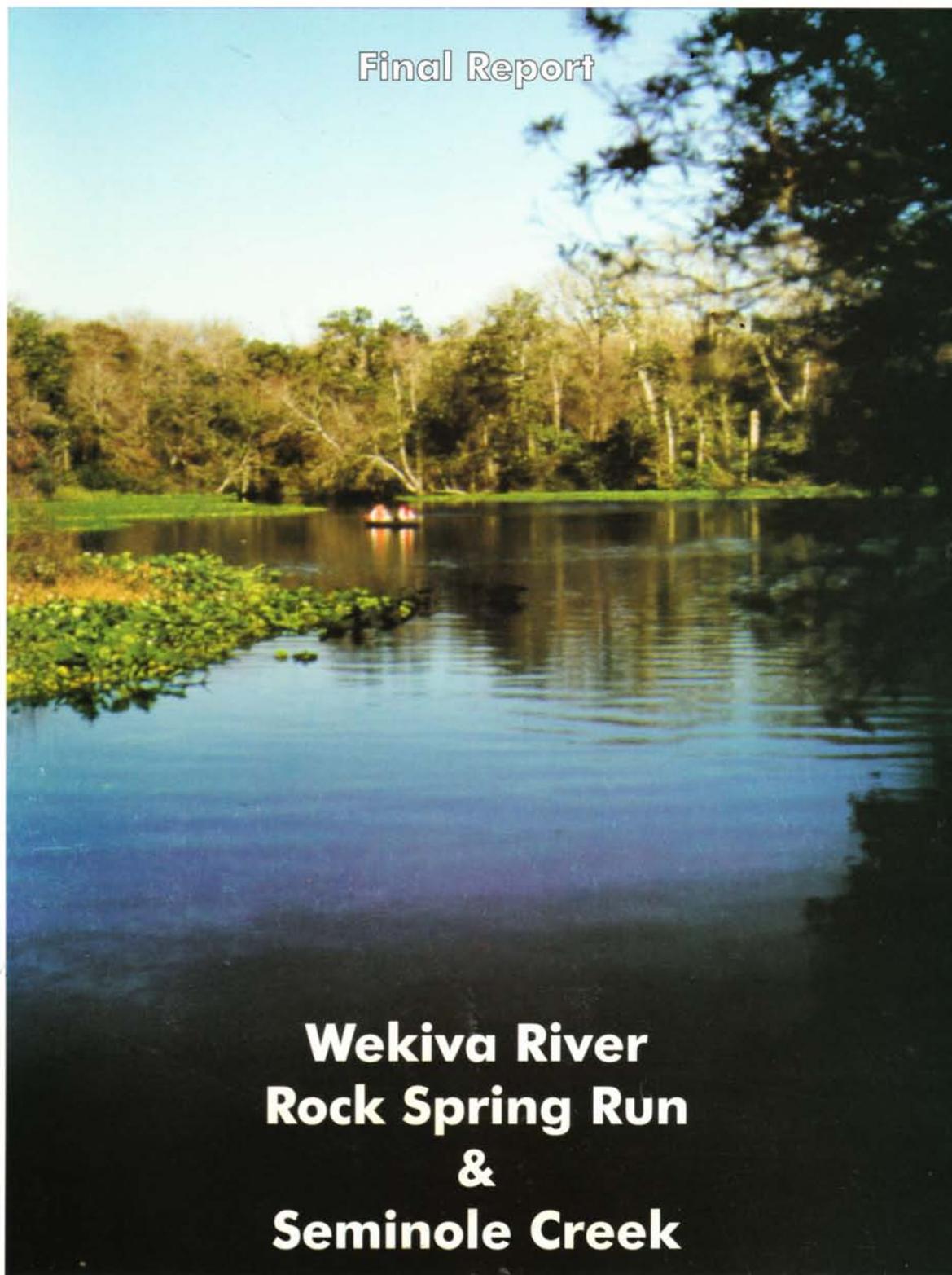


Final Report



**Wekiva River
Rock Spring Run
&
Seminole Creek**

Wild and Scenic River Study
June 1999

Southeast Support Office - National Park Service - U.S. Department of the Interior

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I. Summary of Findings

This study was undertaken at the direction of Congress to determine the potential of the Wekiva River, the Seminole Creek tributary, and the Rock Springs tributary for inclusion in the National Wild and Scenic River System. The Wekiva River and its tributaries are located in central Florida just north of the City of Orlando. The river and its tributaries flow through Orange, Seminole, and Lake Counties.

The study area includes the Rock Springs Run from its headwaters in Orange County's Kelly Park to the confluence with Wekiwa Springs Run; Wekiwa Springs Run from the main spring to the confluence with Rock Springs Run (technically forming the Wekiva River); the Wekiva River from the confluence of Wekiwa Springs Run and Rock Springs Run to its confluence with the St.

Johns River; Seminole Creek from its headwaters at Seminole Springs to the confluence with Black Water Creek; and Black Water Creek from the confluence with Seminole Creek to the confluence with the Wekiva River. The study area was expanded at the request of the Lake County Water Authority with support from the Lake County Board of County Commissioners to include Black Water Creek upstream of the confluence with Seminole Creek to its outflow from Lake Norris, a distance of approximately 9.7 miles. This brought the total length of river miles studied to approximately 45.5 miles.

Study River Segments

Approx. Total Eligible & Suitable Length for Designation

Rock Springs Run	8.8 miles	8.8 miles
Wekiwa Springs Run	.5 mile	.5 mile
Wekiva River	14.4 miles	14.4 miles
Seminole Creek	3.9 miles	0 miles
Black Water Creek (from Seminole Creek to Wekiva River)	8.2 miles	8.2 miles
Black Water Creek (from Seminole Creek to Lake Norris)	9.7 miles	9.7 miles
TOTAL	45.5 miles	41.6 miles

It was found that all the river study segments were free-flowing and had “outstandingly remarkable resources” which make them eligible for national designation.

While all the river sections were found to be eligible for designation, not all were found to be suitable for designation. A total of 41.6 river miles were found to be both eligible and suitable for designation.

Sections found to be eligible and suitable for designation include:

1. **Wekiva River (14.9 miles)** - the river in its entirety beginning at the main springs of Wekiwa Springs and including Wekiwa Springs Run to the confluence of the Wekiwa River and the St. Johns River.

2. **Rock Springs Run (8.8 miles)** - the run in its entirety from its headwater at the main spring of Rock Springs to its confluence with the Wekiwa Springs Run (forming the Wekiwa River).

3. **Black Water Creek (17.9 miles)** - the creek from Lake Norris to the confluence with the Wekiwa River.

Sections found to be eligible but “**not suitable**” for designation include:

1. Seminole Creek (3.9 miles) - the entire creek from its headwaters at Seminole Springs to its confluence with Black Water Creek

Four alternatives were developed and are presented under Section VI. Alternatives and Conclusions. These include: 1. No Action/Existing Trends, 2. Congressional designation with National Park Service management, 3. Congressional designation

with State management and the establishment of a combined Federal, State, and local coordinated advisory committee 4. Secretarial designation with state management.

Alternative 3 is the recommended alternative and involves designation of the river sections found to be both eligible and suitable for designation. This includes 14.9 miles of the Wekiva River from Wekiwa Springs to the confluence with the St. Johns River, the entire 8.8 miles of Rock Springs Run, and approximately 14.7 miles of Black Water Creek from Lake Norris to the confluence with the Wekiwa River. The State of Florida would manage the designated segments as components of the National Wild and Scenic River System. An advisory committee composed of state, local, and federal agencies and the public would be established to coordinate a comprehensive management plan, make recommendation regarding water resource projects to the Secretary of the Interior, and serve as a continuing forum for issues effecting the rivers.

II. Background

Introduction

Beginning with our first early days of settlement, Americans have viewed our nation's abundance of rivers as a vast resource.

After decades of harnessing our rivers for growth and development, our environmental conscience was awakened in the 1960's to the fact that clean, natural waterways are not in endless supply. Congress, acting upon this growing public concern, passed the Wild and Scenic Rivers Act (WSRA) (Public Law 90-542) in 1968. This Act recognizes the value of rivers and their environs as outstanding natural treasures that must be protected for the enjoyment of future generations. Several rivers were designated for immediate protection and additional rivers were authorized for study as potential components of the Federally-protected system. Through the years Congress has responded to the desires of the citizenry by amending the Act to either designate or authorize study of additional rivers. In 1996 Congress passed Public Law 101-311 authorizing the study of the Wekiva River, Rock Springs Run, and Seminole Creek for potential addition to the National Wild and Scenic Rivers System.

Study Area

The Wekiva River, Rock Springs Run, and Seminole Creek are located in Orange, Seminole, and Lake Counties, Florida, (see Figure 1) approximately 10 miles northwest of Orlando. The Orlando metropolitan area has

experienced tremendous growth in the last two decades. Population projections for the year 2000 estimate over 1.33 million people will live within a 20-mile radius of the Wekiva River.

The study rivers are part of the Wekiva River Basin which also includes the Little Wekiva River which is not currently under study for inclusion into the National Wild and Scenic River System. The entire basin drains over 242 square miles. The river system represents one of the major routes of surface drainage for Orange, Seminole, and Lake Counties.

The majority of the river and creeks under study are currently under public ownership either by the State of Florida, the St. Johns River Water Management District, or Orange County. Most of the private ownership lies within Seminole County. The Wekiva River has only one crossing, State Road 46 at river mile 6.1. Rock Springs Run has no crossings. Black Water Creek has three crossings, State Road 44 at river mile 11.75, State Road 44A at river mile 11.8, and Lake Norris Road at approximately river mile 16.8.

The Wekiva River Basin is a complex ecological system of rivers, springs, seepage areas, lakes, streams, sinkholes, wetland prairies, hardwood hammocks, pine flatwoods, longleaf pine and wiregrass, xeric scrub oak, and sand pine scrub communities, all of which are located adjacent to or in the wetland and floodplain of this water dependent system. (The Wekiva River Basin: A Resource

Endangered, 1985). The rivers and streams are both spring-fed and blackwater. Blackwater streams receive most of their flow from precipitation resulting in annual rainy season over-bank flows. The study rivers are in superb ecological condition. The basin supports many species of plants and animal life, some of which are endangered, threatened, or of special concern.

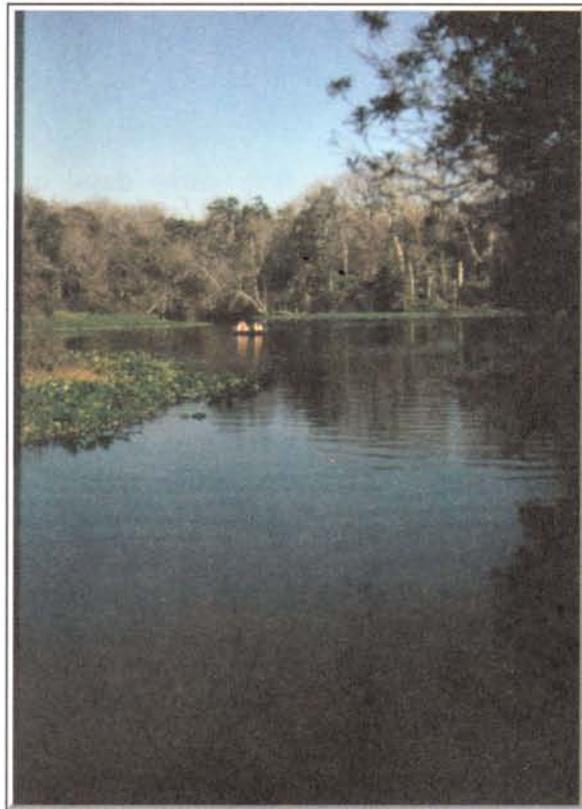
Elevations within the basin range from sea level to about 35 feet above sea level. The climate is subtropical, with an average annual temperature of around 72 degrees. Daily maximum temperatures in the summer approach the mid 90's degrees Fahrenheit. Mean annual rainfall over the Wekiwa basin is 52 inches, most of which occurs during the June-October rainy season.

(Portions of this section taken from "Wekiwa River Task Force: Report to Governor Bob Martinez, May 20, 1988.)

Wekiwa Springs and Run

The Wekiwa River actually is formed at the confluence of Wekiwa Springs Run and Rock Springs Run. Wekiwa Springs is an artesian flow located within Wekiwa Springs State Park, a 7,800 acre publicly owned park managed by the Florida Department of Environmental Protection. The Wekiwa Springs Run flows approximately one mile before connecting with Rock Springs Run to form the Wekiwa River. (It should be noted for clarification that the spelling of Wekiwa

Springs and Wekiwa Springs State Park differs from the spelling of the Wekiwa River.)



Wekiwa Springs Run - below pool area



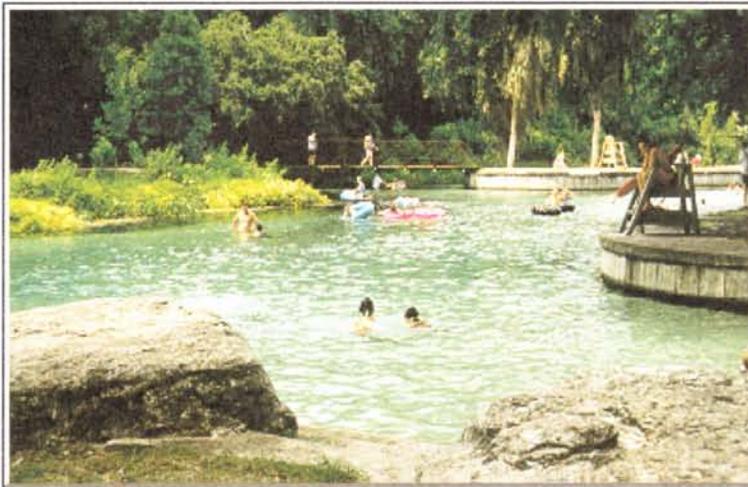
Wekiwa Springs - pool area

Wekiwa Springs is a special natural feature. It is a second magnitude spring with exposed limestone from the Hawthorn Formation just below the water's surface. The spring discharges approximately 48 million gallons per day (MGD) of crystal clear water from at least five horizontal caverns 14 feet below the surface forming a kidney shaped pool. The spring is extremely popular for swimming and sunning activities. Estimated peak summer use of the main spring area is between 1,200 and 1,500 persons per day. The bank adjacent to part of the pool has been bulk-headed with

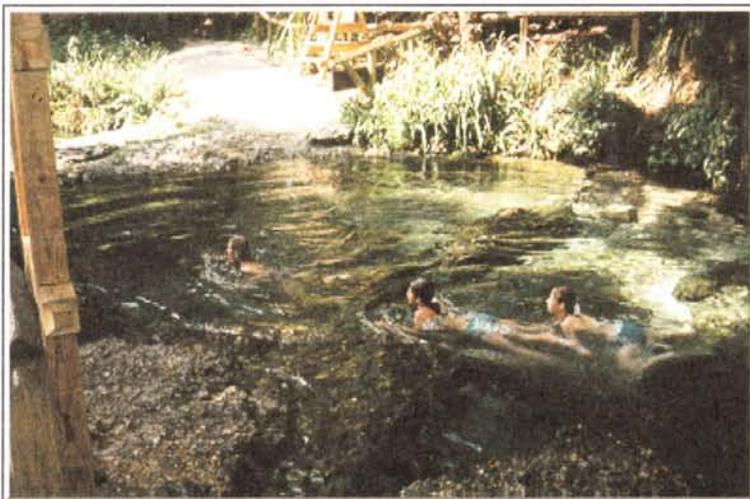
ladders providing swimmer access to the water. Facilities at the main spring area include paved parking, a lawn area sloping down to the pool, a canoe concession, snack bar, playground, two picnic pavilions, restrooms, and a visitor center

Rock Springs and Run

Rock Springs is located in Kelly Park, a 200 acre park owned by Orange County. Rock Springs represents one of the few areas in Central Florida where the limestone of the Hawthorn Formation is exposed. The primary discharge originates at the base of a partially submerged limestone bluff producing an average discharge of approximately 41.8 MGD. The run begins at the spring and continues down for several hundred feet until it divides into two flows. One flow forms a large public swimming area with concrete retaining walls on two sides. Both flows rejoin below the swimming area and the run then flows northward for about 1.5 miles before turning south. Rock Springs Run continues southward for approximately nine miles before meeting Wekiwa Springs Run to form the Wekiva River. Almost all of the run is in public ownership. One mile of the Rock Springs Run is within the Wekiva River Aquatic Reserve with an additional five miles forming the boundary between Wekiwa Springs State Park and Rock Springs Run State Reserve. (See Figure 3) The floodplain in this area is approximately three miles wide, east to west.



Rock Springs - pool area



Rock Springs Run

Wekiva River

The Wekiva River forms at the confluence of Wekiwa Springs Run and Rock Springs Run and continues for approximately 14.2 miles before emptying into the St. Johns River. It is fed by natural springs of the Floridan aquifer, approximately 130 square miles of watershed in north Orange County and northwest Seminole county, and approximately 112 square mile of watershed in Lake County. One quarter mile downstream of the convergence of Wekiwa Springs Run and Rock Springs Run, the Wekiva River receives discharge from Miami Springs Run/Canal. The area between where Miami Springs joins the river and about 3.75 mile



Wekiva River



Wekiva River - Wekiva Swamp section

further downstream, where the Little Wekiva River enters, is called Wekiva Swamp. Islands and submerged vegetation have caused low current velocities in this area which has enhanced the deposition of silt and organic debris. The water, however, remains crystal clear. Approximately six miles downstream of Wekiwa Springs the floodplain narrows and

sediments change from organic silts to sand. From here the river meanders northeasterly towards the St. Johns River. Wekiva Falls

Run/Canal, a 2,000 foot tributary originating at Wekiva Falls campground, merges with the Wekiva River just south of the State Road 46 bridge. Blackwater Creek joins the Wekiva River approximately one mile upstream of the confluence of the Wekiva River and the St. Johns River.

Seminole Creek and Black Water Creek

Seminole Creek is actually a tributary of Black Water Creek which originates at Seminole Springs and travels through Seminole Swamp before joining Black Water Creek. Black Water Creek is a major tributary to the Wekiva River. Its headwaters are located at Lake Dorr in the Ocala National Forest. Upstream of the confluence with Seminole Creek, Black Water Creek is maintained by ground water seepage and a small spring which discharges into Lake Norris. The creek falls an average of 1.9 feet per mile over 16 miles between Lake Norris and the Wekiva River. It has an expansive floodplain and a sinuous and braided channel

with an abundance of deadwood snags. Springs contribute a considerable portion of the flow downstream of the confluence with Seminole Creek. (Technical Publication SJ94-1, SJRWMD).

The Seminole Creek tributary is specifically named in the Congressional study authorization. This would include Black Water Creek from the confluence with Seminole Creek to its confluence with the Wekiva River.

The Lake County Water Authority has requested that the segment of Black Water Creek from its confluence with Seminole Creek upstream to Lake Norris be included into the study for Wild and Scenic River designation. The majority of the property bordering the creek along this segment is now in public ownership and the Lake County Water Authority has been designated to

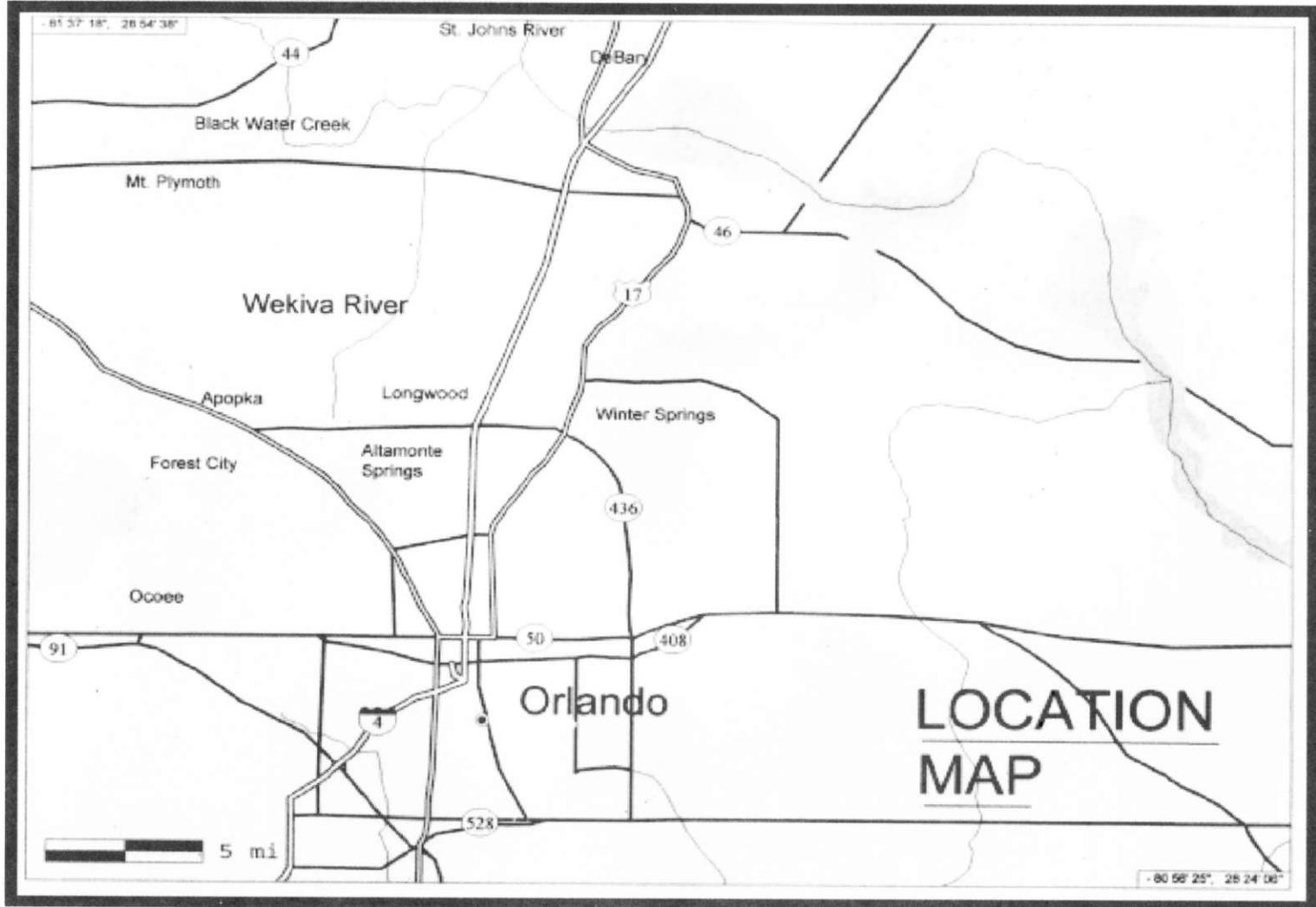
develop a management plan for the property and creek. The Florida Department of Environmental Protections has determined that the entire segment of Black Water Creek downstream of Lake Norris is classified as waters of the State of Florida.

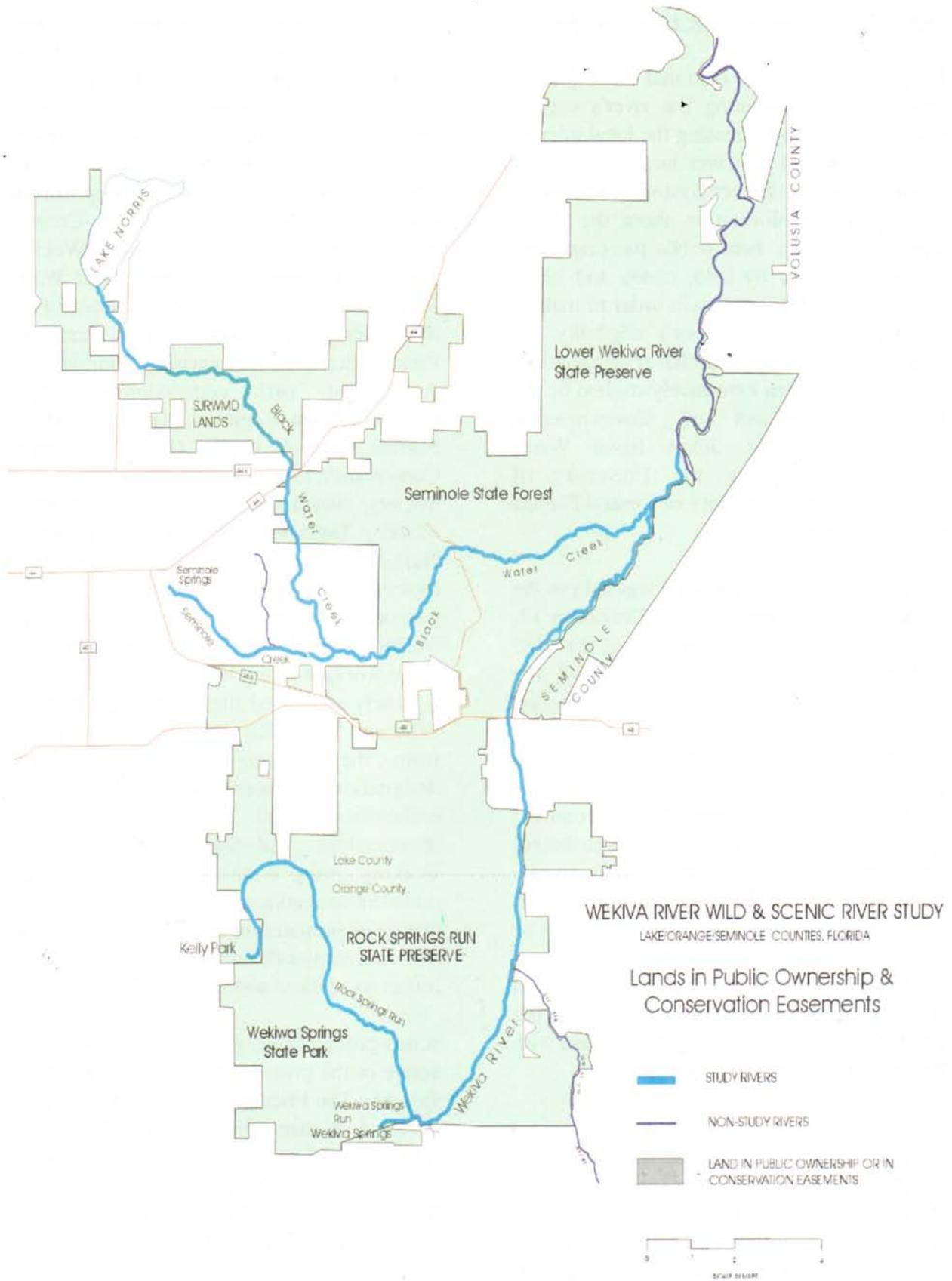


Black Water Creek - upstream of Wekiva River Confluence



Seminole Spring





Study Process and Public Involvement

In January 1997, the National Park Service (NPS) began evaluating the river's natural resource values and assessing the local interest in designation of the river into the National Wild and Scenic Rivers System. The study team gathered information about the river's natural resources, held public meetings, and studied the river by land, canoe and aerial photography interpretation in order to make a determination of the river's eligibility for National Wild and Scenic River designation. The basin has been extensively studied by the Florida Department of Environmental Protection, the St. Johns River Water Management District, the University of Florida, and the University of Central Florida (see Appendix A).

A public information workshop was held at the Wekiwa Springs State Park on December 17, 1997 to help the public understand the Wild and Scenic River Study process and the potential effects of designation. The meeting was attended by approximately 25 people including Lake County Commissioner William Good. An introductory brochure describing the Wild and Scenic Rivers Act and common questions with answers was distributed. Questions were entertained and issues discussed. Support for designation was overwhelmingly positive. No opposition to designation was voiced. A representative of the Lake County Water Authority requested that the study be extended upriver on the Black Water Creek from its convergence with Seminole Creek to Lake Norris.

The Florida Department of Environmental Protection (FDEP), Office of Ecosystem Planning and Coordination, established the Wekiva River Basin Working Group to assist in looking at environmental and developmental issues within the Wekiva River basin long prior

to the initiation of the Wild and Scenic River Study. The committee represents a broad cross section of state and local agencies, landowners, environmentalists, non-profit organizations, and recreational users. Membership includes representatives from FDEP, Florida Department of Transportation (FDOT), Orange County, Lake County, Seminole County, Friends of the Wekiva, adjacent landowners, St. Johns River Water Management District, Seminole State Forest, neighboring city agencies, Florida Game and Fresh Water Fish Commission, Florida Trail Association, park concessionaires, East Central Florida Regional Planning Council, Florida Sport & Paddle Club, The Nature Conservancy, local outfitters, Florida Audubon Society, Sierra Club, University of Central Florida, Defenders of Wildlife and Ocala National Forest. This committee has been looking at a broad spectrum of issues potentially impacting the river basin. The National Park Service has made presentations to the working group and provides updates at regularly scheduled meetings regarding the Wild and Scenic River study. The response from the working group to potential designation has been extremely supportive, enthusiastic, and unanimous by the membership. All listed members of the working group were asked to review and comment on sections of this draft study report during its preparation to assure that the plans and alternatives developed by the study team reflect local ideas and interests.

A non-profit citizens group has also been very active in the protection of the Wekiva River system. The Friends of the Wekiva has been involved in many of the State's protection efforts including the rivers' designations as "Outstanding Florida Waters". A representative of the Friends of the Wekiva sits on Wekiva River Basin Working Group.

III. Evaluation

Eligibility

The Wild and Scenic Rivers Act states that in order for a river to be eligible for designation it must be "free-flowing" and must possess one or more "outstandingly remarkable" scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values.

Free-Flowing

Free flowing is defined in Section 16(b) of the WSRA as:

...existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures...shall not automatically bar its consideration for inclusion: Provided that this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the National Wild and Scenic Rivers System.

and is applied to any river or section of a river.

All the study sections of the Wekiva River, Rock Springs Run, Seminole Creek, and Black Water Creek are without impoundment, diversion, major rip-rapping and major modifications of the waterway and are found to be free-flowing.

Outstandingly Remarkable Values

The "outstandingly remarkable" threshold within the Act is designed to be interpreted through the professional judgement of the study team. The following descriptions have been used to help interpret the "outstandingly remarkable" eligibility requirement:

Nationally Significant Resource Values - A nationally significant resource would be rare or exemplary at a national level. Examples could include nationally threatened or endangered species of plants and wildlife or a recreational boating experience which draws visitors from all over the nation.

Regionally Significant Resource Values - This element provides for the desirability of protecting a regional diversity of rivers through the national system. A regionally significant resource would be rare or exemplary at the regional level. Examples might include a regionally unusual and distinctive river related geologic feature or regionally rare or endangered plant and wildlife populations.

The Wekiwa Springs Run, Rock Springs Run, Wekiva River, Seminole Creek, and Black Water Creek have been found to have a number of "Outstandingly Remarkable Values". These include:

- Scenic Values
- Recreational Values
- Fish and Wildlife Values
- Historic/Cultural Values
- Other Values - Water Quality

These values are described in detail in Section IV.

Classification

The Wild and Scenic Rivers Act further requires the Wekiva River Study to indicate the appropriate classifications of river segments in case the river should be designated. Rivers are classified as either wild, scenic, or recreational, depending on the river's degree of natural character. The classifications are defined as follows:

Wild river areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads

Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The study rivers have been classified as follows:

Wekiva River (confluence with St. Johns River to Wekiwa Springs - includes Wekiwa Springs Run) Approx.

Segment	Description	Classification	Approx. Length
1	RM 0 to approx. RM 4.4 confluence with St. Johns River to southern boundary of Lower Wekiva River State Preserve along river (Wekiva River Haven)	Wild	4.4 mi
2	approx. RM 4.4 to approx. RM 7.8 southern boundary of Lower Wekiva River State Preserve to northern boundary along Wekiva River of Rock Springs State Reserve (Markham Woods Tract)	Recreational	3.4 mi
3	approx. RM 7.8 to approx. RM 13.7 northern boundary of Rock Springs Run State Reserve along river to southern boundary of Rock Springs Run State Reserve along river	Wild	5.9 mi
4	approx. RM 13.7 to Wekiwa Spring southern boundary of Rock Springs Run State Reserve along river up Wekiwa Spring Run to Wekiwa Spring	Recreational	1.2 mi

Discussion of Classifications:

Segment 1 - RM 0 to RM 4.4 - WILD - This segment is entirely within the Lower Wekiva River State Preserve, undeveloped and without any roadway crossings.

Segment 2 - RM 4.4 to RM 7.8 - RECREATIONAL - This segment is bordered primarily by private residential development. There are a large number of associated docks and therefore much more extensive access to the river. Most of the development is older construction and relatively small in scale.

Segment 3 - RM 7.8 to RM 13.7 - WILD - This segment is bordered by Rock Springs Run State Reserve, Audubon Society conservation lands, and lands managed by the St. Johns River Water Management District. There are no river crossings or development on this segment.

Segment 4 - RM 13.7 to Wekiwa Spring - RECREATIONAL - This segment includes adjacent private lands and Wekiwa Springs Run within Wekiwa Springs State Park. The segment is a very high recreational use area with commercial canoe/boat concessioners inside and outside of the park's boundaries. Facilities at the park include paved parking, snack bar, playground, picnic pavilions, restrooms, visitor center, a lawn area sloping down to the spring pool, and canoe concession.



Segment 1



Segment 1



Segment 2 - residential development



Segment 2 - residential development



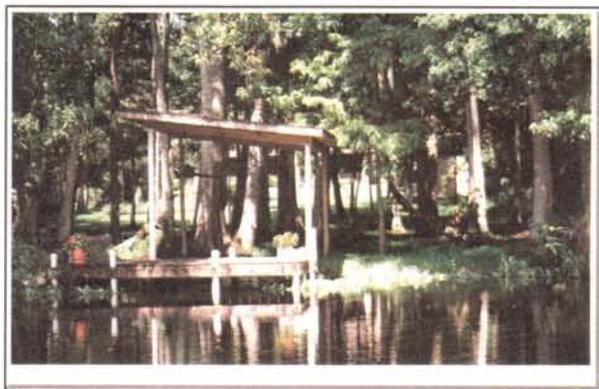
Segment 2 - residential development



Segment 2 - residential dock



Segment 2 - SR 44 bridge



Segment 2 - residential dock



Segment 3



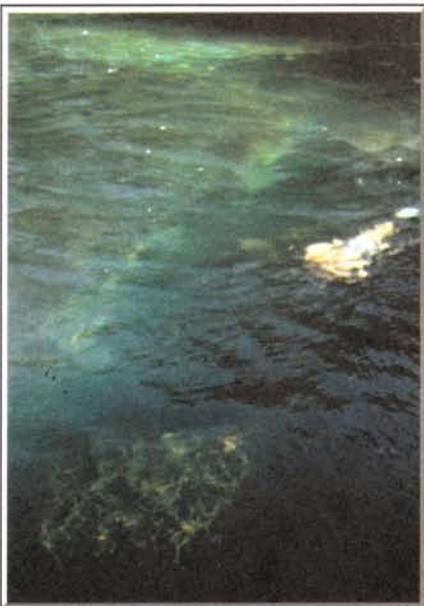
Segment 3



Segment 4 - Wekiwa Springs main pool



Segment 4 - canoe rental



Segment 4 - diver in crystal clear water of Wekiwa Spring



Segment 4 - Wekiwa Springs main pool

Rock Springs Run (confluence with Wekiwa Springs Run to form Wekiva River to Rock Springs)
 Approx.

Segment	Description	Classification	Length
1	RM 0 to approx. RM 6.9	Wild	6.9 mi.
2	approx. RM 6.9 to Rock Springs	Recreational	1.9 mi.

Discussion of Classifications:

Segment 1 - RM 0 to RM 6.9 - WILD - This segment is entirely within Wekiwa Springs State Park and Rock Springs Run State Reserve. Access is limited to hiking trails and park service roads/trails, most of which do not join the river due to the adjacent wetlands.

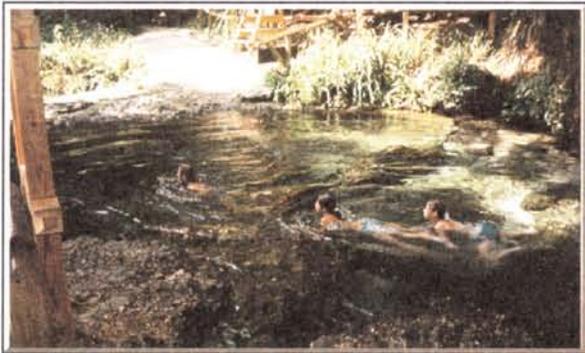
Segment 2 - RM 6.9 to Rock Springs - RECREATIONAL - This segment includes Orange County's Kelly Park and residential development directly downstream of the park. The area is an intensely used recreational area primarily for canoeing and tubing. There are no river crossings but access is available from both the park and the residential lots.



Segment 1



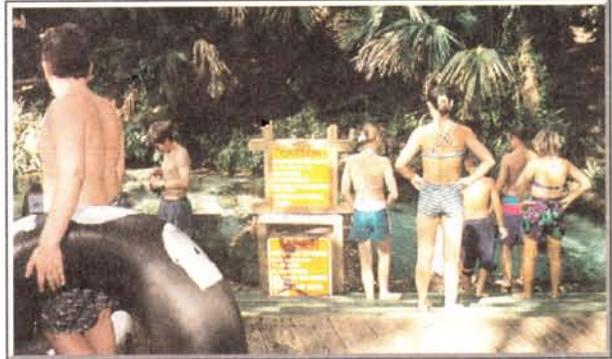
Segment 1



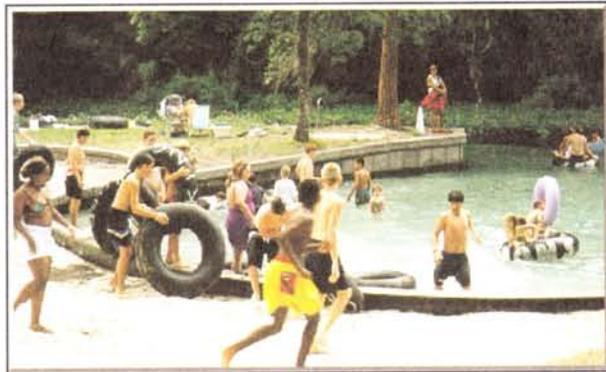
Segment 2 - Rock Springs Run



Segment 2 - Rock Springs Run



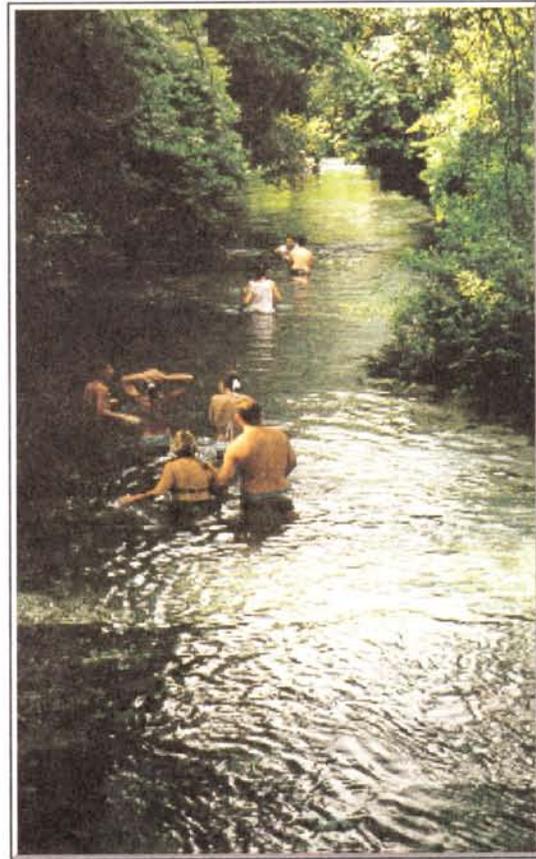
Segment 2 - Swimming at Rocks Spring headwater



Segment 2 - Rock Springs pool area



Segment 2 - Rock Springs Run



Segment 2 - Rock Springs Run

Black Water Creek (confluence with Wekiva River to Lake Norris)

Segment	Description	Classification	Approx. Length
1	RM 0 to approx. RM 4	confluence with Wekiva River to approx. .25 miles downstream of Seminole Forest road crossing	Wild 4.0 mi.
2	approx. RM 4 to approx. RM 4.5	.25 miles downstream of Seminole Forest road crossing to .25 miles upstream of same crossing	Scenic .5 mi.
3	approx. RM 4.5 to approx. RM 9	.25 miles upstream of river crossing to approx. .25 miles downstream of old RR grade crossing	Wild 4.5 mi.
4	approx. RM 9 to approx. RM 10.6	.25 miles downstream of old RR grade crossing to boundary of Seminole State Forest at Black Water Creek	Scenic 1.6 mi.
5	approx. RM 10.6 to approx. RM 11.5	boundary of Seminole State Forest at Black Water Creek to .25 downstream of State Road 44 crossing	Wild .9 mi.
6	approx. RM 11.5 to approx. RM 12	.25 downstream of State Road 44 crossing to .25 upstream of State Road 44A crossing	Recreational .6 mi.
7	approx. RM 12 to approx. RM 16.8	.25 miles upstream of State Road 44A crossing to .25 downstream of Lake Norris Road crossing	Wild 4.7 mi.
8	approx. RM 16.8 to Lake Norris	.25 miles downstream of Lake Norris Road crossing to Black Water Creek outflow from Lake Norris	Recreational 1.1 mi.

Discussion of Classification:

Segment 1 - RM 0 to RM 4 - WILD - This segment is mostly within the Lower Wekiva River State Preserve with a small portion in the Seminole State Forest. There are no river crossings on the segment and no development.

Segment 2 - RM 4 to RM 4.5 - SCENIC - This is a half-mile segment that includes a forest service road bridge crossing. Vehicle access is controlled by the Seminole State Forest rangers. The site is used for canoe launching and fishing.

Segment 3 - RM 4.5 to RM 9 - WILD - This segment continues through Seminole State Forest and enters Seminole Swamp on private land. The river is surrounded by wetlands and remains in a wild condition.

Segment 4 - RM 9 to RM 10.6 - SCENIC - The river environment changes from wetland/swamp to more upland cleared pasture. This segment includes an old railroad tramway, culverted ranch road crossing, cleared pasture and active cattle ranching. It is very scenic but does not qualify as wild.

Segment 5 - RM 10.6 to RM 11.5 - WILD - The segment reenters the Seminole State Forest and continues to below the SR 44 crossing. There is no vehicular or rail access and the area is in a wild condition.

Segment 6 - RM 11.5 to RM 12 - RECREATIONAL - This half mile segment is crossed by SR 44A and SR 44. The highways have roadside pull-offs and appears to be extensively used for bank fishing. Some dumping has occurred adjacent to the bridges. A series of foot trails runs between the two bridges and a short distance both upstream and downstream.

Segment 7 - RM 12 to RM 16.8 - WILD - This segment is undeveloped and remains in its natural state. Much of the adjacent land is under the management of the Lake County Water Authority and the St. Johns River Water Management District.

Segment 8 - RM 16.8 to Lake Norris - RECREATIONAL - Adjacent land use along this segment is primarily agricultural with improved pasture and some residential development. Lake Norris Road runs parallel to and crosses the segment just downstream of Lake Norris.



Segment 1



Segment 1



Segment 1



Segment 3



Segment 5



Segment 6 - SR 44A crossing



Segment 6 - SR 44 crossing



Segment 7

Seminole Creek (confluence with Black Water Creek to Seminole Spring)

Segment	Description	Classification	Approx. Length
1	RM 0 to Seminole Spring	Wild	3.9

Discussion of Classification:

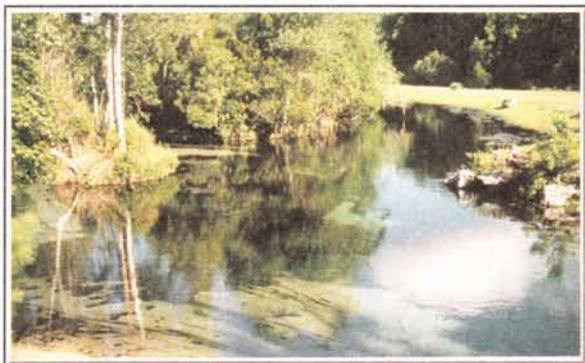
Segment 1 - RM 0 to Seminole Spring - WILD - The majority of the segment runs through wetlands known as Seminole Swamp and protected by adjacent wetlands. The headwaters are several springs and sinks which are surrounded by hammock and unimproved pasture. The area is in a single private ownership and well taken care of. It provides a unique example within the system of the aqua blue springs, sinks, and other features of a karst topography in its natural setting.



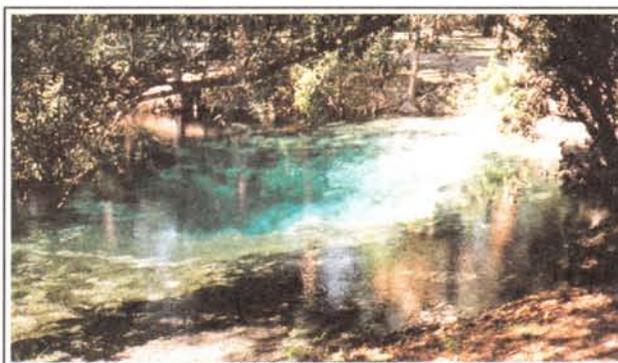
Seminole Spring



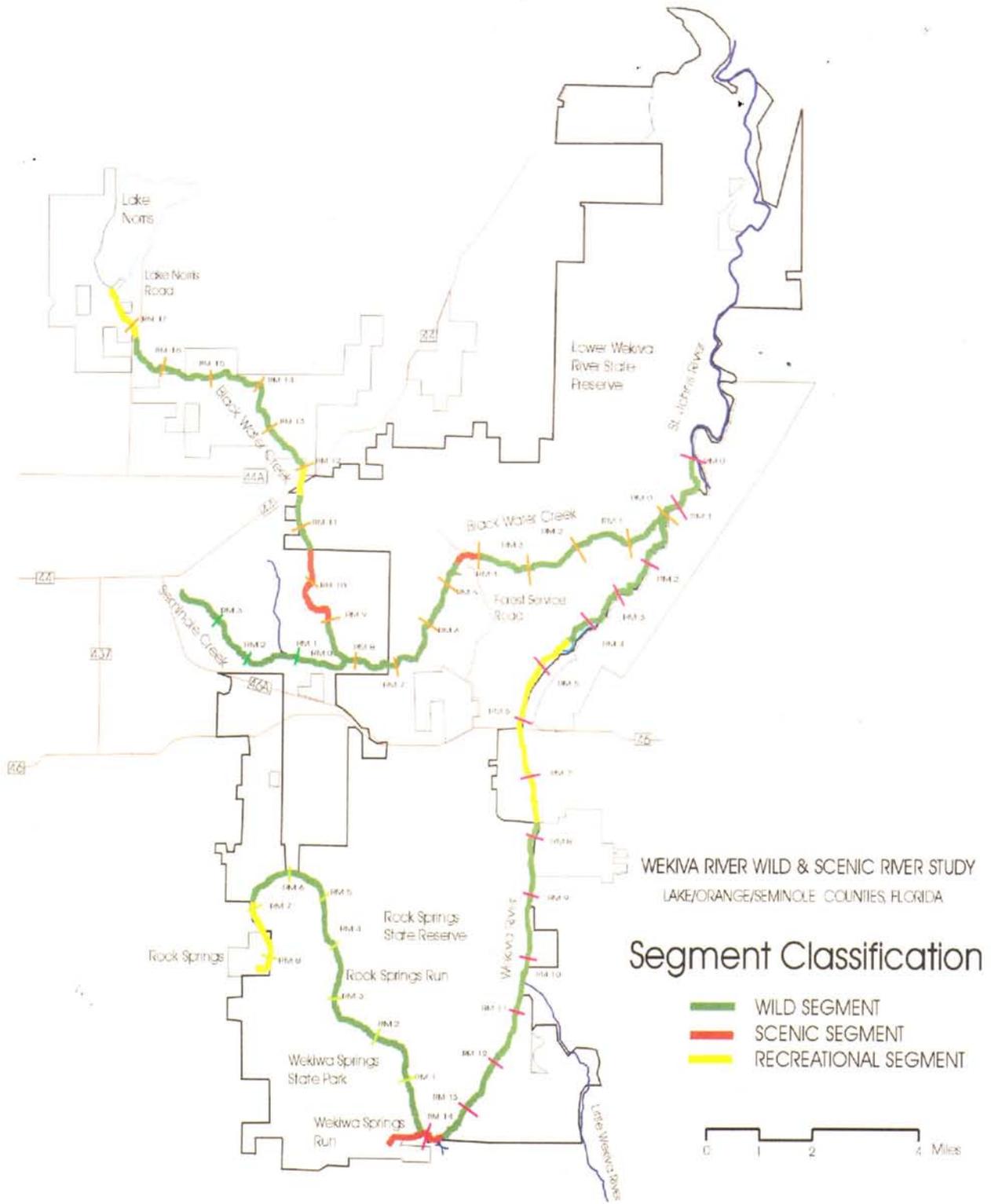
Seminole Creek below spring



One of several feeder springs to Seminole Creek



Seminole Spring



Suitability

In order for a river to be recommended for National Wild and Scenic River designation it must be both eligible and suitable. Factors used in helping to determine suitability include:

1. adequacy of existing **protection** measures to conserve the river's outstandingly remarkable resources
2. whether there is an existing or proposed **management framework** for the river's protection
3. strength of **support** for river protection and national designation
4. **effects of designation** on other uses of the land and water base, neighboring communities, etc.

Protection - All of the study rivers were found to be well protected through existing state and local mechanisms. The State of Florida has recognized the value and importance of protecting the Wekiva River basin through the passage of the Wekiva River Protection Act. Much of the study area is currently in public ownership. All of the study river segments except for portions of Seminole Creek have been determined by the Florida Department of Environmental Protection to be considered waters of the State.

Management Framework - Management plans are in place for the public lands under different state and county agencies and divisions including:

- * Florida Department of Environmental Protection - Division of Recreation and Parks
- * Florida Department of Agriculture and Consumer Affairs - Division of Forestry
- * St. Johns River Water Management District
- * Orange County - Parks and Recreation Department

Support - There is very strong, broad based support for designation of the study rivers with one exception. All of Seminole Creek and approximately 4.5 miles of Black Water Creek lie within a single privately owned parcel of land often referred to as Seminole Woods (see Suitability Map, Fig. 4). The tract has been in one family's ownership for several generations and managed primarily for silviculture and cattle. While the resource has been very well managed, is well protected and certainly eligible for designation, the landowner does not desire to have the portion of Black Water Creek and Seminole Creek within their property designated.

Effect of Designation - Designation will provide for protection from Federally funded or assisted water resources projects which would negatively impact the rivers and will not have significant negative impacts. Due to the amount of the area already in public ownership there may be no fee title acquisition of private lands by the Secretary of the Interior and the Secretary of Agriculture on any of these study rivers as per Sec. 6.(b) of the Wild and Scenic River Act.

Sec. 6.(b): If 50 per centum or more of the entire acreage outside the ordinary high water mark on both sides of the river within a federally administered wild, scenic, or recreational river is owned in fee title by the United States, by the State or States with which it lies, or by political subdivisions of those States, neither the Secretary shall acquire fee title to any lands by condemnation under authority of this Act.

Based upon the findings above the following sections are found to be both eligible and “suitable” for designation:

1. Wekiva River - the river in its entirety beginning at the main springs of Wekiwa Springs and including Wekiwa Springs Run to the confluence of the Wekiva River and the St. Johns River

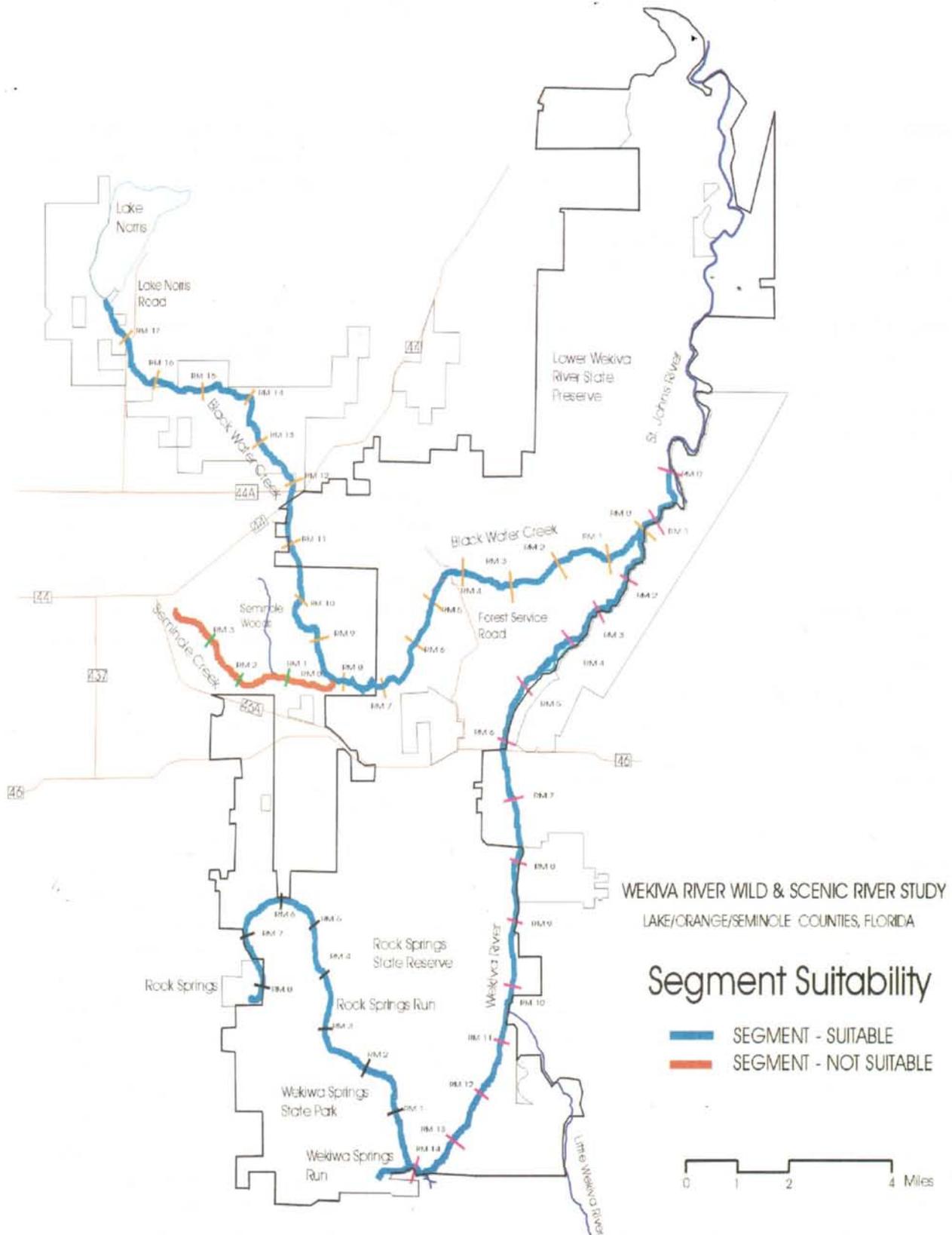
2. Rock Springs Run - the run in its entirety from its headwater at the main spring of Rock Springs to its confluence with the Wekiwa Springs Run (forming the Wekiva River)

3. Black Water Creek - the creek from Lake Norris downstream to the confluence with the Wekiva River.

Based upon the findings above the following sections are found to be eligible but “not suitable” for designation:

1. Seminole Creek - the entire creek from its headwaters at Seminole Springs to its confluence with Black Water Creek

The tract in which Seminole Creek is located has been proposed for acquisition by the State of Florida. If the tract is acquired by the State the entire Seminole Creek would become waters of the State. It is recommended that if and when the State of Florida acquires the tract containing Seminole Creek that Seminole Creek be designated as part of the National Wild and Scenic River system.



IV. The River Environment

Demographics

Counties in the Wekiva River basin all have experienced large population increases in the past decade. The largest growth occurred in Seminole County where population increased from 179,752 in 1980 to 287,529 in 1990, a change of 60 percent. Similar growth has been experienced in both Lake and Orange Counties. Lake County has seen a population increase from 104,870 to 152,104, a 45 percent increase, while Orange County has grown from 471,016 to 677,491, a 43.8 percent increase.

Lake County is the northern most of the three counties and the most rural. 56.8 percent of the population live in areas classified as rural. Seminole and Orange Counties have become much more urbanized with only 7.2 percent and 6.9 percent of the populations, respectively, living in rural areas. Lake County is becoming much more urbanized as growth moves out from Orlando northward up the Interstate 4 road corridor.

Median household incomes in 1990 were \$23,395 in Lake County, \$30,252 in Orange County, and \$35,637 in Seminole County.

Land Ownership and Use

The majority of the land adjacent to the study rivers is in public ownership (see Figure 2) The exceptions include some single family dwellings and commercial outfitters just downstream of Kelly Park on Rock Springs Run, residential development in Seminole County on the Wekiva River, a small amount of agricultural land on Black Water Creek

downstream on Lake Norris, lands held in conservation easement by the Orange County Audubon Society and a large tract of land

(Seminole Woods) under one ownership encompassing the entirety of Seminole Springs and a segment of Black Water Creek. The upland portions of the tract are currently in agricultural use, primarily cattle and silviculture.

Publicly owned lands are managed by the Florida Department of Environmental Protection, the St. Johns River Water Management District, Florida Department of Agriculture and Consumer Services - Division of Forestry, and Orange County Parks and Recreation Department.

Recreational Resources

The Wekiva River, Wekiwa Springs Run and Rock Springs Run serve as a major nature based recreational resource for the Central Florida area and especially highly urbanized metropolitan Orlando. The entire length of the Wekiva has been designated as a State Canoe Trail and a Florida Scenic and Wild River. Recreational activities at the Wekiva Basin GEOPark include swimming, fishing, camping, hiking, horseback riding, bicycling, canoeing, picnicking, and nature study. The Wekiva River and Rock Springs Run provide the most intensely used recreation resources of the system. The main spring at Wekiwa Springs State Park has an estimated peak use of between 1,200 and 1,500 persons per day primarily for swimming, snorkeling, and

sunning. Orange County's Kelly Park at Rock Springs is also intensely used for swimming, camping, picnicking and hiking. Wekiwa Springs Run connects with Rock Springs Run approximately one mile from Wekiwa Springs to form the Wekiva River. Both spring runs are popular canoeing resources. A concession for rental canoes is located in Wekiwa Springs State Park and four other private canoeing and tubing outfitters are located along Rock Springs Run and the Wekiva River. King's Landing is located on Rock Springs Run and rents 60-70 canoes on any given summer weekend day. Wekiva Marina, Wekiva Falls and Katie's Landing are located along the Wekiva River and have 165, 100, and 50 canoes to rent respectively. Wekiva Marina and Katie's Landing each will rent 75 to 100 canoes on the busiest summer days. Wekiva River Haven on the northern end of the Wekiva River, has ten eight-horsepower motorboats and two rowboats available for rent. (Wekiva River Basin GEOPark Unit Management Plan, FDEP). Additional public canoe put-ins on Black Water Creek can be found within Seminole State Forest.

Hunting is allowed in Rock Springs Run State Reserve and on the adjacent Seminole State Forest for approximately 24 days each year between September and early January. No camping or horseback riding is allowed during scheduled hunting days.

The GEOPark has a combined total of 15 miles of bike trails, 27 miles of hiking trails, 25 miles of equestrian trails and 110 miles of multi-use trails/service roads. It also has two camps, Camp Thunderbird and Wekiwa Springs State Park Youth Camp. Camp Thunderbird is operated by the Florida Department of Health and Rehabilitative Services for outdoor recreation for physically and mentally challenged persons. The Youth Camp is available for groups whose main purpose is providing environmental education and serves as the main Florida Park Service training center.

Natural Resources

Geology

Over geologic time, changes in sea level formed the region now occupied by the Wekiva River and its tributaries. The river occupies the physiographic region known as the Wekiva Plain, an area slightly lower in elevation than the surrounding Marion Uplands, Mount Dora Ridge, and Orlando Ridge. The Wekiva Plain was apparently "cut down" during periods of receding sea level. When recurrent rises in sea level inundated the lowered areas, deposited sediments contributed to the present Wekiva Plain. The surface and near surface deposits in the area range from unconsolidated sands to well hardened limestones and dolomites (White, 1970). The Hawthorn Formation, a sandy phosphatic limestone of late middle Miocene age (approximately 13 MYBP) underlies the entire area, and outcrops of this formation are exposed at Rock Springs and Wekiwa Spring (U.S. Geological Survey, 1980) - (Wekiva River Aquatic Preserve Management Plan, 1987).

Scenery

Other than the high use recreational areas around Wekiwa Springs Run and Rock Springs Run most of the study rivers are in an exceptionally pristine state. They present the opportunity to see a unspoiled part of natural Florida. The visual resources are exceptional. The crystal clear waters of the springs, spring runs, and the Wekiva River, the unspoiled blackwaters of Black Water Creek, the mosaic of sandhills, flatwoods, hammock, scrub and wetland communities all contribute to make the area a unique resource of national value.

Due to the exceptional visual resources of the Wekiva River basin it serves as a national, statewide and regional attraction for nature observation and education, nature photography, and scenery appreciation.

Fish and Wildlife

The Wekiva River is one of Florida's most valuable and unusual natural resources due to its location in a region of biologic transition between two climatic zones. The range of temperate zone plants overlaps the northern limit of many tropical species, giving the region one of the richest floral compositions to be found in Florida (Report to the Environmental Regulation Commission on Extending the Boundaries of the Outstanding Florida Water Designation Within the Wekiva River System, FDEP)

The ecosystem on the Wekiva River basin is delicate and complex. There are fifteen (15) definable habitats within the Wekiva Basin GEOPark:

- Wet Flatwoods
- Baygall
- Mesic Flatwoods
- Floodplain Swamp
- Scrubby Flatwoods
- Hydric Hammock
- Sandhill
- Flatwoods/Prairie/Marsh Lake
- Scrub
- Spring-Run Stream
- Upland Hardwood Forest and Blackwater Stream
- Upland Mixed Forest
- Aquatic and Terrestrial Cave
- Xeric Hammock
- Ruderal and Developed

Detailed descriptions of these habitats are located in Appendix D.

The number of species and varieties of species identified to date within just the GEOPark include:

Species Within Park (see Appendix B for complete listing)

Category	Species/ Varieties
Mammals	28
Birds	213
Reptiles	49
Amphibians	24
Fish	32
Molluscs	2
Insects	161
Arachnids	5
Crustaceans	1
Plants	527

Designated species are those listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), the Florida Game and Fresh Water Commission (FGFWFC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened, or of special concern. It also includes species under review for inclusion in one of the above categories or those which are regulated by the Convention on International Trade in Endangered Species (CITES).

Designated Species Within Wekiva Basin GEOPark (see Appendix C for complete listing and rankings)

Category	Species
Mammals	6
Birds	16
Reptiles	5
Amphibians	1
Invertebrates	3
Plants	15

Of the forty-six (46) species listed as designated species six (6) are classified by the USFWS as either threatened or endangered including:

- Alligator mississippiensis - American Alligator
- Drymarchon corais couperi - Eastern Indigo Snake
- Aphelocoma coerulescens - Florida Scrub-jay
- Haliaeetus leucocephalus - Bald Eagle
- Mycteria americana - Wood Stork
- Trichechus manatus latirostius - West Indian Manatee

Two designated species are unique to Wekiwa Springs State Park, the Wekiwa Springs hydrobe snail and the Wekiwa Siltsnail. A third species, the Orlando cave crayfish, occurs only within the Wekiva River basin. The park has the largest known population of yellow anise in Florida. Approximately 1,800 acres have been registered with the Nature Conservancy as habitat for the species. There are four active bald eagle nests within the GEOPark and scrubjays are found in all three units of the GEOPark.

The Wekiva River basin is also part of a larger habitat area for black bear. The Florida Department of Environmental Protection is coordinating the Wekiva-Ocala Greenway running from Wekiwa Springs to the Ocala

National Forest partially in an effort to protect a habitat corridor for the Black Bear and other species. The Florida Department of Transportation has installed a prototype animal underpass on State Highway 46 to facilitate animal movement. Species movement is monitored by the Florida Park Service through the use of remote cameras.

The Wekiva River basin also has a number of plants which are considered distinctive species. Although neither rare nor designated species, their presence in the area is considered quite unusual. Distribution of the species are more closely tied to the Appalachian Mountain area than to Central Florida. Some of the populations represent the southern or near southern limits while others are disjunct populations. Species include:

- Aesculus pavia - Red Buckeye
- Aquaria populifolia - Florida Leucothoe
- Carpinus caolineana - Hornbeam
- Castanea alnifolia - Chinquapin
- Coronus florida - Flowering Dogwood
- Hamamelis virginiana - Witch Hazel
- Liriodendron tulipifera - Tulip Poplar
- Ptelea trifoliata - Water Ash
- Tilia caroliniana - Carolina Basswood
- Toxicodendron vernix - Poison Sumac

Historic and Cultural Resources

The Rock Springs/Wekiwa area is considered to be one of the most important archaeological areas in Orange County (Stewart 1982). Over 20 archaeological and historical sites occur in the Wekiva area from Rock Springs to the St. Johns River. These sites are recorded in the Florida Master Site File.

(Text from Wekiva River Basin GEOPark Unit Management Plan)

Aboriginal period - The Wekiva Basin was used by the early Indians. This use is indicated by the presence of six middens and five mounds at Wekiwa Springs and 1 mound and 2 other sites at Markham Woods. Prior to

European settlement in Florida, native people had probably used the area for over 10,000 years.

Small test pits have been dug in several of the mounds revealing pottery fragments, animal bones, and shells. Several points and pottery fragments have been found by swimmers in the main head spring at Wekiwa Springs State Park. A wooden mortar dated from the St. John's I period was found and illegally removed from Wekiwa Springs Run. Fossil remains of various animals are found throughout the spring-runs at the unit.

Spanish-British period (1500-1820) - Central Florida was not occupied by the Europeans during this time period. Early maps show little of the Wekiva area other than a trading post and trapping area. The name "Wekiwa" is almost the only legacy of the Seminole Indians who used the area. "Wekiwa" means "spring of water" in the Creek dialect spoken by the Seminoles.

Recent period (1820-present) - By the 1820's, Central Florida was in use by early settlers, and the Wekiva River and spring appear on several military maps. There was a minor military road running from Fort Mellan (Sanford) to Fort Mason (Eustis) which passed through the unit in the spring area. The only known military action during the Second Seminole War took place on July 29, 1840, when Coachooche's camp called Wekiwa, in the swamps along the river, was attacked by troops under the command of Brevet Brigadier General Walker Keith Armistad.

Following the Second Seminole War, the area was opened up for settlement under the Armed Occupations Act. The area around Rock Springs and Wekiwa Springs became a focal point for early settlers. The town of Clay Springs was started around Wekiwa Springs. Clay Springs was named after Mr. L.H. Clay, a farmer living at the spring. The spring head served as a landing spot for suppliers.

In 1857 William Delk, a veteran of the Seminole Wars, was awarded 40 acres one half mile west of Rock Springs for his service. Cotton and cypress seem to have been the major crops. He built a sawmill and gristmill which were powered by damming Rock Springs Run. Delk seems to have left the area early in the Civil War.

Another sawmill was built in Wekiwa Springs by Robert Barnshart. This mill was located on the upper Wekiva River. A gristmill was constructed in Wekiwa Springs by Columbus Mill. Mill dammed Mill creek and his gristmill was operated until the Civil War. A mound still remains along Mill Creek, indicating the location of the dam for this mill.

After the Civil War Clay Springs became a loading and unloading point for steamships and barges. Steamboats eventually completely replaced the barges on the river. The Clyde Steamship Company began operation in 1877.

From the 1880's to 1890's tourism became important to the area. Facilities at the Wekiwa Springs included a hotel, a sanitarium, cabins, a picnic area, bathhouses and a rail toboggan ride. In 1906, the name of the springs was changed from Clay Springs to Wekiwa Springs. The recreational facilities operated until the Great Depression after which the buildings either burned or were dismantled.

During the 1930's cypress, pine, and wetland hardwoods were logged throughout the Wekiva basin by the Wilson Cypress Company. Numerous elevated tram beds and railroad grades used to haul timber run through the property. Most tramways occur in the hydric hammock and floodplain swamp communities. However, one elevated grade occurs in the sandhill community at Wekiwa Springs State Park, and runs north-south through the entire unit. This grade was constructed in the late 1850's for a passenger railway from Eustis to Orlando which never came to fruition. The grade was then used to

timber longleaf pine from Wekiwa Springs. The area was also used for turpentine and many catfaced pines and clay turpentine pots can still be found at the park. All the tramways are above the elevation of the surrounding natural communities. The tramways through the floodplain swamp and hydric hammock communities have revegetated with hardwoods while the elevated grade in the sandhills is used as a primary service road at Wekiwa Springs. The elevated grade through the sandhills is also not suitable for restoration since it is a necessary primary access route to the entire park. All the tramways are now cultural resources.

In 1941, the Apopka Sportsman's Club purchased the Wekiwa Springs area from the Wilson Cypress Company. The Club maintained the area for hunting, fishing, and other recreational uses. In 1969, the area was purchased for a state park. (Cultural resources information from Paul Barton, pers comm.)

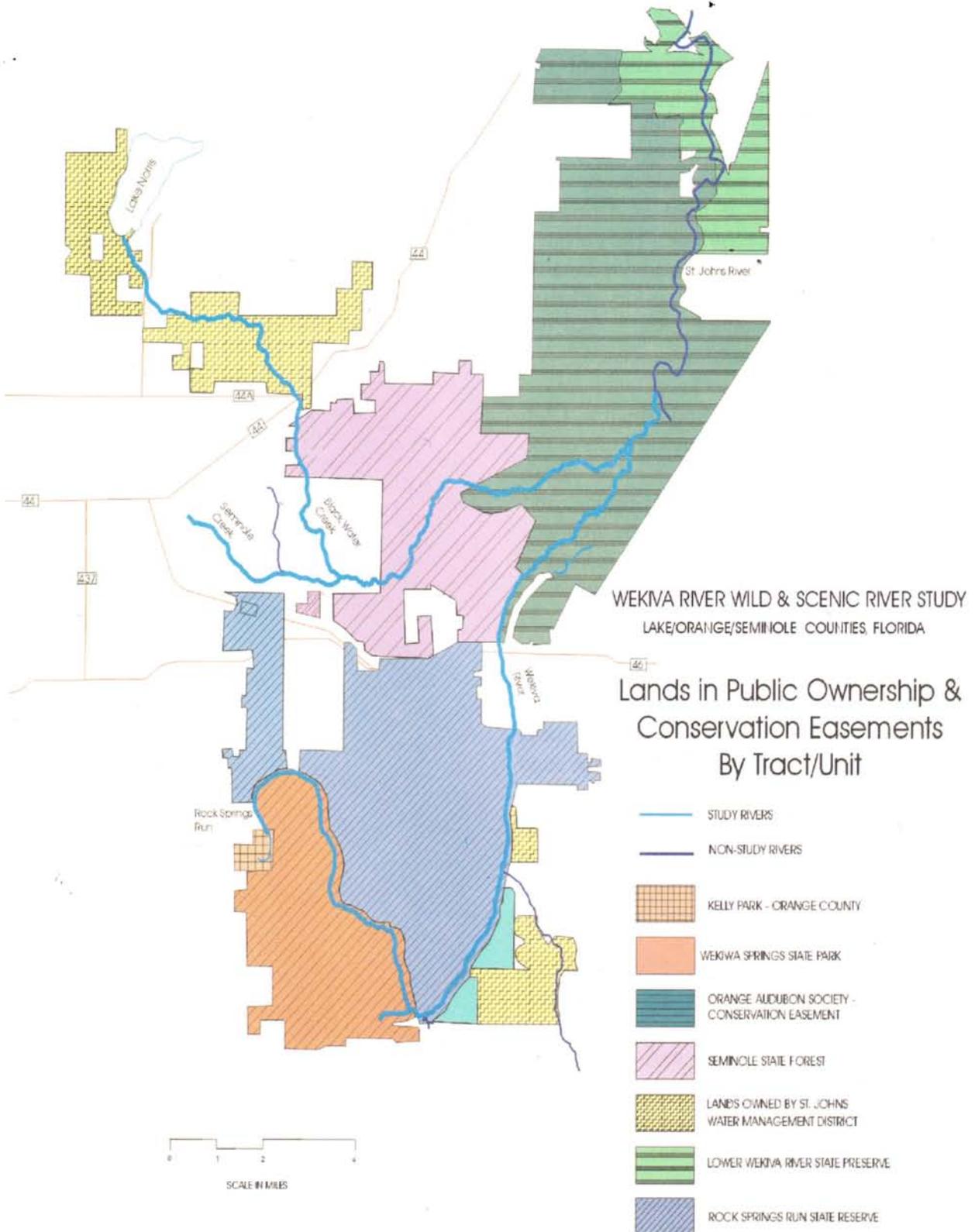
The Markham Woods tract contains portions of the original site of the settlement of Markham established around 1875. This establishment was supported by the new railroad system and Wekiva River. Three sites of cultural significance have been examined and connected with this time frame including an African-American cemetery which may contain up to 75 burials. (Weisman and Newman, 1993, Estabrock and Weant, 1991)

All of these elements certainly have regionally significant resource values and while not having been studied for inclusion as National Historic Landmark sites, may well have national significance.

Water Quality

All of the study rivers are classified as "Outstanding Florida Waters", the State of Florida's highest designation for water quality. The character of the water ranges from the crystal clear flows from the artesian springs

and spring runs to the tannin colored waters of the black water creeks. The water quality which is affected by the water quantity coming from springs and runoff from adjacent lands is without question an outstandingly remarkable resource. It is an integral factor in the popularity of the springs and rivers as recreational resources and the health and integrity of the rivers' ecosystems.



V. Summary of Existing Protection

Federal Agencies/Programs

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (ACOE) is charged with regulating waters of the United States. By definition these waters include coastal and navigable inland waters, lakes, rivers and streams; other intrastate lakes, rivers and streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, wet meadows, and certain impoundments.

Typical activities that would require permitting by the U.S. Army Corps of Engineers include the following:

- * construction of structures such as piers, wharves, docks, dockhouses, boat hoists, boathouses, floats, marinas, boat ramps, marine railways, and bulkheads
- * construction of revetment, groins, breakwaters, levees, dams, dikes, berms, weirs, and outfall structures
- * placement of wires, cables, or pipes in or above the water
- * dredging, excavation and depositing of fill and dredged material
- * construction of fill roads and placement of riprap

The authority the ACOE has over construction of small docks, piers, moorings, and platforms comes from the Rivers and Harbors Act of 1899, Section 10. Typically these activities are permitted as either Letters of Permission or General Permits. If an activity is covered by a general permit, an application to the

ACOE is not required. A person utilizing a general permit must only comply with the specific requirements stated of that permit. These same activities occurring within defined waters of the State of Florida also require permitting through the water management district which will be discussed later.

Section 404 of the Clean Water Act regulates discharge of dredged or fill material into the waters of the United States. Silviculture activities such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of forest products are specifically exempted from the requirements under Section 404.

Due to the possible significant impact on rivers in or under study for inclusion in the National Wild and Scenic Rivers System, ACOE rules (61 FR 47726-47728, September 10, 1996; Nationwide Permit Conditions, General Conditions, Subsection &) provide that:

“No activity may occur in a component of the National Wild and Scenic Rivers System; or in a river officially designated by Congress as a ‘study river’ for possible inclusion in the system, while the river is in an official status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status.”

This allows the administering agency or the study agency the opportunity to evaluate the impacts of an activity before the activity is authorized under the Nationwide Permit.

The U.S. Army Corp of Engineers is also required to consult with the U.S. Fish and Wildlife Service (USFWS) if an endangered species may be impacted by an activity. The USFWS prepares a separate biological opinion and the activity may not be authorized unless it is determined that the project is not likely to jeopardize the continued existence of the species or result in the destruction of the habitat of the species.

Federal Lands

There are no Federal lands within the Wekiva River Wild and Scenic River study area.

State Agencies/Programs

Florida Department of Environmental Protection and the St. Johns River Water Management District

All of the study river segments except a portion of Seminole Creek are waters of the State of Florida. Construction in, on or over waters of the state of Florida and in estuarine areas are regulated the Florida Department of Environmental Protection (FDEP) and the five state water management districts.

The Wekiva basin is entirely within the St. Johns River Water Management District (SJRWMD). Under the Warren S. Henderson Wetlands Protection Act of 1984 regulatory authority was given to the State Department of Environmental Regulation (now FDEP) but much of the permitting authority has been delegated to the water management districts.

Permits are required for construction of such items as jetties, breakwaters, revetments, marinas, docks, wharves, piers, marine railroads, walkways, mooring structures, boat ramps, canals, locks, bridges, causeways and any dredging and filling. Minor activities such as private docks of limited size, maintenance dredging, certain boat ramps, and construction of seawalls and revetments in limited situations are exempted.

A project may not cause violations of water quality standards and in some cases may not cause degradation of the water quality itself. The project also must be found to be clearly in or not contrary to the public interest. The public interest criteria as per Section 403.918, F.S. require consideration of:

1. Public health, safety or welfare and the property of others
2. Conservation of fish and wildlife, threatened or endangered species or their habitats
3. Navigation, flow of water, erosion, or shoaling
4. Fishing, recreational values and marine productivity
5. Whether the impacts of the project will be temporary or permanent
6. Historic and archaeological resources
7. Current conditions and relative value of functions being performed by areas affected by the proposed activity

Scenic values per se are not considered public interest criteria.

Under the Warren S. Henderson Wetlands Protection Act normal and customary agricultural and silviculture operations are exempted from permitting requirements.

The St. Johns River Water Management District is also required by law to establish minimum surface water flows and levels for the Wekiva River System and to establish minimum ground water levels for the Floridian aquifer system within the Wekiva Basin (Paragraph 373.315(3), Florida Statutes (FS)). The Floridan aquifer system is the primary source of water supply in the Wekiva River surface water basin. The primary reason for establishing minimum flows and levels in the

Wekiva Basin was to ensure that flow from artesian springs emanating from the Floridan aquifer system and the base flow of each stream would be adequate to prevent significant harm to aquatic and wetland resources. Minimum recommended flows have been established for springs within the Wekiva River system. (Technical Publication SJ94-1, SJRWMD)

East Central Florida Regional Planning Council

On a regional basis Florida is divided into 11 Regional Planning Councils. The Wekiva basin lies within the East Central Florida Regional Planning Council's (ECFRPC) jurisdiction. This council establishes goals and policies that influence and direct land uses within its boundaries. Goals within its policies state:

Goal 8.3.3: By 1995, significant wetlands should be protected through a coordinated management plan by Federal, State, regional, and local governments.

Goal 10: Natural Systems and Recreational Land - Florida shall protect and acquire natural habitats and natural systems such as wetlands, tropical hardwood hammocks, palm hammocks, and virgin longleaf pine forests, and restore degraded natural systems to a functional condition.

Outstanding Florida Waters

All the study rivers have been designated "Outstanding Florida Waters" by the state as part of Section 303 of the Federal Clean Water Act. The designation is the highest level of water quality protection offered by the State. Section 17-3.041 F.S., entitled "Special Protection, Outstanding Florida Waters" specifically states "It shall be the Department policy to afford the highest protection to Outstanding Florida Waters..."

Wekiva River Protection Act

The Florida Legislature passed the Wekiva

River Protection Act which created F.S. ch 369, pt. III requiring the effected counties to amend their comprehensive policy plan and land development regulations. The act mandates that the counties' goals, objectives and policies address the following implementation strategies:

- * ensure the preservation of sufficient habitat for endangered, threatened and species of special concern
- * restrictions on the clearing of native vegetation within the one-hundred-year floodplain
- * prohibition of development that is not low density residential unless development has less impact than low density residential
- * provisions for setbacks along the Wekiva River
- * restrictions on filling and alteration of wetlands
- * provisions encouraging clustering of residential development
- * provisions requiring that the density or intensity of development permitted on parcels adjacent to the river be concentrated on the portion of the parcel furthest from the river
- * provisions requiring that parcels not be subdivided so as to interfere with protection zones or setbacks
- * restriction on the location of septic tanks and drain fields in the one-hundred-year floodplain

The St. Johns River Water Management District has established the following protection zones for the Wekiva River Protection Area:

Riparian Wildlife Protection Zone (SJRWMD; Wekiva River Basin Criteria; Rule 40C-41

- (1) The wetlands abutting the Wekiva River, Little Wekiva River, Rock Springs Run, Black Water Creek, Sulphur Run, or Seminole Creek;
- (2) The uplands which are within 50 feet

landward of the landward extent of the wetlands above;

(3) The uplands which are within 550 feet landward of the stream's edge as defined as the waterward extent of the forested wetlands abutting the Wekiva River, Little Wekiva River, Rock Springs Run, Black Water Creek Sulphur Run or Seminole Creek. In the absence of forested wetlands abutting these streams, the stream's edge shall be defined as the mean annual surface water elevation of the stream: however, if hydrologic records are unavailable, the landward extent of the herbaceous emergent wetland vegetation growing in these streams shall be considered to be the stream's edge.

(4) All development activity (including building permits) located within the corridor must receive a permit from the SJRWMD.

Water Quality Protection Zone (SJRWMD); Wekiva River Basin Criteria; Rule 40C-41

(1) This zone shall extend one half mile from the Wekiva River, Little Wekiva River north of SR 436, Black Water Creek, Rock Springs Run, Seminole Creek, Sulphur Run, and shall also extend one quarter mile from any wetland abutting an Outstanding Florida Water.

(2) All development permits located within the water quality protection zone must be submitted to the State of Florida Department of Community Affairs (DCA) for certification in accordance with the DCA rule 9J-27 prior to becoming effective. Development permits include Comprehensive Plan Amendments, rezonings, zoning permits, site plans, plats, variances, special exceptions or other action permitting the development of land.

The SJRWMD will not issue a stormwater permit within the Wekiva River Protection Area until local governments certify that the activity is consistent with the county comprehensive plan and land development regulations.

State Lands

The State of Florida has extensive land holdings within the Wekiva basin (see fig. xx). The largest state owned unit is the Wekiva Basin GEOPark which is composed of Wekiwa Springs State Park, Rock Springs Run State Reserve, and the Lower Wekiva River State Preserve. The GEOPark encompasses 41,707.79 acres. A unit management plan has recently been approved. The plan will serve as the basic statement of policy and direction for the parks management. It identifies the objectives, criteria, and standards that guide each aspect of the park's administration, and sets forth specific measures that will be implemented to meet management objectives. The plan addresses resource and ecosystem management as well as land use issues such as existing and planned uses of adjacent lands, recreational resources, existing and potential uses, and carrying capacities.

Additional state owned lands include Seminole State Forest and properties of the St. Johns River Water Management District. Each agency has its own management plans for the various properties. The majority of the properties are within the study boundaries of the Wekiva-Ocala Greenway, an open-space greenway system linking Wekiwa Springs State Park in the south, north to Ocala National Forest.

County Agencies/Programs

Under F.S. ch 369, pt III, the Wekiva River Protection Act requires the affected counties, Lake, Orange, and Seminole, to amend their comprehensive policy plan and land development regulations to meet such goals, objectives and policies as stated by the act.

Orange County

Orange County provides protection to the Wekiva River in county code Article XIII-Wekiva River Protection. Section 15-496, 15-498, 15-498 states the following: (see

appendix x for complete text of this section)

Buffer zone

(1) A buffer zone of five hundred fifty (550) feet from the landward limit of waters of the state or edge of the Wekiva River or from the landward edge of the wetlands associated with the Wekiva River.

(2) In no case shall development activities be permitted closer than five hundred fifty (550) feet from the river's edge except for created forested or herbaceous wetlands, and passive recreation when it is clearly demonstrated by the applicant that the areas shall not adversely affect aquatic and wetland-dependent wildlife, water quality, groundwater table or surface water levels .

General regulations

(1) The density and intensity of development permitted within the protection area are encouraged to cluster or concentrate on those portions of the parcel or parcels which are furthest from the surface waters or wetlands of the Wekiva River system. In order to preserve native vegetation to the maximum extent possible, clustering or submission as a residential planned development is encouraged.

(2) A survey of those species designated as endangered, threatened, or of special concern shall be required as part of all development applications when there is reasonable expectation that any such species are on the property.

(3) Within the one-hundred-year floodplain developments shall be required to minimize the clearance of native vegetation. A vegetation clearing plan must be submitted and clearing will only be permitted where necessary for roads, utilities, or pedestrian access routes.

(4) Septic tank use will be discouraged within the one-hundred-year flood plain.

(5) Developments which have the potential to degrade groundwater quality shall be prohibited.

(6) Redevelopment and postdevelopment stormwater rates shall be equal.

(7) Sufficient space shall be required

between stormwater management structures and conservation areas to ensure no adverse impact to the hydrologic regime of the wetland area.

(8) If through an archeological survey significant archaeological sites are found, then sites shall be preserved or excavated pursuant to state guidelines prior to construction on the archaeological or historic site.

(9) Rare upland habitat protection (reserved).

(10) Where landscaping is required the design shall include use of native plant species.

Development of Regional Impact (DRI)

(1) The normal numerical standards and guidelines shall be reduced by fifty (50) percent as applied to proposed developments entirely or partially located in the Wekiva River protection area.

Seminole County

Seminole County provides protection for the Wekiva River Protection Area through its Comprehensive Plan Future Land Use Element Policy 2.1.7- Wekiva River Protection and Policy 13.7.3- Wekiva River and Econlockhatchee River Protection Zone and zoning regulations.

Permitted uses

(1) Single-family residential dwellings and accessory uses compatible with future land use designations in the protection areas.

(2) Low density recreation.

(3) Agricultural uses.

Comprehensive plan amendments

(1) Outside the urban service area within the Wekiva River protection area no amendments to the comprehensive plan shall be allowed for residential density greater than one (1) dwelling unit per five (5) acres.

Zoning Regulations - Part 53 Wekiva River Protection Act

(1) The county evaluates and regulates

development within the Wekiva River Protection Area to ensure consistency with the act, provision of the Seminole County Comprehensive Plan and the designated protection zones required by the act.

Lake County

Lake County defines the Wekiva River System to include the Wekiva River, the Little Wekiva River, Black Water Creek, Rock Springs Run, Sulphur Run, Lake Norris, and Seminole Creek. The County's Future Land Use Element for the Wekiva River Protection Area is quite detailed and lengthy (see appendix x for full text). It provides for a broad mix of land uses but with limitations and restrictions designed to protect the Wekiva River System. Major elements include:

(1) Establishment of Transfer of Development Rights (TDR) Overlay Districts within the Wekiva River Protection Area in order to permit the owners of property subject to the limitations on density to utilize the development potential of that property including:

Designation of two Transfer of Development Rights Sending Areas and two Transfer of Development Rights Receiving Areas

A maximum density of one unit per ten net developable acres attainable through the use of the point rating system for Overlay District 1; a maximum density of one unit per five acres net developable acres attainable through the use of the point rating system

(2) Development of a Development Point Rating System for land proposed to be developed at densities higher than allowed under the TDR system with the following objectives:

- * Ensure environmental protection
- * Control urban sprawl

- * Maximize land use efficiency
- * Promote the efficient use of public facilities
- * Ensure that services required by development are in place or programmed concurrent with development
- * Direct appropriate growth patterns within the Wekiva River Protection Area

Setbacks

- (1) Minimum setbacks conforming with SJRWMD regulations
- (2) Minimum setbacks of 200 feet from the ordinary water mark and 50 feet from associated wetlands for development activity not regulated by SJRWMD.

Waterfront Development

- (1) No industrial or commercial uses are permitted adjacent to water bodies or adjacent to publicly owned conservation or preservation areas.
- (2) Environmental surveys are required to assess impacts of waterfront development on ground surface water quality, quantity, and hydrology; native and endangered vegetation and wildlife; wetlands and associated uplands before approval of development.
- (3) Utilization of Planned Unit Development approach wherever appropriate.

Agricultural Use

- (1) Clearing of land for commercial agricultural use require a notice of intent to include land description, vegetation, surface hydrology conditions, crop intended, time schedule of proposed activity, and an agricultural plan demonstrating the suitability of the land for the proposed use.

Silviculture

- (1) Before wetland harvesting of parcels one acre or more cumulative over one year from date of initial harvesting, a notice of intent must be approved by the Board of County Commissioners.

(2) A harvesting plan shall be presented demonstrating the suitability of the timber for harvesting.

(3) The harvesting plan shall conform to the most current Best Management Practices recommended by the Florida Division of Forestry.

County Lands

The only county owned land within the corridor is Kelly Park at Rock Springs. The 204 acre county park is managed by the Orange County Park and Recreation Department.

Private Conservation Lands

The Audubon Society owns a tract of land adjacent to the Wekiva River between RM 9 and RM 10 that is held for conservation purposes. The land is managed in conjunction with the adjacent St. Johns River Water Management lands.