26.	Kissimmee River Public Use Area -----	73
27.	Hickory Hammock Wildlife Management Area -----	74

Tables/Figures

1.	Land Acquisition History -----	18
2.	Site History -----	20
3.	Dominant Natural Communities -----	34
4.	Listed State plant Species -----	56
5.	Listed animal Species -----	68
6.	Recreation Facilities Plan -----	70
7.	Capital Improvements Phasing Plan -----	70
8.	Recreation Opportunities -----	71

Appendices

A. LSP Goals and Policies----- 84
B. Soils ----- 92
C. Natural communities -----94
D. Hunting programs-----101
E. Species Lists-----113

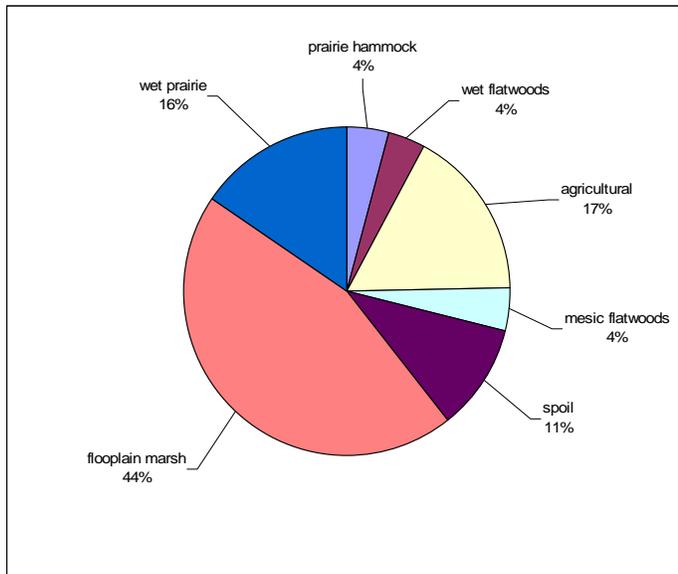
1. Executive Summary

The South Florida Water Management District (District) is mandated to acquire and manage lands which are vital to the restoration of the Everglades, the Kissimmee River, the Kissimmee Chain of Lakes and its headwaters. In the 1980s the District targeted the floodplain of the Kissimmee River as a Save Our Rivers project. This plan addresses management for the 56,713 acres that have been acquired by the District within the Kissimmee River project area.

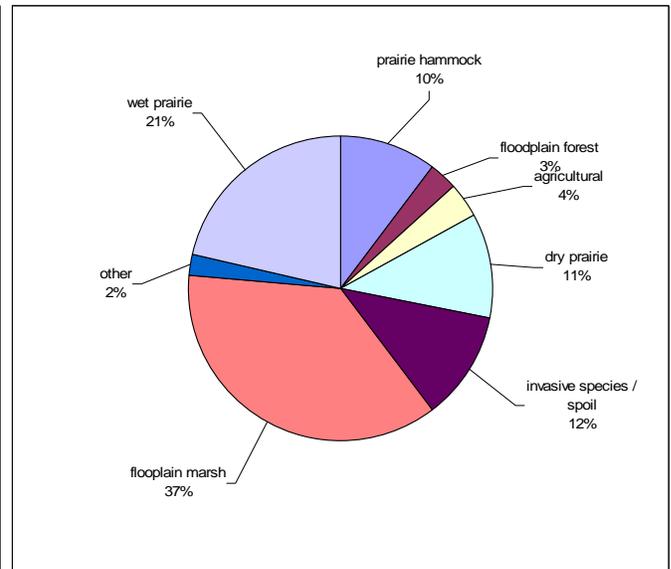
This General Management Plan describes the historical, ecological, and managerial aspects of the area as a means to coordinate effective management programs. The plan guides District land management personnel toward logical and consistent land management practices. It also informs the public of operational procedures and organizational structures within the District and of management activities and objectives for the management areas.

NATURAL SETTING

The natural character of the management areas is defined by 5 distinct soil categories as defined by the Natural Soil Landscape Positions soil classification system: flatwood soils, flats soils, sand depression soils, muck depression soils, and urban or man-made lands. Living on these soils are distinct plant communities that are defined by criteria established by the Florida Natural Areas Inventory; the most common of which have the following coverage:



Upper River (Pool A) Natural Communities



Lower River (Pools C-D) Natural Communities

RESOURCE MANAGEMENT

Resource management programs for the management areas consist of:

- Prescribed fire to mimic the natural fire frequency in the fire-dependent natural communities.
- Forestry and vegetation management such as shredding or mowing overgrown understories, or thinning pine communities where they are too dense.
- Wildlife management, including surveys, habitat management, and hunting programs.
- Exotic vegetation treatment.
- Monitoring the health of the natural communities and the impact of management practices on them.
- Restoring sites that have previously been altered by drainage and/or agriculture.

RESTORATION PROJECTS

The District is using in-house funds to finance the restoration of two former dry prairie areas in Starvation Slough and areas of scrub at River Runt in Pool C. The scrub restoration involves filling old drainage ditches, while the dry prairie restoration involves disking sod fields, herbicide applications, and groundcover restoration.

MONITORING

The District performs vegetative community monitoring. As part of this effort, the District has installed thirty-five 360 degree photomonitoring points in the Kissimmee River management areas. The Florida Fish and Wildlife Conservation Commission and the Archbold Biological Station monitor wildlife on the site including red-cockaded woodpeckers, turkeys, bald eagles, and grasshopper sparrows.

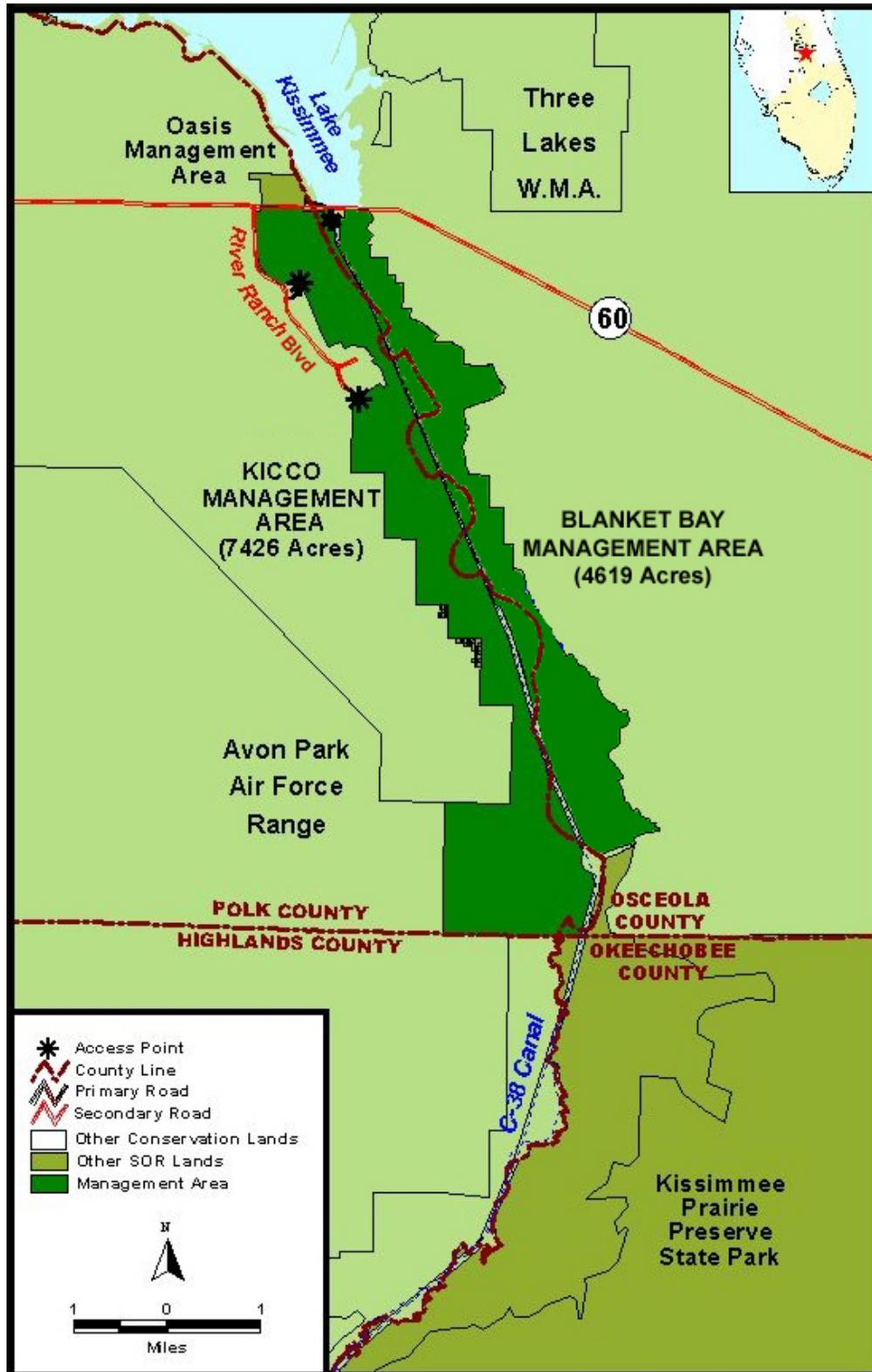
WILDLIFE MANAGEMENT

Wildlife management, including hunting programs, is conducted by the Florida Fish and Wildlife Conservation Commission through a multi-site cooperative agreement. The hunting program includes a general gun, muzzle loading, and archery season in the fall, small game hunts in late winter, and turkey hunting in early spring.

PUBLIC USE

Several recreational activities are provided for and encouraged in the management areas including boating, airboating, canoeing, bicycling, camping, equestrian, fishing, hiking, and hunting. The Florida National Scenic Trail and Florida Cracker Trail wind their way through portions of the Management Areas. Two new picnic areas, a canoe launch, access improvements, and extensive signage improvements are proposed during the 2007-2012 term of the General Management Plan.

Map 1. Upper River (KICCO and Blanket Bay) Management Areas



Map 2. Lower Kissimmee River Management Areas



2. Introduction and Management Plan Purpose

This General Management Plan consolidates relevant information about the Kissimmee River Management Areas including land management goals and objectives, past and present land uses, resource data, restoration and management needs, public use programs, and administrative duties to guide management actions for the period 2008 to 2013. Management activities described in this plan are based on requirements and directives of Florida Statutes and established District policies. District Policy 140-21 requires that general management plans be developed for each designated Save Our Rivers project.

District policy further states that the Land Stewardship Program's mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands. This mission statement and requirements set forth in Florida Statutes provide three primary goals for the Land Stewardship Program:

- Conserve and protect water resources
- Protect and/or restore land to its natural state and condition
- Provide appropriate public use

To accomplish these goals, the Land Stewardship Program performs six major functions:

- Strategic, project, and management planning
- Operation and maintenance of land resources
- Development of public use programs
- Development of restoration projects
- Evaluation of management activities
- Administration of land management service contracts

The plan consolidates current site information and general guidelines for management of the area. It also updates and replaces the Conceptual Management Plan developed by the Florida Fish and Wildlife Conservation Commission (Commission) in 1994 for the KICCO Wildlife Management Area, and the 2002 – 2006 General Management Plan for the Kissimmee River Pool C&D developed by the District. As such, it serves as a collective information source for management staff, partners, and the general public.

2.1 Kissimmee River Management Area Goals and Objectives

The Land Stewardship Program's functions are incorporated in the specific management area goals and objectives for the period of this management plan 2008-2013:

Goal 1: Manage natural communities and modified habitats to protect and enhance water, floral, and faunal resources.

Objectives:

Upper River (KICCO, pronounced “Kiss-Oh” and Blanket Bay)

- Shred 100 acres and mow 60 acres annually to reduce overgrown saw palmettos, wax myrtles, and weedy hardwoods.
- Continue the regular application of fire through a well-planned and documented prescribed burning program with a target of 800 acres burned annually.
- Burn islands in the floodplain and shred and burn the overgrown marsh areas in Blanket Bay, whenever such burning is consistent with river restoration activities.
- Continue an aggressive, integrated exotic plant management program to eliminate and control infestations of all invasive exotic plant species. Treatments will be documented and coordinated with other management activities.
- Rattlesnake Marsh will be burned at least once in the 2008 – 2013 period.

Lower River (management units within Pool C and D)

- Shred 200 acres annually to reduce overgrown understory.
- Continue the regular application of fire through a well-planned and documented prescribed burning program with a target of 100 acres of flatwoods burned annually, and 600 acres of dry prairie burned annually. In addition, during the 2008-2013 timeframe the 1340 acres of marsh in Boney Marsh should be burned at least once.
- Continue an aggressive, integrated exotic plant management program to eliminate and control infestations of all invasive exotic plant species, but with a special emphasis on lygodium. Treatments will be documented and coordinated with other management activities.

Paradise Run

- Continue an aggressive, integrated exotic plant management program to eliminate and control infestations of all invasive exotic plant species. Treatments will be documented and coordinated with other management activities.

Goal 2: Provide resource-based public use opportunities.

Objectives:

Upper River (KICCO and Blanket Bay)

- Maintain present public-use improvements (roads, signs, entrances, structures) using a combination of District & Florida Fish and Wildlife Conservation Commission maintenance, construction contracts, and user group involvement.

- Install new kiosk in the southern and northern camping areas in KICCO.
- Develop and install interpretive signage at key points within the Management Area to enhance visitor experience and to educate visitors about the site.
- Install two signs on the Florida National Scenic Trail on SR 60 and near the officer housing to inform visitors when the bombing range portion of the trail south of KICCO is closed for military operations.

Lower River (management units within Pool C and D)

- Maintain present public-use improvements using a combination of District & Florida Fish and Wildlife Conservation Commission maintenance, construction contracts, and user group involvement.
- Install new kiosks at Bluff Hammock and Micco Landing
- Develop a new canoe launch and restroom at Starvation Slough, and a new picnic area at Bluff Hammock.
- Install directional, interpretive, or entrance signs at Bluff Hammock, Hickory Hammock, Starvation Slough, Oak Creek, Micco Landing, and Yates Marsh.
- Improve the parking area and entrance road at Micco Landing.

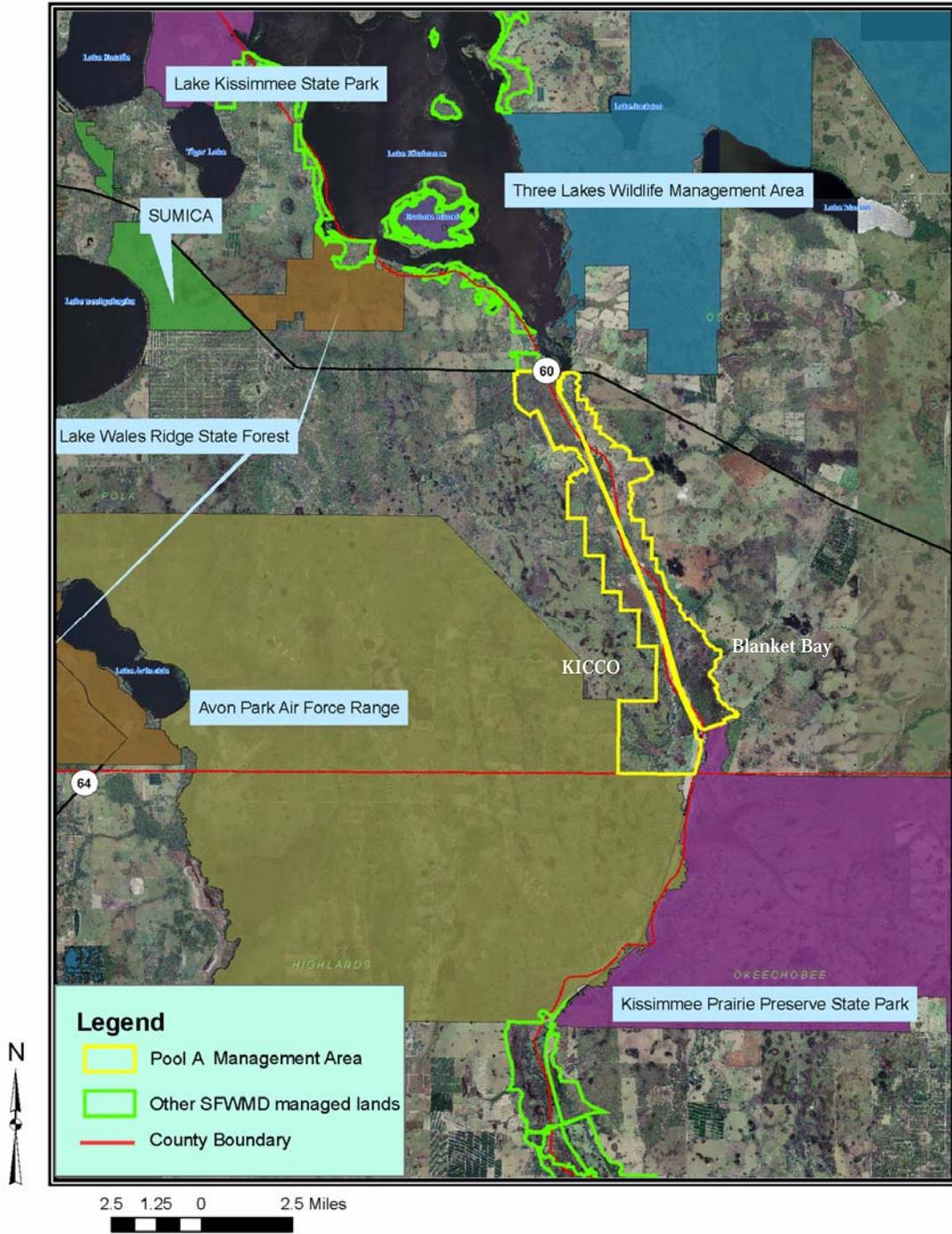
Goal 3: Implement hydrologic restoration projects within the altered floodplain

Objectives:

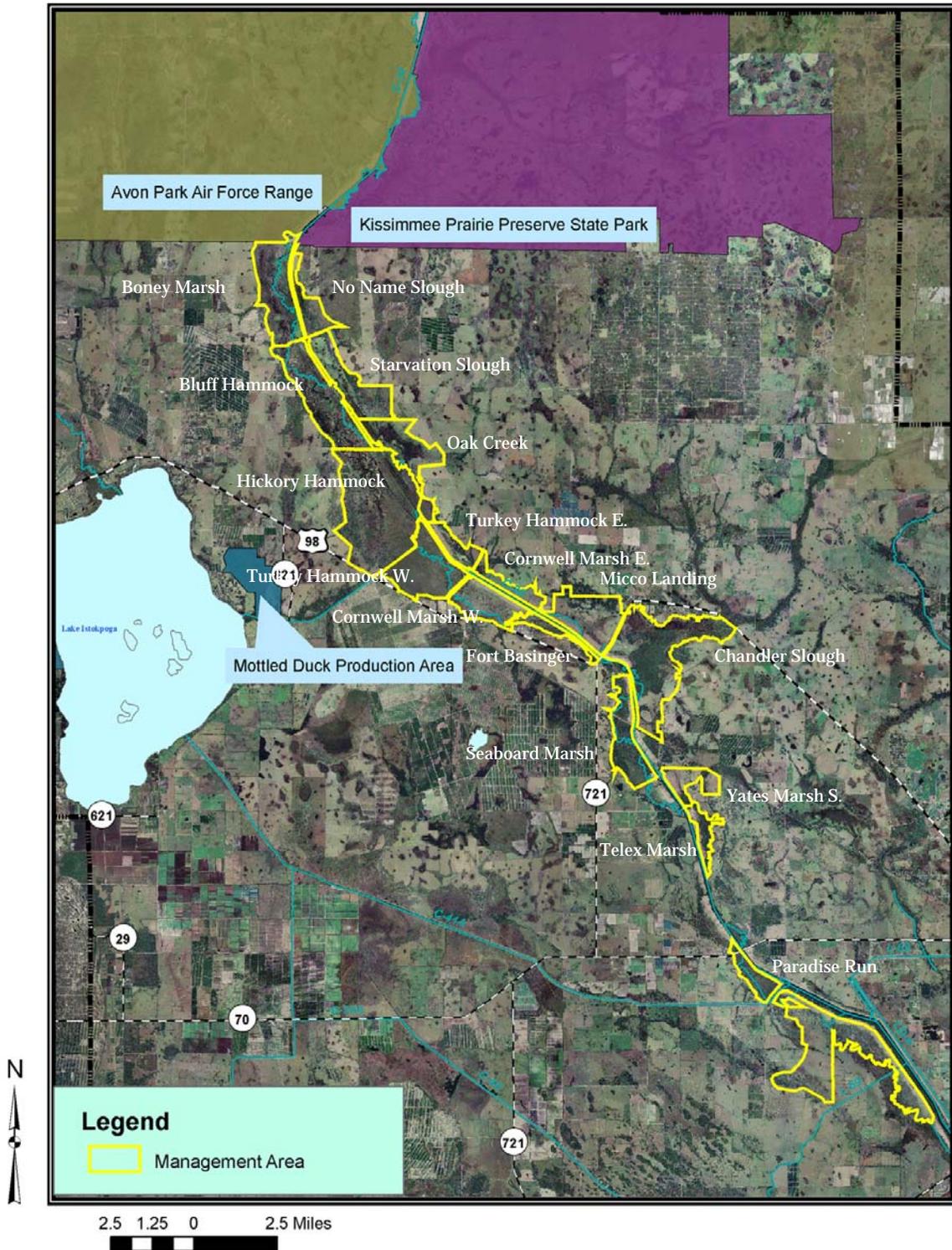
Lower River (management units within Pool C and D)

- Complete the construction of the hydrologic restoration components of River Runt Restoration project.
- Continue to provide selective herbicide applications at the River Runt restoration site to encourage the recruitment of native species.
- Continue to provide selective herbicide applications at the dry prairie restoration sites at Starvation Slough to encourage the recruitment of native species.

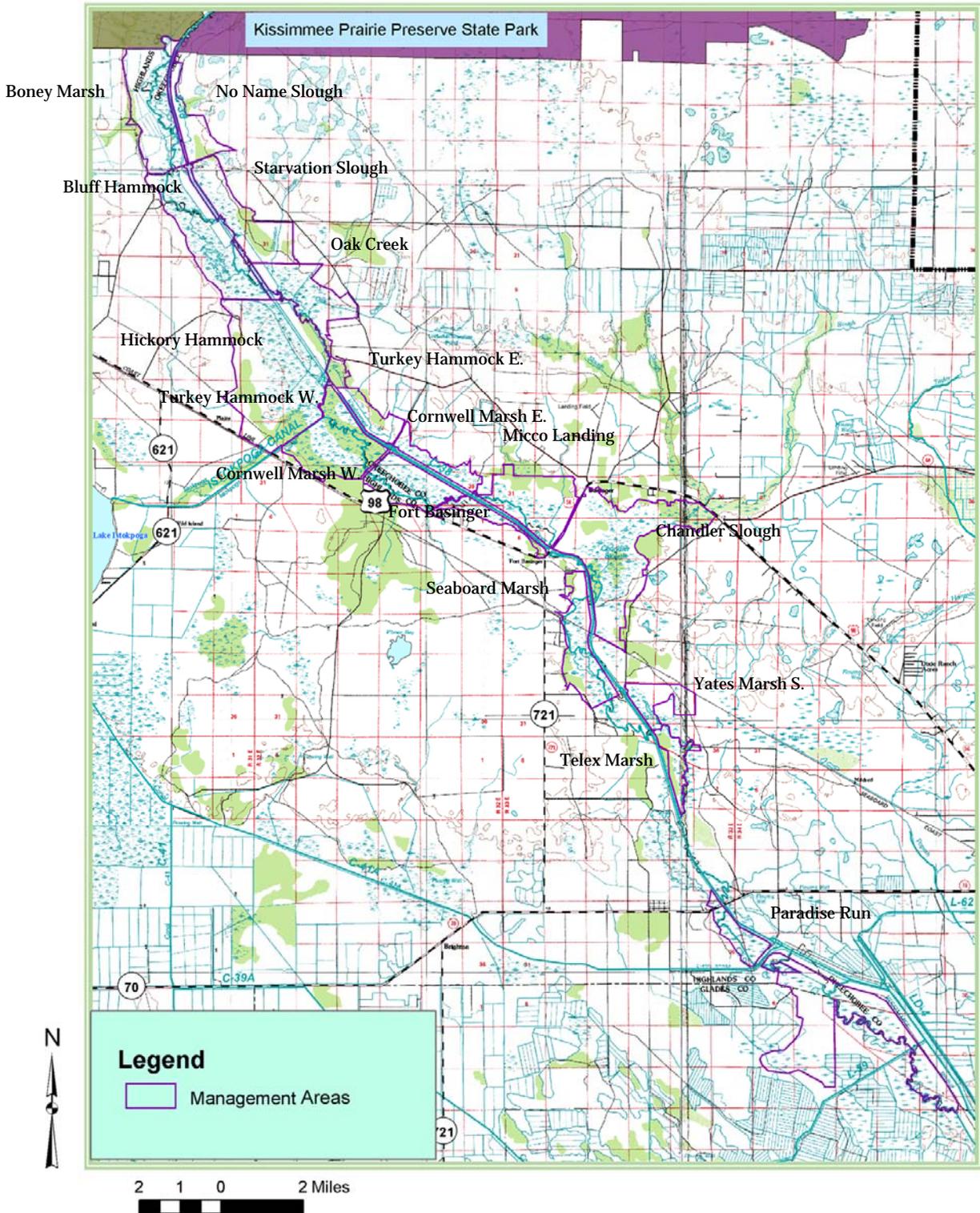
MAP 3. Upper Kissimmee River and other public lands



MAP 4. Lower Kissimmee River and other public lands



Map 5. Lower Kissimmee River Management Areas U.S. Geological Survey 1:100,000 Quadrangle Map



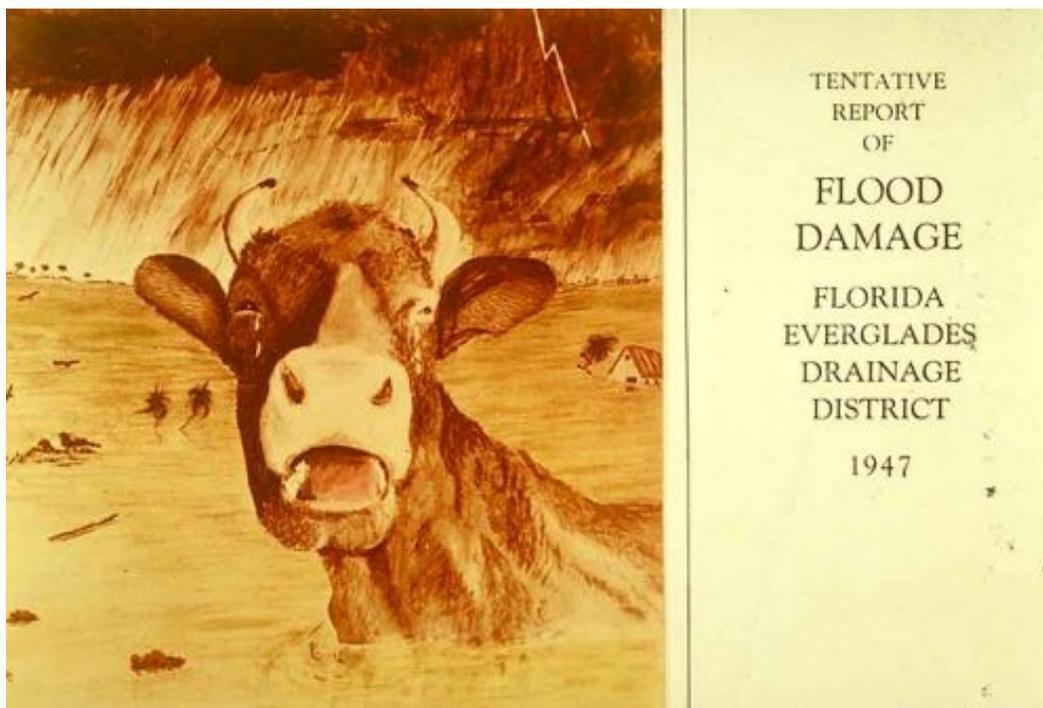
3. Site History

Historically, the Kissimmee River meandered over 103 miles within a one to two mile wide floodplain. The floodplain, approximately 56 miles long, sloped gradually to the south from an elevation of about 51 feet at Lake Kissimmee to about 15 feet at Lake Okeechobee; falling an average of about 4 inches in elevation over each mile of the river. Under historic conditions, river flows generally exceeded 250 cubic feet per second (cfs) 95 percent of the time, while overbank flooding occurred 35-50% of the time during the historic period of hydrologic record (1934-1960). The river moved very slowly, with normal river velocities averaging less than two feet per second.

The historic floodplain was covered by approximately 35,000 acres of wetlands. The distribution and maintenance of plant communities within the floodplain wetlands depended on prolonged inundation and seasonally fluctuating water levels. A fluctuating hydroperiod, along with the undulating topography of the floodplain, a meandering river channel, oxbows, and natural discontinuous sand banks, enhanced and maintained habitat diversity, including the mosaic of intermixed vegetation types.

Prior to 1940, human habitation was sparse within the Kissimmee Basin. Land use within the basin consisted primarily of farming and cattle ranching. However, rapid growth and development following World War II set the stage for extensive property damage when a severe hurricane occurred within the basin in 1947. The mass flooding during this period intensified public pressure for measures to reduce the threat of flood damage within the Kissimmee Basin. The State of Florida responded with a request to the federal government to design a flood-control plan for central and southern Florida.

In 1948, Congress authorized the U.S. Army Corps of Engineers to initiate construction of the Central & Southern Florida Project for Flood Control and Protection. In 1954, Congress specifically authorized the Kissimmee River portion of the project, which was planned and designed from 1954 to 1960. Between 1962 and 1971, the meandering river was transformed into a 56 mile-long, 30 foot deep, 300 foot-wide canal. Excavation of the canal and deposition of the resulting spoil eliminated approximately 35 miles of river channel and 6,200 acres of floodplain wetland habitat. The floodplain was transformed into a series of impounded reservoirs (Pools A-E). Inflow from the upper basin was regulated by six water control structures (S-65s). Water control structures and canals were built in the upper lakes region which allowed regulation of water flow within and between the lakes of the upper basin.



The “Crying Cow” report that demanded better flood protection

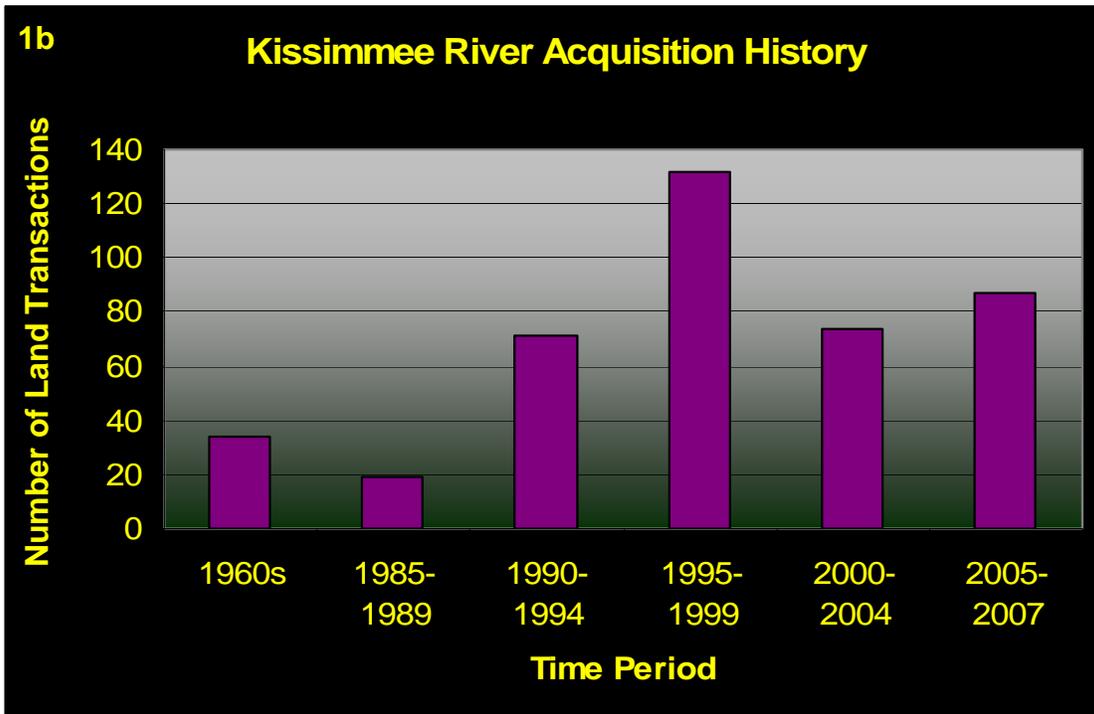
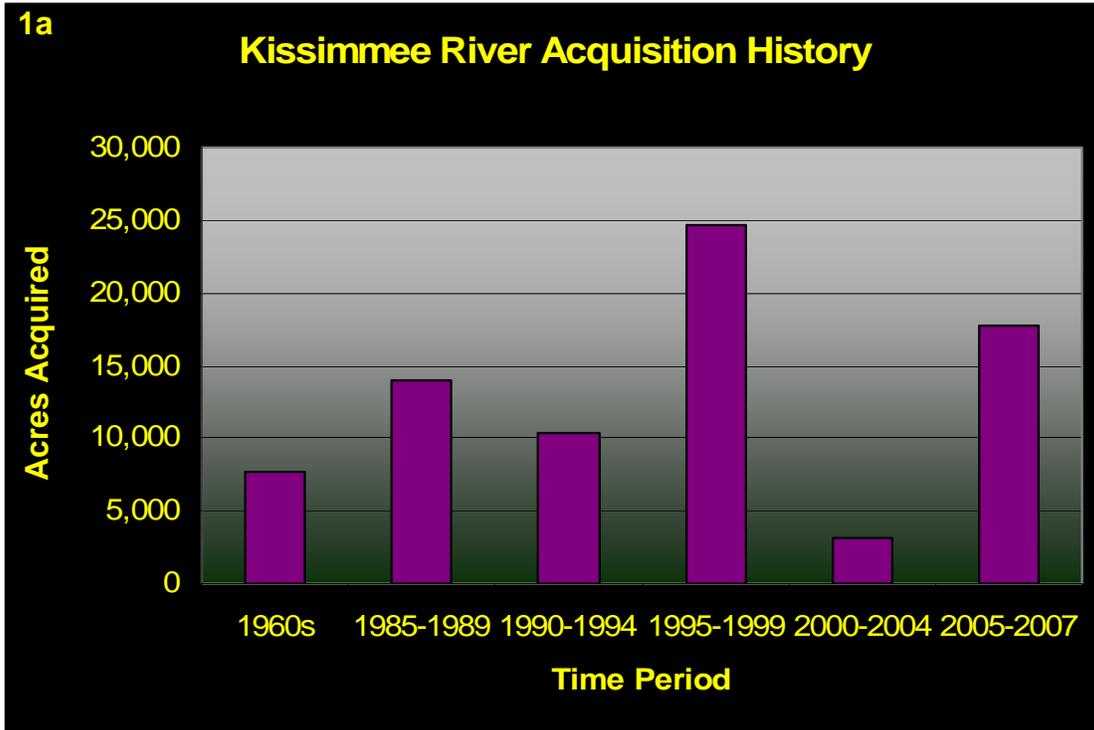
Transformation of the river-floodplain ecosystem into a series of deep impoundments drained much of the floodplain, eliminated historical water-level fluctuations, and greatly modified flow characteristics. Approximately 26,000-31,000 acres of pre-channelized floodplain wetlands were drained, covered with spoil, or converted canal. The floodplain at the lower end of each pool remained inundated, but pre-channelization water level fluctuations were eliminated and the upper pools dried out. The physical effects of channelization, including alteration of the system's hydrologic characteristics, largely eliminated river and floodplain wetlands and degraded fish and wildlife habitat of the Kissimmee River ecosystem.

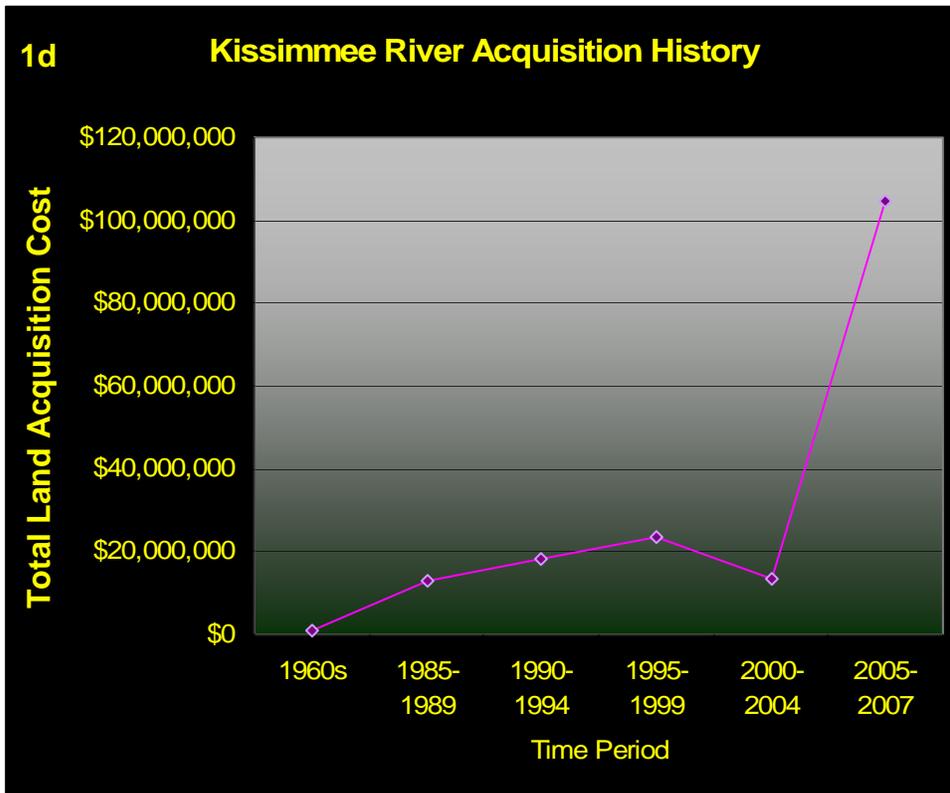
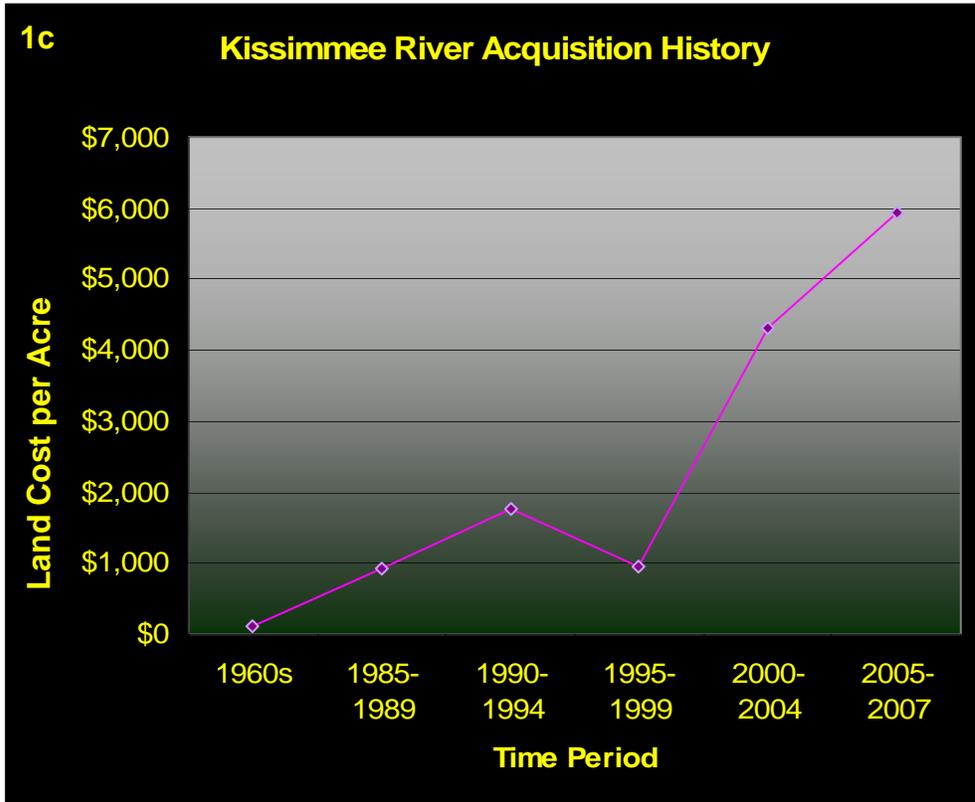
In 1981, the Florida Legislature established the Save Our Rivers program for the five water management districts to acquire environmentally sensitive land. The legislation (Chapter 373.59 F.S.) produced the Water Management Lands Trust Fund and empowered the water management districts to acquire lands needed to manage, protect, and conserve the state's water resources. Once acquired, the lands should be managed in an environmentally acceptable manner and restored to their natural state. Districts may make certain capital improvements, i.e. fencing, access roads/trails, and provide basic public facilities. The legislation also requires the districts to develop appropriate public use. In addition, habitat management such as control of exotic species and controlled burning may be conducted.

The Kissimmee River Restoration Project was authorized by Congress in the 1992 Water Resources Development Act as a joint partnership between the District and the US Army Corps of Engineers. The project was designed to restore over 40 square miles of river/floodplain ecosystem including 43 miles of meandering river channel and 27,000 acres of wetlands. The restoration plan reestablishes inflows from Lake Kissimmee that will provide flow velocities and volumes similar to the ones that existed prior to channelization.

Approximately 11,312 acres were purchased in the 1960s as part of the channelization of the Kissimmee River, of which 7,637 acres are managed today as part of the Kissimmee River Management Areas. Land continued to be acquired from the 1980s until present; first as Save Our Rivers projects and later through the Kissimmee River Restoration Project. Today the District owns fee-title interest in 56,713 acres along the river (of which 7,743 acres is managed by Kissimmee Prairie Preserve State Park). The District also has less-than-fee interest in 24,049 acres of conservation and flowage easements.

Figures 1a-d Land Acquisition History Graphs





Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Table 1 – Kissimmee River History

	ACTIVITY	EFFECT ON FLOODPLAIN
1837	Fort Basinger constructed	Trails constructed between forts spaced approximately 20 miles apart, allowed settlement of the area when the Armed Occupation Act was passed in 1842.
1850	U. S. Congress passed the Swamp and Overflowed Land Act	Allowed the state legislatures to transfer the ownership of swamp and overflowed lands to private entities to reclaim the land through drainage and levee projects.
1858	Third Seminole War ended	Pushed the Seminoles south of Lake Okeechobee and opened the Kissimmee Basin to settlement
1881-1884	Hamilton Disston’s Atlantic and Gulf Coast Canal and Okeechobee Land Company completes canals and dredging projects throughout the region creating a navigable water way from Fort Myers to St. Cloud.	Water levels in the Kissimmee Upper Basin dropped and the area was opened to steamboat traffic. Clearing and snagging operations began on the Kissimmee River to keep it navigable.
1890’s	Kissimmee Island Cattle Company (KICCO) acquired land south and west of Lake Kissimmee and used the native range for cattle ranching	While this would have been an intensification, cattle had been grazing the area since the land belonged to Spain.
1915	Small ditches were carved through the land west of the river for the establishment of KICCO’s company town.	Drained wetlands and created an untenable situation of having a settlement and large operation in the 100-year floodplain.
Late 1947	Major hurricane strikes with a 100 – year flood event in the Kissimmee River Valley. Subsequent “Crying Cow” report demanded better flood protection for agricultural lands in the Kissimmee River Valley.	The flood event revitalized the flood plain and surrounding wetlands.
1948	Congress authorizes the Central and Southern Florida Project for Flood Control and Protection	Set the stage for massive drainage and flood control projects.
1954	The Kissimmee River channelization is authorized by Congress	
1954-1960	Planning and Design completed for the Kissimmee River flood control project	
1962-1971	Channelization of the Kissimmee River	Transformation of the river-floodplain ecosystem into a series of impoundments, it drained much of the floodplain
1971-1974	Damage from the restoration is officially recognized by the Central and South Florida Flood Control District and planning begins to restore the River.	It was clear that any attempt to restore the River would require nearly all of its floodplain to be in public ownership so that the river could flood naturally
1974	The State purchased 1718 acres within Blanket Bay, and granted a flowage easement to the District	State acquisition kept Blanket Bay from being developed.
1983-1985	KICCO in Pool A acquired by the South Florida Water Management District	An existing development and incompatible use was removed.

1992	Kissimmee River Restoration Project authorized by Congress	Set the stage for the restoration of much of the River's former floodplain
1997	Construction begins on Pool A restoration projects	Projects included increasing the amount of water that could be brought into the Kissimmee River, removing spoil mounds on the south side of Blanket Bay, and constructing tie-back levees at S-65A that allow Pool A wetlands to retain more water.
1999-2001	Phase I of the restoration project, removal of the S-65B structure and backfilling of the C-38 in Pool C	Emergent and shoreline vegetation has reappeared and is thriving. Waterfowl are returning. Water quality is improving. Wildlife populations are increasing.
2003	A drainage canal was filled at the south end of KICCO.	Improved hydrology of Tick Island Slough
2006	Phase IV backfilling in Pool B begins	Ecological improvements similar to Phase I are anticipated

4. Resource Inventory

Policy 140-25(3)(e) Inventories of natural and historic resources shall be performed to provide information for effective land management planning, natural community maintenance and ecological restoration.

Floral and faunal species are inventoried, and natural communities are mapped by Land Stewardship personnel, volunteers, or private contractors. The data helps District land managers with resource management planning.

Inventory data is on file within the Planning Section of the Land Stewardship Program. Land Stewardship shares natural areas and species data with the Florida Natural Areas Inventory through a Memorandum of Understanding.

Floral and faunal inventories of the Management Areas in the northern management areas (Pool A) were included in the environmental assessment initiated shortly after acquisition. The southern management units had a floral and faunal survey included as part of the 2002-2007 Kissimmee River Pools C and D General Management Plan. These served to determine the presence of listed species and to serve as ecological baselines. Additional surveys have been completed with species' lists being updated regularly by volunteers, contractors, and District & Florida Fish and Wildlife Conservation Commission staff. Archaeological and cultural resource inventories were conducted in coordination with the Department of State, Division of Historical Resources and are described in the State's Master Site File.

4.1 Hydrology

Policy 140-25(1) The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources.

The major geomorphic features which affect area hydrology are the Osceola Plain and Bombing Range Ridge, the Okeechobee Plain, small portions of the Caloosahatchee Incline, and the Lake Wales Ridge. The Osceola Plain is a generally broad terrace bounded by the Lake Wales Ridge to the west and the Eastern Valley to the east, both of which are marine scarps. The Osceola Plain has little relief locally, and generally has an elevation of 60 to 70 feet above the National Geodetic Vertical Datum. The prominent feature of the Osceola Plain is known as the Bombing Range Ridge. The Kissimmee River passes through the length of the Osceola Plain slightly west of the center line roughly parallel with the axis of the peninsula. For the southernmost 25 miles of this route it occupies a valley 1.5 miles wide, which is cut rather sharply into the surface of the plain. The Okeechobee Plain gradually slopes to the south and is one of the flattest parts of the United States. At its northern boundary at the toe of the Osceola Plain, the elevation is 30 to 40 feet above the National Geodetic Vertical Datum and slopes southward to an elevation of 20 feet at the north shore of Lake Okeechobee. The narrow northern portion of this plain consists of the Kissimmee River Valley. The Lake Wales Ridge, which forms the most prominent topographic feature of the Florida peninsula, rises above the Okeechobee Plain to an elevation of over 150 feet.

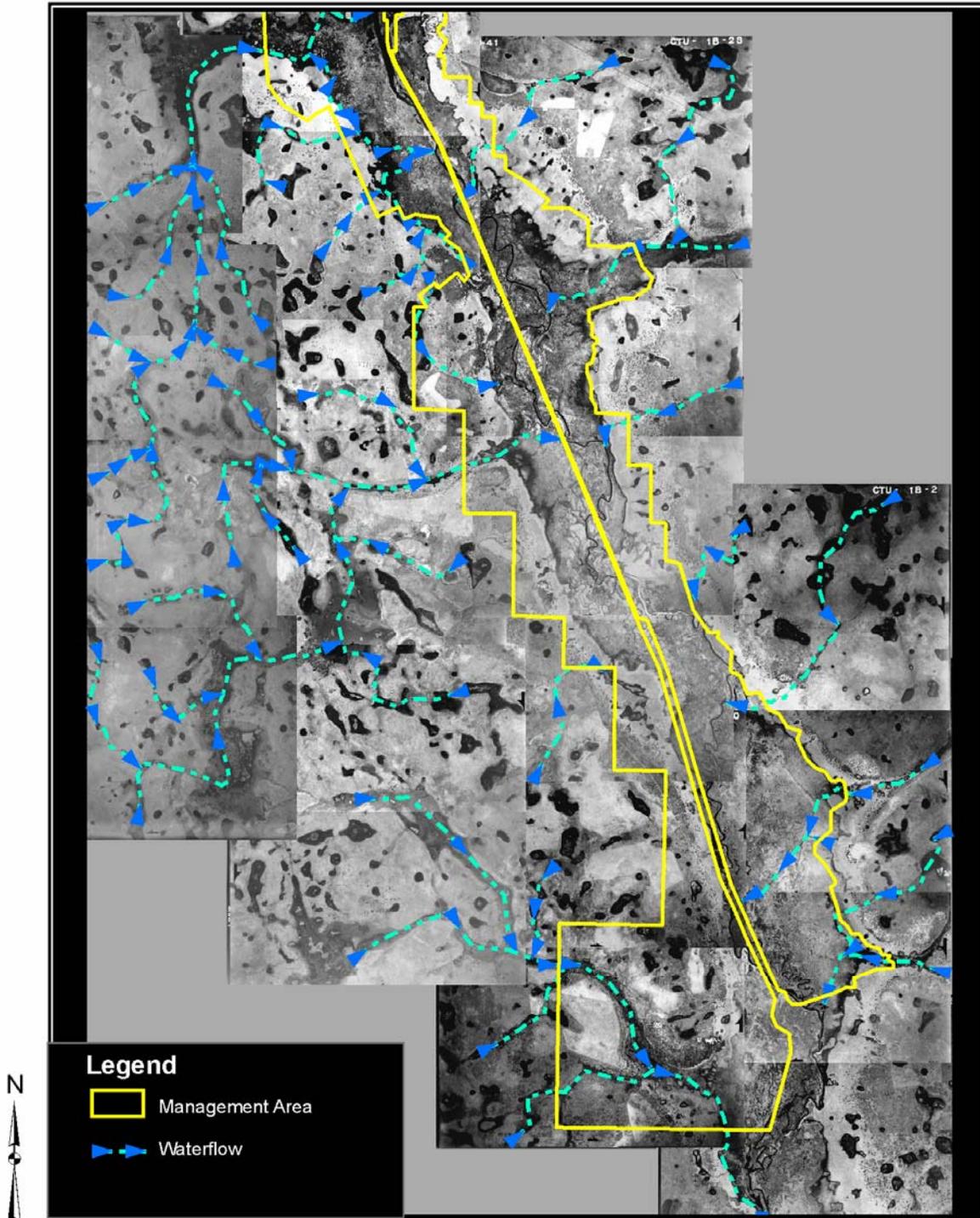
Prior to channelization, surface water flow was dependent on rainfall-driven seasonal cycles that supplied water to the river system. Most of the floodplain remained inundated for a major portion of the year. As much as 77% of the floodplain had mean annual hydroperiods of at least 265 days, with depths commonly exceeding one meter on the inner portions of the floodplain. Gently sloping elevations and seasonally fluctuating inflow produced slow drainage and periodic overflow onto the river floodplain. Water flow was delayed by dense wetland vegetation, a widely meandering channel, and organically rich river substrates. Packingham Slough, Buttermilk Slough, Tick Island Slough, Oak Creek, Istokpoga Creek, Turkey Hammock, Near Dinner Bay, Underhill Sawgrass, and Chandler Slough are tributaries that added to the basin's water retention capacity and flowage. Many small agricultural drainage ditches fed into the sloughs increasing the efficiency through which the depression marshes in those lands drain. During significant rainfall events, water was delivered to the main channel by overland sheetflow. Higher elevations were influenced by fluctuating water levels during the summer months. Water drawdown from elevated areas was a slow process. Pre-channelized stages typically receded at rates of less than one foot per month.

In the late 1960s, the lower portion of the river system was straightened and deepened, creating a linear 56 mile long canal (C-38) that bisects the Kissimmee River floodplain. The canal was divided into six elevational steps, or pools, by water control structures. Average depth of the canal is 30 feet and surface width ranges from 210 to 345 feet. The channelization changed the somewhat uniform, natural river gradient into a series of terraced impoundments, declining in elevation in six foot increments. Controlled water releases from the Upper Chain-

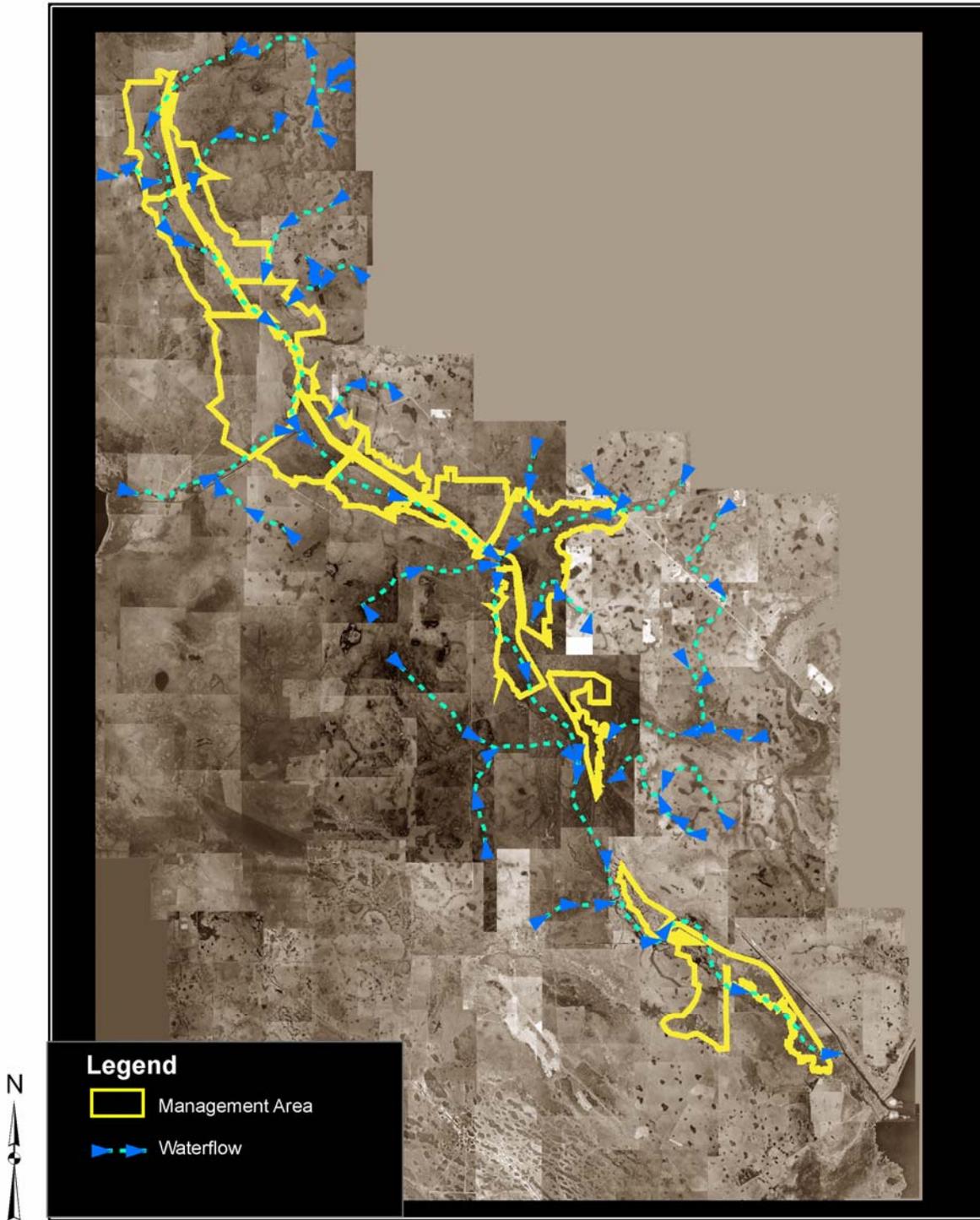
of-Lakes Basin, through Lake Kissimmee, have eliminated wide seasonal fluctuations within the floodplain and hastened surface drainage. Istokpoga Creek is now a canal draining into Pool C. Chandler Slough remains the main tributary to Pool D.

All alterations within the region have combined to make a system that is unlike the historical system. To moderate the dynamic hydrology and create a more natural hydrologic pattern, the District plans to implement several restoration projects, the largest of which is the Kissimmee River Restoration Project (see Restoration Projects, section **5.1**).

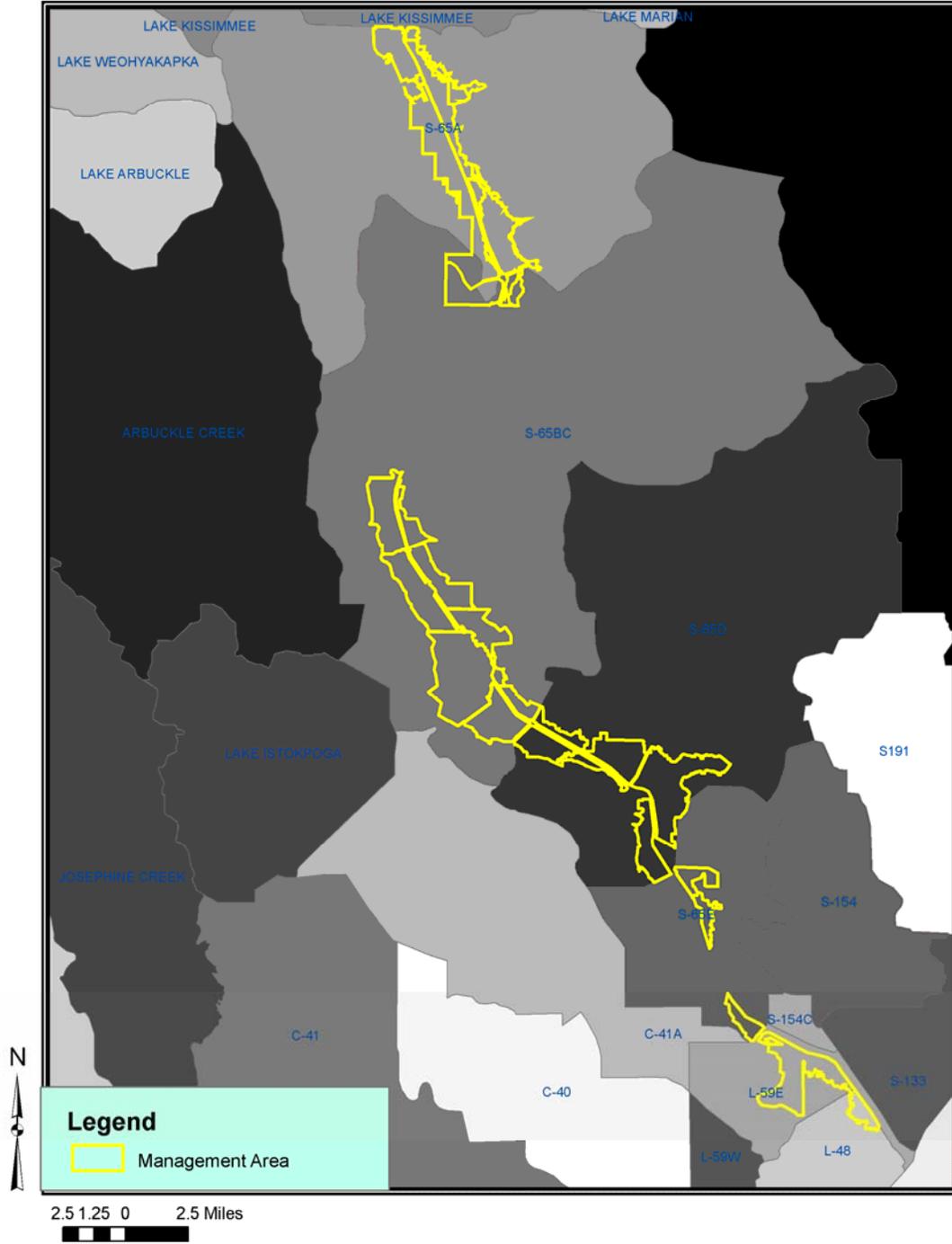
Map 6. Upper River Historic Hydrology (1941 aerial composite).



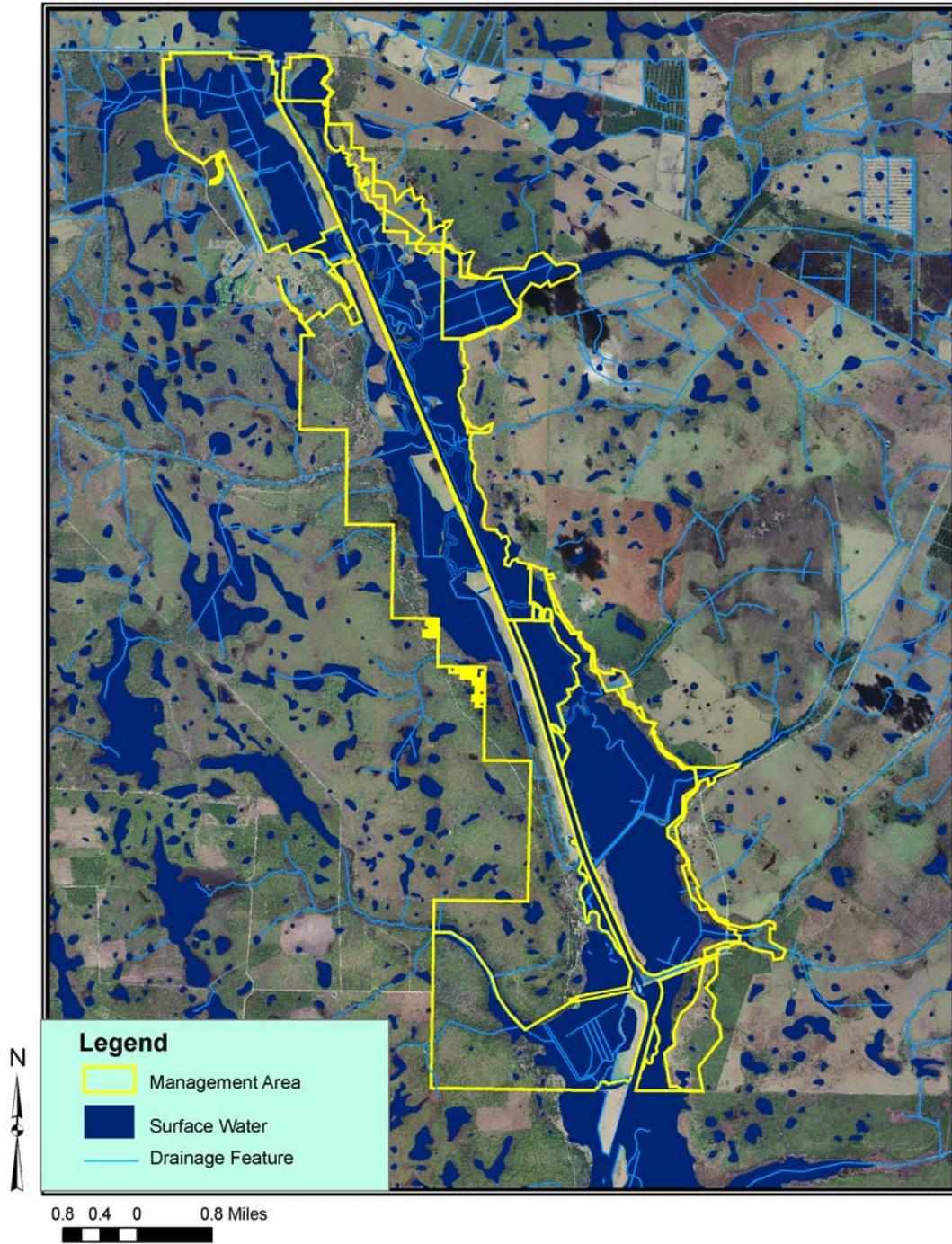
Map 7. Lower River Historic Hydrology (1938-47 aerial composite).



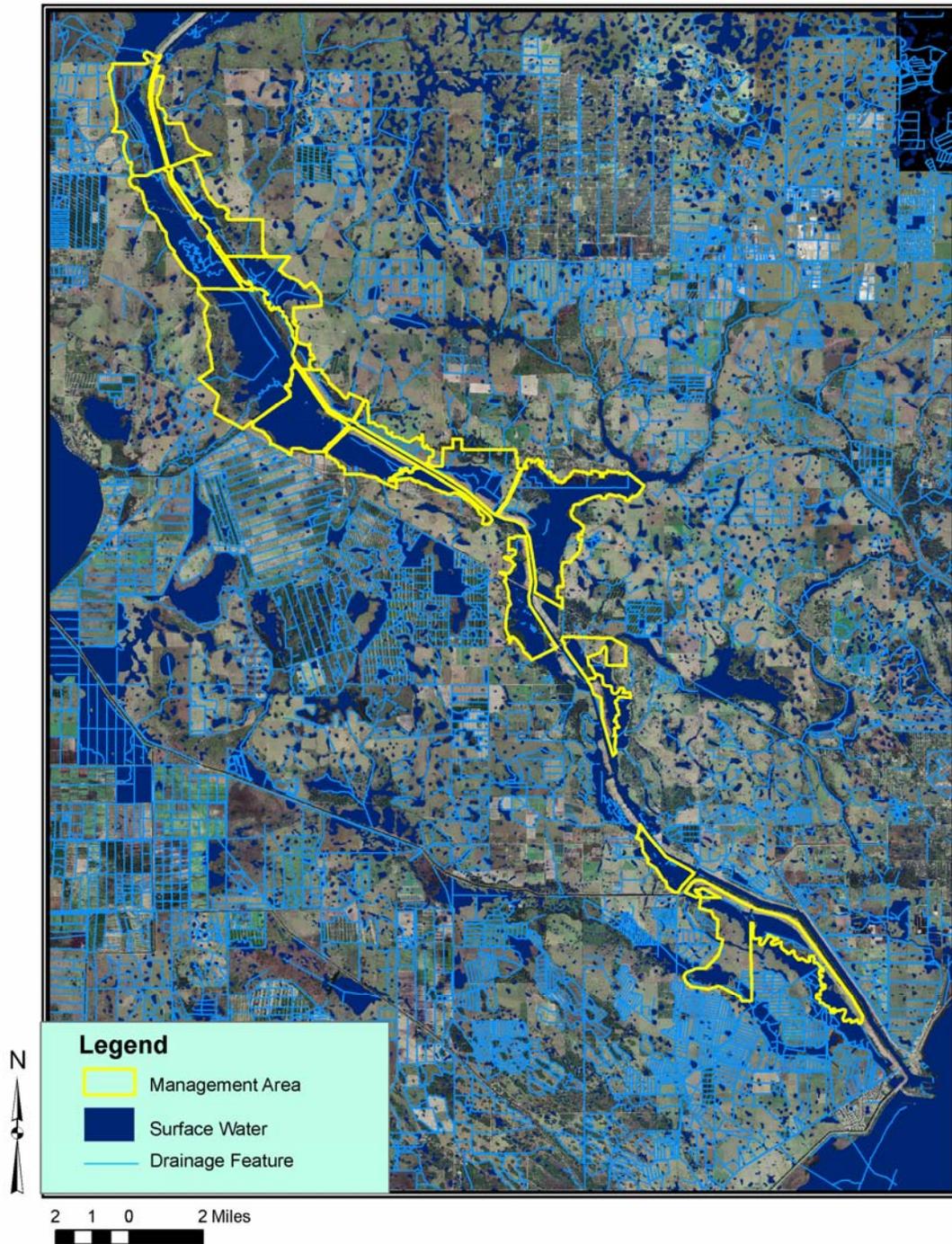
Map 8. Hydrologic Basins



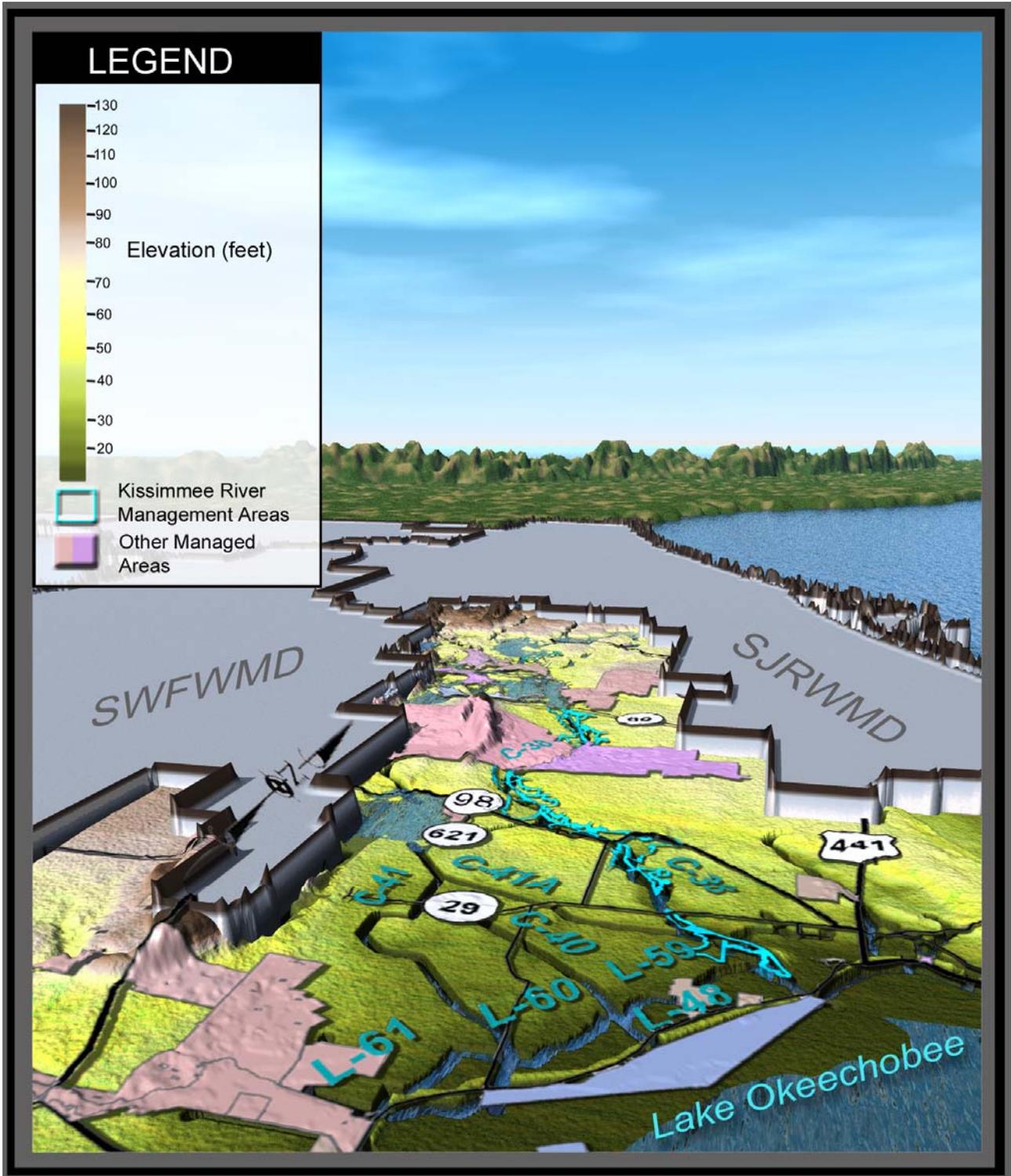
Map 9. Surface Waters Upper Kissimmee River (Pool A)



Map 10. Surface Waters Lower Kissimmee River (Pools C-E)



Map 11. Kissimmee River Valley Topographic Relief



4.2 Soils

There are five distinct soil categories within the Kissimmee River management areas as defined by the Natural Soil Landscape Positions soil classification system: flatwood soils, flats soils, sand depression soils, muck depression soils, and urban or made lands. This classification system groups South Florida soils into 12 categories based on hydrology and soil morphology that reflect the local relative topography, hydrology, and vegetation of the area. Soil classification descriptions are included as **Appendix B**.

Soil Contamination and Excavation Sites

Several sites have been identified within the Kissimmee River Management Areas.

Pool A: KICCO

There are two known cattle dipping vats left over from historic cattle dipping operations, and an area of lead contamination that has spread northward from the shooting range in the River Ranch complex into the soils on the southwest portion of the Buttermilk Slough delta. The lead contamination near the shooting range has been found to contain levels that could be harmful to wildlife, so it will be bermed to prevent inundation that would make it more desirable as wildlife habitat. The two dip vats have been remediated, along with a recommendation that no water wells be installed near the site of the vats. A third vat has been identified on the south end of the River Ranch complex with a plume of contaminants that goes into the area of Long Hammock where the District has acquired a flowage easement, but the land is privately owned.

Pool C: Basinger Ranch

This site included a cattle vise with a cattle spray pen. Testing for soil contaminants involved installation of two temporary test wells, one permanent test well, and collection of soil boring samples. Based on initial site investigations and characterization, concentrations of soil contaminants typically associated with cattle dipping vats do not exceed the human risk-based criteria for a Restricted I site or assumed ecological risk-based criteria (Dames and Moore 1997). Therefore this site required no corrective action or restriction on use.

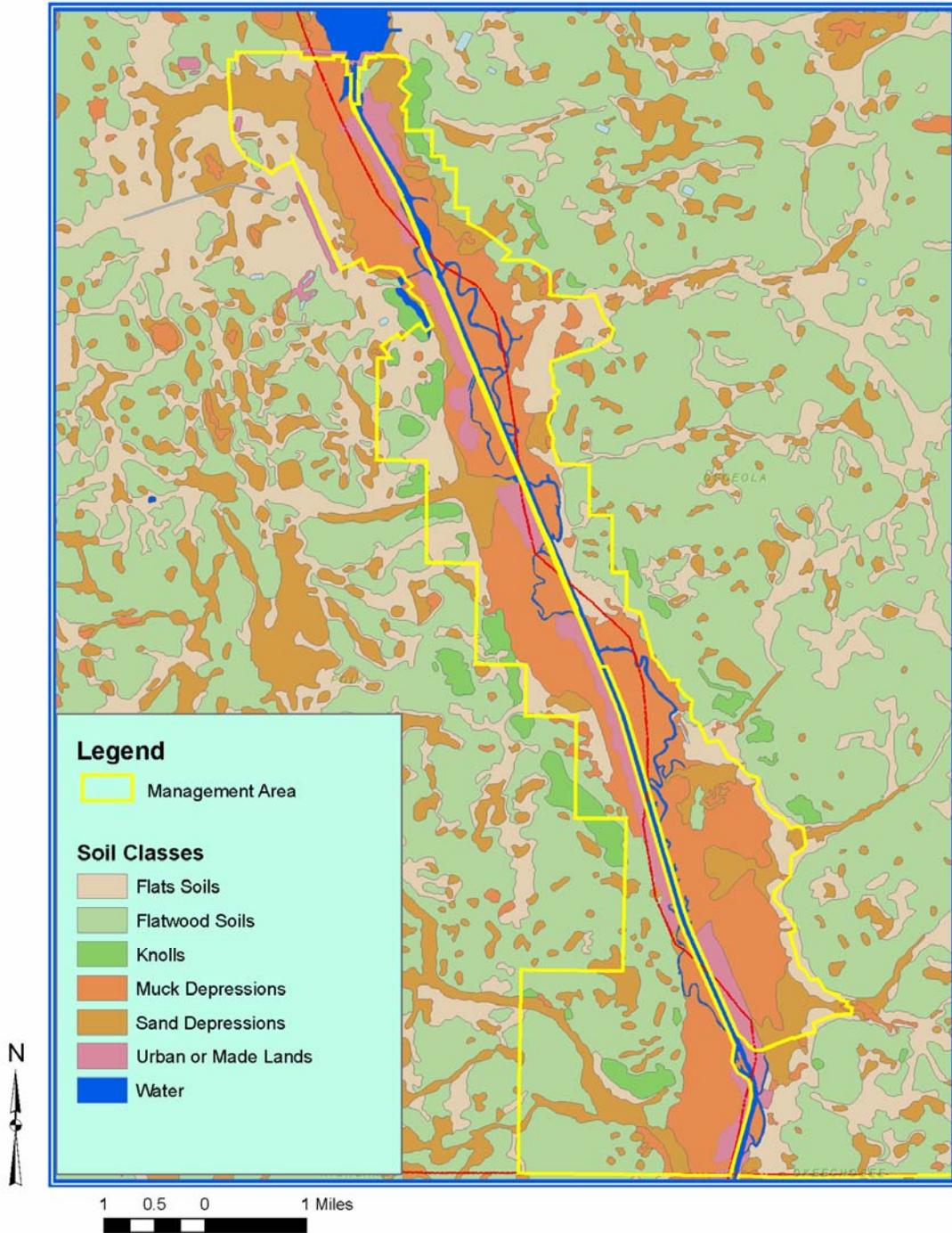
Pool C: Micco Dairy

Soil and water samples were gathered using 27 soil borings, two piezometers (equipment that measures groundwater flow and duration) and four groundwater monitoring wells. Soil sample results indicated concentrations of DDT and other associated pollutants that exceeded the exposure scenario of a residential site. The site has a small unoccupied house near the vat, which is scheduled for removal. Corrective actions have been initiated.

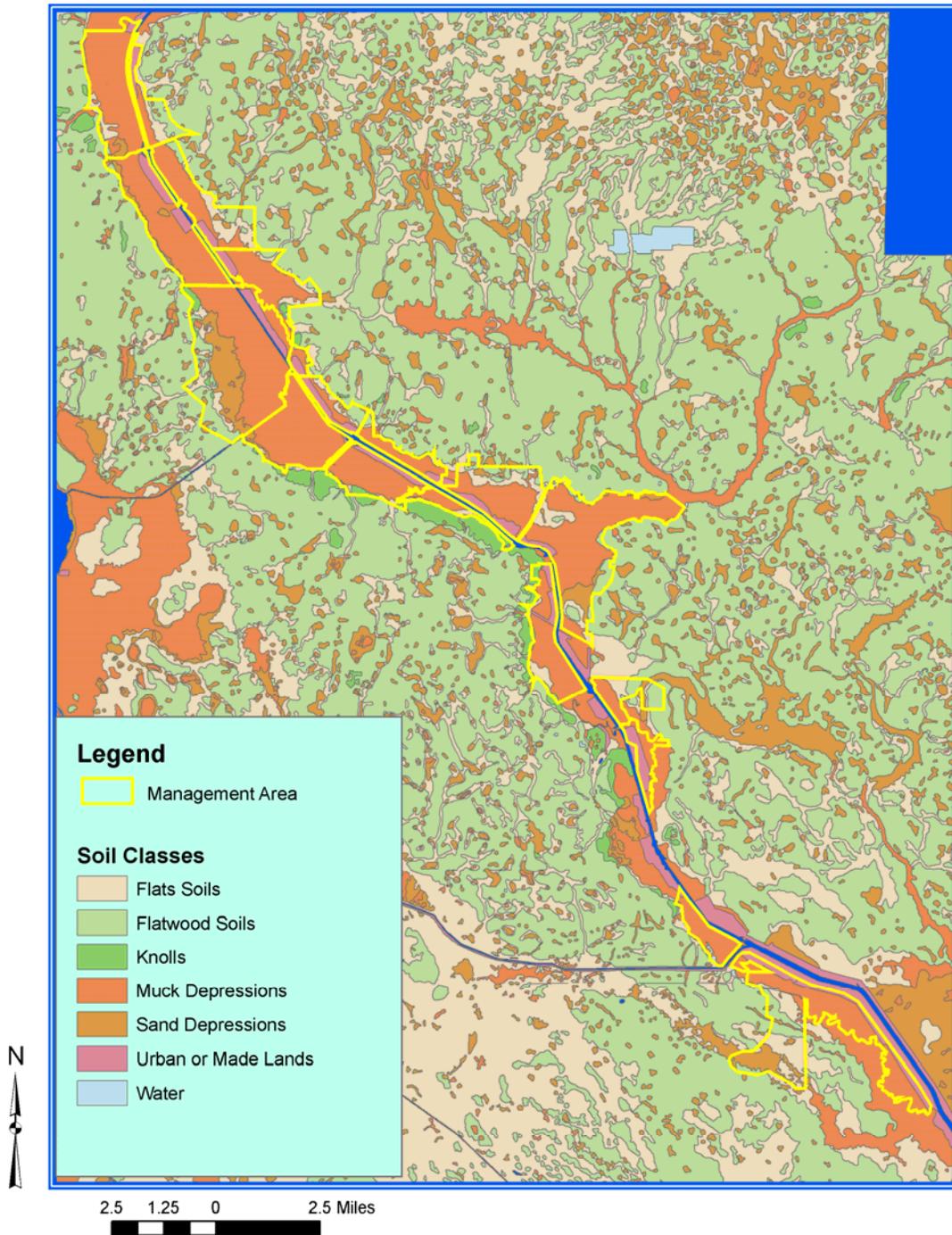
Pool D: MacArthur

Similar to Pool A, this site also contained a cattle-dipping vat. Site analysis included soil borings, installation of three piezometers, four monitoring wells, collection of soil and groundwater samples, and site characterization. Analytical results indicated contaminants of potential concern did not exceed acceptable levels defined by the Florida Groundwater Guidance Concentrations (Dames and Moore 1997) There were, however, sample results indicating an area of arsenic-impacted soil. Site restoration recommendations suggested corrective actions resulting in a Restricted I scenario that allows extensive, but less than full-time contact with the site. This may include park or recreational areas that receive heavy use (soccer and baseball fields, parks and picnic areas close to residential areas) and agricultural sites where farming practices result in moderate site contact (approximately 100 days per year). To achieve this use-level category, sixty tons of arsenic-impacted soil immediately adjacent to the vat was excavated for off-site removal and the area back-filled with clean soil. The concrete vat was decontaminated and disposed off-site. The Florida Department of Environmental Protection determined no further action is required.

Map 12a. Soils, Upper River (Pool A)



Map 12b. Soils, Lower River (Pools C-E)



4.3 Natural Communities

The Land Stewardship Program classifies natural community types by the Florida Natural Areas Inventory Classification system. Thirteen natural community types comprise the Management Areas. Community condition varies widely, depending on previous and current land use, hydrologic alteration, exotic infestation, and the return frequency of fire. Descriptions are included as **Appendix C**.

Figure 3a. Pool A (northern) Dominant Community Types

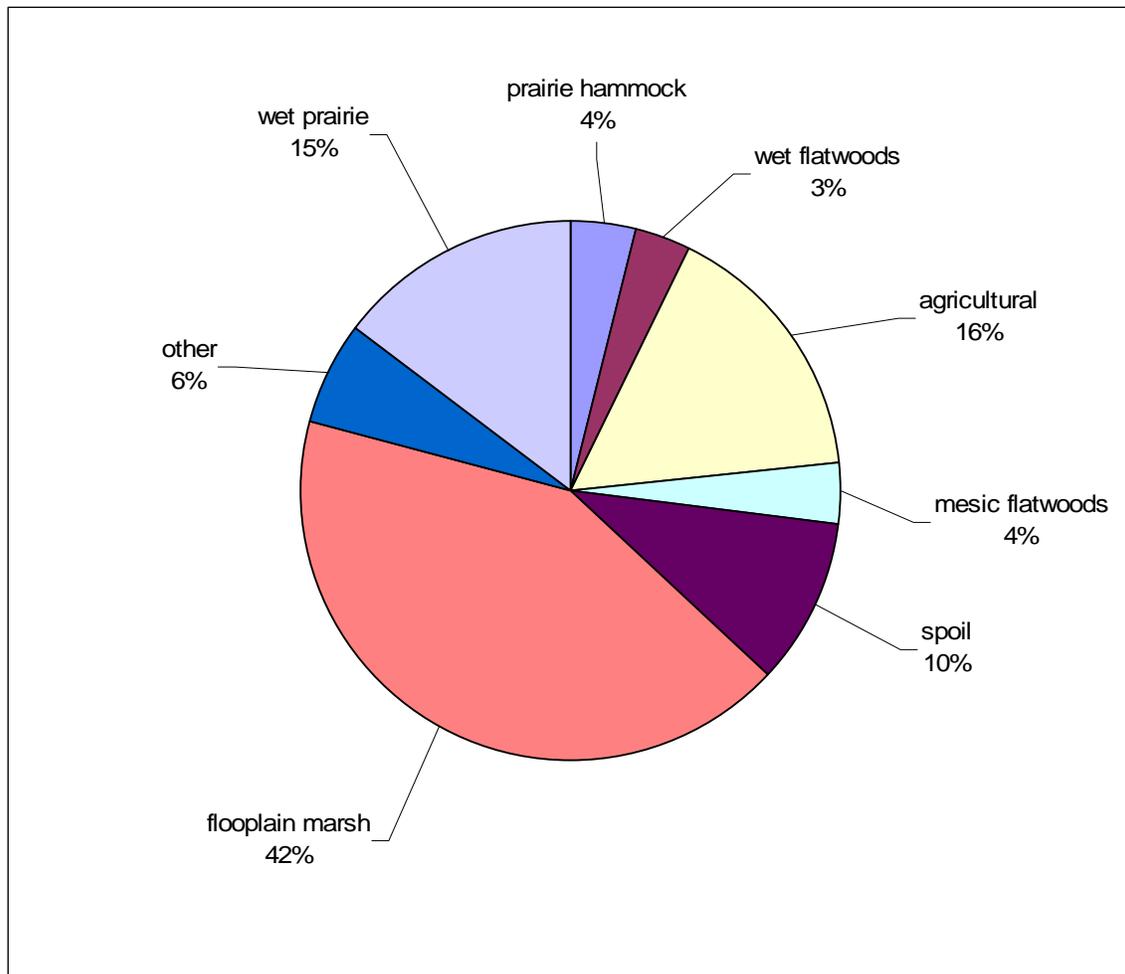
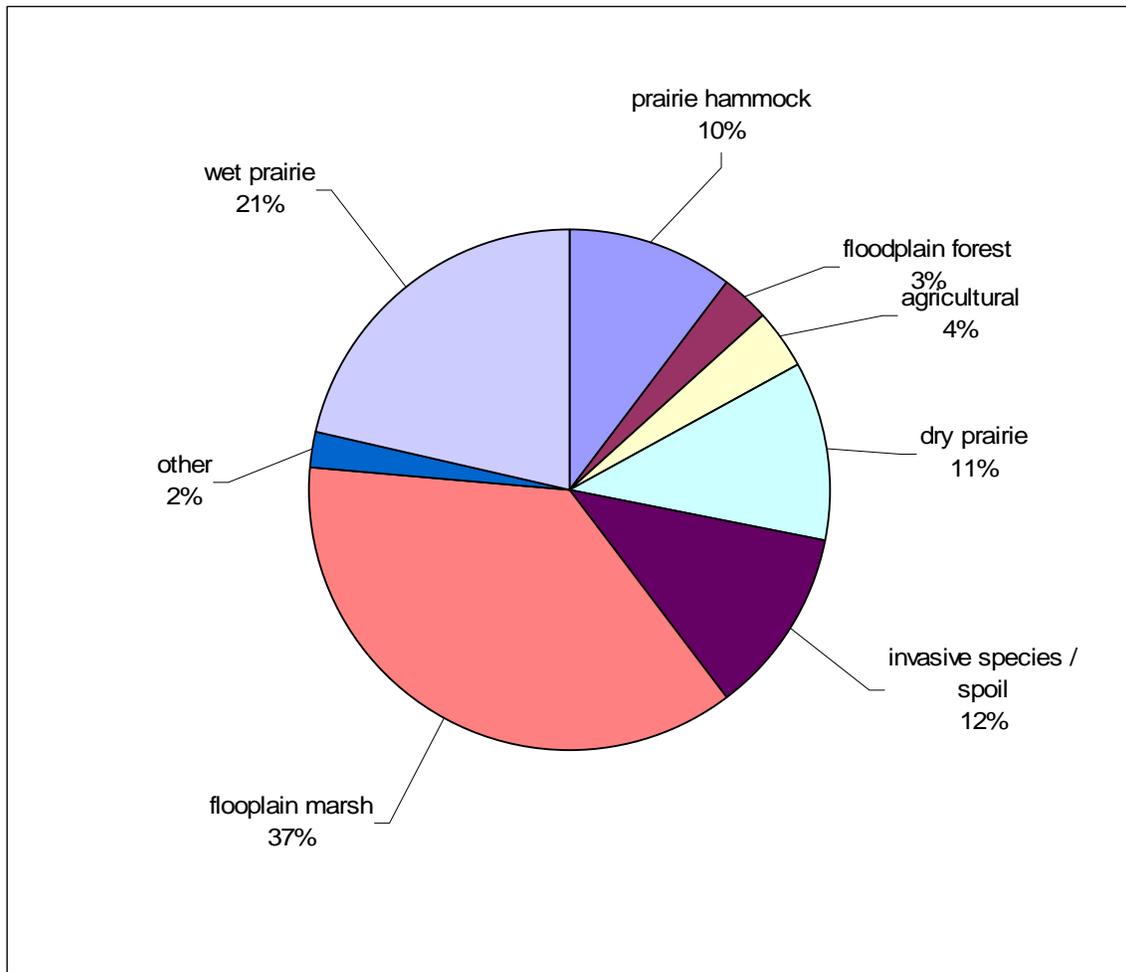
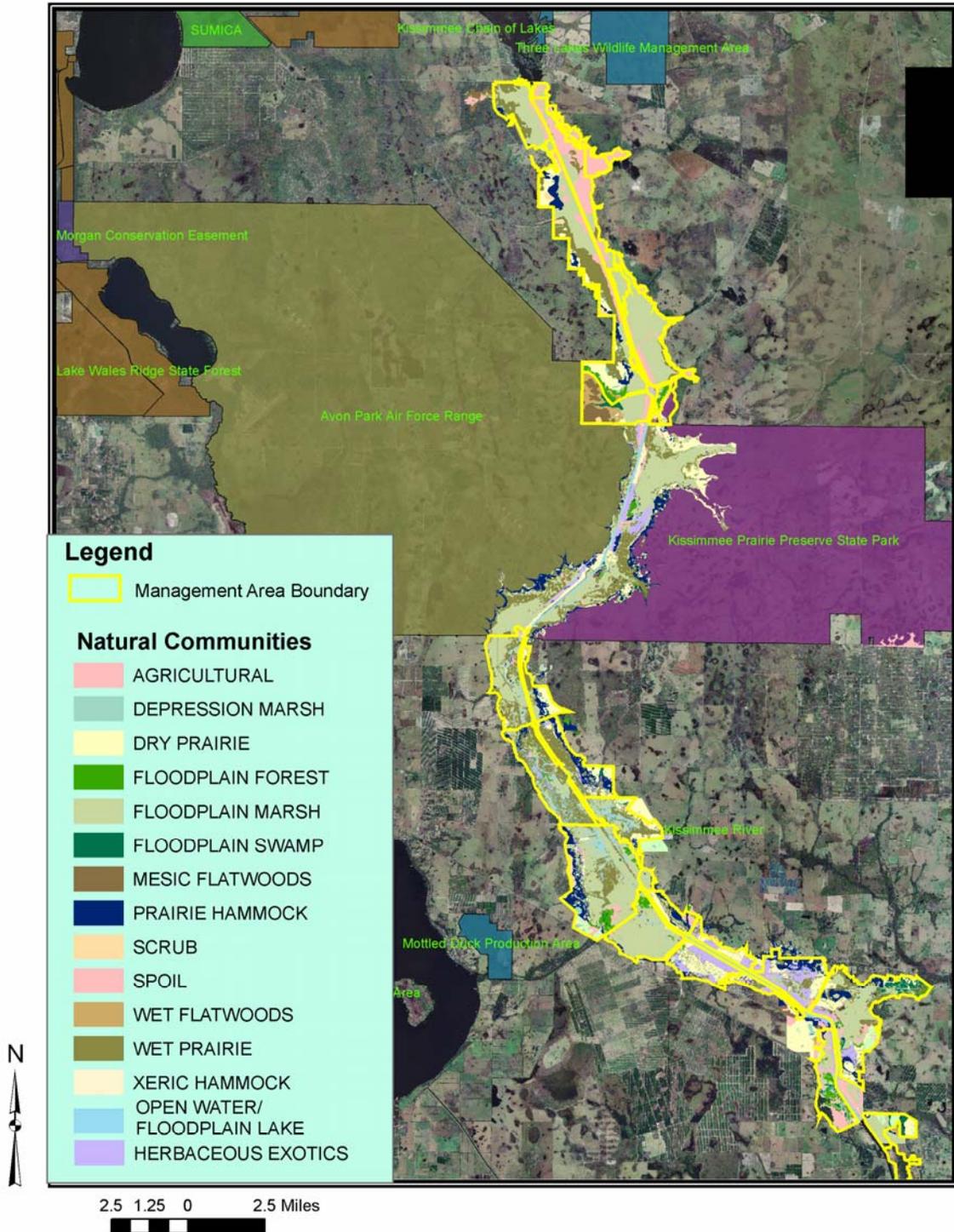


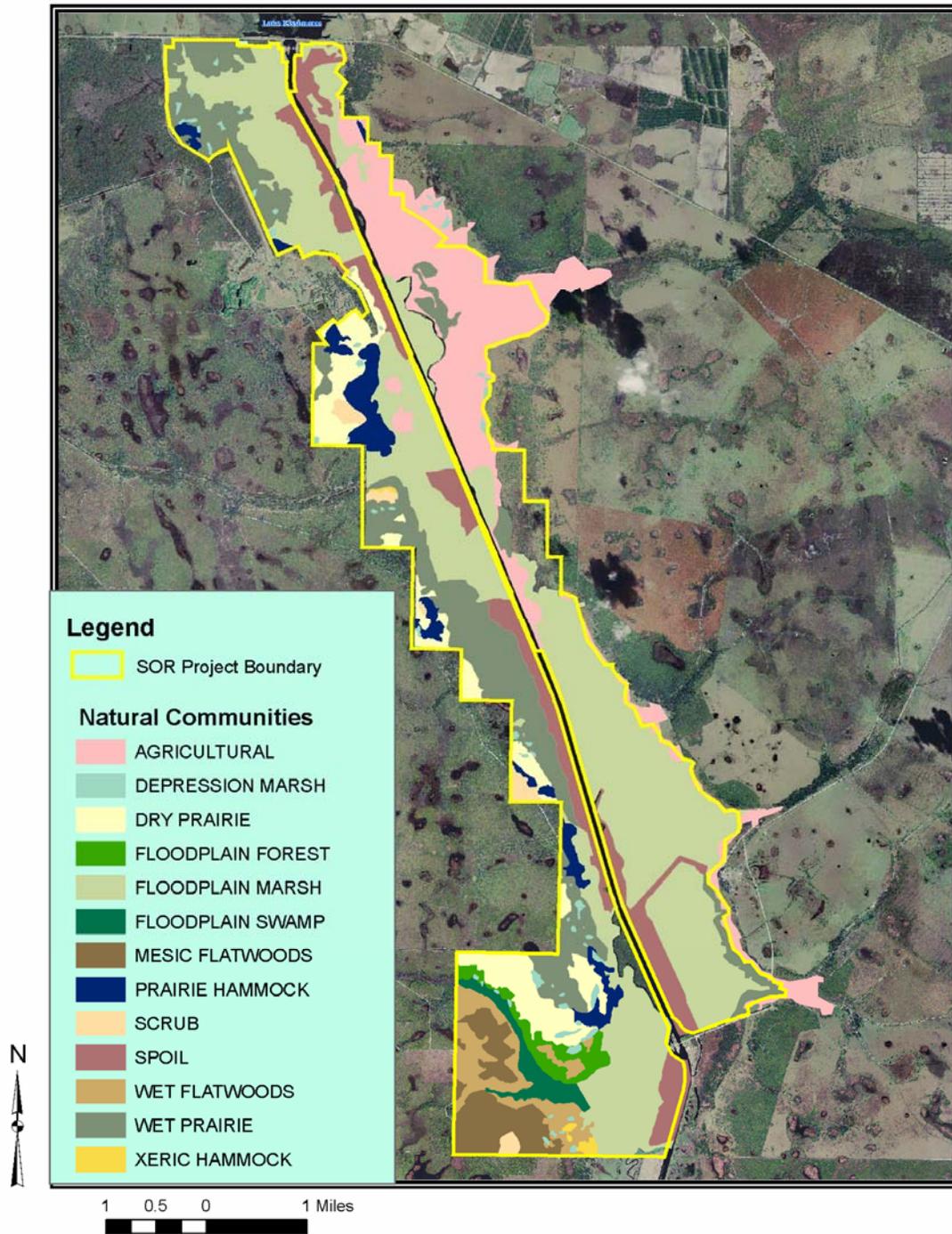
Figure 3b. Pool C and D (southern) Dominant Community Types



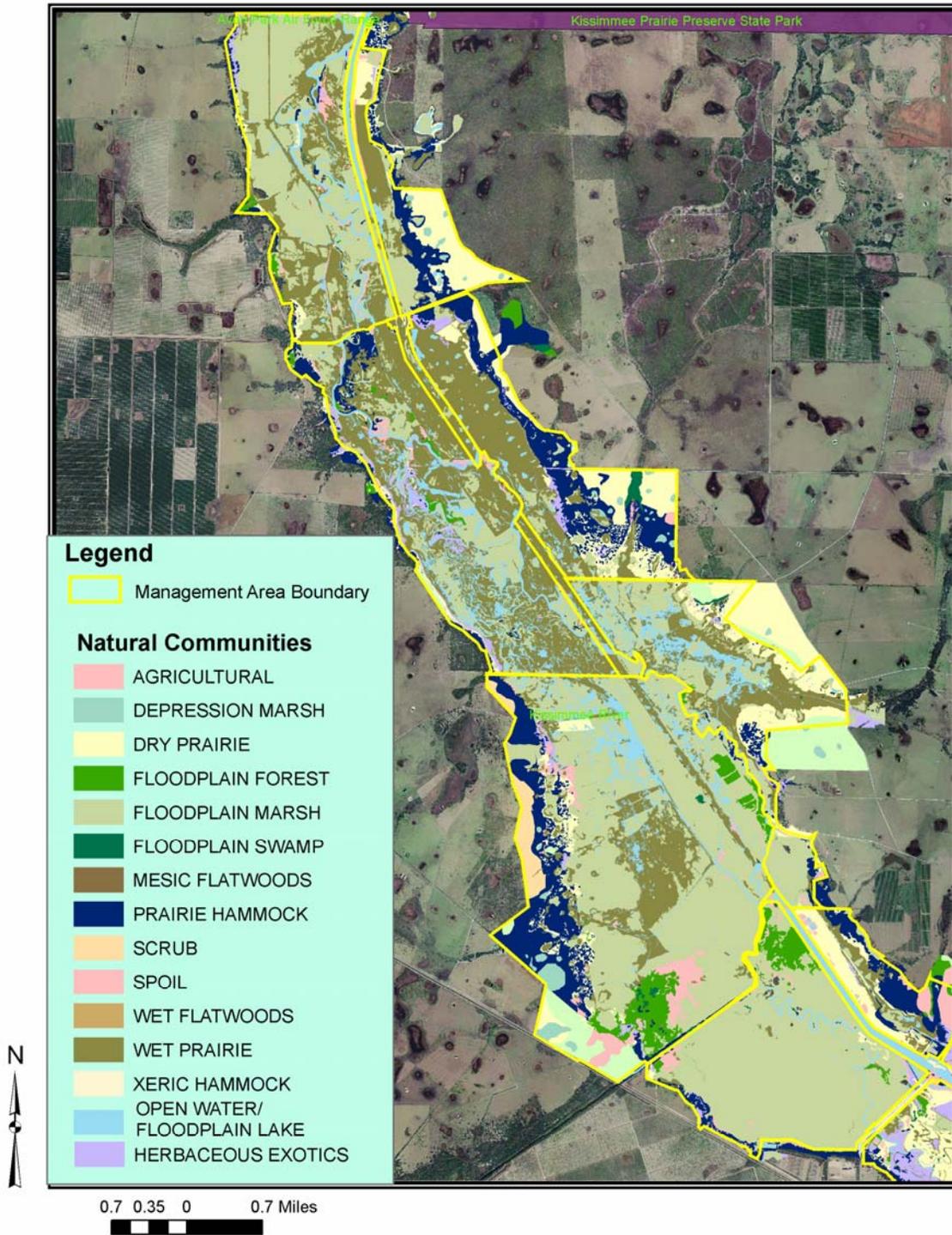
Map 13. Natural Communities.



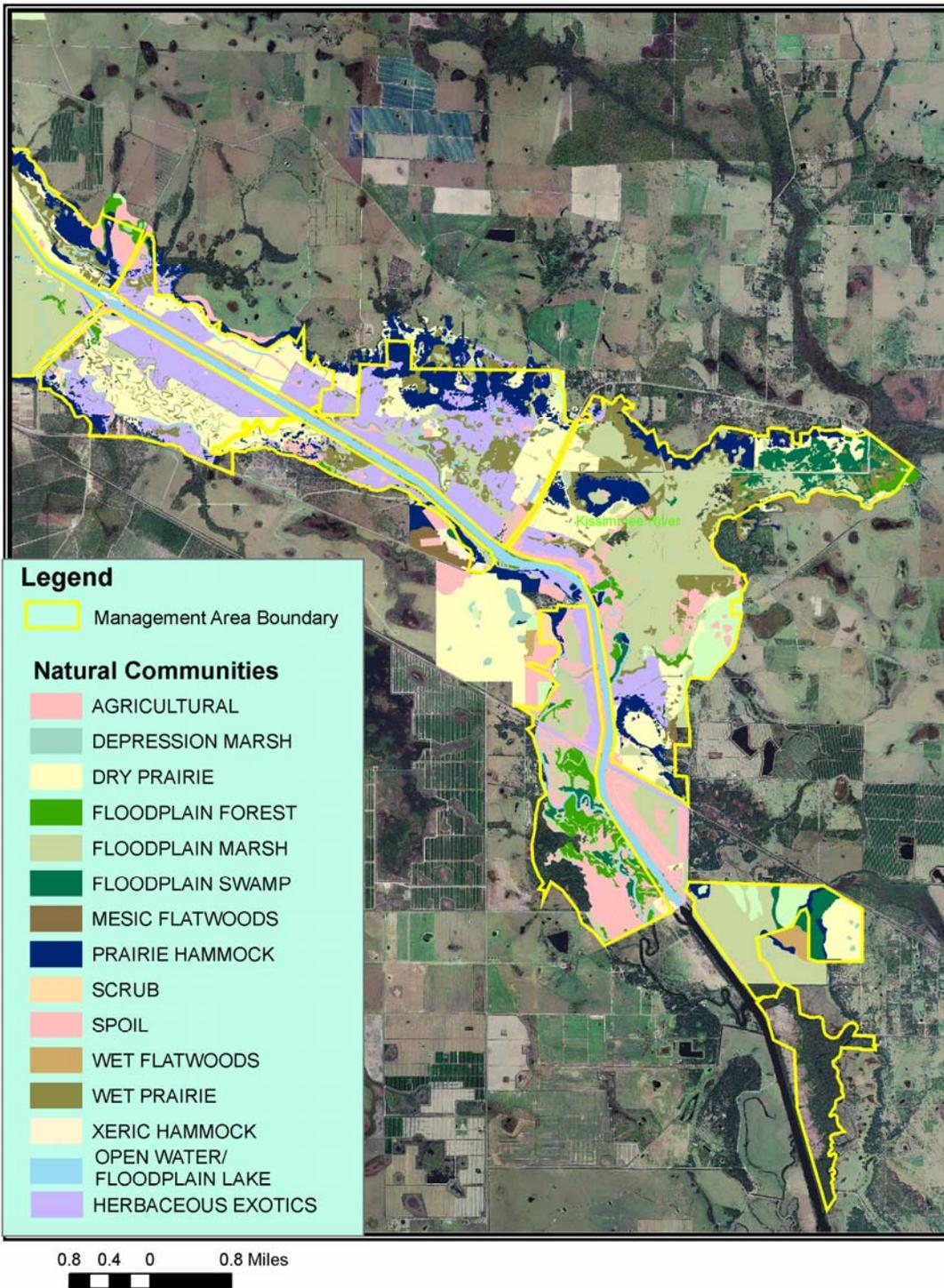
Map 14. Pool A Natural Communities.



Map 15. Pool C Natural Communities.



Map 16. Pool D Natural Communities.



4.4 Wildlife

The natural communities within the project provide habitat for numerous bird, fish, amphibian, reptile, and mammal species, several of which are listed federally or by the state. At least 17 species considered rare, endangered, threatened, or of special concern have been noted. Confirmed listed wildlife include the woodstork, American bald eagle, crested caracara, American alligator, burrowing owl, gopher tortoise, eastern indigo snake, red rat snake, gopher frog, scrub jay, grasshopper sparrow, Sherman's Fox squirrel, swallow-tailed kite, woodstork, sandhill crane, peregrine falcon, and osprey.

The river corridor historically served as wintering and breeding grounds for waterfowl; important habitat for indigenous mammals, amphibians and reptiles; and a key stronghold for protected species. Many of the bird species considered imperiled statewide depend on shallow wetlands to feed and nest. Wading bird populations have steadily declined within the basin since the 1800's. Prior to 1910, declines can be attributed to commercial plume hunting. Following the channelization of the Kissimmee River, nesting failures were due to inadequate food production, marsh destruction, alteration of hydrological patterns, and competition from the non-native cattle egret. By the early 1970s, floodplain utilization by wintering waterfowl had declined by 92%.

The Sherman's fox squirrel is the only regularly observed documented listed mammal, however there is potential for the southern Florida mink, Sherman's short-tailed shrew, big cypress fox squirrel, Florida mastiff bat, and Florida mouse to occur in the area. The Florida black bear and Florida panther have been documented. Large game mammals include feral hog and whitetail deer. Feral hogs are considered exotic mammals. Coyotes have expanded their range to south Florida, and their presence in the Kissimmee River Basin is documented.

Favorable climate and hydrologic conditions provide habitat for numerous species of reptiles and amphibians in the Management Areas, seven of which are listed species. There are also at least two non-native species: the brown anole and Cuban tree frog. The Kissimmee River Restoration Program uses amphibian and reptile community structure as an indication of river restoration success.

Because of the river channelization, hydrologic regimes in the canal and remnant river channels result in low dissolved oxygen levels. As a result, sport fish species similar to largemouth bass are largely replaced by species tolerant of low dissolved oxygen regimes, such as Florida gar and bowfin. Species such as warmouth and bluegill, which prefer heavily vegetated lentic habitats, are abundant. Small forage fish in the floodplain habitats are predominantly mosquitofish and least killifish.

4.5 Cultural Resources

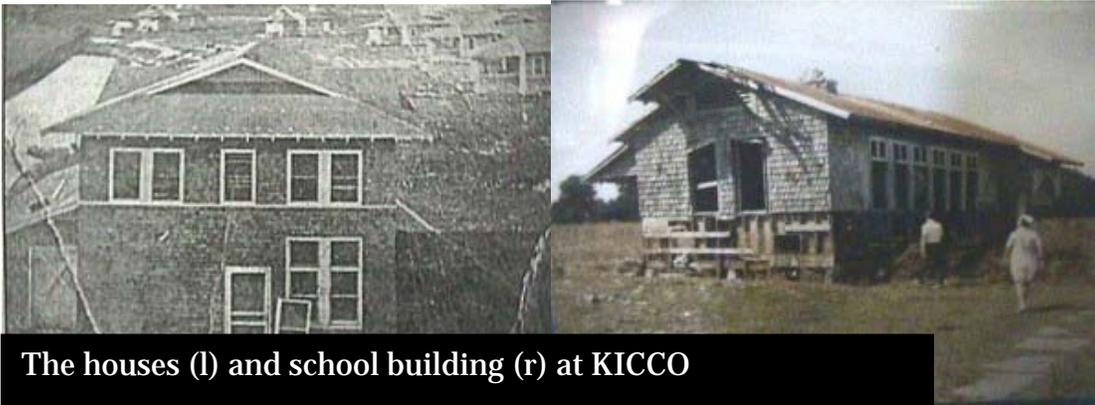
Policy 140-25(3)(j) Archaeological and historic resources are protected by site identification and inter-agency coordination with the Florida Division of Historical Resources. Land Stewardship planning shall include an analysis of archaeological data accompanied by appropriate public education opportunities.

Pool A: KICCO



A 3D computer model of the KICCO town (looking south).

The primary known cultural feature of the KICCO Management Area in Pool A is the site of the small KICCO company town. Built at the location of a former riverboat landing, the town served KICCO employees from about 1915 until the



The houses (l) and school building (r) at KICCO

late 1920s with at least some occupation continuing until the flood event of 1947 destroyed many of the structures. The Bureau of Archaeological Research within the Department of State's Division of Historic Resources surveyed the few remnant structures in the 1980s after the District acquired the property. Subsequently the buildings were demolished after no other agency or groups were willing or able to accept a relocation of the structures.

Map 17a. Company town of KICCO.



KICCO townsite 1941



KICCO 1953, most of the structures destroyed

Map 17b. Company town of KICCO.



KICCO townsite 1968, trees removed



KICCO townsite 2004, with a denser canopy of oaks and former marsh infested with shrubby vegetation

Pool C and D

There are numerous archeological sites within Pool C and D. Site types include shell middens, burial middens, and ceremonial structures and mounds. Sites of more recent historical significance include the location of Ft. Basinger and the Pearce-Lockett Estate and cemetery grounds.

Ft. Basinger was built by the U.S. Army in 1837 in the Second Seminole War as part of an effort to keep the Seminole Indians south of Lake Okeechobee by placing small frontier forts throughout the remainder of the Florida peninsula spaced about every 20 miles and connected by a system of semi-improved trails. These allowed frequent mounted patrols between the forts as a deterrent to the Seminoles.

In 1993 the District acquired the Pearce-Lockett Estate through a donation as part of the Kissimmee River Restoration Project. The site was donated by the family on the condition that it would be open to the public. Since this time the District has provided maintenance to sustain the property in its current condition. There have been several attempts to find a management partner for the site with the State, Highlands County, the Florida Heartland Rural Economic Initiative, and the Center for Environmental Studies. The District and the Highlands County Parks Department cooperatively managed the site from 1997 until 2001. The County received grant funding of \$99,065 from the State for recreational amenities. The Florida Park Service evaluated the property in 2002 and concluded that the site met or exceeded the qualifications for a State Park, but budget constraints prevented them from accepting title from the District. The District is currently seeking a long term partner to manage and provide continued public access to the property.

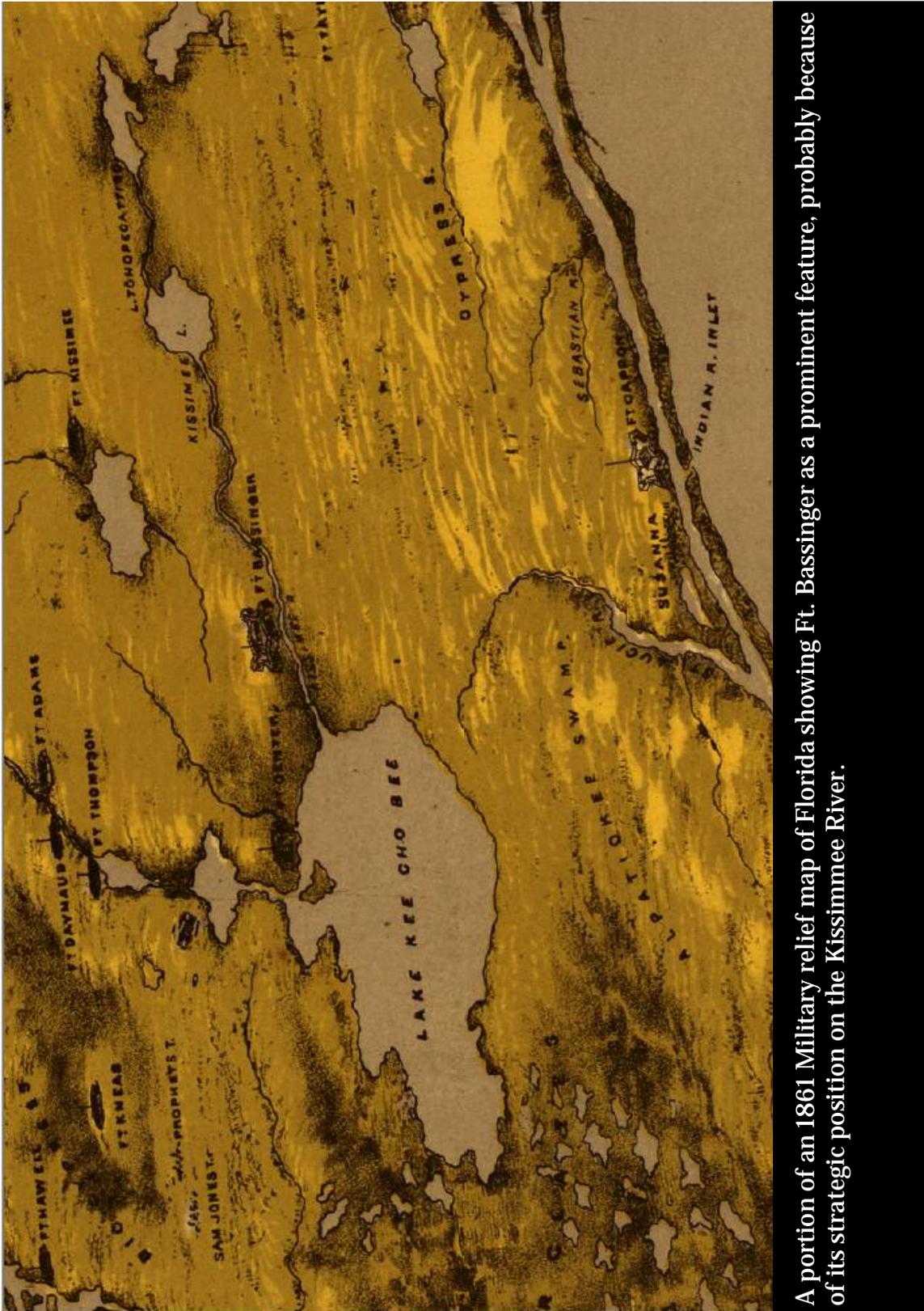
The Pearce-Lockett Estate is historically significant. The majority of the site is a State registered archaeological site; it was once the permanent home to a community in the Belle Glade II period around 1800 years ago. A homestead was established in 1875 by Capt. John Mizell Pearce, a veteran of the Civil War and the Third Seminole War. He married into the family of the famous Southern poet Sydney Lanier; he and his wife had 10 children. John Pearce operated a steam boat along the Kissimmee River and later a ferry. He was also a deputy sheriff and a cattleman. John Pearce, his wife, and several other family members were laid to rest on site in a family cemetery that remains in good condition. His son, William, was instrumental in establishing the Ft. Bassinger School (moved to the estate in 2004). Edna Pearce-Lockett taught at the Ft. Bassinger School, she would later take over the homestead and cattle operation and be the third woman elected to the Florida House of Representatives.

The District plans to promote research on the archaeological and historic sites within the Management Areas and safeguard their integrity, primarily through prohibiting ground disturbing activities. Management activities planned for

these areas are exotic plant control, vegetation management, and prescribed burning. Staff from the Florida Division of Historic Resources may revisit these sites to conduct additional investigations.



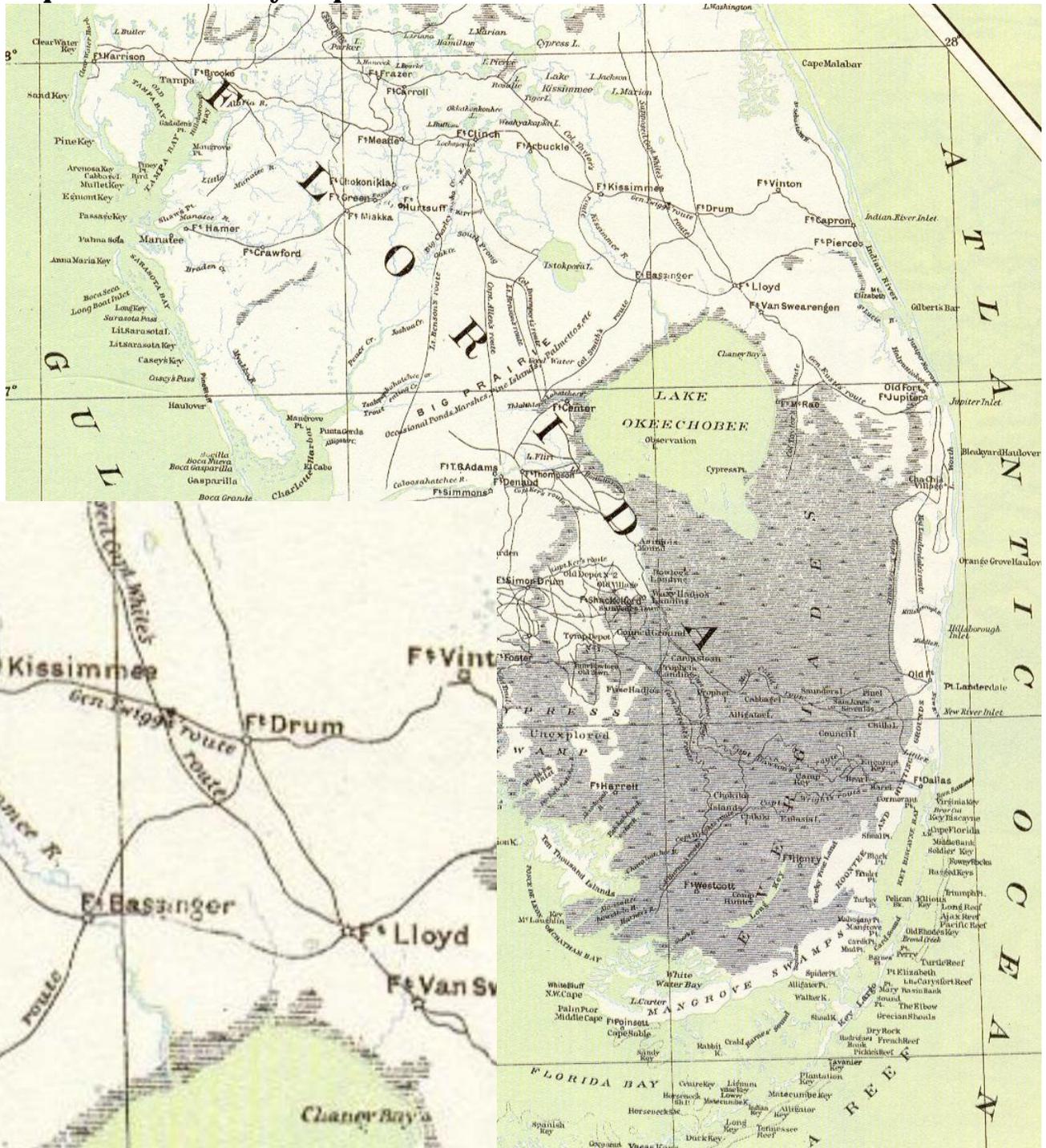
Pearce-Lockett Estate: Upper Left, the Fort Bassinger Schoolhouse; Upper Right, a couple of utility sheds on the site; Bottom, the main house



A portion of an 1861 Military relief map of Florida showing Ft. Bassinger as a prominent feature, probably because of its strategic position on the Kissimmee River.

Map 18: 1861 Military Relief Map of Florida

Map 19: 1856 Military Map of the Interior of Florida



The 1856 Military Map of the Interior of Florida, showing the array of frontier forts and trails that were established in the Seminole Wars. Col. Taylor's route, as depicted on the map, that passes through Ft. Bassinger was where a large contingent of troops under the future President, Zachary Taylor, made their way to the shore of Lake Okechobee for one of the largest battles in the 2nd Seminole War



A sketch of buildings within Ft. Bassinger from the 1840s (above), and a drawing of a typical Florida frontier fort (below)



5. Natural Resource Management

Policy 140-23 The Land Stewardship Program mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands.

Resource management includes all applied programs wherein activities manipulate, modify, and control natural features within the Management Areas. All lands that were acquired through the Save Our Rivers program are managed and maintained in an environmentally acceptable manner and, to the extent practicable, restored and protected in their natural state and condition. Management responsibilities are defined by statute, and directed by best management practices. Goals and objectives for the Management Areas clarify resource management guidelines necessary to fulfill the District's land stewardship responsibilities. Land Stewardship resource management activities include cattle grazing, a small scale hydrologic restoration projects, mechanical vegetation management, prescribed burning, and exotic plant and animal control.

5.1 Restoration Projects

Policy 140-25(1) The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources.

Policy 140-25(1)(c) Where feasible, an attempt shall be made to restore a more natural hydroperiod on tracts where the drainage patterns have been altered.

Kissimmee River Restoration Project

The Federal 1992 Water Resources Development Act authorized the Kissimmee River Restoration project including the headwaters revitalization component of the restoration project, tied the headwaters benefit to the Kissimmee River Restoration project, and authorized a 50/50 cost sharing between the state and federal government for the total cost of the project. The ground breaking for construction of the restoration project was April of 1994 with the backfilling of 1000 feet of the C-38 canal in Pool B.

The restoration plan reestablishes inflows from Lake Kissimmee that will provide flow velocities and volumes similar to those that existed prior to channelization. It specifies continuous backfilling of 22 miles of the C-38 canal in Pools B, C, and D; removal of 2 water control structures and locks (S-65B and S-65C); recarving of approximately 9 miles of river channel; and acquisition of 85,000 acres of land. It also includes backfilling of local farm ditches and degrading of local farm levees. The remaining water control structures will be operated to provide more natural hydrologic conditions. Pool A is being left unmodified to allow continued

flood relief for the Kissimmee Chain-of-Lakes, and to serve as a control to gauge the benefits in comparison to the extensive restoration in Pools B-D.

Construction of the Kissimmee River Restoration Plan was divided into four major phases, the first of which was initiated in 1999. Phase I included removal of the S-65B structure, and backfilling of a small portion of lower Pool B and most of Pool C. Phase II/III will remove S-65C, and will backfill the remainder of Pool C and most of Pool D. Phase IV, which will backfill a section of Pool B north of the Phase I area, is scheduled for completion in 2012.

The first major phase of canal backfilling began in June 1999 and was completed in February 2001. In June 2000 the structure S-65B spillway, lock, and control houses were demolished. During this phase approximately 7 miles of the C-38 canal were back-filled using the spoil material (12 million cubic yards) originally dredged during the construction of the canal. The associated spoil piles were degraded to natural ground level. One and one-quarter miles of new river channel were dredged and 15 continuous miles of river were re-created. Already, environmental improvements have been observed. Sandbars and sandy bottom are signs of improvement in the river's hydrology. In formerly isolated sections of the river, oxbows are flowing again. Emergent and shoreline vegetation has reappeared and is thriving. Waterfowl and other wildlife are returning. Water quality is improving. The project is reestablishing the physical form of the river with its historical water levels and flows, while ensuring existing flood protection is maintained.

Starvation Slough

There are two dry prairie restoration sites at Starvation Slough. Both are on historically dry prairies that have been converted to cattle pasture. The northern site is approximately 60 acres. The restoration effort has included removing the sod with a commercial sod harvester, and then disking the site twice and applying herbicide to kill any remaining pasture grasses. Native seed was harvested elsewhere in Starvation Slough where the dry prairie was still intact, and seeded at the disked restoration site. To date there has been substantial recruitment of native species. Selective herbicide applications and mowing are employed to keep invasive exotic species from becoming established on the site.

The southern site has been a more passive restoration effort that included flattening a levee road, removing the sod by disking and herbicide, and allowing native species to recruit naturally. As with the northern unit selective herbicide applications and mowing are employed to keep invasive exotic species from establishing. A wide variety of native plants associated with dry prairie communities have become established on this site as well.

5.1.1 Monitoring

Policy 140-25(3)(f)(2) Monitoring shall be conducted to identify landscape changes resulting from management activities.

Tracking environmental response to management and restoration activities provides valuable information on progress toward restoration objectives. Information obtained by monitoring specific sites assists land managers in making sound ecological choices for each unique parcel.

Using geographic information systems and global positioning technology, the District tracks the location of exotic plants throughout the Management Areas. This helps Land Stewardship monitor the effectiveness of the exotics control program and track the extent and severity of infestations.

Additionally, the District, through private contractors, has initiated vegetative monitoring throughout the Management Areas. This will provide baseline information for future studies and will help determine the effects of future restoration projects in the Management Areas. As part of this effort, thirty five 360 degree photomonitoring points have been installed throughout the Management Areas with additional points being added as needed. Panoramic photos are taken from these points at least annually and usually after significant management actions such as prescribed fire or mechanical vegetation management.

The Kissimmee River Restoration Program has developed a monitoring program that is integrated with river restoration research objectives. The Kissimmee River Restoration evaluation program's database is designed to collect, manage, evaluate and disseminate information related to activities, observations, and measurements associated with restoration of the Kissimmee River and its floodplain ecosystem. Program components are designed to track initial and long-term responses to the reconstruction of the ecosystem by evaluating a suite of indicators representing physical, chemical, biological, and functional components of the system. Components being evaluated include birds, fish, reptiles and amphibians, hydrogeomorphology, hydrology, invertebrates, vegetation, water quality and endangered species.

Kissimmee River Restoration Program Components

Birds

- Evaluate avian populations in floodplain wetlands
- Evaluate avian use of remnant river channel habitats
- Determine habitat requirements and population size of nesting Florida mottled ducks
- Quantify use of floodplain wetlands by king rails, Virginia rails, sora, yellow rails, black rails and pied-billed grebes

Fish

- Determine species composition, density, biomass, and relative abundance of fish prior to river restoration.
- Determine species composition and relative abundance of fish subsequent to river restoration.
- Determine species composition and relative abundance of fish migrating between the river channel and floodplain habitats.
- Assess the importance of floodplain habitats to riverine fish.
- Evaluate the reproductive success of fish under channelized conditions.
- Establish baseline food web structure and major energy pathways within the channelized system.

Herpetofauna

- Evaluate wetland amphibian and reptile community structure.
- Evaluate upland amphibian and reptile structure.
- Evaluate river channel turtle community structure.
- Evaluate reproductive phenology of amphibians.

Hydrogeomorphology

- Evaluate effects of reestablished flow on the geomorphology and substrate characteristics of the restored channel.

Hydrology

- Evaluate historic river channel geometry, velocities and discharges.

Invertebrates

- Evaluate habitat-specific community structure and functional attributes of river channel and floodplain aquatic invertebrate communities within the channelized river.
- Evaluate habitat-specific and system-wide production of river channel and floodplain aquatic invertebrate communities.
- Evaluate aquatic invertebrate drift within remnant river channels of the channelized river.

Vegetation

- Evaluate how aquatic vegetation is distributed within the remnant river channels.

Water Quality

- Evaluate dissolved oxygen concentrations in river channel.
- Evaluate turbidity and suspended solid concentrations in river channel.
- Evaluate phosphorous loads in river channel.

Endangered Species

- Evaluate use of the channelized floodplain by foraging wood storks.
- Evaluate wood stork reproductive success and nesting within the channelized system.
- Identify all active crested caracara territories, describe habitat characteristics, and evaluate reproductive success within the channelized river floodplain.
- Quantify use of the river by snail kites.

Land Stewardship is currently working with the Kissimmee River Restoration Program to develop a vegetation monitoring protocol for areas that are burned in the floodplain during the construction phases of the Kissimmee River Restoration.

5.2 Vegetation Management

Policy 140-25(2)(d) Where practicable, an attempt shall be made to restore and maintain desirable vegetation to promote habitat diversity in areas where invasive exotic vegetation, grazing practices, or improved land uses have substantially altered the historic landscape.

Policy 140-25(3)(l) Mechanical equipment may be used in conjunction with prescribed burning and other management tools to control vegetation and restore habitat structure.

Vegetation management is a program component where the composition and/or structure of a vegetative community is being physically altered to meet a management objective. The techniques used in vegetation management include mowing, disking, shredding, roller-chopping, timber thinning, and planting. These techniques are applied to one or more management objectives that may include:

- A step towards restoring a degraded vegetative community
- Improving an area's suitability as wildlife habitat
- Exotic species control or weed management
- Fuel management in relation to prescribed or wildfires
- Clearing for maintenance or project management purposes

Vegetation maintenance practices are detailed in activity plans produced by the region's acting land manager. These plans are available at the regional office or the Land Stewardship main office in West Palm Beach. Vegetation control and maintenance is executed by District or Florida Fish and Wildlife Conservation Commission field personnel or through contracts. The Commission mows 30 to 40 acres each year to enhance turkey forage at KICCO in Pool A as well as 40 acres at Hickory Hammock in Pool C. Shredding of woody vegetation is

proceeding in pine and prairie communities in KICCO to open the understory which increases plant diversity and improves wildlife habitat. These areas will subsequently be maintained with fire.

5.2.1 Exotic/Invasive Plants

Policy 140-25(2)(c) Management practices will strive to identify existing infestations and implement appropriate control or eradication measures.

Policy 140-25(3)(b) Exotic plant control in all management areas shall strive to attain a level of success where periodic maintenance eliminates the infestation or reduces the coverage of exotic plants.

South Florida's subtropical climate provides an excellent growth environment for the rapid spread of exotic plants that can cause extensive alterations to natural ecosystems. Environmental changes caused by extensive hydroperiod alterations have been an important factor in exotic plant invasion. Exotic plant invasion can result in partial or total displacement of native plants, loss of wildlife habitat, and the degradation of public use areas.

Land Stewardship targets Category I and II non-native plant species as identified on the Exotic Pest Plant Council's biennially updated list of *Florida's Most Invasive Species* (<http://www.fleppc.org/>). Category I species include non-native plants that invade and disrupt Florida native plant communities. Category II plants have the potential to invade and disrupt natural successional processes. Both Category I and II exotics are considered invasive and a threat to the function and ecological stability of Florida's natural communities.

The District has treated the following Category I plants within the Management Areas: Japanese climbing fern (*Lygodium japonicum*), Old World climbing fern (*Lygodium microphyllum*), cogon grass (*Imperata cylindrica*), Brazilian pepper (*Schinus terebinthifolius*), and tropical soda apple (*Solanum viarum*). Of particular concern is climbing fern. The District treats and surveys the climbing fern-infested areas several times a year to control established infestations and locate new ones.

Invasive exotic plant control measures include a combination of herbicide application, biological control, prescribed fire, roller chopping, mowing, cattle grazing and physical removal. When restoration projects are complete the District will also be able to use inundation as a means of exotic control. Selection of control measures is dependent upon species type, environmental factors, and natural communities impacted. Private contractors conduct exotic plant control activities in cooperation with the District's Vegetation Management Division. In addition District staff and volunteers have released the tropical soda apple leaf beetle, a biological control agent that has brought significant improvements in the control of tropical soda apple.

District or Florida Fish and Wildlife Conservation Commission field technicians also provide supplemental support on small or sporadic infestations. Generally, treatments in the Management Areas are scheduled so that each unit is covered

annually or bi-annually depending on available funding; however, schedules are often adjusted based on changes in environmental and hydrologic conditions. Areas of treatment are scheduled based on surface water conditions, time since last treatment, severity of infestation, public use, and consistency with other management operations.

5.2.2 Rare, Threatened and Endangered Species

Policy 140-25(2)(b) Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

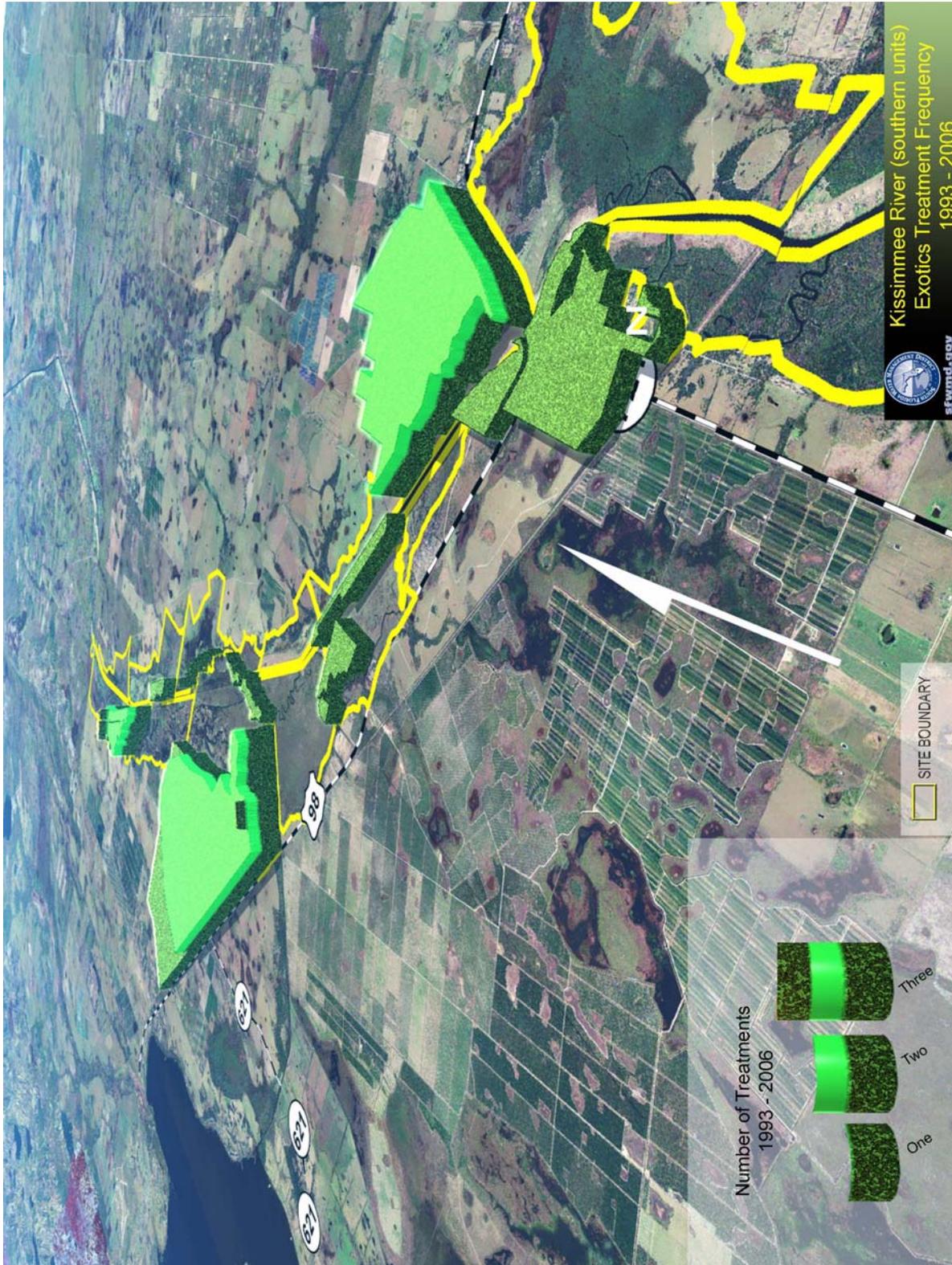
Listed species are those plants and animals considered rare within a specific geographic area by the U.S. Fish and Wildlife Service, the Florida Fish and Wildlife Conservation Commission, Florida Natural Areas Inventory, or the Florida Department of Agriculture and Consumer Services. The plant list of the Management Areas (Appendix D) contain several listed species (**Table 4**).

Table 4. Plants Occuring on the Kissimmee River Management Areas that are listed by the Florida Department of Agriculture and Consumer Services as Threatened (T), Endangered (E), or Commercially Exploited (C).

Common Name	Scientific Name	Status
Catesby's Lily	<i>Lilium catesbaei</i>	T
Florida Jointweed	<i>Polygonella basiramia</i>	E
Giant Orchid	<i>Pteroglossaspis ecristata</i>	T
Cardinal Wild-pine	<i>Tillandsia fasciculata</i>	E
Giant Wild-pine	<i>Tillandsia utriculata</i>	E

Land Stewardship establishes appropriate fire and hydrologic regimes, and controls invasive exotics in natural communities with the intent of perpetuating listed plant species. District Public Use Rules aid in the protection of native habitat and specifically prohibit destroying, defacing, or removing any natural feature or native plant on District lands. In this manner, listed plants are given lawful protection and environmental conditions suitable for their growth and reproduction.

Map 21. Exotic Treatment History Map for the Kissimmee River



Several listed bromeliad species occurring in the Management Areas may be threatened by the exotic Mexican weevil (*Metamasius callizona*) that has caused destruction of native bromeliads in other south Florida locations. Two species of once abundant bromeliads, *Tillandsia utriculata* and *Tillandsia fasciculata*, have been placed on the state's list of endangered plant species as a direct result of this weevil. Land Stewardship staff will conduct periodic surveillance of areas of potential infestations to assess management needs.



Mexican weevil (*Metamasius callizona*)

5.2.3 Forest Resources

Policy 140-25(3)(h) Sustainable use of forest resources shall be conducted where these activities adhere to a series of environmental criteria (see 1999 Forest Management Plan) that meet Land Stewardship Program goals. Timber contractors will be required to meet silvicultural Best Management Practices (BMP) developed for Florida forests.

Policy 140-25(5)(b)(3) Timber sales will be conducted to improve forest health or to support specific forest management goals.

District policy designates its properties as multiple-use resources, which include timber harvesting. However, such activity must be compatible with Land Stewardship goals and objectives and meet strict environmental criteria:

- The area planned for silvicultural rotation is currently in an “improved” or disturbed state (i.e. bahia pasture, existing pine plantation)
- The site to be planted is not scheduled for future hydrologic restoration, or the site to be harvested is scheduled for hydrologic restoration and existing timber will be lost as a result of flooding
- The area does not contain any valuable resources (e.g. endangered species) that may be harmed by changes in land use

- Forest operations would not require major road construction or improvement for accessing and processing timber, particularly within or across wetlands or other sensitive plant communities
- The area to be managed currently requires maintenance (i.e., burning, mowing)
- District costs would be reduced as a result of inclusion in the forest management plan
- The area contains timber that requires salvage following fire and/or insect or disease damage, and could be subject to a sanitation harvest with minimal environmental impact
- The area provides special needs for endangered species (e.g., red-cockaded woodpecker) management that requires timber stand improvement
- Harvest or planting will not create an aesthetically unpleasant scene or an impediment to public use
- Timber harvests will return forests to a more natural structure and improve forest health

There were two small timber management operations recently completed in the KICCO Management Area (Pool A) that targeted locations where the pines were too dense and thinning was necessary to maintain forest health. Restoration measures along the Kissimmee River limit potential forestry operations within the river basin. The only site within Pool C or D under consideration for timber harvest in the preliminary plan was Ft. Basinger, but it was eliminated by the environmental selection criteria. An additional timber thinning project is anticipated to occur in the southernmost pine stand at KICCO for red-cockaded woodpecker habitat improvement.

Pine plantings have occurred on 66 acres at Hickory Hammock, the 9 acres at the 4Es portion of Cornwell Marsh, and 53 acres at Ft. Basinger. These pine areas will be thinned to a natural density of about 300 ft² basal area / acre. The Hickory Hammock pines will be thinned even more to be compatible with the wet and dry prairie understory.

5.2.4 Range Resources

Policy 140-25(3)i Range management and grazing will be considered on improved or native ranges when the introduction of cattle will not conflict with other natural resource management and public use goals.

Livestock grazing has occurred over the last century within south and central Florida and continues to be an important land use today. The Kissimmee River Valley has been grazed for over four centuries since the early Spaniards stocked the Florida Peninsula with cattle. Cattle grazing is employed by the District and other land management agencies as a management tool, particularly for the

reduction of fire fuel loads and maintenance of open habitat for the benefit of native wildlife. The revenue producing lease program provides many benefits, such as:

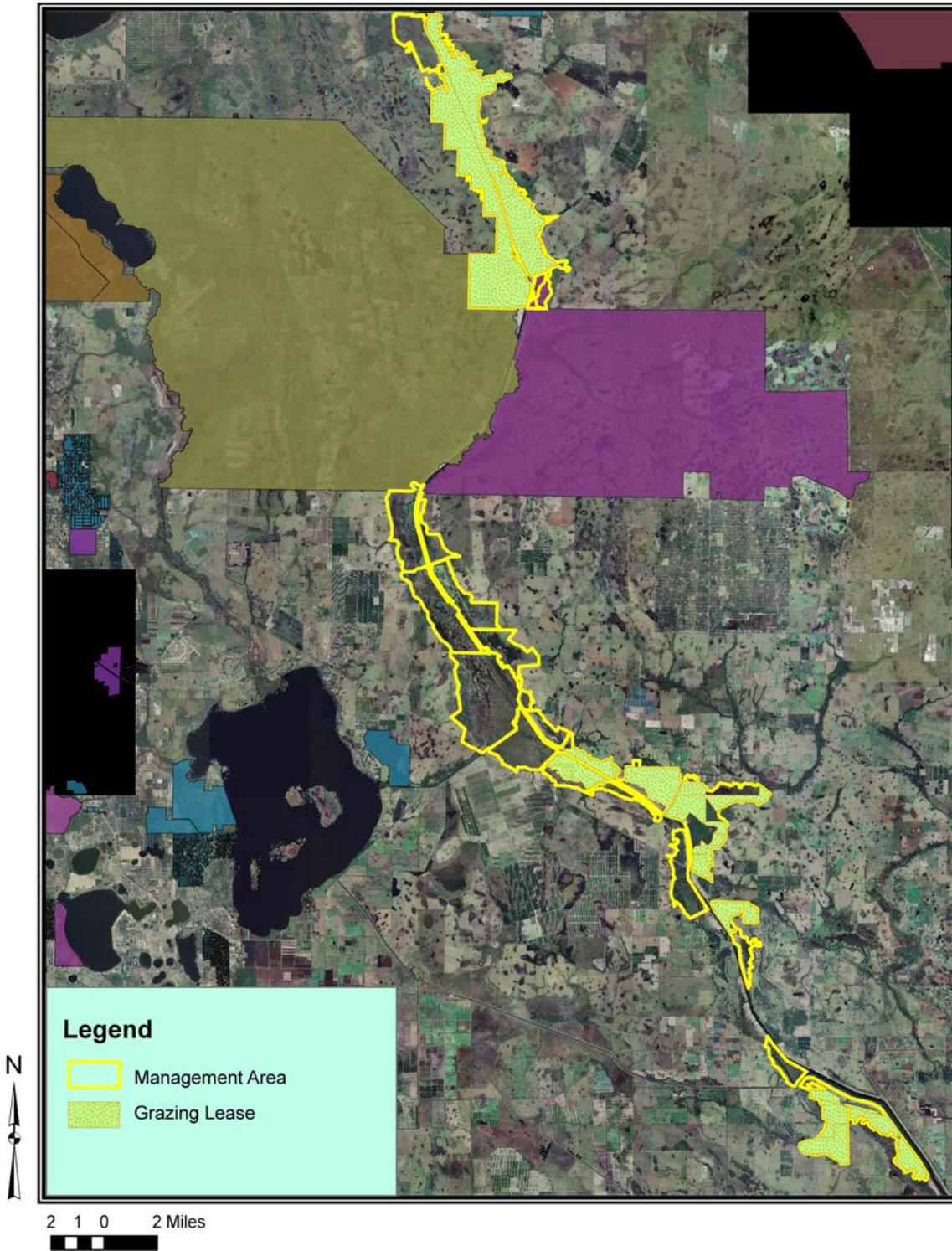
- On-site management and security for District-owned lands at no cost to the District
- Minimizing District expenses by generating revenue from non-governmental sources to off-set District management, maintenance and resource protection costs
- Minimizing impacts to the local agricultural economy by keeping viable agricultural lands in active production for as long as possible
- Minimizing fiscal impacts of public land ownership to the local government by keeping lands on the tax roll

Grazing Lease Parameters

The District often exercises the option to lease grazing rights to the public when a property is acquired. Lease terms are based on carrying capacity and agreement to certain management responsibilities by the lessee that may include non-native and nuisance plant control and/or fence construction and repair. The District limits certain activities deemed detrimental to the environmental integrity of each parcel leased, with each lease customized to ensure best management practices. Leased lands are on the county property tax rolls, and these tax payments become the responsibility of the lessee.

The District has instituted a procedure to seek recommendations from the U.S Department of Agriculture, Natural Resource Conservation Service prior to the establishment or renewal of cattle leases. These recommendations include appropriate stocking rates for the site to avoid degradation from over grazing, as well as any identifying sensitive areas that should be excluded from grazing. There are currently 19 active grazing leases within the Kissimmee River Management Areas.

Map 22. Grazing Leases



5.3 Fire

Policy 140-25(5)(c)(3) Prescribed fire will be a primary management tool on District lands and will be applied within fire-maintained communities at appropriate intervals.

The majority of natural communities on District lands rely on frequent fire to maintain their vegetative characteristics and biodiversity. Wildfires no longer occur with historical frequency or extent, and this has altered natural community structure and function. Prescribed fire attempts to mimic the benefits of natural wildfires that historically reduced fuel loads, recycled soil nutrients, and maintained natural communities by inhibiting hardwood encroachment and stimulating fire-adapted plant growth and reproduction. The Land Stewardship Program recognizes the benefits of fire and has integrated prescribed fire planning and application into its land management strategy.

5.3.1 Fire History

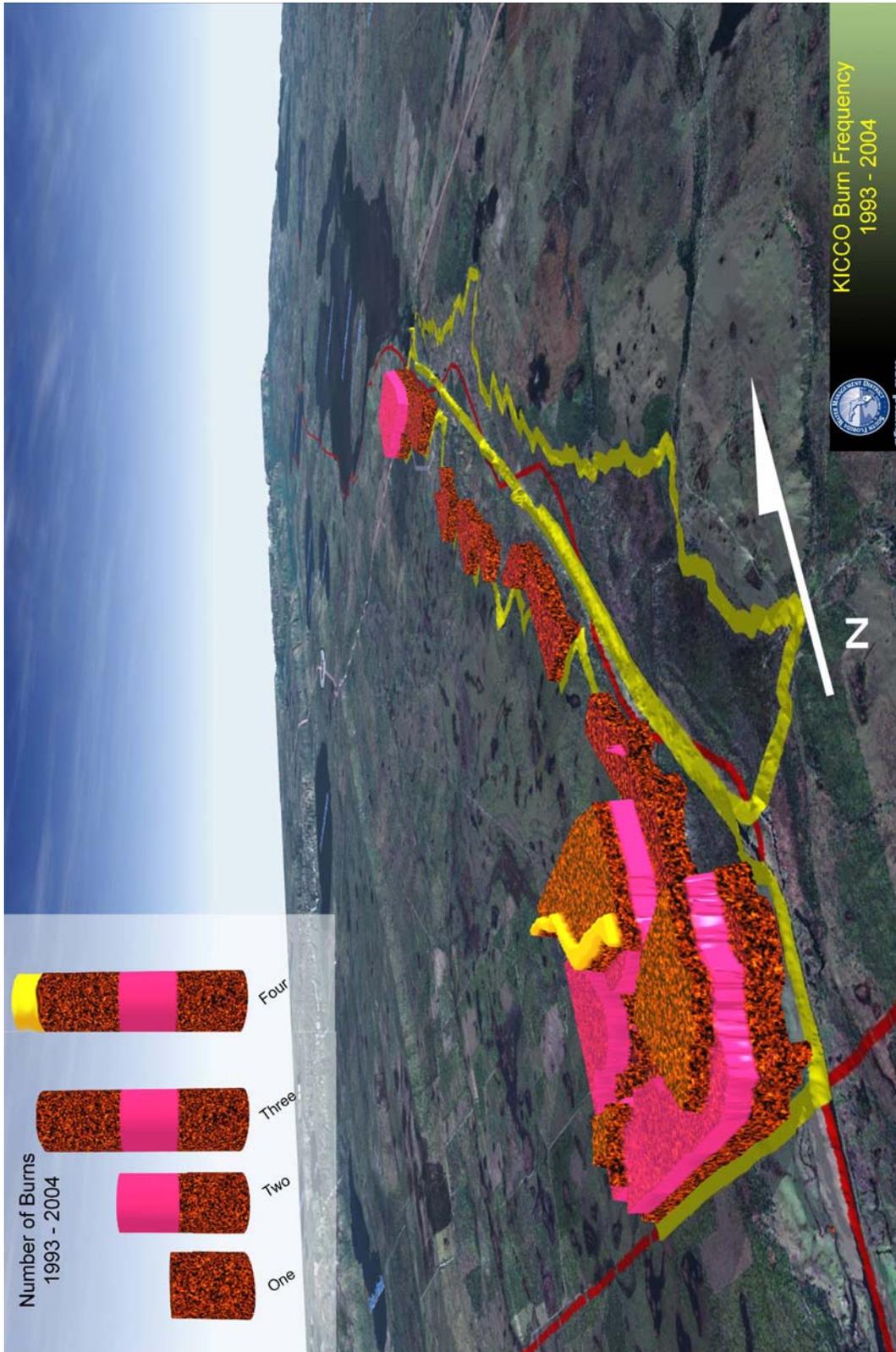
Pool A

The District began its prescribed fire planning for the Management Areas in the early 1990s and, since then, has conducted prescribed fires regularly in the marshes, prairies, and flatwoods. The small areas of scrub are burned less frequently. The previous owner of KICCO burned the property at a frequency of about every other year. The District has continued prescribed burning on a rotation based on the need of the plant communities being burned and the response of those communities to the last burn conducted. Since most of Blanket Bay marsh is improved pasture and serves as a control for the Kissimmee River Restoration Program, it has not been burned. There is an overgrown marsh in the south end of Blanket Bay where the District is planning on utilizing fire and shredding as a means to control the woody vegetation that has invaded the community, although the burning may have to wait until the federal monitoring period for the river restoration ends. Fire data (prescribed and wild) is maintained in a Geographic Information System to produce cumulative burn maps of the property.

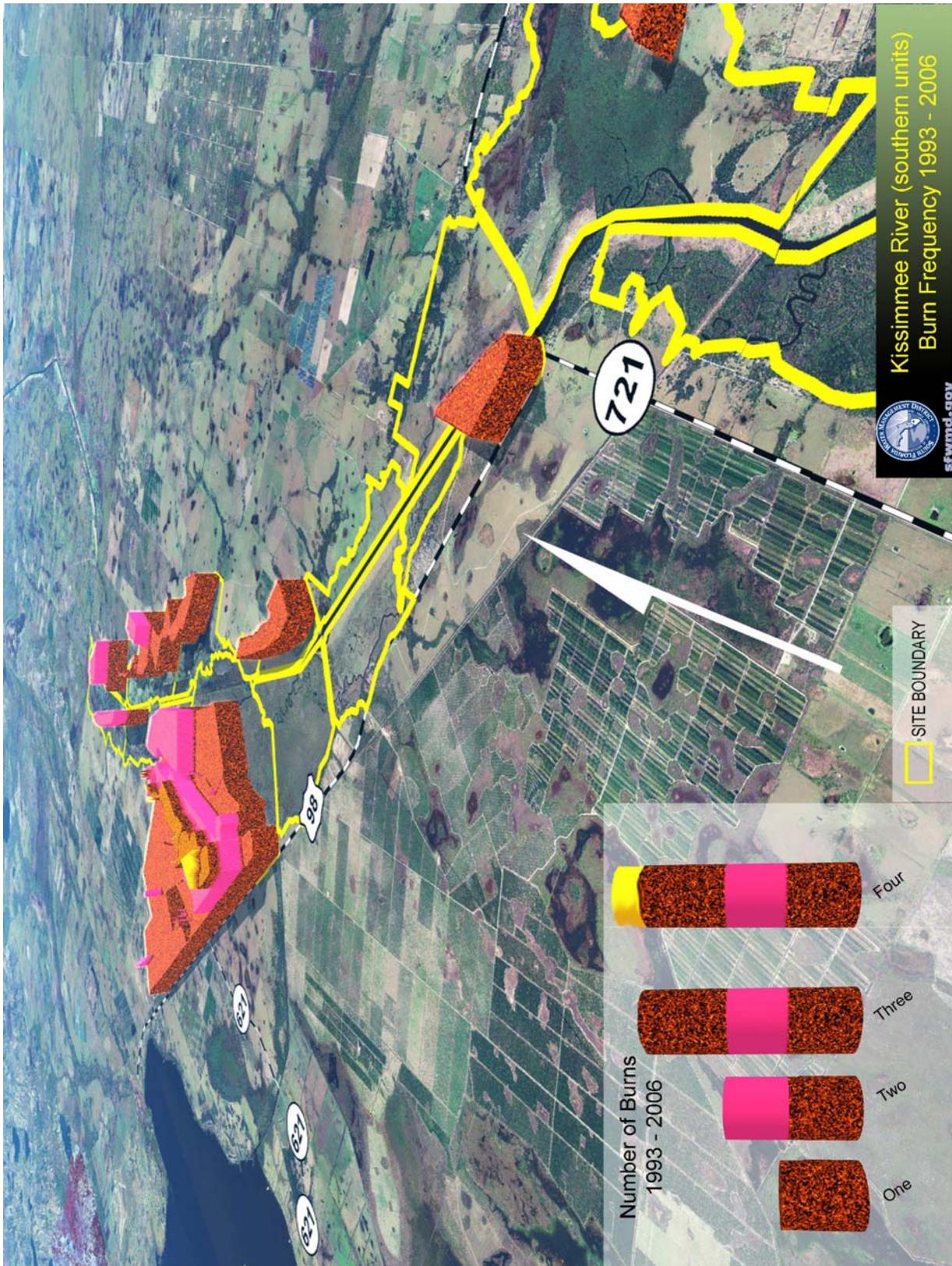
Pool C/D

Documented fire history is not available for the southern Management Areas prior to District acquisition. However, Pasture management practices in this region indicate native range areas were probably burned regularly to improve forage. Other areas on the properties may have experienced fire exclusion because of buildings, roads, ditches, or man-induced conditions. Many of the natural community types found on these parcels require regular maintenance using varying frequencies of prescribed fire. District prescribed fire dates back to 1990 on Hickory Hammock. Oak Creek and Starvation Slough have experienced burn treatments periodically since 1995 and Hickory Hammock since 1990.

Map 23. Fire History Map for KICCO (Pool A)



Map 24. Fire History Map for Pools C&D



5.3.2 Prescribed Fire Planning

A fire management plan is developed for each Management Area. Each plan includes a description of location and natural community types, fire history, fire management objectives and constraints, and a burn prescription. The Land Stewardship Program bases all fire management plans on ecological research and professional experience. Fire frequency schedules for each natural community consider recommendations provided in *The Natural Communities of Florida* (Florida Natural Areas Inventory, 1990). To mimic historic fire conditions, Land Stewardship emphasizes growing or lightning season burns (March-June) where practical. Natural firebreaks are utilized where possible to promote historic fire patterns, avoid soil disturbance, and reduce hydrologic flow disruption created by fire lines. Listed species life requirements are elements of prescribed fire planning. Application of fire, with appropriately timed herbicide treatments, is used as a tool for control of invasive and nuisance plants.

Burns are executed using proven methods as defined by the Prescribed Burning Act of 1990, Chapter 590.026 Florida Statutes. This legislation and associated administrative rules outline accepted forestry burn practices and are administered through the Division of Forestry. Land Stewardship has a five-person prescribed fire crew in the Okeechobee Service Center and utilizes other cooperating agency staff—Division of Forestry, the Florida Park Service, and the Florida Fish and Wildlife Conservation Commission to conduct burns. All Land Stewardship staff have completed the state certified burn course to ensure safety and proper technique.

Prescribed fire is applied within the Management Areas at appropriate fire intervals for each natural community. The District concentrates on applying fire to each area of the property, in order to reduce accumulated fuel loads, improve habitat, and provide a safer basis for future burns of increased frequency and lower intensity. Planning will emphasize yearly burn acreage to attain a minimum 5 year rotation for flatwoods and prairie communities.

Prescribed fire planning in the floodplain of the Kissimmee River is done in partnership with the District's Kissimmee River Restoration Program. Areas of overgrown marsh are proposed for burns by Land Stewardship and evaluated on a case-by-case basis by the Kissimmee River Division as to whether or not the proposed fire is compatible with river restoration activities and the monitoring program. Post-burn monitoring is conducted by Land Stewardship in areas of the floodplain that are burned so that vegetative changes due to fire can be compared to the vegetative changes in areas of marsh that only receive the hydrologic benefits of the restoration.

5.3.3 Wildfire Suppression

Policy 140-25(3)(d) The Division of Forestry will be notified of all wildfires on District lands. Land Stewardship will provide initial suppression when commensurate personnel and equipment are available.

Wildfires ignited by lightning are a common occurrence throughout Florida, and the Management Areas receive numerous lightning strikes as indicated by past wildfires. It is District policy, and state law, that the Division of Forestry is notified when a wildfire occurs on Land Stewardship-managed properties. The Land Stewardship staff assigned to the area will respond to and, if appropriate, begin suppression of area wildfires when detected. The Division of Forestry will be called immediately and a fire assessment is made.

5.4 WILDLIFE MANAGEMENT

A primary objective in the stewardship of the Management Areas is to maintain healthy fish and wildlife populations. Land Stewardship accomplishes this in several ways:

- Performing land management activities that maintain and/or improve native wildlife habitat
- Conducting specific management beneficial to protected species
- Conducting wildlife inventories through the Florida Fish and Wildlife Conservation Commission where management operations may negatively impact listed species
- Following management guidelines for listed species protection as determined by the *Multi-species Recovery Plan for the Threatened and Endangered Species of South Florida, Volume 1*, (U.S. Fish and Wildlife Service. 1998)
- Reducing non-native pest species populations where appropriate
- Maintaining a master file of confirmed and potential wildlife species
- Cooperating with the Commission on wildlife management issues, including wildlife inventories and evaluating management actions.

Wildlife management in the Management Areas is directed toward production of natural species diversity consistent with the biological community types present. The Commission maintains a lead role in wildlife management in the Management Areas by:

- Managing public hunts (the fall hunts and the small game hog management hunts)
- Monitoring bald eagle nests
- Monitoring 5 burrowing owl colonies at KICCO
- Monitoring 1 red cockaded woodpecker colony at KICCO in cooperation with Archbold Biological Station
- Monitoring to see if scrub jays move back into the KICCO area from the Avon Park Air Force Range

- Assisting the District with prescribed burns (recommendations, manpower, equipment, putting fire lines in, etc.)
- Assisting the District with exotic control (periodically spray for Lygodium, tropical soda apple, Brazilian pepper, cogon grass, etc.)
- Conducting turkey bait station surveys
- Maintaining a hunter campground at KICCO
- Conducting land management activities such as mowing and roller chopping to maintain wildlife openings and contracting vegetation management services
- Posting of informational signs
- Planting of food plots at KICCO

5.4.1 Game Management

Policy 140-25(4)(b)(4) Florida Fish and Wildlife Conservation Commission regulations shall govern hunting in areas opened for such use.

The Kissimmee River Management Areas contain two Wildlife Management Areas and a Public Use Area established by the Fish and Wildlife Conservation Commission. The Commission administers several hunting seasons in the fall, small game hog hunts in late winter, and spring turkey hunts. Management activities directed towards game management include establishing bag limits for game species, regulating hunting pressure, mowing openings for wildlife, burning, chopping and shredding vegetation, and occasionally planting food plots. The hunting program is detailed in **Appendix D**.

5.4.2 Exotic/Invasive Species

Wildlife pest species are those non-native species that are harmful to native wildlife, that negatively impact native vegetation and wildlife or seriously interfere with management objectives. The Land Stewardship's goal for wildlife pest management is to reduce populations to attain an acceptable level of impact to natural plant and animal communities. The District Land Steward uses personal knowledge of the problem and consultation with the Commission to define the acceptable level of impact. When population control measures are warranted, land managers consult with the Commission to determine an appropriate control technique that is humane and cognizant of public safety. The effects of pest population control efforts are monitored by periodic site evaluations.

The feral hog is a pest species within the Management Areas. Disturbance caused by this species negatively impacts natural communities and interferes with land management operations. Although valued by some members of the public as game animals, the feral hogs' high fecundity, adaptability, rooting behavior, omnivorous diet, and ability to quickly colonize areas raises serious

environmental concerns. Their disruption of soil and vegetation alter natural communities and can be especially damaging in sensitive habitats that are slow to recover. Hog disturbance has occurred within most of the Management Areas including wetland communities. Land management objectives are affected when rooting disturbance disrupts prescribed burns by preventing the spread of fire. Areas of disturbed soil are also more susceptible to exotic plant invasion. Soil rooting can create perilous conditions on hiking trails, and hog foraging can have a detrimental impact on small animal populations, ground-nesting birds, and infrastructure.

Currently, feral hog populations may be declining slightly in KICCO and are stable in Blanket Bay Marsh and throughout Pools C and D. Control methods are decided in consultation with the Commission and include providing public hog hunts and utilizing private trappers where necessary. A District trapping contractor is currently used in KICCO, Starvation Slough, and No Name Slough.

5.4.3 Rare, Threatened and Endangered Species

Policy 140-25(2)(b) Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

Several species listed as endangered, threatened, or of special concern by state and federal agencies occur within the Management Areas, including gopher tortoise (*Gopherus polyphemus*), wood stork (*Mycteria americana*), bald eagle (*Haliaeetus leucocephalus*), Sherman’s fox squirrel (*Sciurus niger shermani*), and Indigo snakes (*Drymarchon corais couperi*) (**Table 5**). Additionally, the Commission has classified most of the Management Areas as a Regional Biodiversity Hotspot. Hotspots represent areas which have high overlap for 54 declining species of wildlife plus known occurrences of rare flora, fauna, and natural communities (Cox *et al.*, 1994).

Impacts to these species from planned land management and recreational activities are of special concern. Activities that might jeopardize the well-being of these species may be altered or disallowed. District land management activities including prescribed burning, hydrologic restoration, exotic vegetation eradication, understory control, and selective forest thinning improve natural environmental characteristics that benefit listed species as well as a variety of other indigenous wildlife. Commission staff and/or staff from the Archbold Biological Station have a monitoring program in place for bald eagles, red cockaded woodpeckers, crested caracaras, and scrub jays.

Table 5. Listed Animal Species: (T) Threatened, (E) Endangered, (SSC) Species of Special Concern

Scientific Name	Common Name	Status	
		Fed	State

<i>Alligator mississippiensis</i>	American alligator	T	SSC
<i>Aramus guarauna</i>	Limpkin		SSC
<i>Caracara cheriway</i>	Crested caracara	T	T
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T
<i>Egretta caerulea</i>	Little blue heron		SSC
<i>Egretta thula</i>	Snowy egret		SSC
<i>Egretta tricolor</i>	Tri-colored heron		SSC
<i>Eudocimus albus</i>	White ibis		SSC
<i>Falco sparverius paulus</i>	Southeastern American kestrel		T
<i>Gopherus polyphemus</i>	Gopher tortoise		SSC
<i>Grus canadensis pratensis</i>	Florida sandhill crane		T
<i>Haliaeetus leucocephalus</i>	Bald eagle	T	T
<i>Mycteria americana</i>	Wood stork	E	E
<i>Pandion haliaetus</i>	Osprey		SSC
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake		SSC
<i>Sciurus niger shermani</i>	Sherman's fox squirrel		SSC

6. Public Use

Policy 140-23 The Land Stewardship Program mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands.

Section 373.1391 (1)(a) Florida statute states that wherever practical, lands acquired by the Land Stewardship Program shall be open to the general public for recreational uses. The District encourages public use of management areas for appropriate natural resource-based activities. All District lands are available for public use, except in rare instances where there is no legal public access or where lease restrictions or construction activities prohibit public entry.

The determination of compatible public uses will be based on the following criteria:

- Consistency with the reason the lands were acquired
- Restrictions and/or prohibitions imposed by easements, leases, reservations, adjacent land ownership, and other conditions of the purchase agreement
- Infrastructure and support facility requirements, such as fences, gates, signage, entry design, stabilized off-road parking, trails, campsites, maintenance, and other operational and budgetary impacts
- Opportunities for persons with disabilities
- Limitations on use resulting from endangered species, other sensitive natural resources, archeological resources, or land management practices
- Public health, safety and welfare
- Environmental education program opportunities

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

A wide variety of recreational activities are appropriate and encouraged in the Management Areas including boating, bicycling, canoeing, camping, equestrian use, fishing, hiking, and hunting (**Table 8**). In addition, a new boat ramp is being constructed on the southwest shore of Lake Kissimmee in cooperation with Polk County that will provide additional access to the river. The Florida National Scenic Trail winds its way through the Management Areas. Proposed or planned recreation facilities and capital Improvements are listed in **Table 6 and 7** below.

Unit	Boardwalks	Boat Ramps	Camping Area	Canoe Launch	Education / Visitor Center	Fishing Piers	Kiosks	Parking Area/Trailhead/Road Improv.	Pedestrian Bridge	Picnic Tables	Restrooms / Composting toilet	Shelters	Signage (directional, interpretive, entrance)
Kissimmee Management Region													
KICCO Wildlife Management Area		☑	☑				☑	☑	☑	☑		☑	☑
Blanket Bay Marsh			☑				☑			☑		☑	☑
Kissimmee Prairie Preserve State Park	☑		☑		☑		☑	☑		☑	☑	☑	☑
Boney Marsh			☑				☑	☑	☑	☑			☑
Bluff Hammock	☑			☑			☑	☑	☑	☑			☑
Hickory Hammock Wildlife Management Area		☑	☑	☑			☑	☑		☑	☑	☑	☑
No Name Slough													
Starvation Slough		☑	☑	☑			☑	☑		☑	☑	☑	☑
Oak Creek		☑	☑	☑			☑	☑		☑			☑
Turkey Hammock West		☑	☑	☑			☑	☑			☑		☑
Turkey Hammock East													
4 E's				☑				☑		☑			☑
Cornwell Marsh West		☑						☑			☑		
Cornwell Marsh East													
Micco Landing			☑				☑	☑		☑			☑
Seaboard Marsh North													
Seaboard Marsh South		☑		☑			☑	☑					☑
Yates Marsh			☑				☑	☑					☑
Telex Marsh		☑		☑				☑					

- ☑ Current Facilities
- ☑ Proposed or Planned Facilities Improvements

PROJECT	2006	2007	2008	2009	2010	2011
Kiss. River Management Region						
Hickory Hammock road improv.						
Composting toilet Starv. Slough						
Hickory Hammock barn rep.						
Micco Landing Parking Improvements						
Picnic Tables and Fire Rings						
Signage/Kiosks						

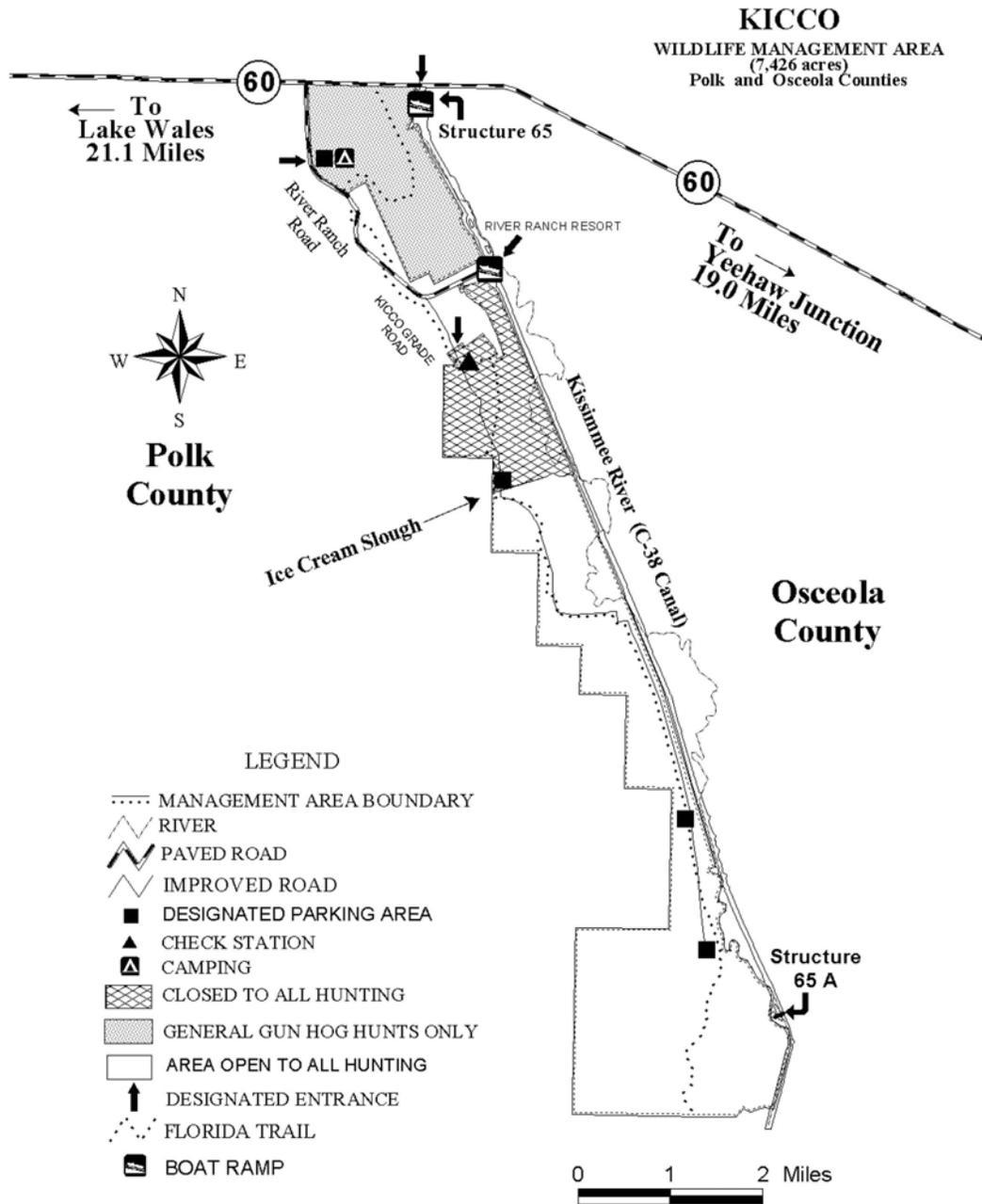
Table 7. Capital Improvement Phasing Plan

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

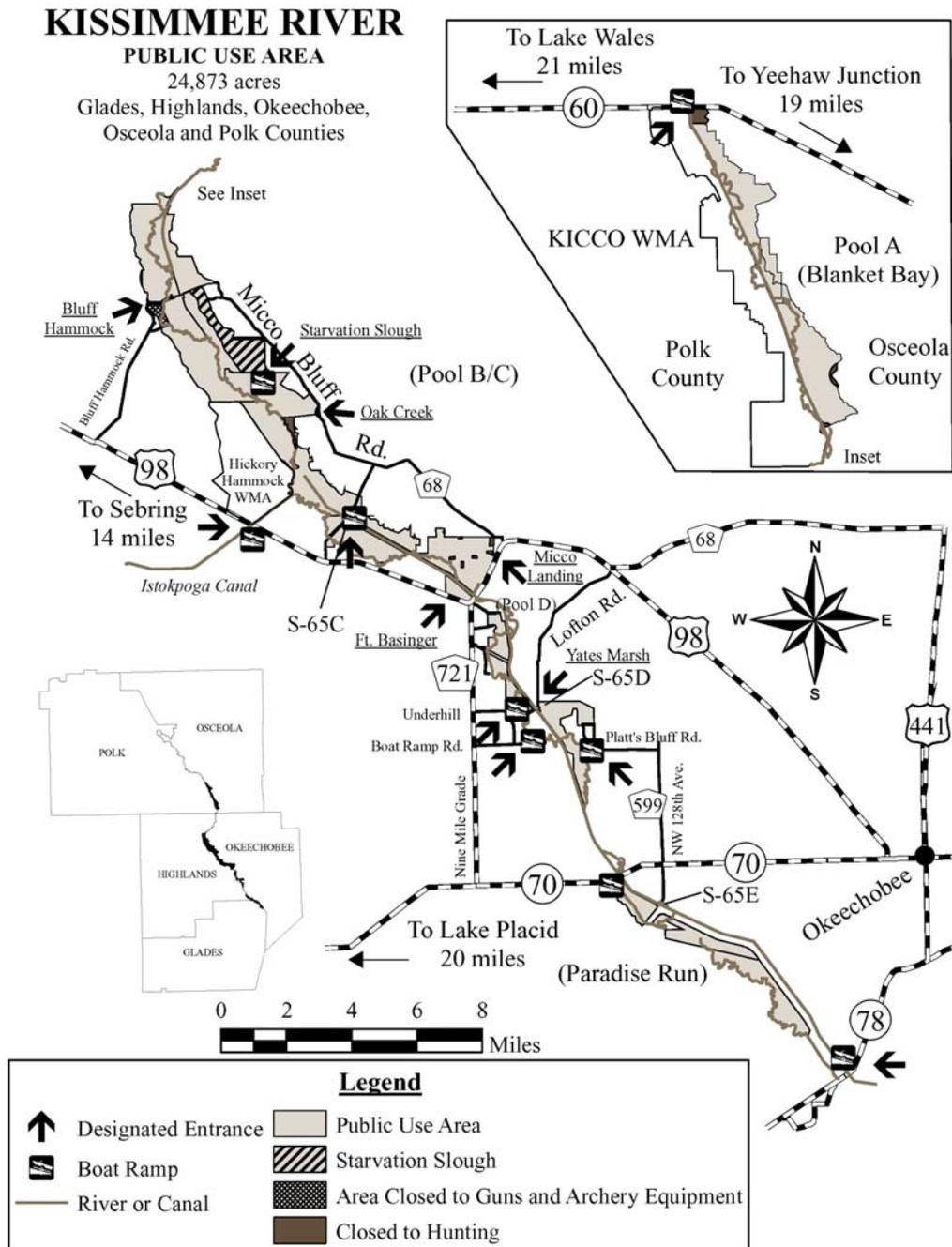
Table 8. Recreational Opportunities

Unit	Airboating	Bicycling	Canoeing	Camping	Education / Visitor Center	Equestrian	Fishing	Hiking / Nature Appreciation	Hunting	Picnic Tables
Kissimmee Management Region										
KICCO Wildlife Management Area										
Blanket Bay Marsh										
Kissimmee Prairie Preserve State Park										
Boney Marsh										
Bluff Hammock										
Hickory Hammock Wildlife Management Area										
No Name Slough										
Starvation Slough										
Oak Creek										
Turkey Hammock West										
Turkey Hammock East										
Cornwell Marsh West										
Cornwell Marsh East										
Micco Landing										
Seaboard Marsh North										
Seaboard Marsh South										
Yates Marsh										
Telex Marsh										
Paradise Run										

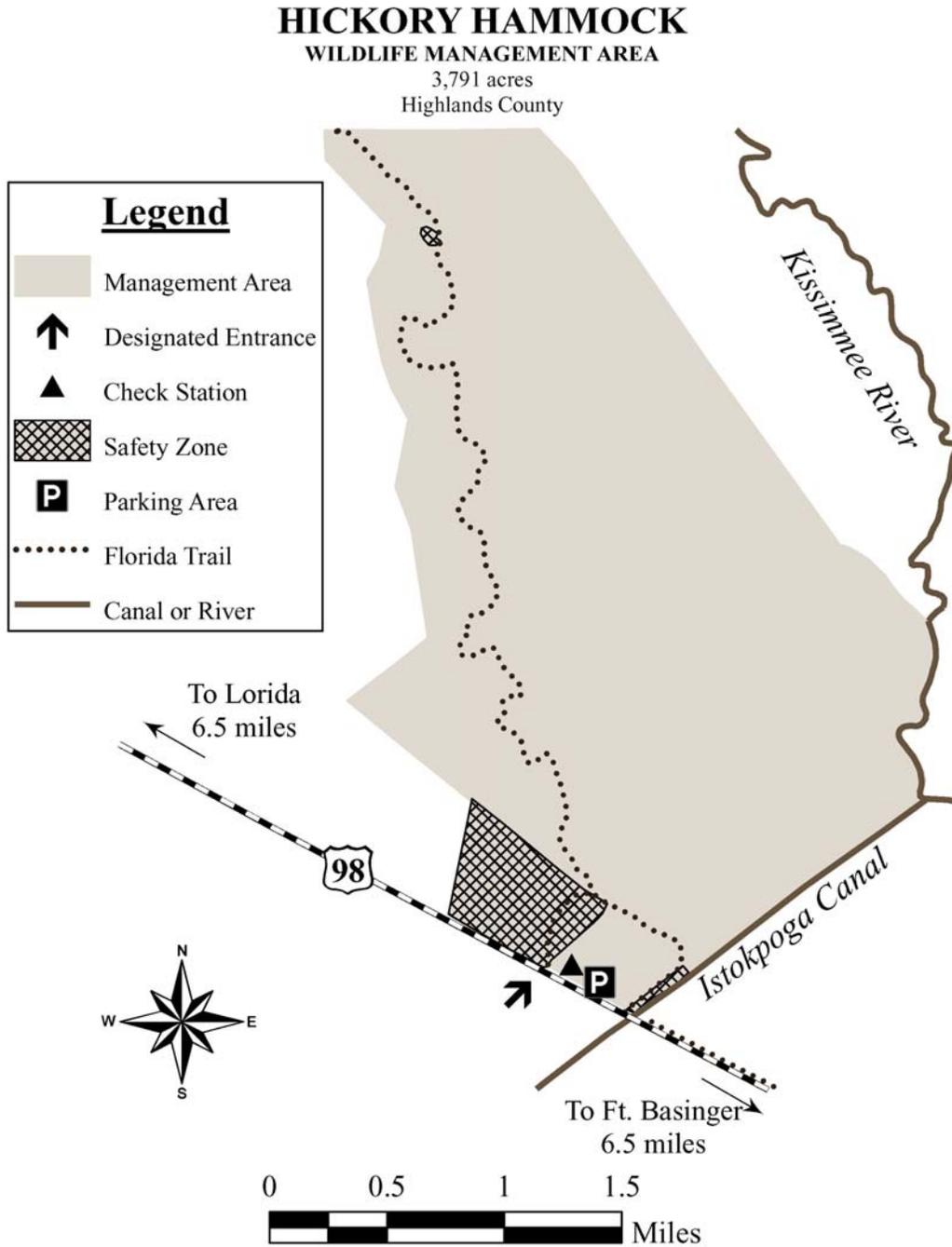
Map 25. KICCO Wildlife Management Area



Map 26. Kissimmee River Public Use Area



Map 27. Hickory Hammock Wildlife Management Area



6.1 Resource Protection

Policy 140-25(1)(d) Public use shall not result in detrimental impacts to water resources. When a public use activity produces detrimental effects on water resources, it shall be discontinued until an evaluation determines that such use is compatible.

Policy 140-25(3)(g) Resource protection shall be provided by professional law enforcement services through funded and unfunded contractual agreements to safeguard the public and protect natural and cultural resources on District-managed natural areas.

Policy 140-25(4)(b)(1) Public use regulations are set forth in 40E-7.511, Florida Administrative Code, to implement Section 373.1391(1)(b), Florida Statutes. Accordingly, the District shall publish and make available to the public a "Recreational Guide" for designated land management areas.

Regulations that govern activities within the Management Areas are in the District's *Recreational Guide*, which is available at all Service Center and at agency headquarters in West Palm Beach. Allowed activities include hiking, fishing, boating, canoeing, camping, hunting, equestrian use, biking, and nature study. The Florida Fish and Wildlife Conservation Commission is responsible for enforcing laws, rules, and regulations applicable to the Management Areas, along with the local county sheriffs' offices. The Commission has an officer housed at KICCO who helps patrol Pool A, an officer housed at Hickory Hammock in Pool C, and two officers at Chandler Slough in Pool D.

Management of public activities on District lands requires a strong commitment to resource protection while simultaneously promoting all appropriate public uses. The Land Stewardship Program emphasizes the enforcement of pertinent rules and regulations to protect natural resources and also provide a safe recreational opportunity. The resource protection program integrates contractual law enforcement to protect the natural resources and District assets. As part of the District's enhanced patrol contract with the Commission, law enforcement officers conduct regular patrols throughout the year, increasing their presence during hunting seasons and at other times when public use is high. Law enforcement surveillance protects natural and cultural resources, deters illegal activity, and safeguards the public. Patrols are conducted with 4-wheel drive vehicles, boats, all terrain vehicles, aircraft, and on foot. The District's resource protection coordinator and the regional land steward review biweekly reports and meet with officers to structure patrols based on resource needs.

Resource protection is also greatly enhanced by the establishment and maintenance of posted fence lines that delineate property boundaries. Fencing needs and maintenance are addressed as necessary.

6.2 Environmental Education

Educational programs are developed and implemented on select management areas by organizations interested in promoting increased visitor knowledge and appreciation of natural areas and cultural resources. A central theme to these programs is the vital role of water management in maintaining resource viability and productivity. There are several kiosks throughout the Management Areas including four at KICCO, one at Blanket Bay Marsh, and one at the boat ramp near the S-65 water control structure. There are fifteen kiosks (9 District and 6 Commission) in Pools C and D. The Land Stewardship Program encourages educational partnerships through memorandums of understanding, leases, and contract agreements.

7. Administration

Administration of Land Stewardship Program lands is directed through the Land Stewardship Division. Policy decisions, planning and budgeting, procurement of personnel and equipment, contract administration, and issues of program development are administrative tasks coordinated through the Division. Input is provided from the public and regional land stewards located at District Service Centers over the 16-county area. Public input into the management of the area is solicited at bi-monthly Water Resource Advisory committee Recreational Issues Workshops. Regional land stewards handle regular administrative duties from their field locations to assure quick response to local concerns and management issues. Administrative activities for the Management Areas are handled through the Okeechobee Service Center.

7.1 Planning and Budgeting

Planning is a major function of the Land Stewardship Program mission and is critical to maintain proper program focus, direction, and coordination with other agencies. Planning is accomplished by division planning staff in coordination with land stewards. Division level planning develops land acquisition strategy and project evaluation, produces the Land Stewardship Activity Report for the Florida Forever Workplan, and coordinates acquisition planning with other District and outside agency personnel.

Policy 140-25(6)(b) General Management Plan: Provides a description of recommended management and is required for each Land Stewardship Management Area. The GMP follows a designated format and is updated every five years.

General Management Plans are developed that detail strategies to guide management activities on individual project areas. These plans define goals and objectives, identify major management issues, and describe management

activities. Each plan is subject to a draft revision period where public comment and professional review is requested prior to plan approval. Each plan is revised on a five-year cycle by planning team staff.

Policy 140-25(6)(d) Annual Work Plan: Summarizes activities corresponding with annual budget development and is prepared by the Operations Section of the Land Stewardship Program.

Annual work plans are developed each fiscal year for budget preparation and to address activities and projects targeted for completion within the upcoming fiscal year on individual properties. The Annual Work Plan includes performance objectives for exotic plant control, vegetation management, prescribed burning, resource protection, public use development, environmental monitoring, and contract administration.

For the Kissimmee River Management Areas the Annual Work Plans and budget are developed in concert with program-wide operational priorities and the budgetary cycle. Current year annual plans are available at the District headquarters in West Palm Beach.

Policy 140-25(6)(e) Summaries of management activities for each management area will be reported quarterly within the District and annually as part of the Florida Forever Work Plan.

Each month land managers submit regional management reports to document progress toward achieving annual work plan objectives. The monthly reports are kept on file at District headquarters. Land Stewardship semiannual meetings address management problems and plan for future management operations.

Policy 140-25(5) The District will secure dedicated funding sources, personnel and other resources to support program goals and objectives. Project funding needs and sources for cooperative management agreements with government and non-government entities will be identified during acquisition. A cooperative management agreement will designate a lead manager and identify whether District funding is required.

The principal source of funding for the Land Stewardship Program is the Water Management Lands Trust Fund, administered by the Florida Department of Environmental Protection. Money for this dedicated fund is generated from the sale of state documentary tax stamps and is used for property acquisition and management. Additional funding and support may be obtained from grants, mitigation, the harvest of renewable resources, land use leases, in-kind management services from cooperating management partners, or no-cost services from user groups and volunteers.

Budget planning begins in March during the work planning process for the following fiscal year (October-September). Overall funding availability generally determines management activities. Budget distribution among the District's five land management regions is based on a programmatic prioritization of management activities. Operational funds are distributed to most effectively accomplish the management objectives of each management area.

7.2 Infrastructure

Policy 140-25(3)(k) Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands. Such infrastructure may include access points, roads, trails, signs, utilities, and minimal public facilities.

The development of adequate infrastructure for public use and management activities has received support from the Commission, and the Kissimmee Division of the District. Current infrastructure which requires regular maintenance includes recreation access points and trailheads, perimeter posting and fencing, firelines, hiking trails and roads, kiosks, camp sites, law enforcement officer's housing, and other structures.

7.3 Personnel and Equipment

The Land Stewardship Program is separated into five geographic regions, each staffed with professional land stewards directed by the supervising land manager. Highly trained land management technicians are based at the DuPuis Management Area, the West Coast Field Office, and at the Orlando, Okeechobee, and Miami Service Centers. The Land Stewardship Division director and additional planning staff are headquartered at the main West Palm Beach office.

Stewardship of the Management Area is the primary responsibility of the District's Kissimmee River/Okeechobee regional land manager. Additional management input and support comes from District planning and Field Station personnel, as well as the Kissimmee Division. Staff has access to tools, supplies, four-wheel drive vehicles, fire suppression trucks, all terrain vehicles, swamp buggies, bull dozers, tractors, and other heavy equipment.

7.4 Volunteers and Alternative Work Force

Policy 140-25(5)(d)(1) Volunteers, interns and alternative work forces will be used when possible to supplement existing staff and services.

Section 373.1391(3) F.S. encourages the District to use volunteers for land stewardship and other services. The District recognizes the merits of

volunteerism and welcomes participation in activities appropriate for public involvement. The Florida Trail Association regularly provides volunteer service to maintain the portion of the Florida National Scenic Trail that passes through the Management Areas. The Florida Cracker Trail Association provides volunteer services that help to maintain the campground and historic barn at Hickory Hammock. The Florida Center for Environmental Studies coordinates a substantial amount of volunteer services through the Riverwoods facility including alternative spring break service opportunities for college students. Land Stewardship also utilizes a volunteer campground host at the S-65C campground. Other volunteer services have been provided by the Interagency Prescribed Fire Training Council, Eagle Scouts, the Florida Sportsmen's Conservation Association, and several other individual volunteers. Selection of appropriate management activities is at the discretion of the land steward and may fall under the general guidance of the supervising land steward. Volunteers have contributed many hours to maintenance and wildlife surveys. They have been particularly active in white-tailed deer surveys. All volunteer activities help accomplish management objectives, promote citizen involvement, and allow area staff to focus on other tasks.

7.5 Contractual Management

Policy 140-25(5)(a). The private sector may be solicited to furnish certain management-related facilities and services through the execution of leases and agreements. These leases/agreements will assure mutual benefits to both the District and private parties and be consistent with the program management objectives.

Effective operation and management of District properties requires the services and cooperation of private organizations, other governmental agencies, and volunteers. Contractual management is legalized through a management agreement signed by both the District and contracting entity with the document defining responsibilities of each party.

The District has established and maintains several contractual management agreements to assist with management:

Agreement #1 4600000961

This is a contractual multi-site agreement that authorizes the Florida Fish and Wildlife Conservation Commission to help manage several sites throughout the District, including the Kissimmee River Public Use Area (PUA); the KICCO Wildlife Management Area (Pool A), and the Hickory Hammock Wildlife Management Area (Pool C).

Agreement #2

C89-0065

A Memorandum of Understanding with the Florida Trail Association in which they agree to maintain the segment of the Florida National Scenic Trail that passes through the Kissimmee River Valley.

Agreement #3
OT040669

A 5-year contract (2003-2008) with the Florida Center for Environmental Studies to operate the Riverwoods Field Laboratory; the Center has developed a comprehensive Education and Research Program at Riverwoods targeting secondary and post-secondary students, educators, faculty, scientists, environmental professionals, and adults. The program highlights water resources education using the greater Kissimmee-Okeechobee-Everglades watershed as a model, focusing on the restoration of the greater Kissimmee River ecosystem; and the Comprehensive Everglades Restoration Plan.

Agreement #4
C-16035

A 5 year contract with the Florida Cracker Trail Association to develop and maintain equestrian facilities, a trail system, and the campground at Hickory Hammock.

Agreement #5
C-8318

A lease (1998-2045) for the Florida Park Service to manage District property in pool B as the Kissimmee Prairie Preserve State Park.

7.6 Management Review

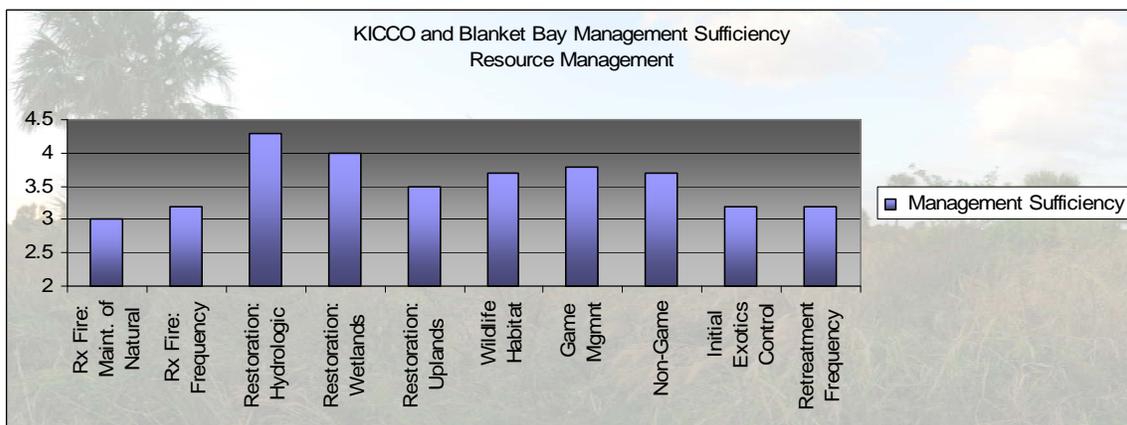
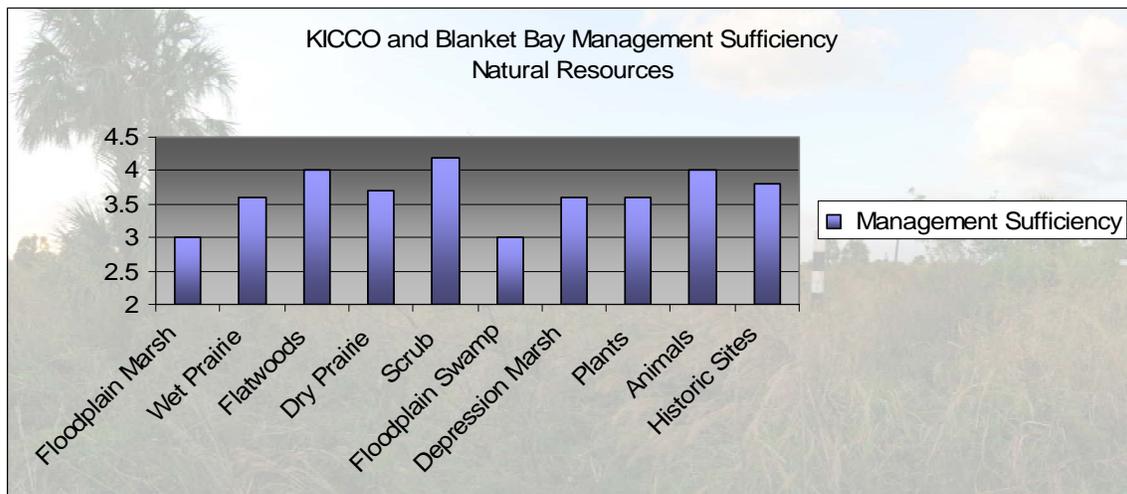
Policy 140-22(j) Section 373.591, Florida Statutes, mandates the District to solicit input on current management programs through professional peer reviews.

Each District project area has a land management review team comprised of state, county, and private entities that periodically reviews management activities to assure they are consistent with acquisition intent and program objectives. Management assessments are conducted in light of the goals and objectives defined in the area's general management plan. If the review team determines that management is not in accordance with the management plan, the lead management agency provides a written explanation to the review team.

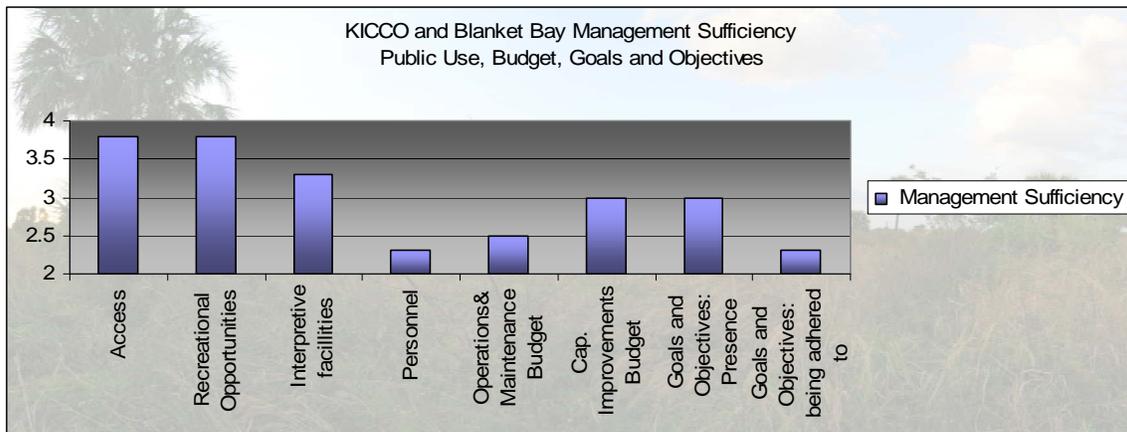
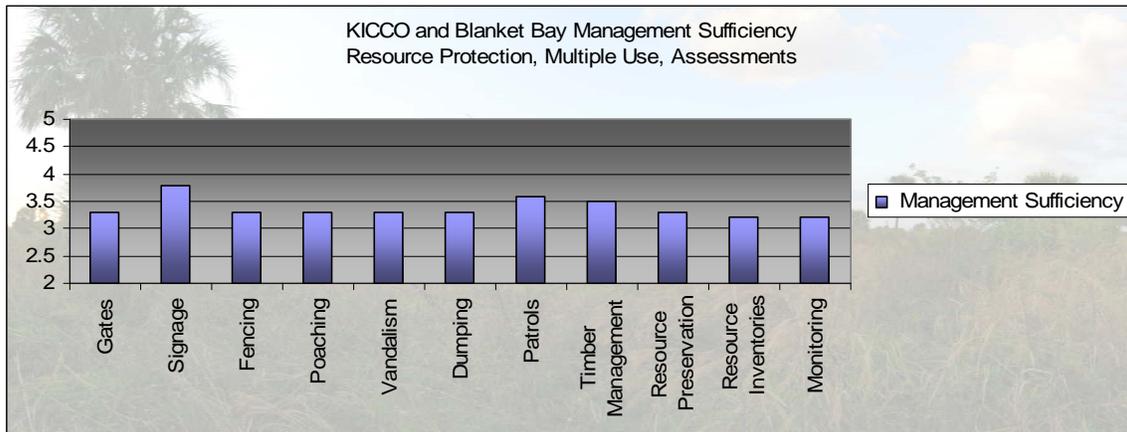
A management review of Pool A (KICCO and Blanket Bay Marsh) was conducted in August, 2006. The review team provided comments on the condition of the land and the management of the site. The most positive comments focused on the District’s consistent use of prescribed fire in the flatwoods community. There were also positive comments on the Commission’s wildlife management program.

Some additional commendations were made in regards to the recreation components and interagency cooperation.

The team also rated the management sufficiency of these lands on a scale from 1 to 5 on criteria such as: the natural resources, resource management activities, public use, budget, goals and objectives, resource protection, multiple use, and biological assessments and monitoring. The average scores by category are indicated on the graphs below:



**Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division**



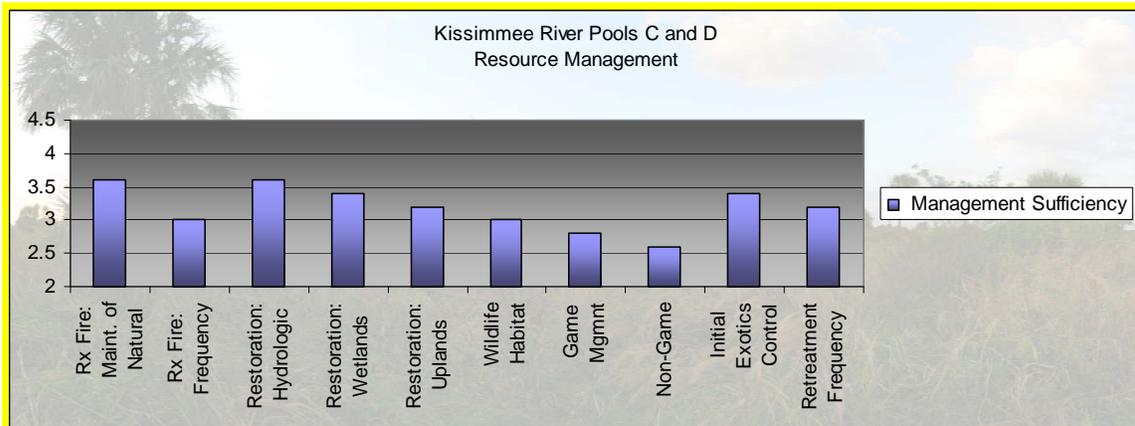
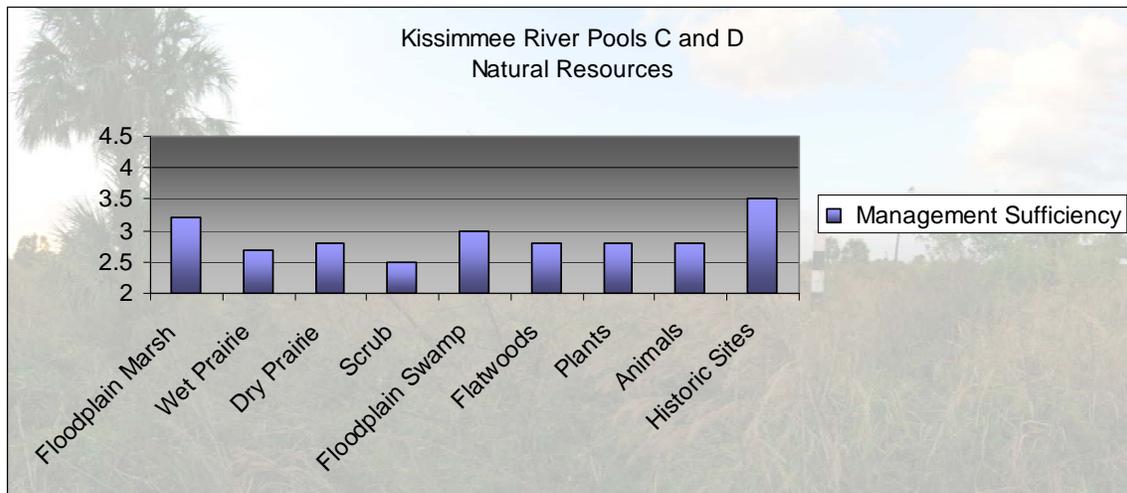
The review team expressed concern about the management of the cattle operations, and suggestions were made that review of the grazing program by range experts with the U.S. Department of Agriculture’s Natural Resource Conservation Service be done prior to the renewal of leases. The Land Stewardship Program has adopted this recommendation as a standard practice prior to grazing lease establishment and renewals.

The review team also expressed concern about the exclusion of fire from the floodplain due to the requirements of the river restoration. In response to this concern the Land Stewardship Program and the Kissimmee River Restoration Program have developed a program whereby areas of overgrown marsh are proposed for application of prescribed fire by Land Stewardship and are evaluated on a case-by-case basis by the Kissimmee Division as to whether or not the proposed fire is compatible with river restoration activities and their monitoring program. As a result of this new program four new areas within the floodplain totaling 2680 acres may be burned.

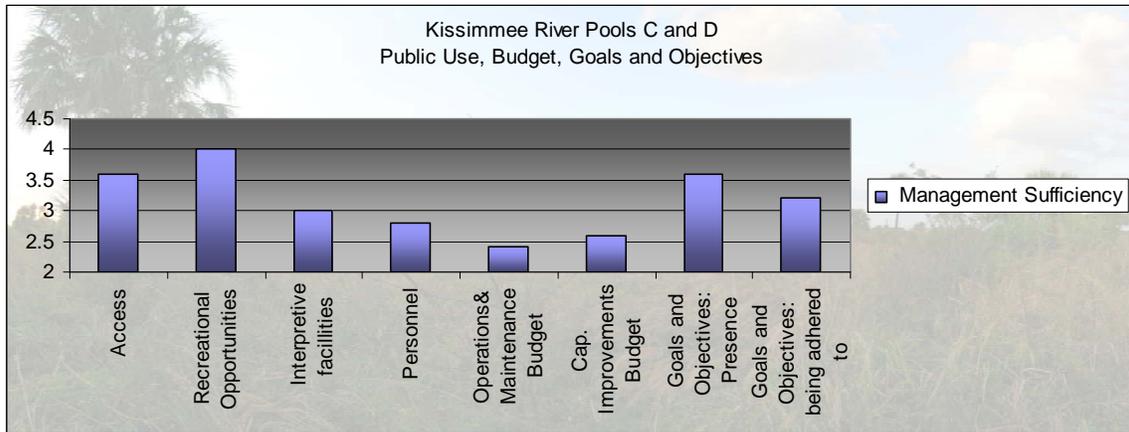
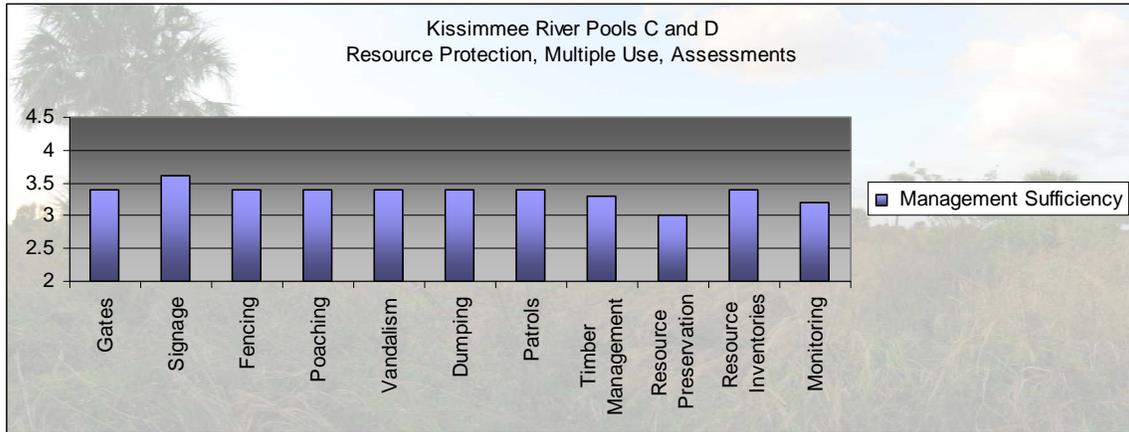
A management review of Pools C and D was conducted was conducted in September, 2007. The most positive comments focused on the amount of projects and ongoing activities being conducted with current staffing levels over such a large

acreage. Positive comments were also received on the variety and quality of recreation opportunities, the planned introduction of fire into the floodplain, and the completeness of the management plan.

As with Pool A, this team rated the management sufficiency of these lands on a scale from 1 to 5 on criteria such as: the natural resources, resource management activities, public use, budget, goals and objectives, resource protection, multiple use, and biological assessments and monitoring. The average scores by category are indicated on the graphs below:



Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division



The review team expressed concern about staff levels available for land management given the large acreage of the Kissimmee River Management Areas. The review team also expressed concern about having a more formal burn plan that follows recommended return intervals for natural communities; the Land Stewardship Program is seeking to adopt new performance measures for prescribed burning that is based on return intervals rather than a more generic acres burned. One reviewer expressed concern that more land needed to be excluded from cattle grazing, however another reviewer said more land needed to be leased for grazing.

The rankings for Pool C and D gave relatively low scores for the adequacy of the operations and maintenance budget, wildlife management (both game and non-game), and general management sufficiency for plants, animals, wet prairie, dry prairie, scrub, and flatwoods. There were no comments received that indicated what types of activities could be implemented on any lower ranked natural communities, or plants and animals in general, that were not already being utilized. There were general comments about needing more staff and operating funds, but none that indicated specific problems or shortfalls with the state and condition of those natural communities. The reviewers were most critical of the condition of the

floodplain marsh and the lack of fire that the community exhibited, however this community was ranked highest by the review team as having sufficient management actions being taken.

Excluding the floodplain marsh, the other natural communities are in good shape by any empirical measure. Exotic species are kept under control through an aggressive eradication program, fire dependant communities are burned on schedule. These natural communities may have been given a low ranking because of the abundance of areas exhibiting some traits of natural communities, such as the presence of native trees or some remnant prairie species, in areas that had been converted to pasture at some point in the past. These areas will continue to be maintained as pasture through cattle leases. It should be made clear during subsequent reviews that pasture areas should not be ranked as natural communities despite the presence of some native species.

Appendix A

Land Stewardship Program Goals and Policies

ARTICLE II. LAND STEWARDSHIP

Sec. 140-21. Scope.

This policy shall apply to all lands managed by the Land Stewardship Program, including property acquired with Save Our Rivers, Preservation 2000 or mitigation funding. Nothing in this policy shall negate any statute, administrative rule, or other policy requirement. This policy may be reviewed and approved by the District Governing Board at five-year intervals or earlier and updated as required. Public comment may be solicited as part of the review process.

(R.M. No. 139)

Sec. 140-22. Purpose.

(a) This policy establishes a commitment to the responsible management of District lands in a manner consistent with legislative directives and the District's mission.

(b) In 1981, the Florida Legislature established the "Save Our Rivers" program (SOR) for the five water management Districts to acquire water resource lands. This legislation (Section 373.59, Florida Statutes) produced the Water Management Lands Trust Fund, empowering the water management Districts to acquire lands needed to protect, manage, and conserve the state's water resources. Preservation 2000 (P2000), enacted by the Legislature in 1990, also added land acquisition funds to the Save Our Rivers program. The 1999 Florida Forever Act consolidated the legislative directives of SOR/P2000 and expanded the funding to take over when P2000 terminates. The 1999 legislation authorized funds to be appropriated for acquisition, management, maintenance and capital improvements, including perimeter fencing, signs, control of invasive exotic species, controlled burning, habitat inventory and restoration, law enforcement, access roads and trails, and minimum public accommodations.

(c) Land acquired by the District's Save Our Rivers program and managed by the Land Stewardship program must satisfy several requirements set forth in Sections 373.139 and 373.1391, Florida Statutes. Section 373.139, Florida Statutes, declares it necessary for the public health and welfare that water and water-related resources be conserved and protected. The acquisition of real property for this objective shall constitute a public purpose for which public funds may be budgeted.

(d) Section 373.1391(1)(a), Florida Statutes, states that lands titled to the water management districts shall be managed and maintained to the extent practicable to ensure a balance between public access, general public recreational purposes, and restoration and protection of their natural state and condition.

(e) Section 373.1391(1)(b), Florida Statutes, states, in part, that "Whenever practicable, such lands shall be open to the general public for recreational uses. General public recreational uses shall include, but not be limited to, fishing,

hunting, horseback riding, swimming, camping, hiking, canoeing, boating, diving, birding, sailing, jogging, and other related outdoor activities to the maximum extent possible considering the environmental sensitivity and suitability of those lands."

(f) Section 373.1391(1)(d), Florida Statutes, states that the District shall first consider using soil and water conservation Districts to administer agricultural leases.

(g) Section 373.1391(3), Florida Statutes, encourages each District to use volunteers to provide land management and other services.

(h) Section 373.1391(4), Florida Statutes, encourages each District to enter into cooperative land management agreements with state agencies or local governments to provide the coordinated and cost-effective management of lands.

(i) Section 373.1391(5), Florida Statutes, authorizes water resource and supply projects, stormwater management projects, linear facilities, and sustainable agriculture and forestry where it is compatible with the natural resource values and the public interest and is consistent with the project management plan, the proposed use is appropriately located on the property and other lands have been considered, and the titleholder of the property has been properly compensated.

(j) Section 373.591, Florida Statutes, mandates the District to solicit input on current management programs through professional peer reviews.

(R.M. No. 139)

Sec. 140-23. Statements of Policy.

The Land Stewardship Program mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands. The mission statement, together with requirements set forth in the Florida Statutes, provide three primary goals for the District Land Stewardship Program, each of which is linked to sections in this Land Stewardship Policy document:

- (1) Conservation and protection of water resources (section 140-25(1)).
- (2) Protection and/or restoration of land to its natural state and condition:
 - a. Restoration and Protection of Natural Communities (section 140-25(2)); and
 - b. Resource Operations and Maintenance (section 140-25(3)).
- (3) Provide public use (section 140-25(4)).

(R.M. No. 139)

Sec. 140-24. Definitions.

For the purpose of this article, the following words and terms shall have the meanings respectively ascribed:

Archaeological/Historic Resources means any prehistoric or historic district site, building, object, or property of historic, architectural, or archaeological value relating to the history, government, and culture of a historic or pre-historic people.

Best Management Practice (BMP) means the best available technology or process that is practical and achieves the desired goal or objective.

Capital Improvement means activities relating to the restoration, public access, recreational uses and necessary services for land and water areas, including the

initial removal of invasive plants, and the construction, improvement, enlargement or extension of facilities' signs, fire lines, access roads, and trails. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project.

Cooperating Agencies means two or more agencies working together to operate a specific management area.

Cooperative Management Agreement means an agreement between two or more agencies outlining the respective duties and responsibilities of each agency in the management of a specific tract of land.

Critical Habitat means areas designated for the survival and recovery of state/federally listed rare, threatened, endangered or other sensitive species.

Desirable Vegetation means native plant species that are appropriate for a specific community type and provide benefits to wildlife in the form of food, cover and nesting.

Habitat Diversity means richness and variety of native plant communities within a particular area of the landscape.

Hydroperiod means flooding duration, depth, and timing that influences species composition, ecosystem structure and function.

Interim Land Management means management of non-natural areas that provides revenue without impacting long-term water-development projects.

Invasive/Exotic Vegetation means certain plants that displace native species and adversely affect wildlife habitat, water quality, recreation, and biological diversity.

Lead Manager means the prime managing entity designated for a given tract of land; generally provides the on-site staff.

Management Area means a single tract or combination of tracts under one management program.

Mitigation means, for purposes of this policy, the actual acquisition, restoration, creation, or enhancement of wetlands to compensate for permitted wetland impacts.

Mitigation Banking means wetland acquisition, restoration, creation or enhancement undertaken expressly to provide compensation in advance of wetland losses from development activities.

Multiple-Use means the management of renewable resources for a variety of purposes such as recreation, range, timber, wildlife habitat, and water resource development.

Prescribed Fire means burning of vegetative fuels using controlled application of fire within specified environmental conditions.

Primary Resource Lands means lands having high water resource, fish, wildlife, and recreational values requiring acquisition or protection.

Regional Mitigation Area means, for purposes of this policy, permitted wetland impacts offset through payment for the acquisition, restoration and perpetual management of a Save Our Rivers identified and duly noticed project.

Responsible Management means level of management described in the General Management Plan.

Sustainable Use means to provide continued use of a natural resource without degradation or loss of that resource.

Water Resource Buffer means that portion of a Preservation 2000 or Save Our Rivers project necessary to protect the aquatic environment.

Wildlife Corridor means a connection between natural areas that allows the safe movement of wildlife.

(R.M. No. 139)

Cross references: Definitions and rules of construction, § 100-2.

Sec. 140-25. Responsibilities.

The Land Stewardship Program is responsible for:

(1) Water Resource Protection. The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources. The following policies guide implementation of this objective:

a. Acquired lands shall be managed to provide water resource-related benefits.

b. Land uses or activities that significantly or permanently alter or degrade the quality, quantity and/or natural movement of ground or surface water are not allowed unless they are a part of a regional water management system.

c. Where feasible, an attempt shall be made to restore a more natural hydroperiod on tracts where the drainage patterns have been altered.

d. Public use shall not result in detrimental impacts to water resources. When a public use activity produces detrimental effects on water resources, it shall be discontinued until an evaluation determines that such use is compatible.

e. Water resource lands designated as necessary to implement the Central and Southern Florida "Restudy" Project shall, upon acquisition, become the responsibility of the (Interim) Land Management Program, and follow the guidelines set forth under Section 373.1391(5), Florida Statutes.

(2) Restoration and Protection of Natural Communities:

a. The Land Stewardship Program will encourage the acquisition of large or regionally significant areas that protect important natural resources and provide wildlife corridors.

b. Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

c. The planting of invasive exotic plant species shall be prohibited in all management areas. Management practices will strive to identify existing infestations and implement appropriate control or eradication measures.

d. Where practicable, an attempt shall be made to restore and maintain desirable vegetation to promote habitat diversity in areas where invasive exotic vegetation, grazing practices, or improved land uses have substantially altered the historic landscape.

(3) Resource Operations and Maintenance:

a. Lands acquired for natural and/or hydrologic resource benefits shall be managed to conserve and protect those resources.

b. Exotic plant control in all management areas shall strive to attain a level of success where periodic maintenance eliminates the infestation or reduces the coverage of exotic plants.

c. Prescribed fire will be a primary management tool on District lands and will be applied within fire-maintained communities at appropriate intervals.

d. The Division of Forestry will be notified of all wildfires on District lands. Land Stewardship will provide initial suppression when commensurate personnel and equipment are available.

e. Inventories of natural and historic resources shall be performed to provide information for effective land management planning, natural community maintenance and ecological restoration.

f. Evaluation and monitoring of management activities shall be conducted to improve program effectiveness and efficiency.

1. Research shall evaluate the environmental response of certain management activities to assist staff in making appropriate management decisions.

2. Monitoring shall be conducted to identify landscape changes resulting from management activities.

3. Legislative-mandated management reviews will provide input from professional peers.

g. Resource protection shall be provided by professional law enforcement services through funded and unfunded contractual agreements to safeguard the public and protect natural and cultural resources on District-managed natural areas.

h. Sustainable use of forest resources shall be conducted where these activities adhere to a series of environmental criteria (see 1999 Forest Management Plan) that meet Land Stewardship Program goals. Timber contractors will be required to meet silvicultural Best Management Practices (BMP) developed for Florida forests.

i. Range management (grazing) will be considered on improved or native ranges when the introduction of cattle will not conflict with other natural resource management and public use goals.

j. Archaeological and historic resources are protected by site identification and inter-agency coordination with the Florida Division of Historical Resources. Land stewardship planning shall include an analysis of archeological data accompanied by appropriate public education opportunities.

k. Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands. Such infrastructure may include access points, roads, trails, signs, utilities, and minimal public facilities.

l. Mechanical equipment may be used in conjunction with prescribed burning and other management tools to control vegetation and restore habitat structure.

m. Agricultural developments previously existing on acquired natural areas may be maintained if management of these developments is consistent with other land stewardship goals.

(4) Public Use and Environmental Education:

a. Public use of management areas that is consistent with other management goals shall be encouraged. Public use that may have detrimental impacts on sensitive environmental resources shall be restricted until an evaluation determines such use is compatible. A public use compatibility assessment will be included in the General Management Plan completed for each management area and will be based on the following criteria:

1. Consistency with the reason the lands were acquired.
2. Restrictions and/or prohibitions imposed by easements, leases, reservations, adjacent land ownership, conditions of the purchase agreement, and any other agreements concerning the property.
3. Infrastructure and support facility requirements, such as fences, gates, signage, entry design, stabilized off-road parking, trails, campsites, maintenance, and other operational and budgetary impacts.
4. Opportunities for persons with disabilities.
5. Limitations resulting from endangered species, other sensitive natural resources, archaeological resources, or land management practices.
6. Public health, safety and welfare.
7. Environmental education program opportunities.

b. Public Use Regulation:

1. Public use regulations are set forth in 40E-7.511, Florida Administrative Code, to implement Section 373.1391(1)(b), Florida Statutes. Accordingly, the District shall publish and make available to the public a "Public Use Guide" for designated land management areas. The Public Use Guide will be adopted by the Governing Board at a public meeting advertised in accordance with Chapter 120, Florida Statutes.

2. Rules and regulations governing the public use of each management area shall be enforced by agencies with appropriate law enforcement jurisdiction.

3. Pursuant to Section 373.609, Florida Statutes, the District shall seek the cooperation of every state and county attorney, sheriff, police officer, and appropriate city and county official in the enforcement of the provisions set forth according to 40E-7.511, Florida Administrative Code.

4. Florida Fish and Wildlife Conservation Commission regulations shall govern hunting in areas opened for such use.

(5) Implementation Strategies. The District will secure dedicated funding sources, personnel and other resources to support program goals and objectives. Project funding needs and sources for cooperative management agreements with government and non-government entities will be identified during acquisition. A cooperative management agreement will designate a lead Manager and identify whether District funding is required.

a. The private sector may be solicited to furnish certain management-related facilities and services through the execution of leases and agreements. These leases/agreements will assure mutual benefits to both the District and private parties and be consistent with the program management objectives.

b. Mitigation:

1. Mitigation Banking: Mitigation banking provides an opportunity to accomplish large-scale restoration that may otherwise go unfunded. Pursuant to Section 373.4135, Florida Statutes, the District is encouraged to develop mitigation banks. Land managers will evaluate opportunities in their regions to implement mitigation banks that are consistent with the guidelines established in the Joint State and Federal Mitigation Bank Review Team Process for Florida.

2. Regional Mitigation Areas: The acquisition, restoration and management of District lands as mitigation shall be consistent with Chapter 2000-133, amending Sections 373.414 and 373.4135, Florida Statutes. This includes the establishment of Memorandums of Agreement (MOA) that include restoration plans, success criteria, and monitoring requirements. The MOAs will be used to implement mitigation using full-cost accounting, public noticing, and approval by the Governing Board for use as a mitigation area. The mitigation shall meet restoration objectives as provided in the General Management Plan.

c. Revenue Generation:

1. Private concessions and/or agreements with non-profit organizations will be considered to implement needed services through concession contracts.

2. Entrance and user fees, permits, licenses and/or advance reservations may be required where considered necessary by the managing agency.

3. Timber sales will be conducted to improve forest health or to support specific forest management goals.

4. Grazing leases will be encouraged on selected rangeland to generate revenue or to provide services that offset program management costs.

d. Volunteers and Interns:

1. Volunteers, interns and alternative work forces will be used when possible to supplement existing staff and services.

2. Any volunteer services must meet the standards and procedures prescribed by the District (Risk Management Manual, Volume 1).

(6) Program Components:

a. Management Assessment: A brief summary of the management issues completed when the site is identified for acquisition.

b. General Management Plan (GMP): Provides a description of recommended management and is required for each Land Stewardship Management Area. The GMP follows a designated format and is updated every five years.

c. Activity Plan (AP): Provides a detailed implementation strategy for specific activities such as prescribed burning, exotic removal and restoration. The plan shall be developed by the lead Manager in consultation with the cooperating agencies for each major tract of land (or group of tracts) to be operated as a single

management unit. The AP may be included in the GMP and is updated when necessary.

d. **Annual Work Plan (AWP):** Summarizes activities corresponding with annual budget development and is prepared by the Operations Section of the Land Stewardship Program.

e. **Reporting:** Summaries of management activities for each management area will be reported quarterly within the District and annually as part of the Florida Forever Work Plan.

(R.M. No. 139)

Secs. 140-26--140-40. Reserved.

Appendix B. Soil Descriptions

Flatwood Soils

Flatwood soils are poorly drained non-hydric, upland soils with sandy marine sediments throughout the profile. The seasonal high water table can range from six to 18 inches below the soil surface for three to six months annually. This soil type is dominant on the Management Areas uplands and uplands throughout the basin.

Flat Soils

Flat (previously referred to as slough) soils are poorly drained hydric soils with sandy marine sediments throughout the profile. Flats are located between the flatwoods and topographic depressions and are generally regarded as transition areas, e.g. a wet prairie or a slough. Generally, the seasonal high water table begins in June and ends from September or thereafter with inundation periods dependent upon seasonal rainfall or large storm events. Within the Management Areas the tributary sloughs and many of the depression marsh communities are buffered by soils of this this classification.

Sand Depression Soils

Sand depression soils are very poorly drained hydric soils that typically have sandy marine sediments throughout the profile. Often, these areas are depressions adjacent to flatwoods. The seasonal high water table can range from one foot below to two feet above the soil surface for seven to 10 months annually. Wetland communities dominate this landscape position. Within the Management Areas, most of the outer floodplain represent this soil class.

Muck Depression Soils

Muck depression soils are very poorly drained hydric soils that have an organic surface layer underlain by sandy marine sediments. These areas are often depressions adjacent to Flatwood soil-types. The seasonal high water table can range from six inches below to two feet above the soil surface for seven to eleven months annually. Wetland communities dominate this soil type. Examples within the Management Areas include the inner river floodplain .

Urban or Made Lands

Urban or made land areas have soils that have been altered, excavated, or disturbed and no longer possess their natural morphological features. These soils do not function as they did in their original state, and little information on this subject is available. The seasonal high water table varies by site and is usually controlled to inhibit flooding of developed areas. No ecological communities are representative of this landscape position. The spoil berms fall into this classification.

Water Areas

This classification represents areas that are permanently inundated, with depths usually two feet or more. No soil series or ecological community is associated with this classification. In the Management Areas, the channelized Kissimmee River and the oxbows and main channel of the old river best represent this category.

Appendix C. FNAI Natural Communities

Xeric Hammock

Xeric hammock is characterized as either a scrubby, dense, low canopy forest with little understory other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy (Florida Natural Areas Inventory, 1990). Soils are deep, sandy and well drained, conditions expected of topography created by old dune systems. Typical canopy species in the Kissimmee River basin are live oak (*Quercus virginiana*), sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*) and Chapman oak (*Quercus chapmanii*). The understory is generally sparse due to dry soil conditions and overstory shading. Understory species include saw palmetto (*Serenoa repens*), bracken fern (*Pteridium aquilinum*), myrsine (*Rapanea punctata*), silk bay (*Persea borbonia* var. *humilis*), highbush blueberry (*Vaccinium corymbosum*) and Carolina jessamine (*Gelsemium sempervirens*). Wild pine (*Tillandsia balbisina*), and laurel greenbriar (*Smilax* sp.) are common arboreal species.

Xeric hammock is the climax successional stage of scrub or sandhill. Isolated remnant hammocks are the result of maturing scrub, protected from fire. Once established, xeric hammock resists burning by a lack of contiguous understory fuel and a duff layer of relatively incombustible oak leaves. When fire does occur within this community, it removes canopy, understory and ground cover biomass, reverting the area back to scrub. In the Land Stewardship Program management units, xeric hammock is commonly associated with scrub and prairie hammock, with similar species composition.

Xeric hammock is scarce, however, there is one classic example of this rare community located in the KICCO Management Area. Special care will be taken to avoid soil disturbance and protect this area from fire during prescribed fire applications to surrounding natural communities. Xeric hammock has a Florida Natural Areas Inventory state ranking of “S3”, rare or uncommon in state. Due to its rarity, areas of xeric hammock will be identified and managed to ensure perpetuation of existing locations.

Scrub

Scrub occurs in many forms, but is often characterized as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs dominating the under-story (Florida Natural Areas Inventory, 1990). The later is the structural form for much of the scrub within the Management Areas. Typical plants include sand live oak, myrtle oak, Chapman’s oak, scrub oak, saw palmetto, rosemary (*Ceratiola ericoides*), rusty lyonia (*Lyonia ferruginea*), stagger bush (*Lyonia lucida*), runner oak (*Quercus pumila*), and wiregrass.

Highest elevations in the basin support this community. All scrub locations have sandy, well-drained, loose and non-organic soils. In the Kissimmee River

Management Areas, scrub is often associated with scrubby flatwoods, dry prairie, and in a few locations, xeric hammock.

Scrub is a fire dependent community. Fuel buildup is a lengthy process, as vegetation grows relatively slowly due to severe environmental conditions. With sufficient fuel, fire will burn with speed and intensity, returning nutrients to the soil and opening the canopy for light to reach ground layer species. Burns naturally occur once every 20 to 80 years. In an effort to maintain scrub sites, management practices include prescribed fire applied on a natural cycle for shrubby, oak-dominated scrub.

Scrub is being lost at an astounding rate throughout the state, as high elevations and fast drainage make this community highly desirable for development. This association occurs almost exclusively in Florida. State ranking of scrub is “S2”, imperiled in the state because of its rarity and vulnerability (Florida Natural Areas Inventory, 1990).

Prairie Hammock

Prairie hammock is characterized as a clump of tall cabbage palms and live oaks in the midst of prairie or marsh communities (Florida Natural Areas Inventory, 1990). Prairie hammocks establish on elevated soils surrounded by lower topography. These islands are generally flooded only for a short duration during the highest water levels. Naturally occurring fires are rare in these hammocks, due mainly to a lack of under-story fuel.

Canopy species in the floodplain are live oak and cabbage palm, with occasional laurel oak in lower elevations. An abundance of epiphytes, including listed species, are found in mature canopy trees. As in most prairie hammocks, those found here have a sparse under-story due to over-story shading, but cover is also reduced by cattle grazing and trampling of shrub and ground layer vegetation. Many species common to undisturbed hammocks are sparse or lacking, replaced by disturbance species such as broomweed (*Sida sp.*), tropical soda apple (*Solanum viarum*), and caesarweed (*Urena lobata*). Typical under-story plants of pristine prairie hammocks include wax myrtle, water oak, stoppers (*Eugenia sp.*), marlberry (*Ardisia escallonioides*), beautyberry (*Callicarpa americana*), and saw palmetto.

Florida Natural Areas Inventory ranks prairie hammocks as “G4” and “S4” both statewide and globally secure, although it may be quite rare in parts of its range, especially at the periphery. Land Stewardship management strives to minimize soil disturbance, restrict fire where appropriate and eradicate non-native invasive species within hammock areas.

Mesic Flatwoods

Mesic flatwoods are characterized as an open canopy forest of sparse pine trees with little or no under-story but a dense ground cover of herbs and shrubs. Two

common vegetation associations are longleaf pine/wiregrass/runner oak and slash pine/gallberry/saw palmetto. In the MA, slash pine dominates the over-story and gallberry (*Ilex glabra*), saw palmetto and fetterbush occur in the understory. Other typical plants include St. Johns-wort (*Hypericum sp.*), dwarf huckleberry (*Gaylussacia dumosa*), staggerbush, blueberry (*Vaccinium sp.*), gopher apple (*Lycania michauxi*), tar flower, bog buttons (*Lachnocalon sp.*), blackroot (*Pterocaulon pycnostachyum*), and yellow-eyed grass (*Xyris sp.*).

This community occurs on similar soils as dry prairies and wet flatwoods, with minor changes in topography determining community type. Acidic sands overlay hardpan that reduces water exchange between the soil surface and subsurface. Thus rainy seasons produces surface flooding, and dry seasons extreme drought, influencing vegetation species composition. Plants of this community have adapted to long intervals of inundation and desiccation, and acclimated to periodic fire.

Natural fires occur every one to eight years. Frequency of fire determines community type between dry prairie and mesic flatwoods, with longer fire intervals favoring mesic flatwoods.

Wet Flatwoods

Wet flatwoods are characterized as relatively open-canopy forests of scattered pine trees or cabbage palms with either a thick shrubby under-story and very sparse ground cover, or a sparse under-story and a dense ground cover of hydrophytic herbs and shrubs, with variations between these extremes (Florida Natural Areas Inventory, 1990). Other plants associated with this habitat type in the MA include wax myrtle, saw palmetto, beakrush (*Rhynchospora sp.*), St. John's-wort (*Hypericum sp.*), and blue maidencane (*Amphicarpum muhlenburgianum*).

Wet flatwoods develop on poorly drained acidic, low nutrient sands underlain by hardpan. Surface water appears a minimum of one month per year. Natural fire frequency is considered to be three to 10 years. Frequent fire postpones hardwood succession and thins canopy trees, while promoting under-story growth and fire-adapted species.

State ranking is "S4", apparently secure in the state, although it may be rare in some parts of its state range. Global ranking requires further research. Most wet flatwoods are extremely vulnerable to hydrologic manipulation and exotic invasion.

Wet Prairie

Wet prairie is characterized as a treeless plain with a sparse to dense ground cover of grasses, sedges, rushes, and herbs; including wiregrass, toothache grass (*Ctenium aromaticum*), maidencane (*Panicum hemotomon*), spikerush (*Eleocharis sp.*), and beakrush (*Rhynchospora sp.*). Other typical plants include

hatpins (*Lachnocaulon sp.*), marsh pinks (*Rhexia sp.*), crownbeard (*Verbesina chapmanii*), sundews (*Drosera sp.*), tickseed (*Bidens sp.*), wax myrtle, St. John's-wort (*Hypericum sp.*), and Panicums (Florida Natural Areas Inventory, 1990).

Wet prairies occur on low, flat, poorly drained terrain and are inundated from 50 to 100 days per year. Wet prairie species have adapted to long periods of drought conditions due to rainfall seasonality. Soils typically are sands with a major organic component. Fire plays an integral role in wet prairie ecology, and with sufficient fuel build-up, burns every two to four years. If deprived of fire, these grass-dominated flatlands succumb to shrub encroachment, and are especially vulnerable to wax myrtle infestations.

Wet prairie has a state ranking of "S4", apparently secure in the state, although it may be rare in some parts of its state range. Global ranking requires further research.

Floodplain Swamp

Floodplain swamp occurs on flooded soils along river channels and in low spots and oxbows within river floodplains. Dominant trees are usually buttressed hydrophytic species such as cypress and tupelo. Floodplain swamps in the MA grade into baygalls, and often contain many of the same species, with only species dominance varying. Soils and hydroperiods determine species composition and community structure. Baygalls are generally characterized as densely forested, peat-filled seepage depressions, frequently located at the edges of the floodplain where high water tables maintain soil moisture. The MA swamps are dominated by a mixture of swamp bay (*Persea palustris*) and loblolly bay (*Gordonia lasianthus*), with scattered red maple (*Acer rubrum*), cypress (*Taxodium distichum*), laurel oak, and cabbage palm. Typical under-story species include lizard's tail (*Saururus cernuus*), gallberry, wax myrtle laurel greenbrier (*Smilax laurifolia*), poison ivy (*Toxicodendron radicans*), chain fern (*Woodwardia virginiana*) and wild grape (*Vitis sp.*).

River swamps are characterized by surface flow early in the growing season and have both a short hydroperiod and a perceptible flow rate for at least part of each year. (Myers and Ewel, 1990). Naturally occurring fires are infrequent in floodplain swamps, due to the lack of dense understory fuels and slow peat accumulation. During periods of drought, fuel may dry out sufficiently to carry fire in backwater areas. Severe fire can destroy the peat layer and transform the baygall swamp into another community such as wet flatwoods or cypress swamp, depending on the depth of peat removal. To prevent peat fires in floodplain swamps, prescribed fire is applied to surrounding communities when soils within the floodplain are saturated.

Floodplain swamps are ranked statewide as "G4", apparently secure statewide, though it may be quite rare in parts of its range, especially at the periphery. Global ranking requires further research.

Floodplain Marsh

Floodplain marsh are wetlands of herbaceous vegetation and low shrubs that occur in river floodplains (*Florida Natural Areas Inventory, 1990*). Typical emergent vegetation includes maidencane, buttonbush, sand cordgrass (*Spartina bakeri*), dotted smartweed (*Polygonum punctatum*), arrowheads (*Sagittaria sp.*), pickerelweed (*Pontedaria cordata*), spikerush, bulrush (*Scirpus sp.*), tickseed (*Coreopsis sp.*), and water primrose (*Ludwigia sp.*).

Floodplain marshes depend on periodic fire to reduce shrub dominance, and maintain species diversity and herbaceous openings. Natural fires have historically occurred every one to five years, depending on the density of fuel available (*Florida Natural Areas Inventory, 1990*). Summer lightning-initiated burns consumed above-water vegetation but preserved the floodplain's thick peat accumulation. Long-term fire exclusion favors floodplain marsh succession to a bog.

Floodplain marsh has a state ranking of "S2", imperiled because of rarity, or little remaining area, or because of some factors making it very vulnerable to extinction throughout its range. Further research is required to determine global ranking. The principle cause of ecological degradation of Florida's marshes has been dewatering (Myers and Ewel, 1990).

Floodplain Forest

Floodplain forests are hardwood forests that occur on drier soils at slightly higher elevations within floodplains, such as on levees, ridges and terraces, and are usually flooded for a portion of the growing season. The dominant trees in south Florida include oaks and cypress. The floodplain forests include red maple, laurel oak, bald cypress, cabbage palm, red maple, strangler fig (*Ficus aurea*), red, sweet bay (*Magnolia virginiana*), wax myrtle, myrsine (*Rapanea punctata*), buttonbush, poison ivy, leather fern (*Acrostichum danaeifolium*), sawgrass, royal fern (*Osmunda regalis*) and lizard's tail (*Saururus cernuus*).

Hydroperiod is the most important factor influencing floodplain forests, which are inundated by floodwaters nearly every year up to 60% of the growing season. The organic material accumulating on the forest floor is redistributed in the floodplain during floods. Floodplain forests usually do not have standing water in the dry season. Floodplain forests are often associated with, and grade into, floodplain swamp or baygall. Species composition is frequently similar to that of hydric hammock communities.

Natural fires are infrequent in floodplain forests due to the lack of dense understory fuels and slow peat accumulation. During periods of drought, floodplain fuels may dry sufficiently to carry fire. Normally, light surface fires burn into the younger fringe from neighboring communities, but seldom reach

the largest trees in the deepest portion of the forest. The Land Stewardship Program regulates fire schedules to insure floodplain forests burn at natural frequencies and during periods of adequate ground moisture.

Maintenance of natural hydrologic regimes is critical to floodplain forest health. Species composition and the functional relationships throughout a river system are negatively impacted by hydrological alterations such as artificial impoundments, river diversion projects, pesticide use, forest clear cutting or intensive agriculture (Florida Natural Areas Inventory, 1990).

Floodplain forests have a state ranking of “S3”, rare or uncommon in the state. Further research is required for a definitive global classification.

Depression Marsh

Depression marsh, also known as a flatwoods pond, is characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation often occurring in concentric bands (Florida Natural Areas Inventory, 1990). Typical plants include St. John’s-wort, spikerush (*Eleocharis sp.*), yellow-eyed grass, chain fern, primrose willow (*Ludwigia peruviana*), maidencane (*Panicum hemitomon*), wax myrtle, buttonbush, pickerelweed, arrowhead, and bladderwort.

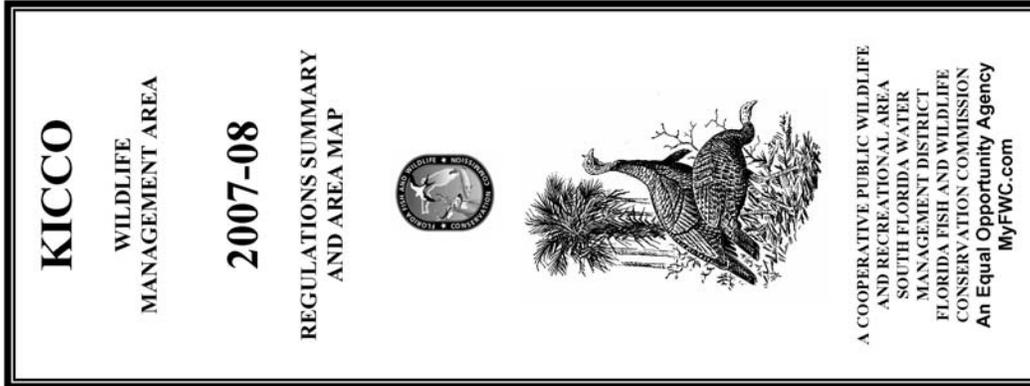
Where marshes occur, one of three geological conditions is present: surficial deposits are impermeable, the water table emerges through the permeable substrate, or the marsh is hydrologically connected to a river (Kushlan, 1991). Depression marshes are typically small in size and hydrologically isolated from other surface water bodies. Water is received by runoff, seepage or direct rainfall. Hydroperiods range widely from as few as 50 days or less to more than 200 days per year ((Florida Natural Areas Inventory, 1990). Bottom soils are generally acidic peat, resulting from accumulation of decayed plant material. This community frequently grades into wet or mesic flatwoods.

Natural fire occurs in depression marshes every one to five years, depending on a combination of weather conditions and fuel build-up. Fire preserves the open canopy by limiting invasion of woody vegetation, promoting herbaceous growth, and slowing succession by deepening the marsh with an occasional peat fire. The Land Steewardship Program coordinates fire schedules to insure depression marshes burn at natural frequencies and during periods of adequate ground moisture.

Depression marshes provide critical breeding and foraging habitat for a wide assemblage of amphibians and reptiles not found in larger, more permanent systems. Cyclic surface water availability promotes foraging by numerous listed wading bird species such as the wood stork, white ibis, snowy egret, and sandhill crane.

Depression marsh is ranked statewide as “S”, either very rare throughout its range; or found locally, even abundantly at some of its locations in a restricted range; or because of other factors making it vulnerable to extinction throughout its range. Global ranking indicates it is apparently secure, though it may be quite rare in parts of its range, especially at the periphery. Further research is required for a definitive global classification.

Appendix D. Kissimmee River Hunting Program



This brochure is designed to provide the public with information and a summary of regulations pertaining to hunting and other recreational use on the KICCO Wildlife Management Area. **Regulations that are new or differ substantially from last year are shown in bold print.** Area users should familiarize themselves with all regulations. For exact wording of the wildlife laws and regulations, see the Florida Fish and Wildlife Conservation Commission's wildlife code, on file with the Secretary of State and state libraries. This brochure, the Florida Hunting Regulations handbook, and quota permit worksheets should provide the information necessary for you to plan your hunting activities. These publications are available from any Commission office, county tax collector and at MyFWC.com.

Persons using wildlife management areas are required to have appropriate licenses, permits and stamps. The following persons are exempt from all license and permit requirements (except for quota permits when listed as "no exemptions", recreational use permits and the Migratory Bird Hunting and Conservation Stamp [federal duck stamp]): Florida residents who are 65 years of age or older; residents who possess a Florida Resident Disabled Person Hunting and Fishing Certificate; residents in the U.S. Armed Forces, not stationed in Florida, while home on leave for 30 days or less, upon submission of orders; and children under 16 years of age. Children under 16 years of age are exempt from the federal duck stamp.

Hunting, trapping and fishing licenses, and management area, archery, muzzleloading gun, wild turkey and state waterfowl permits may be purchased from county tax collectors, license agents, the Internet at MyFWC.com/license or by telephone at 1-888-486-8356. A no-cost Migratory Bird Permit is available when purchasing a hunting license. Any waterfowl hunter 16 years of age or older must possess a federal duck stamp; available at most post offices or at duckstamp.com.

QUOTA PERMIT INFORMATION:

Archery - 25, no-cost, quota permits (no exemptions) for each of 5 hunts.
Muzzleloading Gun - 15, no-cost, quota permits (no exemptions) for each of 2 hunts.

General Gun Hog - 20, no-cost, quota permits (no exemptions) for each of 5 hunts.

Spring Turkey - 15, no-cost, quota permits (no exemptions) for each of 5 hunts.

Permit applications: Hunters must submit electronic applications for recreational use, quota and special-opportunity permits at a license agent, county tax collector's office or online at MyFWC.com. Most quota and

special opportunity permits are issued during a random drawing, which includes all applications submitted during the times and dates listed below. Any remaining permits are issued first-come, first-served.

A worksheet with a list of available permits may be obtained 1 - 2 weeks before each application period from FWC offices, tax collectors, license agents and online at MyFWC.com. Application for random drawings begins 10:00 a.m. eastern time on the first day of the application period and ends midnight eastern time on the last day. **Archery/Muzzleloading Gun and General Gun** quota permit applications may be submitted June 1 - 11. **Spring Turkey** quota permit applications may be submitted October 30 - November 8.

Youth exemption: For those seasons listed as "no exemptions", one youth younger than 16 years of age may accompany a person 18 years of age or older who holds a valid quota permit (except special-opportunity) and participate in the hunt, provided that the permittee and youth collectively may take only one daily bag limit.

Transfer of permits: Quota permits are transferable. Quota permits issued to exempt hunters are transferable only to another person with the same type of exemption, except permits marked "exempt senior" may be transferred to a youth younger than 16 years of age. The sale or purchase of any quota permit is prohibited.

GENERAL AREA REGULATIONS:

All general laws and regulations relating to wild animal life or freshwater aquatic life shall apply unless specifically exempted for this area. Hunting or the taking of wildlife or fish on this area shall be allowed only during the open seasons, and in accordance with the following regulations.

1. Any person hunting deer or accompanying another person hunting deer shall wear at least 500 square inches of daylight fluorescent-orange material as an outer garment, above the waistline. This is not required during an archery-only season.
2. Taking of spotted fawn, swimming deer or roasted turkey is prohibited. Species legal to take are listed under each season.
3. It is illegal to hunt over bait or place any bait or other food for wildlife on this area.
4. Driving a metal object into any tree, or hunting from a tree into which a metal object has been driven, is prohibited.
5. No person shall cut, damage, or remove any natural, man-made or cultural resource without written authorization of the landowner or primary land manager.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

6. Taking or attempting to take any game with the aid of live decoys, recorded game calls or sounds, set guns, artificial light, net, trap, snare, drug or poison is prohibited.
 7. The wanton and willful waste of wildlife is prohibited.
 8. Hunting, fishing or trapping is prohibited on any portion of the area posted as "CLOSED" to those activities.
 9. People, dogs, vehicles and other recreational equipment are prohibited in areas posted as "Closed to Public Access" by FWC administrative action.
 10. Taking or herding wildlife from any motorized vehicle, aircraft or boat which is under power is prohibited, until power and movement from that power, has ceased.
 11. Most game may be hunted from one-half hour before sunrise until one-half hour after sunset (see exceptions for each season).
 12. The release of any animal is prohibited, without written authorization of the landowner or primary land manager.
 13. The head and evidence of sex may not be removed from the carcass of any deer or turkey on the area.
 14. The planting or introduction of any non-native plant is prohibited, without written authorization of the landowner or primary land manager.
 15. Wild hogs may not be transported alive.
 16. It is unlawful for any person to leave any garbage or refuse, or in any way litter in the area.
 17. It is unlawful to set fire to any forest, grass or woodlands.
 18. A Fish and Wildlife Conservation Commission Law Enforcement Officer may search any camp, vehicle or boat, in accordance with law.
 19. Fires other than campfires at designated campsites are prohibited.
 20. The portion of the area north and east of River Ranch Blvd. shall be open to hunting only during the General Gun Hog season.
 21. Additional hog management hunts may be conducted on this area. Refer to KICCO Public Small Game Hunting Area brochure for additional information.
5. Check station hours are 5 a.m. to 9 p.m. during Eastern Daylight Savings Time and 4 a.m. to 8 p.m. during Eastern Standard Time, except during the Spring Turkey season when hours are 5 a.m. to 2 p.m. and the General Gun Hog season when hours are 5 a.m. to 8 p.m.

GUNS:

1. Possession of centerfire or rimfire rifles and pistols is prohibited.
2. Possession of a gun is allowed only during periods when hunting with a gun is permitted, **except a person in possession of a valid Concealed Weapon or Firearm License may carry concealed handguns.**
3. Hunting with a gun and light is prohibited.
4. Muzzleloading guns used for taking deer must be .40 caliber or larger, if firing a single bullet, or be 20 gauge or larger if firing two or more balls.
5. Possession of a loaded, capped or primed firearm, or discharge of a firearm on, from or across any campsite or check station is prohibited.
6. Children under the age of 16 may not be in possession of a firearm unless in the presence of a supervising adult.
7. No person shall have a gun under his control while under the influence of alcohol or drugs.
8. For taking non-migratory game, only shotguns, longbows (including compound and recurve bows), crossbows (during the general gun season or by permit only) or falconry may be used.
9. For taking migratory game, only shotguns, bow and arrow (not crossbows), and falconry may be used. Shotguns shall not be larger than 10 gauge and shall be incapable of holding more than three shells in the magazine and chamber combined.
10. Firearms using rimfire or non-expanding, full metal jacket (military ball) ammunition are prohibited for taking deer.
11. Fully automatic or silencer-equipped firearms, centerfire semi-automatic rifles having a magazine capable of holding more than five rounds, explosive or drug-injecting devices and setguns are prohibited.

DOGS:

1. Hunting deer with dogs is prohibited.
2. Hunting with dogs is prohibited, except bird dogs, retrievers or dogs with a shoulder height of 15 inches or less are allowed during the Small Game season.
3. No person shall allow any dog to pursue or molest any wildlife during any period in which the taking of wildlife by the use of dogs is prohibited.
4. Dogs on leashes may be used for trailing wounded game.
5. For purposes other than hunting, dogs are allowed, but must be kept under physical restraint at all times.

CAMPING:

1. Prohibited except at designated hunt campsites during periods when hunting is allowed or by persons possessing a special use-license issued by the South Florida Water Management District, 800-250-4200.
2. Camping equipment may be taken onto the WMA after 8 a.m. the day before the opening of a season and shall be removed by 6 p.m. one day after the end of the season.
3. Only tents may be used for camping at designated hunt campsites.

BAG AND POSSESSION LIMITS:

1. Deer - Daily limit 2, possession limit 4.
2. Wild hog - No size or bag limit.
3. Turkey - One per quota permit, daily limit 1, season limit 2, possession limit 2.
4. Gray squirrel, quail and rabbit - Daily limit 12, possession limit 24 for each game species.
5. Raccoon, opossum, armadillo, beaver, coyote, skunk and nutria - No bag limits.
6. Bobcat and otter - Prohibited.
7. Migratory birds - See Migratory Bird Hunting Regulations pamphlet.

PUBLIC ACCESS AND VEHICLES:

1. Open to public access year-round.
2. Hunters in possession of a valid quota permit may operate motor vehicles on named or numbered roads during the Archery, Muzzleloading Gun, General Gun Hog and Spring Turkey season. Motor vehicle access is not allowed during the Small Game season.
3. Vehicular access is prohibited from 1.5 hours after sunset until 1.5 hours before sunrise.
4. Vehicles must be parked in designated parking areas or within 25 feet of KICCO Grade Road.
5. No motor vehicle shall be operated on any part of any wildlife management area that has been designated as closed to vehicular traffic.
6. The use of tracked vehicles, all-terrain vehicles, motorcycles or airboats is prohibited.
7. Horses are prohibited except by written permission from the South Florida Water Management District, 800-250-4200.
8. A public boat ramp is located just south of S.R. 60 at Structure 65 (Spillway and Navigational Lock).
9. A marked footpath called the Florida Trail traverses the area. This trail is open to hikers throughout the year.

HUNTERS AND CHECK STATIONS:

1. Hunting equipment and dogs may be taken onto the WMA after 8 a.m. the day before the opening of a season and shall be removed by 6 p.m. one day after the end of the season. Vehicle access is not allowed before or after the season dates listed on a quota permit.
2. Scouting is allowed year-round with access by foot, bicycle or boat.
3. Hunters shall check in or out at a designated check station when entering or exiting the area, and shall check all game taken. During the Small Game season hunters shall use the self-service check station and report all game taken.
4. No deer, wild hog or turkey shall be dismembered until checked at a designated check station.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

ARCHERY:

September 22 through October 21 (Saturdays and Sundays only).

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit, archery permit, wild turkey permit (if hunting wild turkeys), migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Any deer (except spotted fawn), wild hog, turkey of either sex, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Regulations Unique to the Archery Season - In addition to these regulations, all General Area Regulations shall apply. Possession of firearms or crossbows is prohibited, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).

MUZZLELOADING GUN:

October 27 through November 4 (Saturdays and Sundays only).

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit, muzzleloading gun permit and migratory bird permit (if hunting migratory birds).

Legal to Take - Deer with at least one antler 5 inches or more in length, wild hog, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Regulations Unique to the Muzzleloading Gun Season - In addition to these regulations, all General Area Regulations shall apply. Only muzzleloading guns are allowed, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).

GENERAL GUN HOG:

November 10 through December 9 (Saturdays and Sundays only).

Permit, Stamp and License Requirements - Quota permit, hunting license and management area permit.

Legal to Take - Wild hog.

Regulations Unique to the General Gun Hog Season - In addition to these regulations, all General Area Regulations shall apply. Possession of centerfire or rimfire rifles or pistols is prohibited.

SMALL GAME:

December 15 through January 6.

Permit, Stamp and License Requirements - Hunting license, management area permit, migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Wild hog, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Regulations Unique to the Small Game Season - In addition to these regulations, all General Area Regulations shall apply.

1. Hunting with bird dogs, retrievers or dogs with a shoulder height of 15 inches or less is allowed.
2. Possession of centerfire or rimfire rifles or pistols is prohibited.

TRAPPING: Prohibited.

SPRING TURKEY:

March 15 through April 13 (Saturdays and Sundays only).

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit and wild turkey permit.

Legal to Take - Bearded turkey or gobbler.

Regulations Unique to the Spring Turkey Season - In addition to these regulations, all General Area Regulations shall apply.

1. Possession of centerfire or rimfire rifles or pistols is prohibited.
2. Legal shooting hours are one-half hour before sunrise until 1 p.m.
3. The taking of any other animal is prohibited.

MIGRATORY BIRDS:

Rails, common moorhens, mourning doves, white-winged doves, snipe, ducks, geese, coots, woodcock and crows may be hunted during seasons established by the Commission for these species that coincide with the archery, muzzleloading gun or small game season.

Permit, Stamp and License Requirements - Quota permit (if hunting during any quota period), hunting license, management area permit, migratory bird permit, and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - See Migratory Bird Hunting Regulations pamphlet.

Regulations Unique to Migratory Birds - In addition to these regulations, all General Area Regulations shall apply.

1. The use of lead shot for taking ducks, geese and coots is prohibited.
2. Centerfire shotguns are permitted during established area seasons when one or more migratory birds are legal to take.

FISHING AND FROGGING:

Permitted year-round.

Permit, Stamp and License Requirements - Fishing license (not required when frogging).

Legal to Take - See Florida Freshwater Fishing Regulations Summary.

Regulations Unique to Fishing and Frogging - All General Area Regulations and General Freshwater Fishing Regulations shall apply.

GENERAL INFORMATION:

1. Anyone born on or after June 1, 1975 must have passed a Commission-approved hunter-safety course prior to being issued a hunting license.
2. If you have any questions about this material, please call the Fish and Wildlife Conservation Commission at 863-648-3200 (TDD 800-955-8771).

SOUTH FLORIDA WMD RULES AND INFORMATION:

1. This land was acquired under the Save Our Rivers (SOR) Program. The purpose of SOR is to conserve and protect unique and irreplaceable lands, restore areas to their original condition as much as possible, and allow controlled multiple recreational and educational uses consistent with this purpose.

COOPERATION REQUESTED:

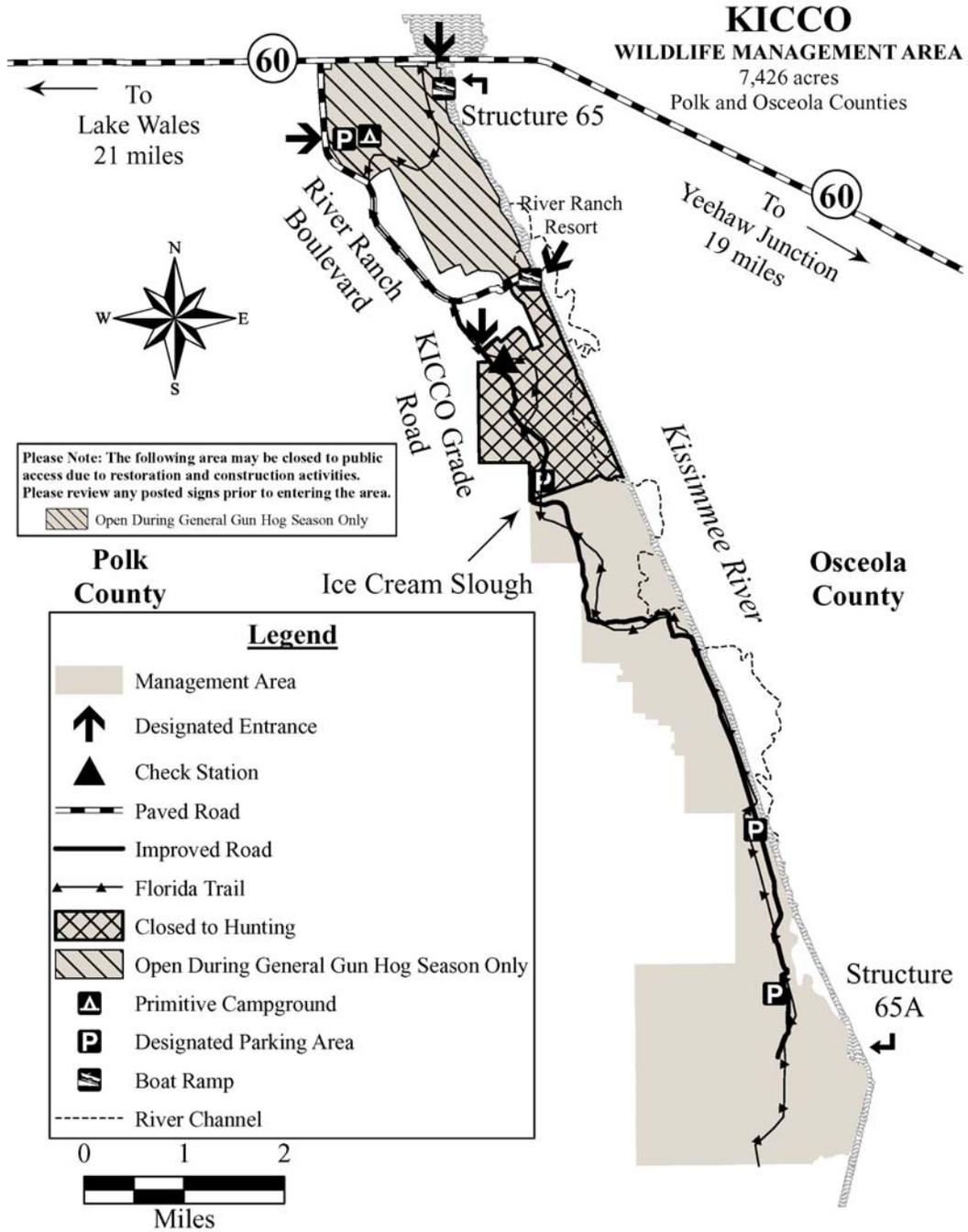
If you see law violators or suspicious activities, contact your nearest Commission regional office or call 1-888-404-FWCC. You may qualify for a cash reward from the Wildlife Alert Reward Association.

Please do not drive vehicles from sunrise to 9 a.m. during the Archery, Muzzleloading Gun, General Gun Hog and Spring Turkey seasons.

The U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, age, sex or handicap. If you believe that you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please write to: The Office for Human Resources, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. The project described in this publication is part of a program funded by federal dollars under the Wildlife Restoration Act. Federal funds pay 20 percent of the cost of the program.



Kissimmee River Management Areas General Management Plan 2008 – 2013
 South Florida Water Management District, Land Stewardship Division



Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division



This brochure is designed to provide the public with information and a summary of regulations pertaining to hunting and other recreational use on the Kissimmee River Public Use Area. **Regulations that are new or differ substantially from last year are shown in bold print.** Area users should familiarize themselves with all regulations. For exact wording of the wildlife laws and regulations, see the Florida Fish and Wildlife Conservation Commission's wildlife code, on file with the Secretary of State and state libraries. This brochure, the Florida Hunting Regulations handbook, and quota permit worksheets should provide the information necessary for you to plan your hunting activities. These publications are available from any Commission office, county tax collector and at MyFWC.com.

Persons using public use areas are required to have appropriate licenses, permits and stamps. The following persons are exempt from all license and permit requirements (except for quota permits when listed as "no exemptions", recreational use permits and the Migratory Bird Hunting and Conservation Stamp [federal duck stamp]): Florida residents who are 65 years of age or older; residents who possess a Florida Resident Disabled Person Hunting and Fishing Certificate; residents in the U.S. Armed Forces, not stationed in Florida, while home on leave for 30 days or less, upon submission of orders; and children under 16 years of age. Children under 16 years of age are exempt from the federal duck stamp.

Hunting, trapping and fishing licenses, and management area, archery, crossbow, muzzleloading gun, wild turkey and state waterfowl permits may be purchased from county tax collectors, license agents, the Internet at MyFWC.com/license or by telephone at 1-888-486-8356. A no-cost Migratory Bird Permit is available when purchasing a hunting license. Any waterfowl hunter 16 years of age or older must possess a federal duck stamp; available at most post offices or at duckstamp.com.

QUOTA PERMIT INFORMATION:

Quota permits are not required for this area.

GENERAL AREA REGULATIONS:

All general laws and regulations relating to wild animal life or freshwater aquatic life shall apply unless specifically exempted for this area. Hunting or the taking of wildlife or fish on this area shall be allowed only during the open seasons, and in accordance with the following regulations.

1. Any person hunting deer or accompanying another person hunting deer shall wear at least 500 square inches of daylight fluorescent-orange material as an outer garment, above the waistline. This is not required during an archery-only season.

2. Taking of spotted fawn, swimming deer or roosted turkey is prohibited. Species legal to take are listed under each season.
3. It is illegal to hunt over bait or other food for wildlife on this area.
4. Taking or attempting to take any game with the aid of live decoys, recorded game calls or sounds, set guns, artificial light, net, trap, snare, drug or poison is prohibited.
5. The wanton and willful waste of wildlife is prohibited.
6. Taking or herding wildlife from any motorized vehicle, aircraft or boat which is under power is prohibited, until power and movement from that power, has ceased.
7. Most game may be hunted from one-half hour before sunrise until one-half hour after sunset (see exceptions for each season).
8. The release of any animal is prohibited, without written authorization of the landowner or primary land manager.
9. The head and evidence of sex may not be removed from the carcass of any deer or turkey on the area.
10. The planting or introduction of any non-native plant is prohibited, without written authorization of the landowner or primary land manager.
11. Wild hogs may not be transported alive.
12. It is unlawful for any person to leave any garbage or refuse, or in any way litter in the area.
13. It is unlawful to set fire to any forest, grass or woodlands.
14. A Fish and Wildlife Conservation Commission Law Enforcement Officer may search any camp, vehicle or boat, in accordance with law.
15. Wild hogs are game on this area and may be hunted from one-half hour before sunrise until one-half hour after sunset.
16. Hunting is prohibited within 300 yards of any active construction site.
17. Antlerless deer may only be taken during the eighth and ninth day of General Gun season.

PUBLIC ACCESS AND VEHICLES:

1. Open to public access year-round.
2. Access is authorized only from the Florida National Scenic Trail, the Kissimmee River, the Istokpoga Canal, the C-38 Canal, the C-41 Canal and at designated entry points.
3. The use of airboats is prohibited in those areas posted as closed to airboat use.
4. The use of tracked vehicles, swamp buggies, all-terrain vehicles and other types of off-road vehicles is prohibited.
5. The possession of horses is permitted only with a Special-Use License from the South Florida Water Management District, 800-250-4200.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

6. A marked footpath called the Florida Trail traverses the area. This trail is open to hikers throughout the year.

HUNTERS AND CHECK STATIONS:

1. Hunters may be surveyed while entering or exiting to collect harvest and recreational use information.
2. At some locations self-service survey cards may be available.

GUNS:

1. Possession of centerfire rifles is prohibited.
2. The possession of guns is prohibited outside of the Kissimmee River Channel, the C-38 Canal and the Istokpoga Canal except from the beginning of rail season through the end of the spring turkey season.
3. In the Starvation Slough Hunt Area only bows may be used during Archery, Crossbow and General Gun seasons, only muzzleloading guns may be used during Muzzleloading Gun season, and only bows and muzzleloading guns may be used during Small Game and Spring Turkey seasons.
4. The possession of guns is prohibited in the northern portion of Bluff Hammock posted as closed to the possession of guns.
5. Hunting with a gun and light is prohibited.
6. Muzzleloading guns used for taking deer must be .40 caliber or larger, if firing a single bullet, or be 20 gauge or larger if firing two or more balls.
7. Children under the age of 16 may not be in possession of a firearm unless in the presence of a supervising adult.
8. No person shall have a gun under his control while under the influence of alcohol or drugs.
9. For taking non-migratory game, only shotguns, rifles (rimfire only), pistols, muzzleloading guns, longbows (including compound and recurve bows), crossbows (allowed during archery season by permit only) or falconry may be used.
10. For taking migratory game, only shotguns, bow and arrow (not crossbows), and falconry may be used. Shotguns shall not be larger than 10 gauge and shall be incapable of holding more than three shells in the magazine and chamber combined.
11. Firearms using rimfire or non-expanding, full metal jacket (military ball) ammunition are prohibited for taking deer.
12. Fully automatic or silencer-equipped firearms, centerfire semi-automatic rifles having a magazine capable of holding more than five rounds, explosive or drug-injecting devices and setguns are prohibited.

DOGS:

1. Hunting deer with dogs is allowed during General Gun season.
2. Hunting wild hogs with dogs is allowed during General Gun and Small Game seasons.
3. Hunting with dogs is prohibited in the Starvation Slough Area before January 21.
4. Hunting deer or wild hogs with dogs is prohibited during the Archery and Muzzleloading Gun seasons.
5. No person shall allow any dog to pursue or molest any wildlife during any period in which the taking of wildlife by the use of dogs is prohibited.
6. Dogs on leashes may be used for trailing wounded game.

CAMPING:

1. Camping is permitted by persons possessing a Special-Use License issued by the South Florida Water Management District, 800-250-4200.

BAG AND POSSESSION LIMITS:

1. Deer - Possession limit 4; daily bag as follows:
 - A. Two antlerless deer, or 2 antlered deer, or 1 antlered and 1 antlerless deer during the Archery season.
 - B. Two antlered deer during the Muzzleloading Gun or General Gun seasons.
 - C. One antlered and 1 antlerless deer, or 2 antlered deer on the eighth and ninth day of General Gun season.

2. Wild hog - No size or bag limit.
3. Turkey - Daily limit 1, spring season limit 2, all fall seasons limit 2, possession limit 2.
4. Gray squirrel, quail and rabbit - Daily limit 12, possession limit 24 for each game species.
5. Raccoon, opossum, armadillo, beaver, coyote, skunk and nutria - No bag limits.
6. Bobcat and otter - Possession limit 1 unless in possession of a Trapping License.
7. Migratory birds - See Migratory Bird Hunting Regulations pamphlet.

ARCHERY:

Central Zone - September 22 through October 21.

South Zone - September 8 through October 7.

Permit, Stamp and License Requirements - Hunting license, archery permit, wild turkey permit (if hunting wild turkeys), migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Any deer (except spotted fawn), wild hog, bearded turkey or gobbler, gray squirrel, quail, rabbit, armadillo and migratory birds in season.

Regulations Unique to the Archery Season - In addition to these regulations, all General Area Regulations shall apply. Possession of firearms or crossbows is prohibited, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).

CROSSBOW:

Central Zone - October 22 - 26.

South Zone - October 8 - 12.

Permit, Stamp and License Requirements - Hunting license, crossbow permit, wild turkey permit (if hunting wild turkeys) and migratory bird permit (if hunting migratory birds).

Legal to Take - Deer with at least one antler 5 inches or more in length, wild hog, bearded turkey or gobbler, gray squirrel, quail, rabbit, armadillo and migratory birds in season.

Regulations Unique to the Crossbow Season - In addition to these regulations, all General Area Regulations shall apply.

1. Only bows and crossbows are allowed, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).
2. Only bows may be used in the Starvation Slough Hunt Area.

MUZZLELOADING GUN:

Central Zone - October 27 through November 4.

South Zone - October 13 - 21.

Permit, Stamp and License Requirements - Hunting license, muzzleloading gun permit, wild turkey permit (if hunting wild turkeys) and migratory bird permit (if hunting migratory birds).

Legal to Take - Deer with at least one antler 5 inches or more in length, wild hog, bearded turkey or gobbler, gray squirrel, quail, rabbit, armadillo and migratory birds in season.

Regulations Unique to the Muzzleloading Gun Season - In addition to these regulations, all General Area Regulations shall apply.

1. Only bows, crossbows and muzzleloading guns are allowed, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).
2. Only bows and muzzleloading guns may be used in the Starvation Slough Hunt Area.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

GENERAL GUN:

Central Zone - November 10 through January 20 (Antlerless deer - November 17 - 18 only).

South Zone - October 27 through January 6 (Antlerless deer - November 3 - 4 only).

Permit, Stamp and License Requirements - Hunting license, wild turkey permit, migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Deer with at least one antler 5 inches or more in length, antlerless deer on Nov. 3 and 4 in the South Zone and Nov. 17 and 18 in the Central Zone (which includes does and bucks with antlers less than 5 inches in length, but NOT spotted fawns), wild hog, bearded turkey or gobbler (November 10 through January 6 only), gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season. Bobcat and otter beginning December 1 until the end of the General Gun season in each zone.

Regulations Unique to the General Gun Season - In addition to these regulations, all General Area Regulations shall apply.

1. Hunting with dogs is permitted, except in the Starvation Slough Hunt Area.
2. Possession of centerfire rifles is prohibited.
3. Only bows may be used in the Starvation Slough Hunt Area.

SMALL GAME:

November 10 through March 2.

Permit, Stamp and License Requirements - Hunting license, migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Wild hog, gray squirrel, quail, rabbit, armadillo, and migratory birds in season.

Regulations Unique to the Small Game Season - In addition to these regulations, all General Area Regulations shall apply.

1. Hunting with dogs is permitted.
2. Hunting with dogs is prohibited in the Starvation Slough Hunt Area before January 21.
3. Possession of centerfire rifles is prohibited.
4. Only bows may be used in the Starvation Slough Hunt Area before January 21 and only bows and muzzleloading guns may be used during the remainder of the Small Game season.

TRAPPING:

Central Zone - November 10 through January 20.

South Zone - October 27 through January 6.

Permit, Stamp and License Requirements - Trapping license (if using traps or taking for commercial purposes) or hunting license (if using only guns and dogs, and taking for noncommercial purposes).

Legal to Take - Raccoon, opossum, armadillo, beaver, coyote, skunk and nutria. Bobcat and otter beginning December 1 until the end of the Trapping season in each zone.

Regulations Unique to Trapping - In addition to these regulations, all General Area Regulations shall apply. Only bows may be used in the Starvation Slough Hunt Area.

SPRING TURKEY:

Central Zone - March 15 through April 20.

South Zone - March 1 through April 6.

Permit, Stamp and License Requirements - Hunting license and wild turkey permit.

Legal to Take - Bearded turkey or gobbler.

Regulations Unique to the Spring Turkey Season - In addition to these regulations, all General Area Regulations shall apply.

1. Possession of centerfire rifles is prohibited.
2. Only bows or muzzleloading guns may be used in the Starvation Slough Hunt Area.
3. Legal shooting hours are one-half hour before sunrise until 1 p.m.
4. The taking of any other animal is prohibited.

MIGRATORY BIRDS:

Rails, common moorhens, mourning doves, white-winged doves, snipe, ducks, geese, coots, woodcock and crows may be hunted during seasons established by the Commission for these species.

Permit, Stamp and License Requirements - Hunting license, migratory bird permit, and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - See Migratory Bird Hunting Regulations pamphlet.

Regulations Unique to Migratory Birds - In addition to these regulations, all General Area Regulations shall apply.

1. The use of lead shot for taking ducks, geese and coots is prohibited.
2. Centerfire shotguns are permitted during established area seasons when one or more migratory birds are legal to take.
3. Centerfire shotguns are prohibited in the Starvation Slough Hunt Area.
4. Crows may be taken during the first phase of crow season only.

FISHING AND FROGGING:

Permitted year-round.

Permit, Stamp and License Requirements - Fishing license (not required when frogging).

Legal to Take - See Florida Freshwater Fishing Regulations Summary.

Regulations Unique to Fishing and Frogging - All General Public Regulations and General Freshwater Fishing Regulations shall apply.

GENERAL INFORMATION:

1. Anyone born on or after June 1, 1975 must have passed a Commission-approved hunter-safety course prior to being issued a hunting license.
2. The Central Zone is that portion of the area north of State Road 70; and, the South Zone is that portion of the area South of State Road 70.
3. If you have any questions about this material, please call the Fish and Wildlife Conservation Commission at 863-648-3200 (TDD 800-955-8771).

SOUTH FLORIDA WMD RULES AND INFORMATION:

1. This land was acquired under the Save Our Rivers (SOR) Program. The purpose of SOR is to conserve and protect unique and irreplaceable lands, restore areas to their original condition as much as possible, and allow controlled multiple recreational and educational uses consistent with this purpose.

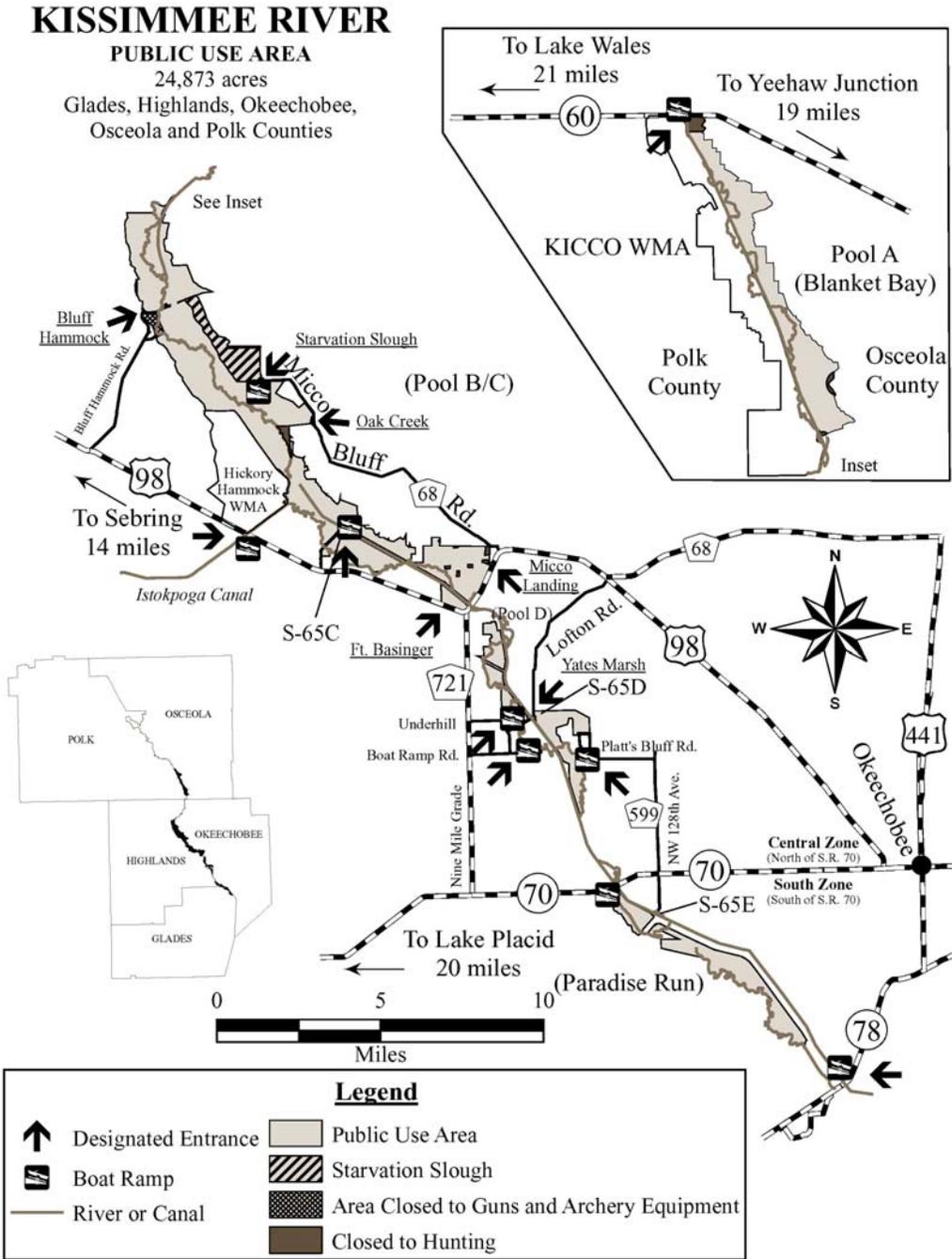
COOPERATION REQUESTED:

If you see law violators or suspicious activities, contact your nearest Commission regional office or call 1-888-404-FWCC. You may qualify for a cash reward from the Wildlife Alert Reward Association.

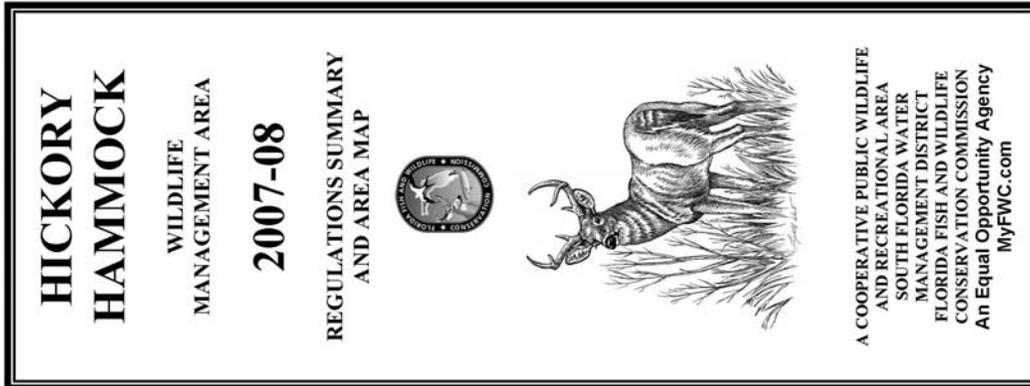
Please do not discharge firearms at anything other than legal game while in a wildlife management area. Target practice and random discharge of firearms have become increasing threats to the quality of the hunting experience.

The U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, age, sex or handicap. If you believe that you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please write to: The Office for Human Resources, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. The project described in this publication is part of a program funded by federal dollars under the Wildlife Restoration Act. Federal funds pay 20 percent of the cost of the program.





Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division



This brochure is designed to provide the public with information and a summary of regulations pertaining to hunting and other recreational use on the Hickory Hammock Wildlife Management Area. **Regulations that are new or differ substantially from last year are shown in bold print.** Area users should familiarize themselves with all regulations. For exact wording of the wildlife laws and regulations, see the Florida Fish and Wildlife Conservation Commission's wildlife code, on file with the Secretary of State and state libraries. This brochure, the Florida Hunting Regulations handbook, and quota permit worksheets should provide the information necessary for you to plan your hunting activities. These publications are available from any Commission office, county tax collector and at MyFWC.com.

Persons using wildlife management areas are required to have appropriate licenses, permits and stamps. The following persons are exempt from all license and permit requirements (except for quota permits when listed as "no exemptions", recreational use permits and the Migratory Bird Hunting and Conservation Stamp [federal duck stamp]): Florida residents who are 65 years of age or older; residents who possess a Florida Resident Disabled Person Hunting and Fishing Certificate; residents in the U.S. Armed Forces, not stationed in Florida, while home on leave for 30 days or less, upon submission of orders; and children under 16 years of age. Children under 16 years of age are exempt from the federal duck stamp.

Hunting, trapping and fishing licenses, and management area, archery, muzzleloading gun, wild turkey and state waterfowl permits may be purchased from county tax collectors, license agents, the Internet at MyFWC.com/license or by telephone at 1-888-486-8356. A no-cost Migratory Bird Permit is available when purchasing a hunting license. Any waterfowl hunter 16 years of age or older must possess a federal duck stamp, available at most post offices or at duckstamp.com.

QUOTA PERMIT INFORMATION:

General Gun Hog - 10, no-cost, quota permits (no exemptions) for each of 3 hunts.

Archery - 5, no-cost, quota permits (no exemptions).

Muzzleloading Gun - 5, no-cost, quota permits (no exemptions) for each of 2 hunts.

General Gun - 5, no-cost, quota permits (no exemptions).

Spring Turkey - 5, no-cost, quota permits (no exemptions) for each of 2 hunts.

Permit applications: Hunters must submit electronic applications for recreational use, quota and special-opportunity permits at a license agent,

county tax collector's office or online at MyFWC.com. Most quota and special opportunity permits are issued during a random drawing, which includes all applications submitted during the times and dates listed below. Any remaining permits are issued first-come, first-served.

A worksheet with a list of available permits may be obtained 1 - 2 weeks before each application period from FWC offices, tax collectors, license agents and online at MyFWC.com. Application for random drawings begins 10:00 a.m. eastern time on the first day of the application period and ends midnight eastern time on the last day. **Archery/Muzzleloading Gun and General Gun** quota permit applications may be submitted June 1 - 11. **Spring Turkey** quota permit applications may be submitted October 30 - November 8.

Youth exemption: For those seasons listed as "no exemptions", one youth younger than 16 years of age may accompany a person 18 years of age or older who holds a valid quota permit (except special-opportunity) and participate in the hunt, provided that the permittee and youth collectively may take only one daily bag limit.

Transfer of permits: Quota permits are transferable. Quota permits issued to exempt hunters are transferable only to another person with the same type of exemption, except permits marked "exempt senior" may be transferred to a youth younger than 16 years of age. The sale or purchase of any quota permit is prohibited.

GENERAL AREA REGULATIONS:

All general laws and regulations relating to wild animal life or freshwater aquatic life shall apply unless specifically exempted for this area. Hunting or the taking of wildlife or fish on this area shall be allowed only during the open seasons, and in accordance with the following regulations.

1. Any person hunting deer or accompanying another person hunting deer shall wear at least 500 square inches of daylight fluorescent-orange material as an outer garment, above the waistline. This is not required during an archery-only season.
2. Taking of spotted fawn, swimming deer or roasted turkey is prohibited. Species legal to take are listed under each season.
3. It is illegal to hunt over bait or place any bait or other food for wildlife on this area.
4. Driving a metal object into any tree, or hunting from a tree into which a metal object has been driven, is prohibited.
5. No person shall cut, damage, or remove any natural, man-made or cultural resource without written authorization of the landowner or primary land manager.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

6. Taking or attempting to take any game with the aid of live decoys, recorded game calls or sounds, set guns, artificial light, net, trap, snare, drug or poison is prohibited.
 7. The wanton and willful waste of wildlife is prohibited.
 8. Hunting, fishing or trapping is prohibited on any portion of the area posted as "CLOSED" to those activities.
 9. People, dogs, vehicles and other recreational equipment are prohibited in areas posted as "Closed to Public Access" by FWC administrative action.
 10. Taking or herding wildlife from any motorized vehicle, aircraft or boat which is under power is prohibited, until power and movement from that power, has ceased.
 11. Most game may be hunted from one-half hour before sunrise until one-half hour after sunset (see exceptions for each season).
 12. The release of any animal is prohibited, without written authorization of the landowner or primary land manager.
 13. The head and evidence of sex may not be removed from the carcass of any deer or turkey on the area.
 14. The planting or introduction of any non-native plant is prohibited, without written authorization of the landowner or primary land manager.
 15. Wild hogs may not be transported alive.
 16. It is unlawful for any person to leave any garbage or refuse, or in any way litter in the area.
 17. It is unlawful to set fire to any forest, grass or woodlands.
 18. A Fish and Wildlife Conservation Commission Law Enforcement Officer may search any camp, vehicle or boat, in accordance with law.
- DOGS:**
1. Hunting deer with dogs is prohibited.
 2. Hunting with dogs is prohibited, except bird dogs, retrievers or dogs with a shoulder height of 15 inches or less are allowed during the Small Game season.
 3. No person shall allow any dog to pursue or molest any wildlife during any period in which the taking of wildlife by the use of dogs is prohibited.
 4. Dogs on leashes may be used for trailing wounded game.
 5. For purposes other than hunting, dogs are allowed, but must be kept under physical restraint at all times.
- CAMPING:**
1. Camping is permitted by persons possessing a special-use license issued by the South Florida Water Management District, 800-250-4200.

PUBLIC ACCESS AND VEHICLES:

1. Open to public access year-round.
2. Vehicles are prohibited except in designated parking areas.
3. The use of tracked vehicles, all-terrain vehicles or motorcycles is prohibited.
4. A marked footpath called the Florida Trail traverses the area. This trail is open to hikers throughout the year.

HUNTERS AND CHECK STATIONS:

1. Hunting equipment and dogs may be taken onto the WMA after 8 a.m. the day before the opening of a season and shall be removed by 6 p.m. one day after the end of the season.
2. Hunters shall check in or out at a designated check station when entering or exiting the area, and check all game taken.
3. No deer, wild hog or turkey shall be dismembered until checked at a designated check station.
4. Check station hours are 5 a.m. to 9 p.m. during Eastern Daylight Savings Time and 5 a.m. to 8 p.m. during Eastern Standard Time, except during the Spring Turkey season when hours are 4:30 a.m. to 2 p.m.

GUNS:

1. Possession of a gun is allowed only during periods when hunting with a gun is permitted, **except a person in possession of a valid Concealed Weapon or Firearm License may carry concealed handguns.**
2. Hunting with a gun and light is prohibited.
3. Muzzleloading guns used for taking deer must be .40 caliber or larger, if firing a single bullet, or be 20 gauge or larger if firing two or more balls.
4. Possession of a loaded, capped or primed firearm, or discharge of a firearm on, from or across any campsite or check station is prohibited.
5. Children under the age of 16 may not be in possession of a firearm unless in the presence of a supervising adult.
6. No person shall have a gun under his control while under the influence of alcohol or drugs.
7. For taking non-migratory game, only shotguns, pistols, longbows (including compound and recurve bows), crossbows (during the general gun season or by permit only) or falconry may be used.

8. For taking migratory game, only shotguns, bow and arrow (not crossbows), and falconry may be used. Shotguns shall not be larger than 10 gauge and shall be incapable of holding more than three shells in the magazine and chamber combined.
9. Firearms using rimfire or non-expanding, full metal jacket (military ball) ammunition are prohibited for taking deer.
10. Fully automatic or silencer-equipped firearms, centerfire semi-automatic rifles having a magazine capable of holding more than five rounds, explosive or drug-injecting devices and setguns are prohibited.
11. Possession of centerfire or rimfire rifles is prohibited.

DOGS:

1. Hunting deer with dogs is prohibited.
2. Hunting with dogs is prohibited, except bird dogs, retrievers or dogs with a shoulder height of 15 inches or less are allowed during the Small Game season.
3. No person shall allow any dog to pursue or molest any wildlife during any period in which the taking of wildlife by the use of dogs is prohibited.
4. Dogs on leashes may be used for trailing wounded game.
5. For purposes other than hunting, dogs are allowed, but must be kept under physical restraint at all times.

CAMPING:

1. Camping is permitted by persons possessing a special-use license issued by the South Florida Water Management District, 800-250-4200.

BAG AND POSSESSION LIMITS:

1. Deer - Daily limit 2, possession limit 4, quota permit limits as follows:
 - A. (Archery season) One antlered and 1 antlerless deer per quota permit.
 - B. (Muzzleloading Gun and General Gun seasons) One antlered deer per quota permit.
2. Wild hog - No size or bag limit.
3. Turkey - One per quota permit, daily limit 1, season limit 2, possession limit 2.
4. Gray squirrel, quail and rabbit - Daily limit 12, possession limit 24 for each game species.
5. Raccoon, opossum, armadillo, beaver, coyote, skunk and nutria - No bag limits.
6. Bobcat and otter - Possession limit 1 unless in possession of a Trapping License.
7. Migratory birds - See Migratory Bird Hunting Regulations pamphlet.

GENERAL GUN HOG:

September 14 - 16, 21 - 23 and January 11 - 13.
Permit, Stamp and License Requirements - Quota permit, hunting license and management area permit.

Legal to Take - Wild hog.

Regulations Unique to the General Gun Hog Season - In addition to these regulations, all General Area Regulations shall apply. Possession of centerfire or rimfire rifles is prohibited.

ARCHERY:

October 19 - 21.
Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit, archery permit, wild turkey permit (if hunting wild turkeys), migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Deer with at least one antler having three or more points (each point one-inch in length or more), antlerless deer (which includes does and bucks with antlers less than 5 inches in length, but NOT spotted fawns), wild hog, turkeys of either sex, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Regulations Unique to the Archery Season - In addition to these regulations, all General Area Regulations shall apply. Possession of firearms or crossbows is prohibited, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).

MUZZLELOADING GUN:

October 29 - 31 and November 2 - 4

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit, muzzleloading gun permit and migratory bird permit (if hunting migratory birds).

Legal to Take - Deer with at least one antler with three or more points (each point one-inch in length or more), wild hog, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Regulations Unique to the Muzzleloading Gun Season - In addition to these regulations, all General Area Regulations shall apply. Only muzzleloading guns are allowed, except that centerfire shotguns are permitted for hunting migratory birds when one or more species are legal to take (see Migratory Bird section and the current Migratory Bird Hunting Regulations pamphlet).

GENERAL GUN:

November 9 - 11

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit, migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Deer with at least one antler with three or more points (each point one-inch in length or more), wild hog, gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season.

Regulations Unique to the General Gun Season - In addition to these regulations, all General Area Regulations shall apply. The possession of centerfire or rimfire rifles is prohibited.

SMALL GAME:

November 12 through January 6

Permit, Stamp and License Requirements - Hunting license, management area permit, migratory bird permit (if hunting migratory birds), and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Gray squirrel, quail, rabbit, raccoon, opossum, armadillo, beaver, coyote, skunk, nutria and migratory birds in season. Bobcat and otter beginning December 1.

Regulations Unique to the Small Game Season - In addition to these regulations, all General Area Regulations shall apply.

1. Hunting with bird dogs, retrievers or dogs with a shoulder height of 15 inches or less is allowed.
2. Possession of centerfire or rimfire rifles is prohibited.

TRAPPING: Prohibited

SPRING TURKEY:

March 20 - 22 and April 10 - 12

Permit, Stamp and License Requirements - Quota permit, hunting license, management area permit and wild turkey permit.

Legal to Take - Bearded turkey or gobbler.

Regulations Unique to the Spring Turkey Season - In addition to these regulations, all General Area Regulations shall apply.

1. Possession of centerfire or rimfire rifles is prohibited.
2. Legal shooting hours are one-half hour before sunrise until 1 p.m.
3. The taking of any other animal is prohibited.

MIGRATORY BIRDS:

Rails, common moorhens, mourning doves, white-winged doves, snipe, ducks, geese, coots, woodcock and crows may be hunted during seasons established by the Commission for these species.

Permit, Stamp and License Requirements - Quota permit (if hunting during any quota period), hunting license, management area permit, migratory bird permit, and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - See Migratory Bird Hunting Regulations pamphlet.

Regulations Unique to Migratory Birds - In addition to these regulations, all General Area Regulations shall apply.

1. During the Early Duck, and Duck and Coot seasons shooting hours are from one-half hour before sunrise until 12 p.m., noon.
2. The use of lead shot for taking ducks, geese and coots is prohibited.
3. Centerfire shotguns are permitted during established area seasons when one or more migratory birds are legal to take.

FALCONRY:

Permitted during seasons as established by rules 68A-13.004 and 68A-13.008, F.A.C.

Permit, Stamp and License Requirements - Quota permit (if hunting during any quota period), hunting license, management area permit, migratory bird permit, and state waterfowl permit and federal duck stamp (if hunting waterfowl).

Legal to Take - Gray squirrel, quail, rabbit and migratory birds (See Migratory Bird Hunting Regulations pamphlet).

Regulations Unique to the Falconry Season - In addition to these regulations, all General Area Regulations shall apply. Detailed rules concerning falconry are available from the Division of Law Enforcement, Fish and Wildlife Conservation Commission, 620 South Meridian St., Tallahassee, FL 32399-1600.

FISHING AND FROGGING:

Permitted year-round.

Permit, Stamp and License Requirements - Fishing license (not required when frogging).

Legal to Take - See Florida Freshwater Fishing Regulations Summary.

Regulations Unique to Fishing and Frogging - All General Area Regulations and General Freshwater Fishing Regulations shall apply.

GENERAL INFORMATION:

1. Anyone born on or after June 1, 1975 must have passed a Commission-approved hunter-safety course prior to being issued a hunting license.
2. If you have any questions about this material, please call the Fish and Wildlife Conservation Commission at 863-648-3200 (TDD 800-955-8771).

COOPERATION REQUESTED:

If you see law violators or suspicious activities, contact your nearest Commission regional office or call 1-888-404-FWCC. You may qualify for a cash reward from the Wildlife Alert Reward Association.

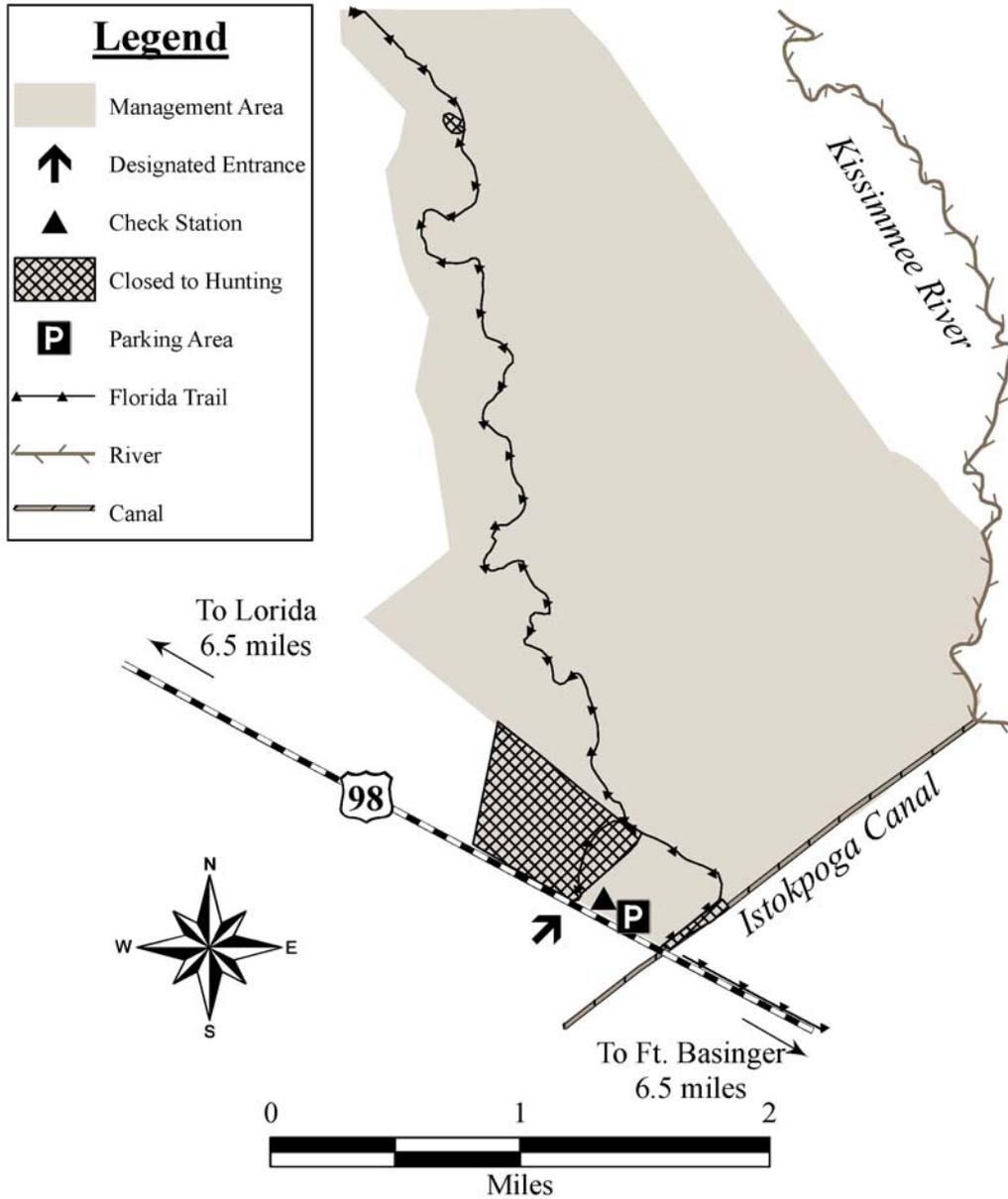
The U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, age, sex or handicap. If you believe that you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please write to: The Office for Human Resources, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. The project described in this publication is part of a program funded by federal dollars under the Wildlife Restoration Act. Federal funds pay 20 percent of the cost of the program.



HICKORY HAMMOCK

WILDLIFE MANAGEMENT AREA

3,791 acres
Highlands County



Appendix E. Species List

Plant Species

Species	Common Name	Type
<i>Acalypha gracilens</i>	slender 3-seed mercury	Native
<i>Acer rubrum</i>	red maple	Native
<i>Acrostichum sp.</i>	leather fern	----
<i>Alternanthera philoxeroides</i>	alligatorweed	Non-Native
<i>Amaranthus australis</i>	southern amaranth	Native
<i>Amaranthus sp.</i>	amaranth	Native
<i>Amaranthus spinosus</i>	spiny amaranth	Non-Native
<i>Ambrosia artemisiifolia</i>	ragweed; common ragweed	Native
<i>Ambrosia trifida</i>	giant ragweed	Native
<i>Ampelopsis arborea</i>	pepper-vine	Native
<i>Amphicarpum muhlenbergianum</i>	blue maidencane	Native
<i>Andropogon glomeratus</i>	bushy broom grass; busy bluestem	Native
<i>Andropogon gyrans</i>		
<i>Andropogon virginicus</i>	chalky bluestem; broomsedge bluestem	Native
<i>Aristida beyrichiana</i>	wiregrass	
<i>Aristida patula</i>	tall threeawn	
<i>Annona glabra</i>	pond apple	.
<i>Asclepias incarnata</i>	swamp milkweed	Native
<i>Asclepias lanceolata</i>	lanceolata milkweed	
<i>Aster carolinianus</i>	climbing aster	Native
<i>Aster dumosus</i>	See Symphyotrichum dumosum	.
<i>Aster ellioti (synonym)</i>	Elliott's aster	Native
ASTERACEAE	sunflowers	--
<i>Axonopus affinis (SYN)</i>	southern carpet grass	Native
<i>Axonopus compressus</i>	broadleaf carpetgrass, flat joint carpetgrass; broadleaf carpetgrass	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Axonopus fissifolius</i>	common carpetgrass	Native
<i>Axonopus furcatus</i>	big carpet grass	Native
<i>Axonopus sp.</i>	carpet grass	Native
<i>Azolla caroliniana</i>	Carolina mosquito fern	Native
<i>Baccharis halimifolia</i>	salt bush, groundsel tree; sea myrtle	Native
<i>Bacopa caroliniana</i>	lemon bacopa; blue waterhyssop	Native
<i>Bacopa monnieri</i>	smooth water hyssop; herb-of-grace	Native
<i>Bacopa sp.</i>	water hyssop	Native
<i>Bidens alba</i>	beggarticks	Native
<i>Bidens bipinnata</i>	Spanish needles	
<i>Bidens mitis</i>	marsh beggartick; smallfruit beggarticks	Native
<i>Blechnum serrulatum</i>	swamp fern; toothed midsorus fern	Native
<i>Boehmeria cylindrica</i>	smallspike false nettle; bog hemp	Native
<i>Boltonia diffusa</i>	smallhead boltonia; doll's daisy	Native
<i>Callicarpa americana</i>	American beautyberry	Native
<i>Calystegia sepium</i>	hedge false bindweed	Native
<i>Canna flaccida</i>	golden canna; bandanna- of-the-Everglades	Native
<i>Cardiospermum microcarpum</i>	heartseed	Native
<i>Carex alata</i>	broadwing sedge	Native
<i>Carex glaucescens</i>	clustered sedge	Native
<i>Carex longii</i>	Long's sedge	Native
<i>Carex sp.</i>	sedges	Native
<i>Carex verrucosa</i>	warty sedge	Native
<i>Carex vexans</i>	Florida hammock sedge	Native
<i>Carya aquatica.</i>	water hickory	Native
<i>Cassia nictans</i>	cassia	Native
<i>Cassia obtusifolia</i>	sicklepod	.
<i>Cenchrus echinatus</i>	southern sandspur	.
<i>Cenchrus incertus</i>	field sandbur	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Cenchrus spinifex</i>	field sandbur	Native
<i>Centella asiatica</i>	Asian coinleaf, spadeleaf	Native
<i>Cephalanthus occidentalis</i>	buttonbush	Native
<i>Ceratophyllum demersum</i>	coontail	Native
<i>Ceratophyllum demersum</i>	coontail	Native
<i>Ceratopteris thalictroides</i>	watersprite	Native
<i>Chamaecrista nictitans</i>	sensitive pea	Native
<i>Chara sp.</i>	chara; muskgrass	Native
<i>Chenopodium ambrosioides</i>	Mexican tea	Non-Native
<i>Chloris neglecta</i>	fingergrass	Non-Native
<i>Cirsium horridulum</i>	yellow thistle; purple thistle	Native
<i>Cirsium sp.</i>	thistle	----
<i>Citrus sp.</i>	citrus	Non-Native
<i>Cladium jamaicense</i>	sawgrass; Jamaica swamp sawgrass	Native
<i>Coelorachis rugosa</i>	wrinkled jointtailgrass	Native
<i>Colocasia esculanta</i>	wild taro	Non-Native
<i>Commelina diffusa</i>	spreading or common dayflower	Native
<i>Commelina diffusa</i>	common dayflower	Native
<i>Commelina gigas</i>	climbing dayflower	Native/Endemic
<i>Conoclinium coelestinum</i>	mist flower	Native
<i>Coreopsis leavenworthii</i>	Leavenworth's tickseed	Native/Endemic
<i>Cornus foemina</i>	swamp dogwood; stiff dogwood	Native
<i>Crotalaria pallida</i>	smooth rattlebox	.
<i>Ctenium aromaticum</i>	toothache grass	
<i>Cuphea carthagenensis</i>	Columbian waxweed	Non-Native; ornamental restricted in some areas
<i>Cynodon dactylon</i>	Bermudagrass	Non-Native
<i>Cyperaceae sp.</i>	sedges	--
<i>Cyperus articulatus</i>	jointed flatsedge	Native
<i>Cyperus compressus</i>	poorland flat sedge	Native
<i>Cyperus croceus</i>	Baldwin's flatsedge	Native
<i>Cyperus distinctus</i>	marshland flatsedge; swamp flatsedge	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Cyperus esculentus</i>	yellow netgrass	Non-Native
<i>Cyperus erythrorhizos</i>	redroot flatsedge	Native
<i>Cyperus flavescens</i>	yellow flatsedge	
<i>Cyperus haspan</i>	sharp edge sedge; haspan flatsedge	Native
<i>Cyperus lanceolatus</i>	epiphytic flatsedge	Non-Native
<i>Cyperus odoratus</i>	fragrant flatsedge	Native
<i>Cyperus polystachyos</i>	manyspike flatsedge	Native
<i>Cyperus retrorsus</i>	retorse flat sedge; pinebarren flatsedge	Native
<i>Cyperus sp.</i>	flat sedges	----
<i>Cyperus strigosus</i>	strawcolored flatsedge	Native
<i>Cyperus surinamensis</i>	tropical flatsedge	Native
<i>Cyperus virens</i>	green flatsedge	Native
<i>Decodon verticillatus</i>	willow herb; swamp loosestrife	Native
<i>Desmodium incanum</i>	zarzabacoa comun	Native
<i>Desmodium sp.</i>	tick trefoil	----
<i>Desmodium triflorum</i>	threeflower ticktrefoil	Non-Native
<i>Dichantherium erectifolium</i>	erectleaf witchgrass	Native
<i>Dichondra caroliniensis</i>	Carolina ponysfoot	Native
<i>Dichromena colorata</i>	white-tops	Native
<i>Dichromena latifolia</i>	white-bracted sedge	Native
<i>Digitaria ciliaris</i>	southern crabgrass	Native
<i>Digitaria longiflora</i>	Indian crabgrass	Non-Native
<i>Digitaria pentzii</i>	pangolagrass	Non-Native
<i>Digitaria serotina</i>	dwarf crabgrass; blanket crabgrass	Native
<i>Digitaria sp.</i>	crabgrass	----
<i>Diodia virginiana</i>	Virginia buttonweed	Native
<i>Diospyros virginiana</i>	persimmon; common persimmon	Native
<i>Drosera Sp.</i>	sundew	Native
<i>Drymaria cordata</i>	drymary	Non-Native
<i>Echinochloa crusgalli</i>	barnyard grass	Non-Native
<i>Echinochloa walteri</i>	Walter's millet; coast cockspur	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Eclipta prostrata</i>	Yerba de Tajo, eclipta; false daisy	.
<i>Eichhornia crassipes</i>	water hyacinth; common water-hyacinth	Non-Native
<i>Eleocharis cellulosa</i>	<i>club-rush; gulf coast spikerush</i>	<i>Native</i>
<i>Eleocharis flavescens</i>	<i>pale spikerush; yellow spikerush</i>	<i>Native</i>
<i>Eleocharis interstincta</i>	<i>jointed spikerush; knotted spikerush</i>	<i>Native</i>
<i>Eleocharis olivacea</i>	<i>brightgreen spikerush</i>	<i>Native</i>
<i>Eleocharis sp.</i>	<i>spikerush</i>	<i>Native</i>
<i>Eleocharis vivipara</i>	sprouting spikerush; viviparous spikerush	Native
<i>Eleocharis vivipara</i>	sprouting spikerush; viviparous spikerush	Native
<i>Elephantopus elatus</i>	tall elephant's foot	Native
<i>Eleusine indica</i>	Indian goosegrass	Non-Native
<i>Eragrostis atrovirens</i>	thalia lovegrass	Non-Native
<i>Eragrostis bahiensis</i>	bahia lovegrass	Non-Native
<i>Eragrostis elliotti</i>	Elliot's lovegrass	Native
<i>Eragrostis lugens</i>	morning lovegrass	Non-Native
<i>Eragrostis spectabilis</i>	purple lovegrass	Native
<i>Erechtites hieraciifolia</i>	American burn	Native
<i>Eremochloa ophiuroides</i>	centipedegrass	Non-Native
<i>Erigeron quercifolius</i>	oakleaf fleabane	Native
<i>Eryngium baldwinii</i>	Baldwin's eryngo	.
<i>Eucalyptus grandis</i>	grand eucalyptus	Non-Native
<i>Eupatorium capillifolium</i>	small dogfennel; dogfennel	Native
<i>Eupatorium coelestinum</i>	thoroughwort	Native
<i>Eupatorium serotinum</i>	lateflowering thoroughwort	Native
<i>Euthamia caroliniana</i>	fragrant goldenrod; slender goldenrod	Native
<i>Ficus arena</i>	strangler fig	Native
<i>Fimbristylis autumnalis</i>	slender fimbry	Native
<i>Fimbristylis caroliniana</i>	Carolina fimbry	Native
<i>Fimbristylis dichotoma</i>	tall fimbry; forked fimbry	Native
<i>Fimbristylis schoenoides</i>	ditch fimbry	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Fraxinus caroliniana</i>	pop ash; Carolina ash; water ash	Native
<i>Fuirena pumila</i>	dwarf umbrella-grass; dwarf umbrellasedge	Native
<i>Fuirena scirpoidea</i>	southern umbrellasedge	Native
<i>Galium tinctorium</i>	stiff marsh bedstraw	Native
<i>Galium uniflorum</i>	one-flower bedstraw	.
<i>Gelsemium sempervirens</i>	carolina jessimine	Native
<i>Geranium carolinianum</i>	carolina cranesbill	Native
<i>Habenaria repens</i>	water-spider orchid; false reinorchid	Native
<i>Hedyotis uniflora</i>	clustered bluet	Native
<i>Hedyotis uniflor</i>	clustered mille graine	Native
<i>Helianthus agrestis</i>	southeastern sunflower	Native
<i>Hemarthria altissima</i>	limpoglass	Non-Native
<i>Hibiscus grandiflorus</i>	swamp rosemallow	Native
<i>Hydrilla verticillata</i>	hydrilla; waterhyme	Non-Native
<i>Hydrilla verticillata</i>	hydrilla; waterhyme	Non-Native
<i>Hydrochloa caroliniensis</i> (<i>Luziola fluitans</i>)	common watergrass	.
<i>Hydrocotyle ranunculoides</i>	floating penny wort; floating marsh pennywort	Native
<i>Hydrocotyle umbellata</i>	manyflower marsh pennywort	Native
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass; trompetilla	Non-Native
<i>Hypericum cistifolium</i>	roundpod St. Johns wort	Native
<i>Hypericum fasciculatum</i>	sandweed; peelbark St. John's-Wort	Native
<i>Hypericum hypercoides</i>	St. andrew's cross	Native
<i>Hypericum mutilum</i>	slender St. John's-Wort	Native
<i>Hypericum sp.</i>	St. John's-Wort	--
<i>Hypericum tetrapetalum</i>	fourpetal St. John's-Wort	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Hyptis alata</i>	clustered bushmint; musky mint	Native
<i>Ilex cassine</i>	dahoon holly; dahoon	Native
<i>Ilex glabra</i>	inkberry; inkberry	.
<i>Imperata cylindrica</i>	cogongrass	Non-Native
<i>Ipomea alba</i>	white morning glory	Native
<i>Ipomea sagittata</i>	saltmarsh morning glory	Native
<i>Ipomea sp.</i>	morning glory	Native
<i>Iris virginica</i>	blue flag; Virginia iris	Native
<i>Iva microcephala</i>	Piedmont marshelder	Native
JUNCACEAE	rush	.
<i>Juncus effusus</i>	soft rush	Native
<i>Juncus marginatus</i>	shore rush	Native
<i>Juncus megacephalus</i>	Bighead 'rush	--
<i>Justicia angusta</i>	pineland waterwillow	.
<i>Kosteletzkya virginica</i>	virginia seashore mallow; virginia saltmarsh mallow	Native
<i>Kyllinga brevifolia</i>	short leaf flatsedge	Non-Native
<i>Kyllinga odorata</i>	fragrant flatsedge	Native
<i>Kyllinga pumila</i>	low spikesedge	Native
<i>Lachnanthes caroliniana</i>	redroot	Native
<i>Lachnocalon anceps</i>	whitehead bogbutton	Native
<i>Lachnocalon beyrichianum</i>	Southern bogbutton	Native
<i>Lantana camara</i>	lantana; shrub verbena	Non-Native
<i>Leersia hexandra</i>	southern cutgrass	Native
<i>Lemna sp.</i>	duckweed	Native
<i>Lepidium virginicum</i>	poor man's peppergrass; virginia pepperweed	Native
<i>Liatris sp.</i>	blazing star	Native
<i>Limnobium spongia</i>	frog's-bit; American spongeplant	Native
<i>Lindernia anagallidea</i>	.	.

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Lindernia grandiflora</i>	savanna false pimpernel	Native
<i>Liquidambar styraciflua</i>	sweet gum, red gum	.
<i>Ludwigia decurrens</i>	primrosewillow; wingleaf primrosewillow	Native
<i>Ludwigia leptocarpa</i>	anglestem primrosewillow	Native
<i>Ludwigia maritima</i>	seaside primrosewillow	Native
<i>Ludwigia octovalis</i>	Mexican primrosewillow	Native
<i>Ludwigia peruviana</i>	Peruvian primrosewillow	Non-Native
<i>Ludwigia repens</i>	red ludwigia; creeping primrosewillow	Native
<i>Ludwigia sp.</i>	water primrose; seedbox	Native
<i>Ludwigia suffruticosa</i>	shrubby seedbox	Native
<i>Luziola fluitans</i>	watergrass; southern watergrass	Native
<i>Lygodium japonicum</i>	Japanese climbing-fern	Non-Native
<i>Lyonia ferruginea</i>	rusty lyonia	
<i>Lyonia fruticosa</i>	staggerbush	
<i>Lyonia lucida</i>	stagger bush	
<i>Lygodium microphyllum</i>	Old World climbing fern; small-leaf climbing fern	Non-Native
<i>Lythrum alatum</i>	winged loosestrife	Native
<i>Macroptilium lathyroides</i>	wild bushbean	Non-Native
<i>Magnolia virginiana</i>	sweetbay; sweetbay magnolia	Native
<i>Melothria pendula</i>	creeping cucumber	Native
<i>Micranthemum umbrosum</i>	baby tears; shade mudflower	Native
<i>Mikania scandens</i>	climbing hempweed; climbing hempvine	Native
<i>Mitreola petiolata</i>	stalked miterwort; lax hornpod	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Momordica charantia</i>	wild balsam apple; balsampear	Non-Native
<i>Myrica cerifera</i>	wax myrtle; southern bayberry	Native
<i>Myriophyllum aquaticum</i>	parrot feather; watermilfoil	Non-Native
<i>Myriophyllum aquaticum</i>	parrot feather watermilfoil	Non-Native
<i>Najas guadalupensis</i>	southern naiad; southern waterynymph	Native
<i>Najas guadalupensis</i>	southern waterynymph	Native
<i>Nuphar advenum</i>	spatterdock	Native
<i>Nuphar lutea</i>	spatterdock	Native
<i>Nymphaea mexicana</i>	yellow waterlilly	Native
<i>Nymphaea odorata</i>	white waterlilly	Native
<i>Nyssa sylvatica var. biflora</i>	swamp tupela	Native
<i>Osmunda cinnamomea</i>	cinnamon fern	Native
<i>Osmunda regalis</i>	royal fern	Native
<i>Osmunda sp.</i>	.	Native
<i>Oxalis corniculata</i>	creeping woodsorrel; common yellow woodsorrel	Native
<i>Oxalis florida</i>	wood sorrel	Native
<i>Panicum anceps</i>	beaked panic grass	Native
<i>Panicum angustifolium</i>	needleleaf witchgrass	Native
<i>Panicum dichotomum</i>	cypress witchgrass	Native
<i>Panicum erectifolium</i>	witchgrass	Native
<i>Panicum hemitomom</i>	maidencane	Native
<i>Panicum hians</i>	gaping panic grass	Native
<i>Panicum paludivagum</i>	Egyptian paspalidium	Non-Native
<i>Panicum repens</i>	torpedograss	Non-Native
<i>Panicum rigidulum</i>	redtop panicum	Native
<i>Panicum sp.</i>	panic grass	----
<i>Panicum sphaerocarpon</i>	roundseed witchgrass	.
<i>Panicum verrucosum</i>	warty panic grass	Native
<i>Parthenocissus quinquefolia</i>	Virginia creeper; woodbine	Native
<i>Paspalidium geminatum</i>	Egyptian paspalidium; Kissimmeegrass	Native
<i>Paspalum acuminatum</i>	brook crowngrass	Non-Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Paspalum conjugatum</i>	sour paspalum; hilograss	Native
<i>Paspalum dilatatum</i>	dallisgrass	Non-Native
<i>Paspalum dissectum</i>	mudbank paspalum; mudbank crowngrass	Native
<i>Paspalum distichum</i>	joint paspalum; knotgrass	Native
<i>Paspalum floridanum</i>	Florida paspalum	Native
<i>Paspalum laeve</i>	field paspalum	Native
<i>Paspalum notatum</i>	bahiagrass	Native
<i>Paspalum publiflorum</i>	hairy paspalum	Native
<i>Paspalum repens</i>	water paspalum	Native
<i>Paspalum setaceum</i>	thin paspalum	Native
<i>Paspalum sp.</i>	.	Native
<i>Paspalum urvillei</i>	Vasey grass	Non-Native
<i>Passiflora sp.</i>	passionflower	Native
<i>Peltandra sagittifolia</i>	spoonflower; white arrow arum	Native
<i>Peltandra virginica</i>	green arrow arum	Native
<i>Periphyton</i>	periphyton	--
<i>Persea borbonia</i>	red bay	Native
<i>Persea borbonia humilis</i>	silk bay	
<i>Persea palustris</i>	swamp bay	Native
<i>Phragmites australis</i>	common reed	Native
<i>Phyla nodiflora</i>	common frog fruit; capeweed; turkey tangle fogfruit	Native
<i>Physalis pubescens</i>	husk tomato	Native
<i>Phytolacca americana</i>	common pokeweed; American pokeweed	Native
<i>Pinus elliotti</i>	slash pine	Native
<i>Pistia stratiotes</i>	water lettuce	Non-Native?
<i>Pluchea foetida</i>	stinking camphorweed	Native
<i>Pluchea odorata</i>	sweetscent	Native
<i>Pluchea rosea</i>	stinkweed; rosy camphorweed	Native
<i>Pluchea sp.</i>	camphorweed	--
POACEAE	Grasses	--
<i>Polygonum densiflorum</i>	denseflower smartweed; denseflower knotweed	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Polygonum hirsutum</i>	hairy smartweed	Native
<i>Polygonum hydropiperoides</i>	swamp smartweed; mild waterpepper	Native
<i>Polygonum punctatum</i>	dotted smartweed	Native
<i>Polygonum sp.</i>	knotweed, smartweed	Native
<i>Polypodium polypidioides</i>	resurrection fern	Native
<i>Polypremum procumbens</i>	juniperleaf; rustweed	Native
<i>Pontederia cordata</i>	pickerelweed	Native
<i>Pontederia lanceolata</i>	pickerelweed	.
<i>Proserpinaca palustris</i>	marsh mermaidweed	Native
<i>Proserpinaca palustris</i>	marsh mermaidweed	Native
<i>Psidium guajava</i>	common guava	Non-Native
<i>Psilocarya nitens</i>	short-beak baldrush	.
<i>Ptilimnium capillaceum</i>	mock bishopsweed; herbwilliam	Native
<i>Quercus chapmanii</i>	chapman oak	Native
<i>Quercus germinata</i>	sand live oak	Native
<i>Quercus laurifolia</i>	laurel oak; diamond oak	Native
<i>Quercus myrtifolia</i>	myrtle oak	Native
<i>Quercus nigra</i>	water oak	Native
<i>Quercus sp.</i>	oak	.
<i>Quercus virginiana</i>	live oak	Native
<i>Rapanea punctata</i>	mysine	Native
<i>Rhexia mariana</i>	pale meadowbeauty; Maryland meadowbeauty	Native
<i>Rhexia nashii</i>	maid marian	Native
<i>Rhus copallinum</i>	winged sumac	Native
<i>Rhynchelytrum repens</i>	natalgrass; rose natalgrass	.
<i>Rhynchospora cephalantha</i>	clustered beakrush; bunched beaksedge	Native
<i>Rhynchospora chalarocephala</i>	loose head beakrush	Native
<i>Rhynchospora colorata</i>	star-rush	Native
<i>Rhynchospora decurrens</i>	swampforest beaksedge	Native
<i>Rhynchospora divergens</i>	spreading beaksedge	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Rhynchospora fascicularis</i>	fasciculate beak ush	Native
<i>Rhynchospora eximia</i>	Florida breaksedge	Native
<i>Rhynchospora globularis</i>	Globe beakrush	Native
<i>Rhynchospora grayi</i>	Gray's beakrush	Native
<i>Rhynchospora inundata</i>	inundated beakrush; narrowfruit horned beaksedge	Native
<i>Rhynchospora microcarpa</i>	southern beakrush; souther beaksedge	Native
<i>Rhynchospora microcephala</i>	capitate beakrush; bunched beaksedge	Native
<i>Rhynchospora nitens</i>	baldrush; shortbeak beaksedge	Native
<i>Rhynchospora odorata</i>	fragrant beakrush; fragrant beaksedge	.
<i>Rhynchospora scirpoides</i>	longbeak beaksedge	Native
<i>Rhynchospora tracyi</i>	Tracy's beakrush	Native
<i>Ricciocarpus natans</i>	liverwort; Purple-fringed riccia	.
<i>Richardia scabra</i>	rough Mexican clover	Non-Native
<i>Rubus cuneifolius</i>	sand blackberry	Native
<i>Ruella sp.</i>	ruella	Native
<i>Sabal palmetto</i>	cabbage palm	Native
<i>Sabatia bartramii</i>	Bartram's rosegentian	Native
<i>Saccharum giganteum</i>	sugarcane plumegrass	
<i>Sacciolepis indica</i>	glenwood grass; Indian cupscale	Non-Native
<i>Sacciolepis striata</i>	American cupscale	Native
<i>Sagittaria lancifolia</i>	duck potato; bulltongue arrowhead	Native
<i>Sagittaria latifolia</i>	broadleaf arrowhead; common arrowhead; duck potato	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Salix caroliniana</i>	coastalplain willow; Carolina willow	Native
<i>Salvinia minima</i>	water fern; water spangles	Non-Native
<i>Sambucus canadensis</i>	elderberry	Native
<i>Sambucus simpsonii</i>	.	.
<i>Sarcostemma clausum</i>	white twinevine	Native
<i>Saururus cernuus</i>	lizard's-tail	Native
<i>Schinus terebinthifolius</i>	Brazilian pepper	Non-Native
<i>Scirpus californicus</i>	southern bulrush; giant bulrush; California bulrush	Native
<i>Scirpus cubensis</i>	Cuban bulrush; burhead sedge	Non-Native
<i>Scirpus tabernaemontani</i>	softstem bulrush	Native
<i>Scleria reticularis</i>	netted nutrush	Native
<i>Scoparia dulcis</i>	licoriceweed; sweetbroom	Native
<i>Senecio vulgaris</i>	common groundsel	.
<i>Senna obtusifolia</i>	coffeeweed, sicklepod	Native
<i>Senna occidentalis</i>	septicweed; coffee senna	Non-Native
<i>Senna sp.</i>	.	---
<i>Serenoa repens</i>	saw palmetto	Native
<i>Sesbania exaltata</i>	.	.
<i>Sesbania herbacea</i>	danglepod	Native
<i>Sesbania punicea</i>	Spanish gold; rattlebox	Non-Native
<i>Sesbania sp.</i>	.	--
<i>Sesbania vesicaria</i>	bagpod rattle bush; bladderpod	Native
<i>Setaria magna</i>	giant foxtail; giant bristlegrass	Native
<i>Setaria parviflora</i>	yellow bristlegrass; knotroot foxtail	Native
<i>Setaria geniculata</i>	bristlegrass	Native
<i>Sida acuta</i>	sida; common wireweed; common fanpetals	Native
<i>Sida cordifolia</i>	lima	Non-Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Sida rhombifolia</i>	arrow leaf sida; Cuban jute; Indian hemp	Native
<i>Sida sp.</i>	fanpetals	--
<i>Sida elliottii</i>	Elliott's fanpetals	Native
<i>Sisyrinchium angustifolium</i>	blue-eyed grass; narrowleaf blue-eyed grass	Native
<i>Smilax auriculata</i>	wild bamboo	Native
<i>Smilax bona-nox</i>	saw greenbrier	.
<i>Smilax laurifolia</i>	laurel greenbrier; bamboo vine	Native
<i>Smilax rotundifolia</i>	common greenbrier; bullbrier; roundleaf greenbrier	Native
<i>Smilax sp.</i>	greenbrier	--
<i>Solanum americanum</i>	American black nightshade	Native
<i>Solanum capsicoides</i>	soda apple, cockroach-berry	.
<i>Solanum sp.</i>	soda apple	----
<i>Solanum viarum</i>	tropical soda apple	Non-Native
<i>Solidago fistulosa</i>	pinebarren goldenrod	Native
<i>Solidago tortifolia</i>	twistedleaf goldenrod	Native
<i>Sorghastrum secundum</i>	lopsided indiagrass	Native
<i>Spartina bakeri</i>	Baker's cord grass; sand cordgrass	Native
<i>Spartina sp.</i>	cord grasses	Native
<i>Sphagnum sp.</i>	sphagnum moss	--
<i>Sphenoclea zeylanica</i>	chickenspike	Non-Native
<i>Sphenoclea zeylanica</i>	chickenspike	Non-Native
<i>Sporobolus indicus</i>	smut grass	Non-Native
<i>Stillingia aquatica</i>	corkwood	Native
<i>Suriana maritima</i>	bay cedar	Native
<i>Symphotrichum dumosum</i>	Rice-button aster	Native
<i>Taxodium distichum</i>	bald-cypress	Native
<i>Teucrium canadense</i>	American germander; woodsage; Canadian germander	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Thalia geniculata</i>	fireflag; alligatorflag	Native
<i>Thelypteris dentata</i>	downy maiden fern; downy shield fern	Native
<i>Thelypteris interrupta</i>	willdenows maiden fern; Willdenow's fern; downy maiden fern	Native
<i>Thelypteris kunthii</i>	widespread maiden fern; souther maiden fern	Native
<i>Thelypteris palustris</i>	marsh fern	Native
<i>Thelypteris sp.</i>	maidenferns	----
<i>Tillandsia sp.</i>	airplant	--
<i>Toxicodendron radicans</i>	poison ivy	Native
<i>Triadenum virginicum</i>	marsh St. John's wort	Native
<i>Trifolium repens</i>	white clover	Non-Native
<i>Typha domingensis</i>	southern cattail	Native
<i>Typha latifolia</i>	broad leaf cattail	Native
<i>Urena lobata</i>	Caesarweed	Non-Native
<i>Urochloa mutica</i>	paragrass	Non-Native
<i>Urochloa subquadrifera</i>	tropical signalgrass	Non-Native
<i>Urtica chamaedryoides</i>	heartleaf nettle	Native
<i>Utricularia sp.</i>	bladderwort	Native
<i>Utricularia sp.</i>	bladderwort	Native
<i>Vaccinium corybossum</i>	highbrush blueberry	Native
<i>Vaccinium myrsinites</i>	shiny blueberry	Native
<i>Vallisneria americana</i>	tapegrass	Native
<i>Verbena scabra</i>	sandpaper vervain; harsh vervain	Native
<i>Vicia acutifolia</i>	fourleaf vetch	Native
<i>Vigna luteola</i>	cowpea; hairy pod cowpea	Native
<i>Vigna speciosa</i>	wandering cowpea	Non-Native
<i>Viola lanceolata</i>	bog white violet	Native
<i>Vitis rotundifolia</i>	muscadine grape	Native
<i>Vitis munsoniana</i>	wild grape	Native
<i>Wolffiella gladiata</i>	sword bogmat; Florida mudmidget	Native
<i>Woodwardia areolata</i>	netted chain fern	Native
<i>Woodwardia sp.</i>	chainfern	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

<i>Woodwardia virginica</i>	Virginia chainfern	Native
<i>Xyris ellioti</i>	Elliott's yellow-eyed grass	Native
<i>Xyris fimbriata</i>	fringed yellow-eyed grass	Native
<i>Xyris jupicae</i>	Richard's yellow-eyed grasses	Native

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Bird Species

Data source: Commisison and Land Stewardship Resource Evaluation Program

		PRESEN CE	STATUS	
	E=Endangered T=Threatened S=Species of Special Concern N=Non-native <input type="checkbox"/> = Potential <input checked="" type="checkbox"/> = Confirmed		Federal	State
Common Name	Scientific Name			
Acadian Flycatcher	Empidonax virescens	<input type="checkbox"/>		
American Bittern	Botaurus lentiginosus	<input type="checkbox"/>		
American Crow	Corvus brachyrhynchos	<input type="checkbox"/>		
American Goldfinch	Carduelis tristis	<input type="checkbox"/>		
American Kestrel	Falco sparverius	<input type="checkbox"/>		
American Redstart	Setophaga ruticilla	<input type="checkbox"/>		
American Robin	Turdus migratorius	<input type="checkbox"/>		
American Wigeon	Anas Americana	<input type="checkbox"/>		
American Woodcock	Scolopax minor	<input type="checkbox"/>		
Anhinga	Anhinga Anhinga	<input type="checkbox"/>		
Bachman's Sparrow	Aimophila aestivalis	<input type="checkbox"/>		
Bald Eagle	Haliaeetus leucocephalus	<input type="checkbox"/>	E	T
Bank Swallow	Riparia riparia	<input type="checkbox"/>		
Barn Owl	Tyto alba	<input type="checkbox"/>		
Barn Swallow	Hirundo rustica	<input type="checkbox"/>		
Barred Owl	Strix varia	<input type="checkbox"/>		
Belted Kingfisher	Ceryle alcyon	<input type="checkbox"/>		
Black-and-white Warbler	Mniotilta varia	<input type="checkbox"/>		
Black-billed Cuckoo	Coccyzus erythrophthalmus	<input type="checkbox"/>		
Brown Pelican	Pelecanus occidentalis	<input type="checkbox"/>		
Black-whiskered Vireo	Vireo altiloquus	<input type="checkbox"/>		
Black Duck	Anas rubripes	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Black Rail	<i>Laterallus jamaicensis</i>	<input type="checkbox"/>		
Black Vulture	<i>Coragyps atratus</i>	<input type="checkbox"/>		
Blackpoll Warbler	<i>Dendroica striata</i>	<input type="checkbox"/>		
Blk-crowned Night-heron	<i>Nycticorax nycticorax</i>	<input type="checkbox"/>		
Blk-throated Blue Warbler	<i>Dendroica caerulescens</i>	<input type="checkbox"/>		
Blk-throated Green Warbler	<i>Dendroica virens</i>	<input type="checkbox"/>		
Blue Jay	<i>Cyanocitta cristata</i>	<input type="checkbox"/>		
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	<input type="checkbox"/>		
American Anhinga	<i>Anhinga anhinga</i>	<input type="checkbox"/>		
Blue Grosbeak	<i>Guiraca caerulea</i>	<input type="checkbox"/>		
Boat-tailed Grackle	<i>Quiscalus major</i>	<input type="checkbox"/>		
Bobolink	<i>Dolichonyx oryzivorus</i>	<input type="checkbox"/>		
Bobwhite Quail	<i>Colinus virginianus</i>	<input type="checkbox"/>		
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	<input type="checkbox"/>		
Brown-headed Cowbird	<i>Molothrus ater</i>	<input type="checkbox"/>	X	X
Brown Pelican	<i>Pelecanus occidentalis</i>	<input type="checkbox"/>		
Brown Thrasher	<i>Toxostoma rufum</i>	<input type="checkbox"/>		
Burrowing Owl	<i>Athene curicularia</i>	<input type="checkbox"/>		S
Canvasback	<i>Aythya valisineria</i>	<input type="checkbox"/>		
Carolina Wren	<i>Thryothorus ludovicianus</i>	<input type="checkbox"/>		
Cattle Egret	<i>Bubulcus ibis</i>	<input type="checkbox"/>	X	X
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	<input type="checkbox"/>		
Common Flicker	<i>Colaptes auratus</i>	<input type="checkbox"/>		
Common Grackle	<i>Quiscalus quiscula</i>	<input type="checkbox"/>		
Common Ground Dove	<i>Columbina passerina</i>	<input type="checkbox"/>		
Common Loon	<i>Gavia immer</i>	<input type="checkbox"/>		
Common Snipe	<i>Gallinago gallinago</i>	<input type="checkbox"/>		
Common Yellowthroat	<i>Geothlypis trichas</i>	<input type="checkbox"/>		
Common Tern	<i>Sterna hirundo</i>	<input type="checkbox"/>		
Connecticut Warbler	<i>Oporonis agilis</i>	<input type="checkbox"/>		
Cooper's Hawk	<i>Accipiter cooperii</i>	<input type="checkbox"/>		
Crested caracara	<i>Caracara cheriway</i>	<input type="checkbox"/>		
Eastern Screech-owl	<i>Megascops asio</i>	<input type="checkbox"/>		
Eastern Wood-pewee	<i>Contopus virens</i>	<input type="checkbox"/>		
European Starling	<i>Sturnus vulgaris</i>	<input type="checkbox"/>	X	X
Fish Crow	<i>Corvus ossifragus</i>	<input type="checkbox"/>		
Glossy Ibis	<i>Plegadis falcinellus</i>	<input type="checkbox"/>		
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	<input type="checkbox"/>	E	E
Great Egret	<i>Ardea alba</i>	<input type="checkbox"/>		
Great Horned Owl	<i>Bubo virginianus</i>	<input type="checkbox"/>		
Great White Heron	<i>Ardrea herodias</i>	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Greater Yellowlegs	Tringa melamoleuca	<input type="checkbox"/>		
Green-winged Teal	Anas crecca	<input type="checkbox"/>		
Green Backed Heron	Butorides virescens	<input type="checkbox"/>		
Hairy Woodpecker	Picoides villosus	<input type="checkbox"/>		
Henslow's Sparrow	Ammodramus henslowii	<input type="checkbox"/>		
Hooded Warbler	Wilsonia citrina	<input type="checkbox"/>		
House Sparrow	Passer domesticus	<input type="checkbox"/>	X	X
House Wren	Troglodytes aedon	<input type="checkbox"/>		
Indigo Bunting	Passerina cyanea	<input type="checkbox"/>		
Kentucky Warbler	Oporonis formosus	<input type="checkbox"/>		
Killdeer	Charadrius vociferus	<input type="checkbox"/>		
King Rail	Rallus elegans	<input type="checkbox"/>		
Le Conte's Sparrow	Ammodramus leconteii	<input type="checkbox"/>		
Least Bittern	Ixobrychus exilis	<input type="checkbox"/>		
Loggerhead Shrike	Lanius judovicianus	<input type="checkbox"/>		
Marsh Wren	Cistothorus palustris	<input type="checkbox"/>		
Merlin	Falco columbarius	<input type="checkbox"/>		
Mottled Duck	<i>Pelecanus occidentalis</i>	<input type="checkbox"/>		
Mourning Dove	Zenaida macroua	<input type="checkbox"/>		
N. Rough-winged Swallow	Stelgidopteryx serpenis	<input type="checkbox"/>		
Northern Bobwhite Quail	Colinus virginianus	<input type="checkbox"/>		
Northern Cardinal	Cardinalis cardinalis	<input type="checkbox"/>		
Northern Harrier	Circus cyaneus	<input type="checkbox"/>		
Northern Mockingbird	Mimus polyglottos	<input type="checkbox"/>		
Northern Oriole	Icterus galbula	<input type="checkbox"/>		
Northern Parula Warbler	Parula americana	<input type="checkbox"/>		
Northern Pintail	Anas acuta	<input type="checkbox"/>		
Painted Bunting	Passerina ciris	<input type="checkbox"/>		
Palm Warbler	Dendroica plamarum	<input type="checkbox"/>		
Peregrine Falcon	Falco peregrinus	<input type="checkbox"/>	T	
Red-breasted Merganser	Mergus serrator	<input type="checkbox"/>		
Pileated Woodpecker	Dryocopus pileatus	<input type="checkbox"/>		
Pine Warbler	Dendroica pinus	<input type="checkbox"/>		
Prairie Warbler	Dendroica discolor	<input type="checkbox"/>		
Prothonotary Warbler	Protonotaria citrea	<input type="checkbox"/>		
Purple Martin	Progne subis	<input type="checkbox"/>		
Redwing Blackbird	Agelaius phoeniceus	<input type="checkbox"/>		
Ruby-throated Hummingbird	Archilochus colubris	<input type="checkbox"/>		
Rufous-sided Towhee	Pipilo erythrophthalmus	<input type="checkbox"/>		
Sandhill Crane	Grus canadensis	<input type="checkbox"/>		S

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Scissor-tailed Flycatcher	Tyrannus forficatus	<input type="checkbox"/>		
Scrub Jay	Aphelocoma coerulescens	<input type="checkbox"/>	T	T
S.E American Kestrel	Falco sparverius paulus	<input type="checkbox"/>	T	T
Sedge Wren	Cistothorus platensis	<input type="checkbox"/>		
White-tailed Kite	Elanus caeruleus	<input type="checkbox"/>		
Sharp-tailed Sparrow	Ammodramus caudacutus	<input type="checkbox"/>		
Short-eared Owl	Asio flammeus	<input type="checkbox"/>		
Smooth-billed Ani	Crotophaga ani	<input type="checkbox"/>		
Swallow-tailed Kite	Elanoides forficatus	<input type="checkbox"/>		
Snowy Egret	Egetta thula	<input type="checkbox"/>		S
Solitary Sandpiper	Tringa solitaria	<input type="checkbox"/>		
Solitary Vireo	Vireo solitarius	<input type="checkbox"/>		
Song Sparrow	Melospiza melodia	<input type="checkbox"/>		
Tree Swallow	Tachycineta bicolor	<input type="checkbox"/>		
Tricolored Heron	Egretta tricolor	<input type="checkbox"/>		
Turkey Vulture	Cathartes aura	<input type="checkbox"/>		
Virginia Rail	Rallus limicola	<input type="checkbox"/>		
Water Pipit	Anthus spinoletta	<input type="checkbox"/>		
White-eyed Vireo	Vireo griseus	<input type="checkbox"/>		
White-throated Sparrow	Zonotrichia albicollis	<input type="checkbox"/>		
White-winged Dove	Zenaida asiatica	<input type="checkbox"/>		
White Ibis	Eodcimus albus	<input type="checkbox"/>		
White Pelican	Accipiter striatus	<input type="checkbox"/>		
Whip-poor-will	Caprimulgus vociferus	<input type="checkbox"/>		
Woodstork	Mycteria americana	<input type="checkbox"/>	E	E
Yel-crowned Night-heron	Nyctanassa violacea	<input type="checkbox"/>		
Yellow-bellied Sapsucker	Sphyrapicus varius	<input type="checkbox"/>		
Yellow-billed Cuckoo	Coccyzus americanus	<input type="checkbox"/>		
Yellow-rumped Warbler	Dendroica coronata	<input type="checkbox"/>		
Yellow-throated Vireo	Vireo flavifrons	<input type="checkbox"/>		
Yellow-throated Warbler	Dendroica dominica	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Mammal Species

Data Source: Commission and Land Stewardship Resource Evaluation Program

		PRESENCE	STATUS	
	E=Endangered T=Threatened S=Species of Special concern N=Non-native <input type="checkbox"/> = Potential <input checked="" type="checkbox"/> = Confirmed		Federal	State
Common Name	Scientific			
Armadillo	<i>Dasyus novemcinctus</i>	<input type="checkbox"/>	N	N
Big Brown Bat	<i>Eptesicus fuscus fuscus</i>	<input type="checkbox"/>		
Big Cypress Fox Squirrel	<i>Sciurus niger avicennia</i>	<input type="checkbox"/>		T
Bobcat	<i>Lynx rufus</i>	<input type="checkbox"/>		
Brazilian Free-tailed Bat	<i>Tadarida b. cynocephala</i>	<input type="checkbox"/>		
Cotton Mouse	<i>Peromyscus gossypinus</i>	<input type="checkbox"/>		
Coyote	<i>Canis latrans</i>	<input type="checkbox"/>		
Eastern Cottontail	<i>Sylvilagus floridanus</i>	<input type="checkbox"/>		
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	<input type="checkbox"/>		
Eastern Mole	<i>Scalopus aquaticus</i>	<input type="checkbox"/>		
Eastern Pipistrel	<i>Pipistrellus subflavus</i>	<input type="checkbox"/>		
Eastern Woodrat	<i>Neotoma floridana</i>	<input type="checkbox"/>		
Evening Bat	<i>Nycticeius humeralis</i>	<input type="checkbox"/>		
Feral Hog	<i>Sus scrofa</i>	<input type="checkbox"/>	N	N
Florida Black Bear	<i>Ursus americanus floridanus</i>	<input type="checkbox"/>		T
Florida Manatee	<i>Trichechidae manatus</i>	<input type="checkbox"/>	E	E
Florida Mastiff Bat	<i>Eumops glaucinus floridanus</i>	<input type="checkbox"/>		E
Florida Mouse	<i>Podomys floridanus</i>	<input type="checkbox"/>		S
Florida Panther	<i>Felis concolor caryl</i>	<input type="checkbox"/>	E	E
Florida Water Rat	<i>Neofiber alleni</i>	<input type="checkbox"/>		
Florida Weasel	<i>Mustela frenata peninsulæ</i>	<input type="checkbox"/>		
Gray Fox	<i>Uroncyon cinereoargenteus</i>	<input type="checkbox"/>		
Hispid Cotton Rat	<i>Sigmodon hisipus</i>	<input type="checkbox"/>		
Hoary Bat	<i>Lasiurus cinereus</i>	<input type="checkbox"/>		
Leaset Shrew	<i>Cryptotis parva</i>	<input type="checkbox"/>		
Long-tailed Weasel	<i>Mustela frenata</i>	<input type="checkbox"/>		
Marsh Rabbit	<i>Sylvilagus palustris</i>	<input type="checkbox"/>		
Northern Yellow Bat	<i>Lasiurus i. floridanus</i>	<input type="checkbox"/>		
Opposum	<i>Didelphis marsupialis</i>	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Raccoon	<i>Procyon lotor</i>	<input type="checkbox"/>		
Red Fox	<i>Vulpes fulva</i>	<input type="checkbox"/>		
Rice Rat	<i>Oryzomys palustris</i>	<input type="checkbox"/>		
River Otter	<i>Lutra canadensis</i>	<input type="checkbox"/>		
Seminole Bat	<i>Lasiurus seminolus</i>	<input type="checkbox"/>		
Sherman's Fox Squirrel	<i>Sciurus niger shermani</i>	<input type="checkbox"/>		S
Shermans Shorttailed Shrew	<i>Blarina carolinensis shermani</i>	<input type="checkbox"/>		S
Short-tailed Shrew	<i>Blarina c. carolinensis</i>	<input type="checkbox"/>		
Southeastern Big-eared Bat	<i>Plecotus rafinesquii</i>	<input type="checkbox"/>		
Southeastern Brown Bat	<i>Myotis austroriparius</i>	<input type="checkbox"/>		
Southeastern Pocket Gopher	<i>Geomys pinetis</i>	<input type="checkbox"/>		
Southern Florida Mink	<i>Mustela vison evergladensis</i>	<input type="checkbox"/>		T
Southern Flying Squirrel	<i>Glaucomys volans</i>	<input type="checkbox"/>		
Spotted Skunk	<i>Spilogale putorius</i>	<input type="checkbox"/>		
Striped Skunk	<i>Mephitis mephitis</i>	<input type="checkbox"/>		
Whitetail Deer	<i>Odocoileus virginianus</i>	<input type="checkbox"/>		

Reptile and Amphibian Species

		PRESENCE	STATUS	
	E=Endangered T=Threatened S=Species of Special concern N=Non-native <input type="checkbox"/> = Potential <input checked="" type="checkbox"/> = Confirmed		Federal	State
Common Name	Scientific Name			
SNAKES				
Brown Watersnake	<i>Nerodia taxispilota</i>	<input type="checkbox"/>		
Common Kingsnake	<i>Lampropeltis getulus</i>	<input type="checkbox"/>		
Corn/Red Rat	<i>Elaphe guttata guttata</i>	<input type="checkbox"/>		
Dusty Pygmy	<i>Sistrurus miliarius barbouri</i>	<input type="checkbox"/>		
Eastern Coachwhip	<i>Masticophis flagellum flagellum</i>	<input type="checkbox"/>		
Eastern Coral	<i>Micrurus fulvius fulvius</i>	<input type="checkbox"/>		
Eastern Diamondback	<i>Crotalus adamanteus</i>	<input type="checkbox"/>		
Eastern Hognose	<i>Heterodon platyrhinos</i>	<input type="checkbox"/>		
Eastern Indigo	<i>Drymarchon corais couperi</i>	<input type="checkbox"/>	T	T
Eastern Mud	<i>Farancia abacura abacura</i>	<input type="checkbox"/>		
Everglades Racer	<i>Coluber constrictor paluticola</i>	<input type="checkbox"/>		
Everglades Rat	<i>Elaphe obsoleta rossalleni</i>	<input type="checkbox"/>		
Fl. Green Watersnake	<i>Nerodia cyclopion floridana</i>	<input type="checkbox"/>		
Florida Brown Snake	<i>Storeria dekayi victa</i>	<input type="checkbox"/>		
Florida Cottonmouth	<i>Agkistrodon piscivorus conanti</i>	<input type="checkbox"/>		
Florida Pine	<i>Pituophis melanoleucus mugitus</i>	<input type="checkbox"/>		S
Florida Scarlet	<i>Cemophora coccinea coccinea</i>	<input type="checkbox"/>		
Florida Watersnake	<i>Nerodia fasciata pictiventris</i>	<input type="checkbox"/>		
Glossy Crayfish	<i>Regina rigida rigida</i>	<input type="checkbox"/>		
Mole Kingsnake	<i>Lampropeltis calligaster rhombomaculata</i>	<input type="checkbox"/>		
Peninsula Ribbon	<i>Thamnophis sauritus sackeni</i>	<input type="checkbox"/>		
Peninsula Crowned Snake	<i>Tantilla relicta relicta</i>	<input type="checkbox"/>		
Pinewoods	<i>Rhadinaea flavilata</i>	<input type="checkbox"/>		
Rough Green	<i>Opheodrys aestivus</i>	<input type="checkbox"/>		
Scarlet Kingsnake	<i>Lampropeltis triangulum elapsoides</i>	<input type="checkbox"/>		
Short-tailed Snake	<i>Stilosoma extenuatum</i>	<input type="checkbox"/>		
So Florida Rainbow	<i>Farancia erytrogramma seminola</i>	<input type="checkbox"/>		
Southern Black Racer	<i>Coluber constrictor priapus</i>	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

Southern Copperhead	<i>Agkistrodon contortrix contortrix</i>	<input type="checkbox"/>		
Yellow Rat/Chicken	<i>Elaphe obsoleta quadrivittata</i>	<input type="checkbox"/>		
AMPHIBIANS		<input type="checkbox"/>		
Barking Treefrog	<i>Hyla gratiosa</i>	<input type="checkbox"/>		
Bluetailed Mole Skink	<i>Eumeces egregius lividus</i>	<input type="checkbox"/>	T	T
Broadheaded Skink	<i>Eumeces laticeps</i>	<input type="checkbox"/>		
Brown Anole	<i>Anolis sagrei sagrei</i>	<input type="checkbox"/>	N	N
Bullfrog	<i>Rana catesbeiana</i>	<input type="checkbox"/>		
Central Newt	<i>Notophthalmas viridescens louisianensis</i>	<input type="checkbox"/>		
Cuban Treefrog	<i>Osteopilus septentrionalis</i>	<input type="checkbox"/>	N	N
Dwarf Salamander	<i>Eurycea quadridigitata</i>	<input type="checkbox"/>		
Eastern Glass Lizard	<i>Ophisaurus ventralis</i>	<input type="checkbox"/>		
Eastern Lesser Siren	<i>Siren intermedia intermedia</i>	<input type="checkbox"/>		
Eastern Narrowmouthed Toad	<i>Gastrophryne carolinensis carolinensis</i>	<input type="checkbox"/>		
Eastern Spadefoot	<i>Scaphiopus holbrooki</i>	<input type="checkbox"/>		
Everglades Dwarf Siren	<i>Pseudobranchus striatus belli</i>	<input type="checkbox"/>		
Florida Chorus Frog	<i>Pseudacris nigrita verrucosa</i>	<input type="checkbox"/>		
Florida Cricket Frog	<i>Acris gryllus dorsalis</i>	<input type="checkbox"/>		
Florida Gopher Frog	<i>Rana areolata aesopus</i>	<input type="checkbox"/>		S
Green Anole	<i>Anolis carolinensis</i>	<input type="checkbox"/>		
Green Treefrog	<i>Hyla cinerea</i>	<input type="checkbox"/>		
Ground Skink	<i>Scincella lateralis</i>	<input type="checkbox"/>		
Little Grass Frog	<i>Limaoedus ocularis</i>	<input type="checkbox"/>		
Narrow-striped Dwarf Siren	<i>Pseudobranchus striatus axanthus</i>	<input type="checkbox"/>		
Oak Toad	<i>Bufo quercicus</i>	<input type="checkbox"/>		
Southeastern Five-lined Skink	<i>Eumeces inexpectatus</i>	<input type="checkbox"/>		
Southern Fence Lizard	<i>Sceloporus undulatus undulatus</i>	<input type="checkbox"/>		
Southern Leopard Frog	<i>Rana sphenoccephala</i>	<input type="checkbox"/>		
Southern Toad	<i>Bufo terrestris</i>	<input type="checkbox"/>		
Squirrel Treefrog	<i>Hyla squirella</i>	<input type="checkbox"/>		
Striped Newt	<i>Notophthalmas perstriatus</i>	<input type="checkbox"/>		
Two-toed Amphiuma Congo Eel	<i>Amphiuma means</i>	<input type="checkbox"/>		
TURTLES		<input type="checkbox"/>		
Common Musk	<i>Sternotherus odoratus</i>	<input type="checkbox"/>		
Florida Box	<i>Terrapene carolina bauri</i>	<input type="checkbox"/>		
Florida Chicken	<i>Deirochelys reticularia chrysea</i>	<input type="checkbox"/>		
Florida Mud	<i>Kinosternon subrubrum</i>	<input type="checkbox"/>		

Kissimmee River Management Areas General Management Plan 2008 – 2013
South Florida Water Management District, Land Stewardship Division

	steindachneri			
Florida Redbelly	Pseudemys nelsoni	<input type="checkbox"/>		
Florida Snapping	Chelydra serpentina osceola	<input type="checkbox"/>		
Florida Softshell	Apalone ferox	<input type="checkbox"/>		
Gopher Tortoise	Goropherus polyphemus	<input type="checkbox"/>		S
Peninsula Cooter	Pseudemys floridana peninsularis	<input type="checkbox"/>		
Striped Mud	Kinosternon baurii	<input type="checkbox"/>		
CROCODYLIA		<input type="checkbox"/>		
American Alligator	Alligator mississippiensis	<input type="checkbox"/>	T	S