

final

wild and scenic river study  
environmental impact statement

july 1984

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LOXAHATCHEE RIVER



FLORIDA

UNITED STATES DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE



As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U. S. administration.

## LOXAHATCHEE RIVER

FINAL WILD AND SCENIC RIVER STUDY/FINAL ENVIRONMENTAL IMPACT STATEMENT  
Palm Beach and Martin Counties, Florida

Agency: National Park Service, Department of the Interior

Action: Legislative Proposal

Abstract: The Loxahatchee Wild and Scenic River Study was conducted pursuant to the Wild and Scenic Rivers Act, Public Law 90-542, as amended. The National Park Service has determined that a 7.5-mile segment of the river is eligible for inclusion in the National System based on its outstandingly remarkable ecological, fish and wildlife, and recreational values. The National Park Service proposes that this eligible segment be included as a State-administered component of the National Wild and Scenic Rivers System. Under the proposed concept plan management of the Loxahatchee River would be a cooperative effort by the State of Florida, the South Florida Water Management District and the County of Palm Beach.

Three alternatives were developed and evaluated in accordance with the National Environmental Policy Act (NEPA). Alternative A is the recommended proposal to include the 7.5-mile eligible segment of the river as a State-administered component of the National System. Alternative B involves designation of a 7.5-mile segment of the river as a State-administered component of the national system but provides additional protection in the corridor as well as restoration of the Loxahatchee Slough. Alternative C is the No Action or Existing Trends alternative and characterizes the future conditions expected to occur in the study area without a formal management plan or designation as a wild and scenic river.

This environmental impact statement will serve as the proposal's compliance document for Section 7 of the Endangered Species Act of 1973, Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), Section 106 of the 1966 National Historic Preservation Act and Executive Order 11593 (Protection and Enhancement of the Cultural Environment).

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## **SUMMARY**



## SUMMARY

This study was undertaken at the direction of the Congress to determine the potential of the Loxahatchee River for inclusion in the National Wild and Scenic Rivers System. The National Park Service has determined that a 7.5-mile segment of the river is eligible for inclusion in the National System based on its outstandingly remarkable ecological, fish and wildlife, and recreational values. It is proposed that this eligible segment of the river be included as a State-administered component of the National Wild and Scenic Rivers System. Under the proposed concept plan (Alternative A), management of the Loxahatchee River would be a cooperative effort by the State of Florida and the County of Palm Beach.

The study was conducted in close cooperation with federal, State, and local agencies of government, particularly the Florida Department of Natural Resources and Palm Beach County. The public was involved throughout the study process through public meetings, a public planning workshop, and numerous personal contacts and letters. The overwhelming consensus of this public input, supported by the local news media, is that the Loxahatchee River is of national significance and should be preserved as a national wild and scenic river.

Study participants identified outstandingly remarkable ecological, fish and wildlife, and recreational values on the Northwest Fork of the Loxahatchee River between river mile 13.5 and river mile 6. Ecological values identified included the unique status of the river as the best remaining example of a southeast Florida river swamp in an area where most natural waterways have been channelized. Also, in relation to the rest of the United States, the diversity of plant species along the Loxahatchee is remarkable because of overlapping vegetative zones. Tropical vegetation such as wild coffee, myrsine, leather fern, and cocoplum can be found along with water ash, water hickory, maple, royal fern, and buttonbush, which are considered to be examples of a more northern temperate flora. The narrow channel of the Northwest Fork and its sinuous meandering course under a canopy of majestic cypress trees, offers the canoeist a challenging and interesting recreational experience. The Northwest Fork, as an example of a subtropical river-swamp ecosystem, would make a unique addition to the National Wild and Scenic Rivers System. There are currently no rivers within the National System which approximate the character of this unique subtropical coastal plain river. All the existing components of the National System are within the temperate zone or the State of Alaska.

The outstandingly remarkable values identified in the Loxahatchee River study area were restricted to the Northwest Fork. No outstandingly remarkable values were identified on the North Fork or in the estuary, thereby making these areas ineligible for system inclusion. Extensive development on the shorelines disqualified the North Fork and the estuary from further consideration.

Three alternatives were developed and evaluated in accordance with the National Environmental Policy Act (NEPA).

Alternative A is the proposed alternative and involves designation of a 7.5-mile segment of the Northwest Fork of the Loxahatchee River as a State-administered component of the National Wild and Scenic Rivers System. The river could be included in the National System by State action under Section 2(a)(ii) of the National Wild and Scenic Rivers Act or by an Act of Congress. To achieve national designation the State of Florida would be required to designate the river as wild, scenic or recreational and to adopt a program of action to provide permanent protection for the natural and cultural qualities of the segment proposed for designation. The State took the first step on June 24, 1983. A program of action which will be defined by a management plan currently is being developed. Protective measures may include, but are not limited to, fee acquisition, acquisition of scenic easements or other less-than-fee estates, zoning, construction setback lines, building permits, or other similar land use controls enacted in cooperation with local jurisdictions.

Under the proposed alternative some 350 acres along the river corridor between Indiantown Road and Jonathan Dickinson State Park would be protected. Management of the Loxahatchee River would be a cooperative effort by the State of Florida and the County of Palm Beach. The State of Florida would manage the river corridor from Indiantown Road to river mile 6 and the County of Palm Beach would manage the portion of the river within its Riverbend Park. Martin County could cooperate in management of the river by enacting appropriate land use controls along the portion of the river within Martin County, if necessary. A cooperative agreement with water management agencies, particularly the South Florida Water Management District, would ensure adequate water quality and quantity for the designated portion of the river.

The Department of the Interior is playing a role in the development of the management plan for the Loxahatchee River. The State legislation requires the Florida Department of Natural Resources to seek the assistance of the National Park Service in preparing the management plan.

Alternative B also involves designation of the 7.5-mile eligible segment of the river as a State-administered component of the National System but provides additional protection in the river corridor as well as restoration of the Loxahatchee Slough. Under this alternative 700 acres of riparian land would be acquired by the State of Florida in the river corridor between Indiantown Road and Jonathan Dickinson State Park. This alternative would also entail backfilling a segment of the C-18 canal and a partial restoration of the Loxahatchee Slough. The study found that restoration of the Loxahatchee Slough is not the most cost effective or necessarily the

best means of maximizing environmental quality on the Northwest Fork. However, the restoration of the Slough may have broader regional benefits and may be implemented through concerted efforts of State and local governments and private interests. The acquisition of an excessively wide corridor along the segment from Indiantown Road to the Jonathan Dickinson State Park was not found to be as cost effective as the corridor described in the preferred alternative.

An ongoing study of the C-18 canal by the U.S. Army Corps of Engineers and a comprehensive study of the basin by the U.S. Geological Survey will provide additional information concerning management of the Loxahatchee Slough. These studies and current planning efforts by the South Florida Water Management District could lead to some restoration of water flows which would more closely approximate natural flows, thus enhancing environmental quality on the Northwest Fork and other vital area concerns such as flood control.

Alternative C is the No Action or Existing Trends Alternative and characterizes the future conditions expected to occur in the study area without a formal management plan or designation as a wild and scenic river. The effects of selecting this alternative are presented both as a standard of reference to which other alternatives can be compared, and as an option which can be chosen. Existing local land use regulations permit residential development of one unit per 5 acres in the river corridor between Indiantown Road and Jonathan Dickinson State Park. Anticipated development may result in adverse impacts on the eligible river segment.

COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES

Significant Resources	Alternative A	Alternative B	Alternative C	Notes	
Land Use	300+ acres preserved*	700+ acres preserved*	No effect	Acreage figures assume uniform width of river corridor.	
Community Cohesion	No effect	No effect	No effect		
Community Growth	No effect	No effect	No effect		
Housing	No effect	No effect	No effect		
Employment	No effect	No effect	No effect		
Displacement of People	No effect	No effect	No effect		
Public Facilities and Services	No effect	No effect	No effect		
Transportation	No significant effect*	No significant effect*	No effect		No road crossings other than I-95 are anticipated.
Property Values	No effect	No effect	No effect		

\* See notes column for further explanation.

COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES  
(Continued)

Significant Resources	Alternative A	Alternative B	Alternative C	Notes
Tax Values	No significant effect*	No significant effect*	No effect	Corridor acreage if purchased in fee simple would be removed from tax rolls.
Noise	No effect	No effect	No effect	
Recreation	Beneficial*	Beneficial*	No effect	Publicity of river would increase use under Alternatives A and B.
Aesthetics	Beneficial*	Beneficial*	No effect	Freshwater ecosystem would be maintained.
Riparian Environment	Beneficial*	Beneficial*	No effect	Maintenance of cypress trees and other freshwater vegetation.
Fish and Wildlife	Beneficial*	Beneficial*	No effect	
Threatened and Endangered Species	Beneficial*	Beneficial*	No effect	Wider diversity of food and cover in freshwater habitat.
Air Quality	No effect	No effect	No effect	
Water Quality	Beneficial*	Beneficial*	No effect	Improvement in salinity levels.

\* See notes column for further explanation.

COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES  
(Continued)

Significant Resources	Alternative A	Alternative B	Alternative C	Notes
Erosion	No effect	No effect	No effect	
Cultural Resources	Beneficial*	Beneficial*	No effect	Resources within river corridor would be protected.
Historic and Archeologic	Beneficial*	Beneficial*	No effect	Resources within river corridor would be protected.
Minerals	No effect*	No effect*	No effect*	There are no mining activities in the river corridor.
Timber	No effect*	No effect*	No effect*	There are no timber harvesting activities in the river corridor.

\* See notes column for further explanation.

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## CHAPTER I

### I. PURPOSE OF AND NEED FOR THE ACTION

On October 2, 1968, the Congress enacted Public Law 90-542 which established the National Wild and Scenic Rivers System. In Section 1(b) of that Act Congress stated that:

"It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

To carry out this policy, the Congress instituted the Wild and Scenic Rivers System initially composed of eight rivers which were designated in Section 3(a) of the Act. The Congress provided for additions to that System in Section 5(a) by designating 27 potential wild and scenic rivers which were to be studied. Subsequent amendments to the Act and Secretarial actions pursuant to Section 2(a)(ii) have increased the number of rivers, or segments of rivers, in the National System to 61 and the number of study rivers to 88.

The Congress authorized a study of the Loxahatchee River in an amendment to the Wild and Scenic Rivers Act on November 10, 1978. Section 5(a) states that, "The following rivers are hereby designated for potential addition to the National Wild and Scenic Rivers System . . . (60) Loxahatchee, Florida. The entire river including its tributary, North Fork."

Section 4(a) of the Wild and Scenic Rivers Act specifies that a study report shall accompany proposals and recommendations submitted by the President to Congress for additions to the National Wild and Scenic System. Reports must set forth:

1. The area included within the report;
2. The characteristics which do or do not make the river a worthy addition to the system;
3. The current status of landownership and use in the area;

4. The reasonably foreseeable potential uses of land and water which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System;
5. The federal agency by which it is proposed the area, should it be added to the System, be administered;
6. The extent to which it is proposed that such administration including costs thereof, be shared by State and local agencies; and,
7. The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the System.

In accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, the impacts on the human and natural environment of the recommended plan, and the alternatives considered, were assessed and are discussed in this report.

National Environmental Policy Act (NEPA) regulations require preparation of an environmental impact statement to accompany any legislative proposal to the Congress such as a wild and scenic river study recommending component designation. This report combines the wild and scenic river study report with an environmental impact statement, as is encouraged by NEPA regulations. This report also serves as a compliance document for the National Historic Preservation Act, Public Law 89-665; the Fish and Wildlife Coordination Act, Public Law 85-264 and the Floodplain and Wetlands Executive Orders (E.O. 11988 and E.O. 11990).

### Findings

The study of the Loxahatchee River and its basin produced the following findings:

1. The freeflowing portion of the Northwest Fork of the Loxahatchee River from Riverbend Park south of Indiantown Road at approximately river mile 13 downstream to river mile 6 at the southern boundary of the Jonathan Dickinson State Park possesses such outstandingly remarkable and unique values as to qualify the river for inclusion in the National Wild and Scenic Rivers System.
2. The portion of the Northwest Fork of the Loxahatchee River upstream of Riverbend Park (river mile 13.5) does not possess the outstandingly remarkable values necessary to qualify a river for inclusion in the National Wild and Scenic Rivers System. However, special management of this portion of the river and the Loxahatchee Slough is necessary to assure adequate water quality and quantity for the remainder of the river downstream.
3. The North Fork of the Loxahatchee River does not qualify for inclusion in the National Wild and Scenic Rivers System. However, this portion of the river does possess certain biological features which are

important to the river as a whole. This portion of the river should come under special management to insure the biological integrity of the entire river system.

4. The banks of the portion of the Loxahatchee River from river mile 6 on the Northwest Fork downstream to the mouth of the river at Jupiter Inlet are urbanized to such an extent that the values which may have qualified this reach of the river for designation have been removed. However, this portion of the river does possess certain biological features which are important to the river as a whole. This portion of the river should come under special management to insure the biological integrity of the entire river system.

### Proposal

The study of the Loxahatchee River found the segment from Palm Beach County's Riverbend Park at river mile 13.5 to the southern boundary of the Jonathan Dickinson State Park at river mile 6 qualified for inclusion in the National Wild and Scenic Rivers System. To protect the free-flowing condition and outstandingly remarkable values of this segment of the river and the System as a whole it is proposed that:

1. The 7.5-mile segment of the Loxahatchee River from Riverbend Park to river mile 6 at the southern boundary of Jonathan Dickinson State Park be included as a State-administered component of the National Wild and Scenic Rivers System.
2. This segment be classified as is indicated on the proposed classification map.
3. The State of Florida adopt a program of action to provide permanent protection for the natural and cultural qualities of the designated segment of the Loxahatchee River. Protective devices may include, but are not limited to fee acquisition, scenic easements or other than fee acquisition, zoning, construction setback lines, building permits, or other similar land use controls enacted in cooperation with local jurisdictions.
4. The Loxahatchee Wild and Scenic River area be jointly administered by the Florida Department of Natural Resources and the Palm Beach County Department of Parks and Recreation.
5. An intergovernmental cooperative agreement be concluded between the State of Florida and the County of Palm Beach concerning the management of the Loxahatchee River.
6. Federal agencies be required to support in their planning and projects the preservation of the Loxahatchee River as a national wild and scenic river.



## CHAPTER II

### CONDUCT OF THE STUDY

The Loxahatchee River has been the subject of much attention and sometimes controversy since an increased environmental awareness has focused concerns of area residents on the local environment. In 1965, 52 boats and approximately 200 persons conducted a 5-mile tour of the river. The trip was conducted by conservation groups and public officials to draw attention to the need to preserve the remaining natural areas of the Loxahatchee River. Pressures to channelize and dredge the river, as well as commercial fishing pressures, aroused citizen opposition to the further development and exploitation of this fragile and unique resource. On January 29, 1966, the Loxahatchee River Chapter of the Izaak Walton League was formed for those concerned with the preservation of the river.

A subsequent controversy involved dredging of oyster bars in the Loxahatchee River to improve the flushing of the river. The intense nature of the controversy reflected concern for the river by local citizens on both sides of the issue.

In 1975, the Florida Department of Natural Resources evaluated the river for possible purchase under the Environmentally Endangered Lands Program. The river was included by the Florida Cabinet on a list of top priority acquisitions, but State officials abandoned the \$3.7 million project to buy 690 acres along the Loxahatchee when owners of the riverbank property refused to sell.

A bill to study the Loxahatchee River for Wild and Scenic River designation was first introduced to the Congress by Representative L. A. (Skip) Bafalis. The river was included in the National Parks and Recreation Act of 1978 (Public Law 95-625) which was passed on November 10, 1978. The National Park Service held a public meeting on January 17, 1979, in the Jupiter-Tequesta area and found strong local support for starting the study as soon as possible. Personnel became available to conduct the Loxahatchee River Study in December 1979 and a March 7, 1980, press release announced the formal initiation of the study.

On January 11, 1983, the Governor of Florida and his Cabinet adopted a resolution providing the policy guidance for the development of a management plan for the Loxahatchee. The management plan is a major part of the application for Section 2(a)(ii) designation as a State administered river, which the State is pursuing.

#### Governmental and Organizational Interrelationships

The study was conducted in close cooperation with other agencies of government, particularly the Florida Department of Natural Resources and Palm Beach County. Prior to formal initiation of the study, the National Park Service held an organizational meeting with representatives of local, State, and federal agencies in the study area. The purpose of this meeting was to conduct joint field work and identify issues of concern as well as identify the potential roles of agencies cooperating in the study.



As the National Park Service (NPS) conducted its study of the Loxahatchee River, a number of other agencies were conducting studies of their own. Whenever possible the NPS study coordinated with or was able to utilize the findings of these other studies. The two major ongoing studies are being conducted by the U.S. Army Corps of Engineers and the U.S. Geological Survey. The principle objective of the Corps of Engineers study (Canal 18, Jupiter Inlet and Loxahatchee River Central and Southern Florida Project), known as the C-18 study, is "to evaluate the feasibility of providing structural and/or nonstructural measures which will address the water and water-related problems of the Canal 18 and Loxahatchee River Basins within Palm Beach and Martin Counties." The U.S. Geological Survey study entitled the Loxahatchee River Estuary Assessment is a comprehensive ecological study of the basin to guide future management decisions concerning the Loxahatchee River basin.

### Citizen Participation

Public involvement is an important aspect of any study process. It is the policy of the Department of the Interior, ". . .to offer the public meaningful opportunities for participation in decisionmaking processes leading to actions and policies which may significantly affect or interest them."<sup>1/</sup> The National Park Service policy on public participation in park planning declares that, ". . .the Service will take positive actions to involve the public as individuals and through public interest groups and organizations at the earliest possible stage in the planning process before planning decisions have been made."<sup>2/</sup>

The public participated throughout the study process in public meetings, a public planning workshop, and by numerous personal contacts and letters. The overwhelming consensus of this public input, supported by the local news media, is that the Loxahatchee River is of national significance and should be preserved as a national wild and scenic river. A copy of a public information brochure summarizing the results of a public planning workshop is provided in the Appendix and provides greater detail on public response to the issues raised by the study. Many of the comments and suggestions provided by the public have been incorporated in the proposed alternative.

### Acknowledgements

The National Park Service has received the advice and enthusiastic assistance of the representatives of private organizations and public agencies in the preparation of this report. Most gratifying has been the interest, assistance, and support of many private individuals who gave freely of their time to assist the National Park Service in its study of the river. Individuals who assisted the National Park Service study effort are too

<sup>1/</sup> U.S. Department of the Interior, Departmental Manual, Part 301.

<sup>2/</sup> U.S. Department of the Interior, National Park Service, Management Policies, 1978.

numerous to list. Agencies assisting the National Park Service include the following:

Local/Regional Agencies

Martin County

Palm Beach County

Jupiter Inlet District

Palm Beach Area Planning Board

Loxahatchee River Environmental Control District (ENCON)

Treasure Coast Regional Planning Council

Loxahatchee Council of Governments

State Agencies

South Florida Water Management District

Department of Environmental Regulation

Game and Fresh Water Fish Commission

Department of Natural Resources

District VII Field Office

Office of the Attorney General

Department of Community Affairs

Department of Transportation

Division of Forestry

Division of Archives, History and Records Management

Federal Agencies

Forest Service

Southeastern Area, Atlanta

Fish and Wildlife Service

Southeast Region, Atlanta

Jacksonville Area Office

Vero Beach Field Office

Loxahatchee Wildlife Refuge

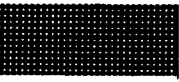
Department of Housing and Urban Development

Corps of Engineers

South Atlantic Division, Atlanta  
Jacksonville, District

U.S. Geological Survey

Environmental Protection Agency



## CHAPTER III

### CHARACTERISTICS WHICH MAKE THE AREA A WORTHY ADDITION TO THE NATIONAL WILD AND SCENIC RIVERS SYSTEM

#### Wild and Scenic Rivers Act

The Loahatchee River was designated for study as a potential candidate for inclusion in the Wild and Scenic River System. The Loahatchee River was added to the study list through an amendment of the Wild and Scenic Rivers Act, Public Law 90-542. The Act sets forth certain criteria by which each candidate for the System is to be evaluated. Section 1(b) of the Act, in a statement of policy, specifies the basic requirements of rivers to be selected for inclusion in the System:

"(b) It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

Section 2(b) of the Act requires the following classifications to be made:

"Every wild, scenic or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the National Wild and Scenic Rivers System and, if included, shall be classified, designated and administered as one of the following:

1. 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.
2. Scenic river areas--Those rivers or section of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
3. 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."

## Guidelines

The primary criteria under the Wild and Scenic Rivers Act for determining eligibility is the presence of, ". . . outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values." Outstandingly remarkable values should be of national or multistate significance, unique or very rare when compared with similar areas, and valuable scientific and educational resources. Only one outstandingly remarkable value is required for eligibility. The determination of whether a river area contains "outstandingly remarkable" values is a professional judgement on the part of the study team. However, the basis for this judgement should be well documented in the study report.

Guidelines for evaluating study rivers, based on the Wild and Scenic Rivers Act, are currently being revised.\* Proposed clarification which may affect the evaluation of the Loxahatchee River concern the eligibility of rivers that contain outstandingly remarkable ecological values, free flowing urban and near urban river segments, and river segments under 25 miles in length.

## General Assessment of the River's Qualifications

As a result of public planning workshops and detailed study by the National Park Service outstandingly remarkable ecological, fish and wildlife, and recreational values were identified on the Northwest Fork of the Loxahatchee River.

Outstandingly Remarkable Ecological Values. The Loxahatchee River, a naturally meandering subtropical river, is unique in southeast Florida because it remains in a largely undeveloped and pristine natural condition. Due to intensive water management to provide drainage and flood control in the low lying and swampy areas of south Florida most natural waterways have been channelized. Rapid urbanization in southeast Florida has led to the development of almost all available waterfront property. Due to drainage over the last 70 years, many south Florida river swamps have been invaded by mangroves. Salinities of these river systems have increased due to decreased discharge, drainage of headwaters, inlet improvements and salt water intrusion. The Northwest Fork of the Loxahatchee River has signs of salt water intrusion as is demonstrated by the presence of mangroves as understory plants to dead cypress trees in the segment downstream from Trapper Nelson's. However, many of the other rivers in south Florida have been converted over from freshwater swamp to mangroves, because of the implementation of the Intracoastal Waterway and development pressures. The highest value of the Loxahatchee River lies in the fact that the Northwest Fork of the Loxahatchee River is the best remaining example of a south Florida river-swamp.

Although portions of the Loxahatchee River were logged for cypress in the early 1940's, it is still a largely pristine cypress river-swamp. Some of

\*Federal Register/Vol.47 No. 173/September 7, 1982, "Final Revised Guidelines for Eligibility, Classification and Management of River Areas".

the cypress are from 300-500 years old. This represents a virtually irreplaceable and unique resource. Because it is a narrow meandering river, the water course is almost entirely canopied from Indiantown Road to Trapper Nelson's adding to the unique character of the river.

In relation to the rest of the United States, the diversity of plant species along the Loxahatchee River is remarkable. Tropical vegetation such as wild coffee, myrsine, leather fern, and cocoplum can be found along with water ash, maple, royal fern, and buttonbush which are considered to be examples of a more northern flora.

The Loxahatchee River as a subtropical river-swamp ecosystem would make a unique addition to the National Wild and Scenic Rivers System. There are currently no rivers within the National System which even approximate the character of this unique subtropical coastal plain river. All the existing components of the National System are within the temperate zone or in the State of Alaska.

Outstandingly Remarkable Fish and Wildlife Values. The expansiveness and diversity of habitats occurring on or adjacent to the river has attracted and continues to support many species of native animals. Two hundred sixty-seven species representing 169 genera and 78 families have been recorded in the Loxahatchee River and its estuary (Christensen, 1965). These include temperate, tropical, and pelagic gulf species due to location of the river in a faunal boundary area. Certain species are of special concern because of their appearance on the lists compiled by the Florida Committee on Rare and Endangered Plants and Animal Species.

Plants or animals included on the federal list of endangered species known to occur as residents or migrants to the Loxahatchee River study area are: bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), brown pelican (*Pelecanus*), Florida everglade kite (*Posthrampus sociabilis plubeus*), eastern indigo snake (*Drymarchon corais couperi*), West Indian manatee (*Trichechus manatus*), and the American alligator (*Alligator mississippiensis*).

In addition, the entire Loxahatchee River has been designated as a critical habitat for the West Indian (or Florida) manatee by the U.S. Fish and Wildlife Service.

Outstandingly Remarkable Recreational Values. The narrow channel of the Northwest Fork of the river and its sinuous, meandering course under a canopy of majestic cypress trees offers the canoeist a challenging and interesting recreational experience. The diverse vegetation and habitats also offer an outstanding opportunity for amateur nature study.

The rapidly growing southeast Florida area does not have any comparable recreation resources. Almost all south Florida waterways have been channelized to meet flood control and drainage objectives.

The river is presently little used for recreation. There is a carrying capacity beyond which increased use would damage resource values. However, current recreational use is much less than the projected carrying capacity of the river.

Although not outstandingly remarkable, certain other values were thought to be noteworthy by study participants. These included:

--The proximity of the resource to major population centers.

--The lack of exotics.

--The important role of this unique river ecosystem in the region.

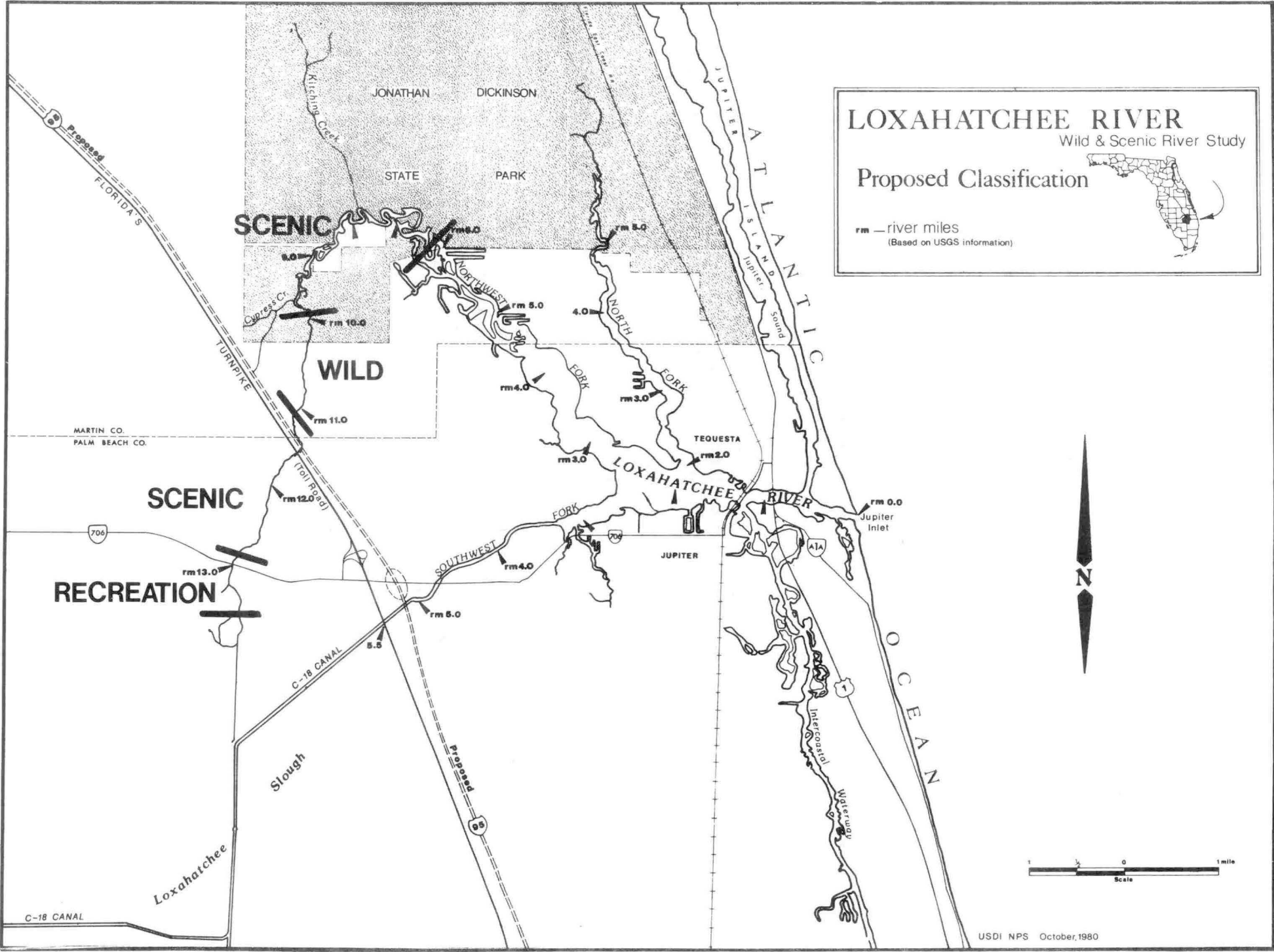
--The river is a prime nursery area for fresh and salt water fish.

--The historic and archeological significance of the river and adjacent lands.

--The river is a potential educational resource for environmental education and interpretive purposes.





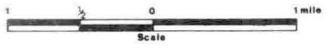


## LOXAHATCHEE RIVER

Wild & Scenic River Study

### Proposed Classification

rm — river miles  
(Based on USGS information)



—Good water quality.

No outstandingly remarkable values were found on the North Fork of the Loxahatchee River.

#### Eligibility and Classification

The conclusion of the National Park Service is that 7.5 miles of the Loxahatchee River possess outstandingly remarkable values and qualify for inclusion in the National Wild and Scenic Rivers System under criteria set forth in the Wild and Scenic Rivers Act. This segment is classified as follows:

- 1.25 miles - Wild
- 5.75 miles - Scenic
- .5 miles - Recreation

Classification and locations are shown on the stream classification map on page 3-5. The basis for the classification are as follows:

1. Section from the Indiantown Road (State Road 706) bridge southward to the upper reaches of the Loxahatchee River.

This section of the river has been extensively modified. However, the segment which has been purchased by Palm Beach County (approximately 1/2 mile) has not been extensively modified. The segment within Palm Beach County's Riverbend Park and in the immediate vicinity of Indiantown Road (SR 706) is classified as recreational.

2. Section northward of the Indiantown Road (State Road 706) bridge to approximately river mile 11.25, north of the I-95/Florida Turnpike alignment.

This section is in a largely natural condition and has many values which qualify it for designation. There are several houses, paralleling unimproved roads, or other evidences of development adjacent to or very near the river in this section. The most obvious and intrusive development is the Florida Turnpike crossing, soon to be joined by I-95. Despite these intrusions on the natural scene, this segment is classified as scenic.

3. Section northward of river mile 11.25 to Trapper Nelson's at approximately river mile 10.

This segment remains almost entirely undeveloped and has many values which qualify it for designation. Because of its pristine natural condition, this portion of the river is classified as wild.

4. Section downstream from Trapper Nelson's to the Jonathan Dickinson State Park boundary at river mile 6.

This portion of the river has seen some development for recreational purposes. There have been significant changes in the plant communities along this portion of the river which have been attributed to increased salinity levels. However, there are significant values in this segment of the river which qualify it for designation. Because of the presence of existing development and existing recreational uses, this portion of the river is classified as scenic.

5. Section downstream of the Jonathan Dickinson State Park boundary at river mile 6 to the mouth of the river at Jupiter Inlet.

This section of the river has been extensively modified. There are four bridge crossings, numerous residential and commercial docks, and extensive streamside residential development which has almost entirely eliminated many of the natural values of the river and its shoreline. In addition, a portion of the river is used as the Intracoastal Waterway and is subject to continuing heavy use for recreational and commercial boat traffic. Despite the presence of some noteworthy values, this portion of the river does not possess the outstandingly remarkable values to qualify for designation.

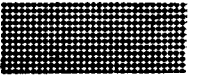
6. The North Fork of the Loxahatchee River from its headwaters in Jonathan Dickinson State Park to its confluence with the main stem of the Loxahatchee River.

There were no outstandingly remarkable values noted on the North Fork and it does not qualify for designation.

### Suitability

The State of Florida has endorsed the concept of inclusion of the Loxahatchee River as a State-administered component of the National Wild and Scenic Rivers System. Since the Draft of this study was released for public review and comment the South Florida Water Management District (SFWMD) has developed plans to implement the recommended alternative of the draft report. (See Appendix E) Under the SFWMD plan, approximately 1,500 acres of land will be purchased along the Northwest Fork of the Loxahatchee River to preserve the segment of the river found eligible for national wild and scenic river designation. In addition, the SFWMD's proposed management plan addresses the restoration of the Loxahatchee Slough. In this the SFWMD adopts an objective of the Alternate Plan B described in this report which reflects the interests expressed by many environmental groups commenting on the study. The District intends to restore the Loxahatchee Slough by increasing water storage in the marsh area during the wet season. This will enable the District to augment the flows to the Northwest Fork as the dry season approaches.

The preservation of the Northwest Fork is supported by the policies and plans of the affected county governments (See Appendix E).



**IV**

## CHAPTER IV

### ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Study reports will include an examination of alternatives. Each alternative is to be developed into a conceptual plan identifying the proposed administering agency or agencies; showing the classification of the river or river segments; delineating a generalized river area boundary; describing proposed acquisition and development and setting forth broad management objectives and strategies. The alternative plans are to be evaluated and compared according to the National Environmental Policy Act.

Three alternative plans for the Loxahatchee River were developed and evaluated by the National Park Service in cooperation with State and local governments. The general public participated throughout the planning process in public meetings, public planning workshops, and by numerous contacts and letters.

The proposed action (Alternative A) involves designation of the 7.5 mile eligible segment as a State-administered component of the National Wild and Scenic Rivers System. The State of Florida would be responsible for adopting a program of action to provide permanent protection for the natural and cultural qualities of the designated segment as well as determining the precise boundaries of the wild and scenic river area. Alternative B also involves designation of the 7.5-mile eligible segment as a State-administered component of the National System, but provides additional protection beyond the concept plan described in the proposed action. Alternative C represents a no-action plan. These plans are described below. Other plans considered but eliminated during the study process are also discussed.

#### ALTERNATIVE A/PROPOSED ACTION

The National Park Service has determined that the Northwest Fork of the Loxahatchee River from Palm Beach County's Riverbend Park to river mile 6 qualifies for inclusion in the National Wild and Scenic Rivers System. To protect the free-flowing condition and outstandingly remarkable values of this segment of the river and to protect other values of the river system as a whole it is proposed that:

--The 7.5-mile segment of the Loxahatchee River from Riverbend Park to river mile 6 at the southern boundary of Jonathan Dickinson State Park be included as a State-administered component of the National Wild and Scenic Rivers System. A first step toward this goal was accomplished on June 24, 1983, when the State designated this segment as wild and scenic. (See Appendix F) The State legislation requires the Florida Department of Natural Resources and the South Florida Water Management District to develop a management plan which will qualify this segment for inclusion in the National Wild and Scenic Rivers System. This plan is being developed.

--The State of Florida adopt a program of action to provide permanent administration for the natural and cultural qualities of the designated segment of the Loxahatchee River. Protective measures may include, but are not limited to, fee acquisition, scenic easements or other than fee

acquisition, zoning, construction and setback lines, building permits, or other similar land use controls enacted in cooperation with local jurisdictions.

--The Loxahatchee Wild and Scenic River area be jointly managed by the State of Florida as represented by the Department of Natural Resources and the South Florida Water Management District.

--An intergovernmental cooperative agreement be concluded between the State of Florida and the County of Palm Beach concerning the management of the Loxahatchee River.

--Federal agencies be required to support in their planning and projects the preservation of the Loxahatchee River as a national wild and scenic river.

#### Wild and Scenic River Designation

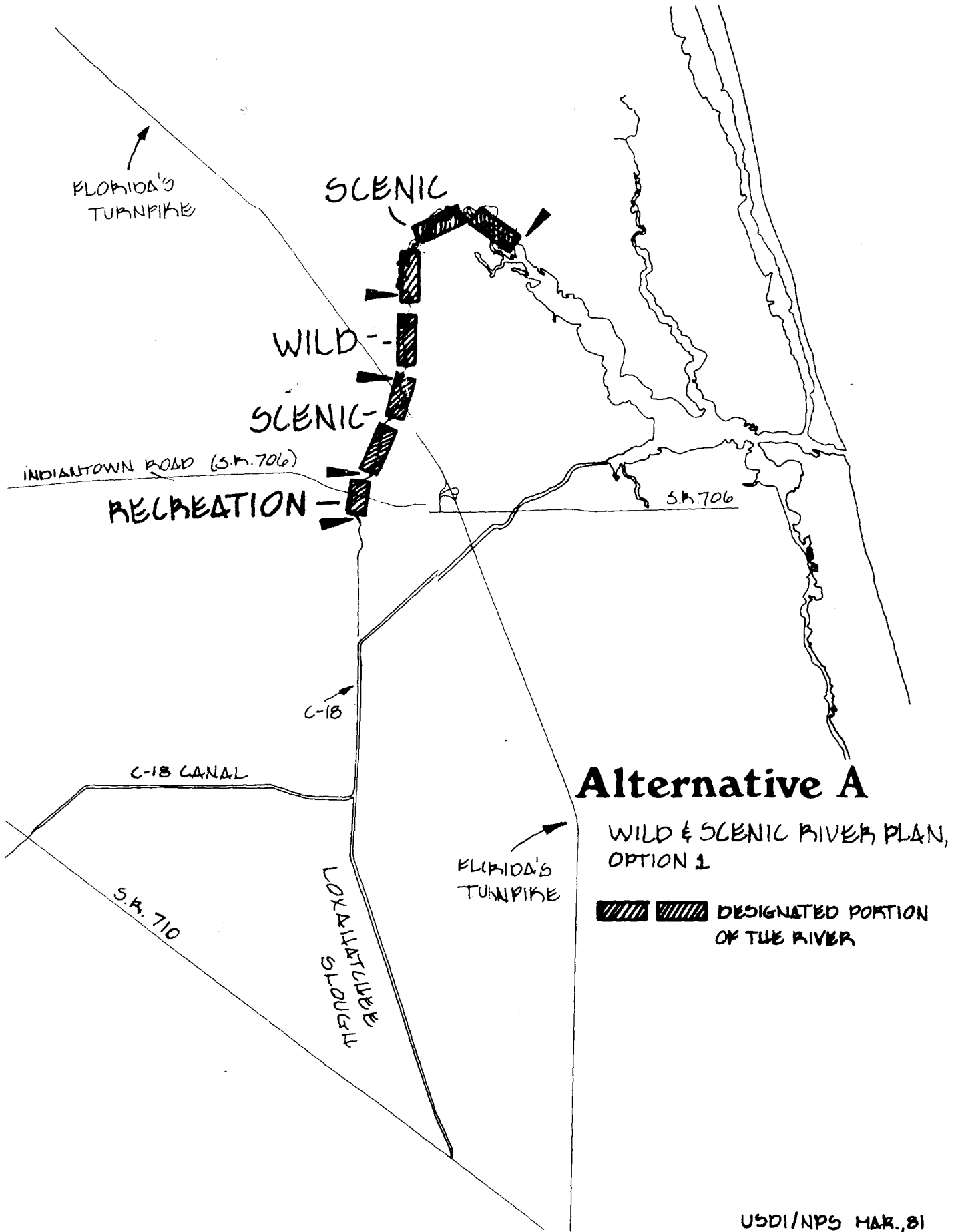
National wild and scenic river designation represents a federal commitment to the protection of a river and its immediate environment. The specific benefits provided by national designation include the following:

1. Protection from federally licensed or funded water resources projects, such as dams, water conduits, reservoirs, powerhouses, transmission lines and other project works. Section 7 of the Wild and Scenic Rivers Act addresses the question of water resource development restrictions and project impacts on stream segments being studied for potential inclusion or which are already included in the National Wild and Scenic Rivers System. It states that no federally assisted, licensed, or aided projects will be permitted on rivers in the National System if they "invade the area" or "unreasonably diminish" values which are present.
2. Added incentive to improve water quality through cooperative efforts by the managing agency, the Secretary of the Interior, the State water pollution control agencies and the Environmental Protection Agency (Section 11(c) of P.L. 90-542).
3. Higher priority for financing from existing federal programs for compatible projects which improve the river and its watershed.

For the Loxahatchee River, wild and scenic river designation would provide an additional layer of protection in which the Federal Government takes a special interest in preservation of the river. This federal interest could provide the "added leverage" needed in dealing with certain problems resulting from growth in the Jupiter-Tequesta area, and the expansion of recreational facilities.

There are two methods by which the Loxahatchee River could be included as a State-administered component of the National Wild and Scenic Rivers System:

1. By application of the State of Florida to the Secretary of the Interior pursuant to Section 2(a)(ii) of the National Wild and Scenic Rivers Act.



Under this option the values which cause the river to be qualified for the National System must be assured of permanent protection by or pursuant to State statute. To gain designation the Governor of the State of Florida must forward a letter to the Secretary of the Interior requesting that the river be added to the National System and documenting the State's program of action to provide permanent protection for the river.

2. By an Act of Congress designating the river as a State-administered component of the National System.

Under this option the Congress would designate the river and assign the responsibilities for administering the river to the State of Florida. The State of Florida would be required to prepare a detailed management plan for the area within 1 year following designation.

### Concept Plan

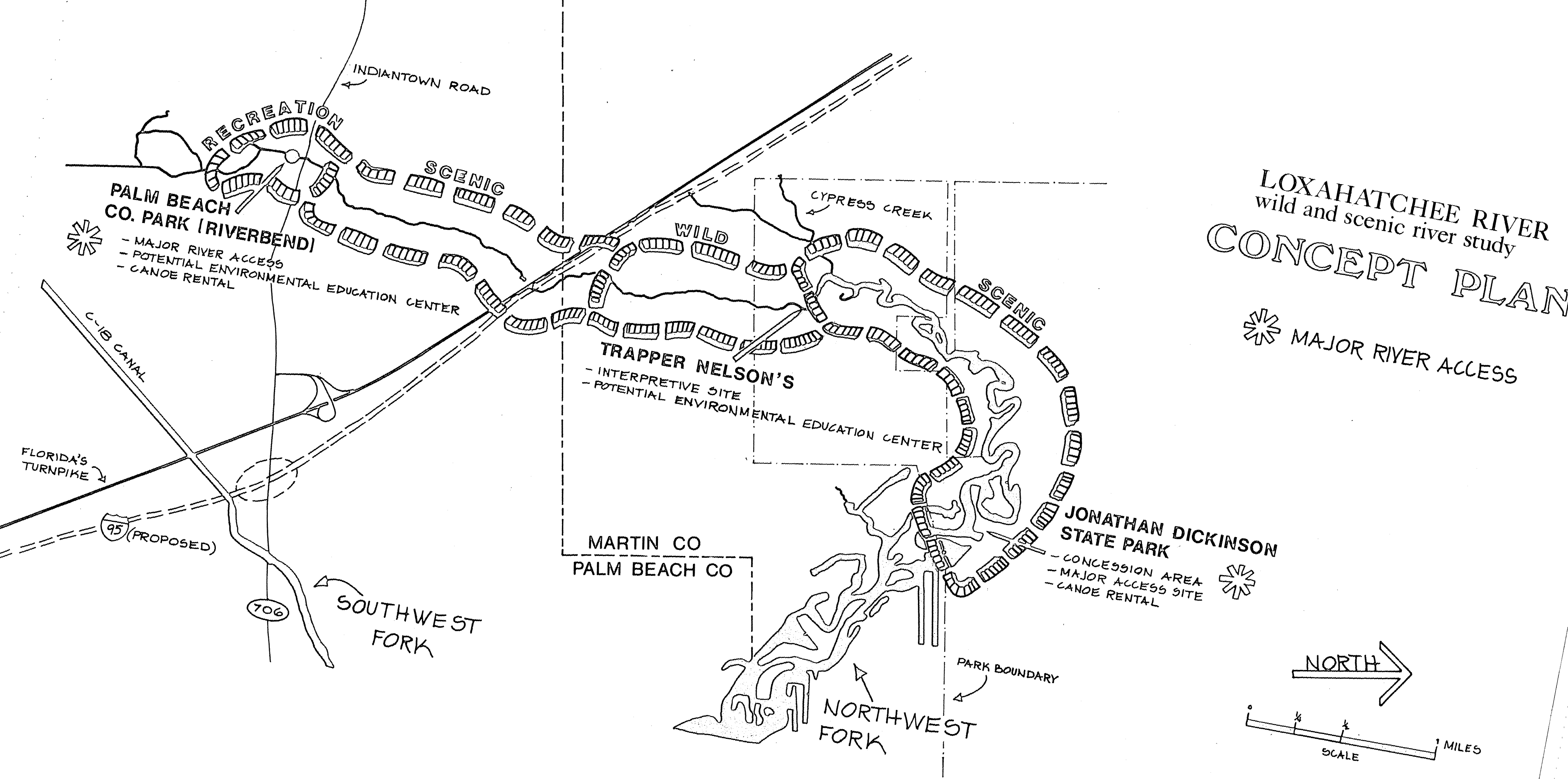
In addition to determining the segments of the Loxahatchee River eligible for inclusion in the National Wild and Scenic Rivers System, the National Park Service has developed, in cooperation with State and local governments, a conceptual management plan (see concept plan map). This plan is now being fleshed out as the Florida Department of Natural Resources and the South Florida Water Management District jointly develop a management plan.

Under the proposed concept plan the County of Palm Beach will manage the designated segment of the river within the county's Riverbend Park. The State of Florida's Department of Natural Resources will manage the designated segment downstream of Indiantown Road including the portion of the river within the Jonathan Dickinson State Park. The State of Florida would continue its current management practices protecting the natural and cultural resources associated with the Loxahatchee River within the Jonathan Dickinson State Park.

A key component of the proposed concept plan is the protection of the river corridor between Riverbend Park and Jonathan Dickinson State Park. This reach of the river is currently in private ownership and the landowners have proven to be excellent stewards of the river. However, future growth and development in the area may adversely affect this segment of the river. In addition, increased recreational use of the river could result in greater problems with trespass and vandalism on private land. Therefore, the State of Florida should adopt a program of action to adequately protect and manage the outstandingly remarkable values of this segment of the river in the future. Based on an analysis of the floodplain and vegetation patterns a minimum of 350 acres require protection. The State, in its management planning, may opt for a larger area to ensure adequate protection for the river. Protective devices may include, but are not limited to, fee acquisition, scenic easements or other than fee acquisition, zoning, construction setback lines, building permits, or other similar land use controls enacted in cooperation with local jurisdictions. There is also a potential for donation along portions of the river currently owned by private foundations.



# LOXAHATCHEE RIVER wild and scenic river study CONCEPT PLAN

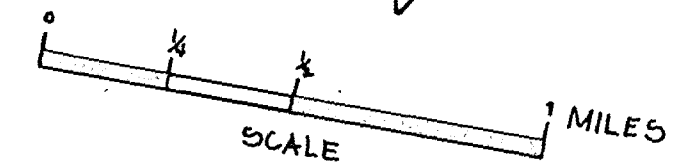
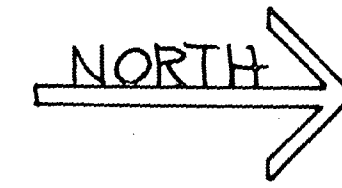


**PALM BEACH CO. PARK (RIVERBEND)**  
 - MAJOR RIVER ACCESS  
 - POTENTIAL ENVIRONMENTAL EDUCATION CENTER  
 - CANOE RENTAL

**TRAPPER NELSON'S**  
 - INTERPRETIVE SITE  
 - POTENTIAL ENVIRONMENTAL EDUCATION CENTER

**JONATHAN DICKINSON STATE PARK**  
 - CONCESSION AREA  
 - MAJOR ACCESS SITE  
 - CANOE RENTAL

MAJOR RIVER ACCESS



INDIANTOWN ROAD  
 CYPRESS CREEK  
 C-18 CANAL  
 FLORIDA'S TURNPIKE  
 95 (PROPOSED)  
 706  
 SOUTHWEST FORK  
 NORTHWEST FORK  
 PARK BOUNDARY

MARTIN CO  
 PALM BEACH CO

Under the proposal the State of Florida will be responsible for management of the river corridor between Riverbend Park and Jonathan Dickinson State Park. The protected area will be fenced to prevent domestic livestock from feeding on vegetation along the river's edge and prevent recreationists from crossing over to private property. The Florida Park Service professional staff will use appropriate management techniques to prevent invasion of exotic plant species into the river corridor. Florida Park Service rangers will patrol the area to ensure the safety of visitors and to enforce regulations. A gravel road to provide emergency access to the corridor will be provided along the higher ground adjacent to the river swamp corridor.

There are two access sites provided for in the concept plan. The county's Riverbend Park would provide the major canoe access point for those wishing to float the river from Indiantown Road downstream to the Jonathan Dickinson State Park. The county is currently developing a concept plan for Riverbend Park which includes a canoe rental facility and an environmental education center. The National Park Service has coordinated its planning efforts with Palm Beach County. Development, operation and maintenance costs for Riverbend will be included in ongoing Palm Beach County programs.

The South Florida Water Management District has received appraisals on and is negotiating for the purchase of approximately 550 acres in the Loxahatchee river corridor. The purchases will be made using funds from the State's "Save our Rivers" program.

The Federal Government will have a continuing role in protection of the river pursuant to Section 7(a) of the Wild and Scenic Rivers Act. Under provisions of the Act any federally funded, assisted or permitted actions which have an adverse effect on the values of the designated segment of the river are prohibited. The Federal Government could also play a role through the continued involvement of the National Park Service in planning for the National Wild and Scenic River Area.

Management Guidelines. Items to be addressed in an eventual joint management plan will include site protection and restoration, recreation site and riverbank maintenance agreements, user regulations and limits, user permits, fire protection, river patrols and law enforcement, plant disease and insect protection, endangered species protection, search and rescue provisions, and road signs. As part of management planning, provisions will be made for coordination among river management agencies and for management plan revision. During the cooperative management planning process, a detailed boundary description will be prepared for the river area included in the National System.

Cultural resources currently listed or eligible for inclusion on the National Register of Historic Places are entitled to the protection afforded by Section 106 of the National Historic Preservation Act. In addition, Section 2(b) of Executive Order 11593 directs federal agencies to exercise caution to ensure cultural resources that may qualify for inclusion on the National Register are not inadvertently transferred, sold, destroyed, or substantially altered pending a determination as to whether or not they are eligible for the register. Accordingly, the management plans for the area should be developed in consultation with the Florida Historic Preservation Officer and the Advisory Council on Historic Preservation.

Cost of Proposal. Costs for each of the Alternatives are provided in Table 1. These figures reflect the maximum costs which could be incurred in a comprehensive protection program which would include fee acquisition, scenic easements or other than fee acquisition, zoning, construction setback lines, building permits or other similar land use controls enacted in cooperation with local jurisdictions.

Development costs to the State of Florida are estimated at \$61,000. This includes costs of road construction, fencing, survey of boundaries, and additional staff equipment. Development costs to the County of Palm Beach are estimated at \$110,000 in addition to projected development costs for Riverbend Park. This additional development cost is primarily for additional parking capacity.

Annual operation and maintenance costs are not expected to increase greatly over the cost of operation and maintenance of Palm Beach County's Riverbend Park and the Jonathan Dickinson State Park without the proposal. The increased annual cost to the State Park will be approximately \$11,300. The increased annual costs to the county will be approximately \$30,000. Costs of any low flow augmentation have not been calculated as yet by the South Florida Water Management District.

Cooperative Agreements. To provide a basis for joint management of the Loxahatchee River as a component of the National Wild and Scenic Rivers System a cooperative agreement should be concluded between the managing agencies. It is also essential to conclude cooperative agreements with agencies responsible for water management to assure adequate water quality and water quantity to the Northwest Fork.

Mitigating Measures Included in the Proposed Action. National designation of the Loxahatchee River will increase public awareness of the resource. Increased use could damage the fragile ecological values associated with the river. A key component of the proposed management strategy is the establishment and enforcement of a carrying capacity to limit use. Management by the Florida Department of Natural Resources and the County of Palm Beach of the designated portion of the river will increase public safety by regulating access and use.

#### ALTERNATIVE B/STATE-ADMINISTERED WILD AND SCENIC RIVER WITH SLOUGH PROTECTION

The State of Florida, in cooperation with local governments, may choose to go beyond the proposed plan and provide additional protection for the Loxahatchee River.

Under this alternative:

--The 7.5-mile segment of the Loxahatchee River from Riverbend Park to river mile 6 at the southern boundary of Jonathan Dickinson State Park would be included as a State-administered component of the National Wild and Scenic Rivers System.

- The State of Florida would adopt a program of action to provide permanent protection for the natural and cultural qualities of the designated segment of the Loxahatchee River. Protective measures may include, but are not limited to, fee acquisition, acquisition of scenic easements or other less-than-fee estates, zoning, construction and setback lines, building permits, or other similar land use controls enacted in cooperation with local jurisdictions.
- An extensive program of environmental protection and restoration would be undertaken by the State of Florida in cooperation with local agencies to restore the Loxahatchee Slough.
- The Loxahatchee Wild and Scenic River area would be jointly managed by the State of Florida as represented by the Department of Natural Resources and the South Florida Water Management District.
- An intergovernmental cooperative agreement would be concluded between the the State of Florida and the County of Palm Beach concerning the management of the Loxahatchee River.
- Federal agencies would be required to support in their planning projects the preservation of the Loxahatchee River as a national wild and scenic river.

Under this alternative a maximum width corridor would be acquired between Indiantown Road and the Jonathan Dickinson State Park. This corridor would include some 700 acres of riparian land. This would double the area proposed for protection in the corridor under the proposed alternative. In addition, the canal area between the existing C-18 Canal System and Riverbend Park would be acquired and allowed to return to a more natural riverine character.

Under this alternative the estuary would be managed and patrolled by the Florida Department of Natural Resources. Wake and speed regulations would be put in place to protect the manatee and other river values.

Recent water shortages in south Florida due to drought conditions point up the water management problems of the area. The Loxahatchee River basin typifies the problems of water management in south Florida and could serve as a model for solutions based on the restoration and repair of natural systems. As was discussed in the affected environment section, the Loxahatchee Slough historically remained inundated for much of the year. Water levels rose during the rainy season and, owing to Florida's topography, drained off gradually as a shallow sheet flow during the dry season. The introduction of an extensive drainage system has resulted in surface waters being transported rapidly to tide. The period of surface flooding has been reduced to 3 or 4 months, about half the length of the historic hydroperiod. As a result, the recharge of shallow aquifers has been decreased and groundwater levels have been lowered.

This alternative entails an extensive program of environmental protection and restoration. A key component of the plan is the backfilling of a segment of the C-18 canal and a partial restoration of the natural water levels and sheet flow of the Loxahatchee Slough. In reflooding the Slough,

water supply reservoirs could be created to augment municipal water supply sources in the area. Flood control protection for adjacent development areas would be reduced. However, the construction of levees around the inundated area could provide sufficient flood protection.

Restoration of the Loxahatchee Slough offers direct benefits in terms of municipal water supply for Palm Beach County. The creation of water supply reservoirs in the Slough and the increase in groundwater levels and the recharge of aquifers will help to meet the municipal water needs of the area.

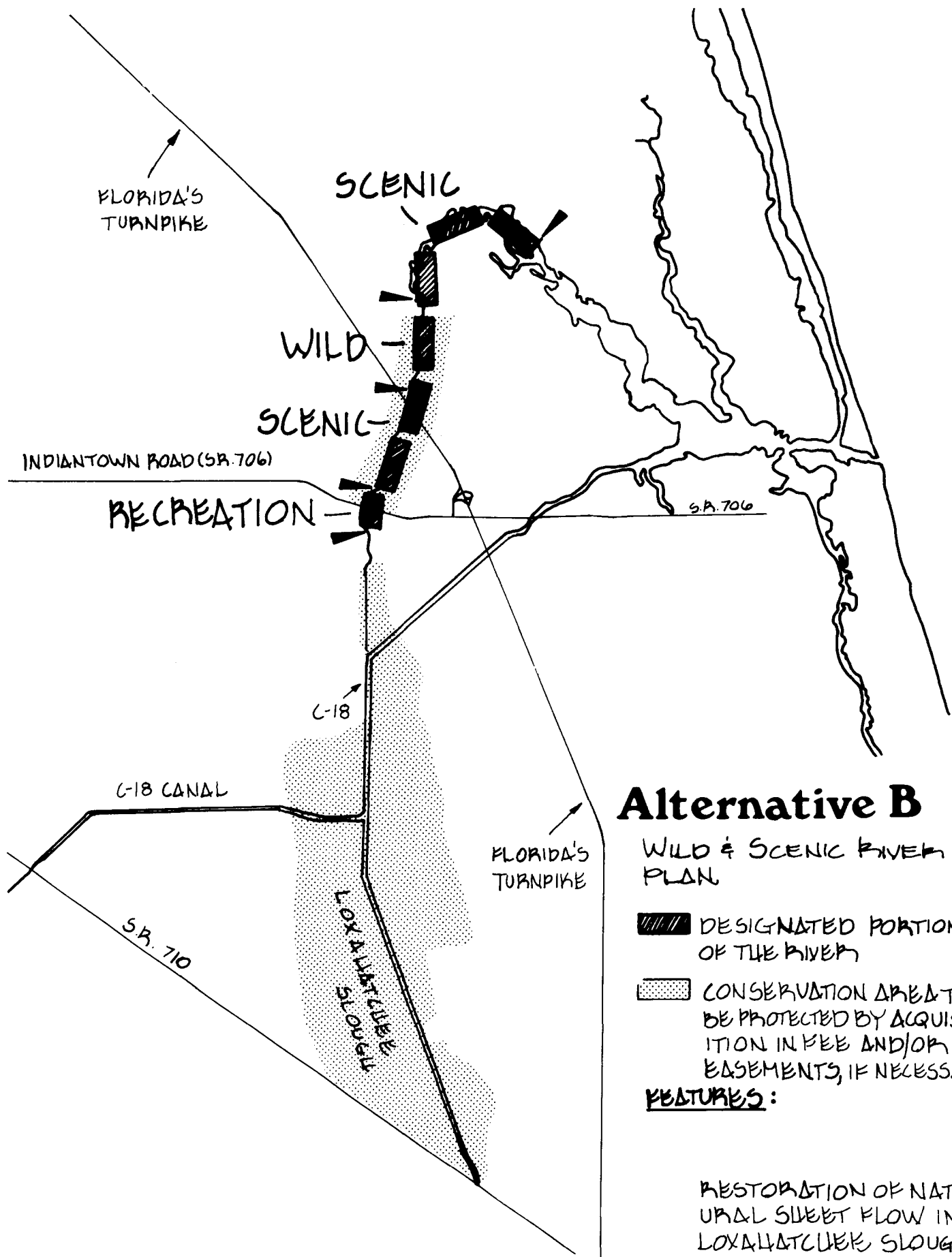
The natural environment will also benefit from the repair of natural systems. The Northwest Fork of the Loxahatchee River would be assured a constant level of freshwater flow throughout the year. Water quality of flows from the Slough would be improved due to the increased contact time with vegetation.

For the purpose of this analysis, the implementation of the Loxahatchee Slough restoration component of the plan is carried out through State action. However, this aspect of the plan could be implemented in a separate program by local government, water management authorities, and private interests.

It is the finding of this study that restoration of the Loxahatchee Slough is not the most cost effective or necessarily the best means of maximizing environmental quality on the Northwest Fork. However, the restoration of the Slough has broader potential regional benefits and could be implemented through the concerted efforts of State and local governments and private interests.



Current studies of the Loxahatchee River basin and the C-18 canal by the U.S. Army Corps of Engineers and the U.S. Geological Survey will provide river managers with more complete information concerning water management in the basin. The results of these studies and planning efforts by the South Florida Water Management District may provide more cost effective measures for management of the C-18 Canal that will meet the objective of maximizing environmental quality on the Northwest Fork and providing adequate flood protection. See the letter from the South Florida Water Management District in Appendix E.

Costs of Alternative B. Total land acquisition costs to the State of Florida under this alternative are estimated at \$19,750,000 based on estimated values in 1981. These costs could be substantially less depending on the extent to which purchase of easements, transfer of development rights, zoning or other methods of protection are used. Total development costs of \$10,000,000 reflect the extensive water resource engineering works such as levees and culverts involved in this alternative. Operation and maintenance costs can not be determined without further study and consideration of this alternative.



## Alternative B

### WILD & SCENIC RIVER PLAN

-  DESIGNATED PORTION OF THE RIVER
-  CONSERVATION AREA TO BE PROTECTED BY ACQUISITION IN FEE AND/OR EASEMENTS, IF NECESSARY

#### FEATURES:

RESTORATION OF NATURAL SWEET FLOW IN LOXAHATCHEE SLOUGH

## ALTERNATIVE C/NO ACTION

This alternative characterizes the future conditions expected to occur in the study area without a formal management plan or designation as a wild and scenic river. The existing trend plan assumes that growth and development in the river basin study area will occur as projected in existing local and regional plans. The river would not be included in the National Wild and Scenic Rivers System but would continue to receive protection from local, State, and Federal Government agencies. However, its status as a State Wild and Scenic River would expire on June 24, 1985.

Local governments and special districts are presently attempting to protect the Loxahatchee River corridor in a number of ways. Palm Beach County is pioneering the use of the Transfer of Development Rights concept to protect environmentally sensitive areas in the Loxahatchee Slough. Both Martin and Palm Beach Counties have zoning ordinances which limit densities in the river corridor. The Jupiter Inlet District is exploring with other local governments a dock ordinance to limit dock construction on the river. Palm Beach County is currently developing Riverbend Park, south of Indiantown Road, as a multi-use recreation area. Facilities for camping, canoeing, picnicking, softball, and an interpretative center are being developed there.

Federal agencies which may play a role in the protection of the Loxahatchee River include the Environmental Protection Agency, the Fish and Wildlife Service, and the U.S. Army Corps of Engineers. The Corps of Engineers is considering the environmental integrity of the Loxahatchee River in its present study of the C-18 Canal system. Federal agencies, however, would be required to give greater consideration to the protection of the river under the provisions of the Wild and Scenic Rivers Act.

The Loxahatchee is currently protected from water resource development projects under Section 7(b) of the Wild and Scenic Rivers Act. This protection would eventually lapse but this is considered inconsequential at this time since none have been proposed or seem likely.

## PLANS DROPPED FROM CONSIDERATION

During the planning process several alternatives were developed which were eventually dropped from further consideration as candidate plans.

1. Early in the planning process consideration was given to a federal role in acquiring land along the Loxahatchee River. The river would have been included as a jointly administrated component of the National Wild and Scenic Rivers System. Lands acquired by the Federal Government would have been conveyed to the State of Florida for management with no direct federal role in management. This plan was considered infeasible because of budgetary considerations and current federal land acquisition policies.

2. A plan was developed to maximize national economic development through various public works projects utilizing the resources of the river basin. These projects included (a) expanding levees and installation of drainage works in order to drain additional wetland areas not now suitable for

residential development; (b) dredging Jupiter Inlet to form a navigable harbor suitable for ocean-going craft; and (c) construction of small low-sill hydroelectric power facilities. None of these projects, however, have been proposed either by local interests or by government agencies. The overwhelming interest expressed is for the preservation of the river rather than its further development.

3. Other alternatives were considered which included the North Fork, the estuary, and the segment of the river above Riverbend. The North Fork was found to be ineligible and no public support surfaced for its designation as a national wild and scenic river. The segments above river mile 13.5 and below river mile 6 were also found to be ineligible for inclusion in the National System. However, these areas are important to the river system as a whole. These areas should come under special management by federal, State and local governments to support the preservation of the segment proposed for designation.



TABLE 1 - SUMMARY OF ALTERNATIVES

PLAN ELEMENTS	Alternative A	Alternative B	Alternative C																
Segment Designation	Designation by the Secretary of the Interior pursuant to application by the State of Florida or designation by the Congress of a 7.5-mile segment	Same as Alternative A.	No Designation																
Classification	<table border="0"> <tr> <td>Wild</td> <td>1.35</td> </tr> <tr> <td>Scenic</td> <td>5.65</td> </tr> <tr> <td>Recreational</td> <td>0.5</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>7.5 mi.</b></td> </tr> </table>	Wild	1.35	Scenic	5.65	Recreational	0.5	<b>TOTAL</b>	<b>7.5 mi.</b>	<table border="0"> <tr> <td>Wild</td> <td>1.35</td> </tr> <tr> <td>Scenic</td> <td>5.65</td> </tr> <tr> <td>Recreational</td> <td>0.5</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>7.5 mi.</b></td> </tr> </table>	Wild	1.35	Scenic	5.65	Recreational	0.5	<b>TOTAL</b>	<b>7.5 mi.</b>	N/A
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<b>TOTAL</b>	<b>7.5 mi.</b>																		
Managing Agency	State of Florida County of Palm Beach	State of Florida County of Palm Beach	N/A																
Land Acquired for Preservation and Recreation Use	Preservation of 350 acres in the river corridor between Indiantown Road and Jonathan Dickinson State Park through a combination of transfer of development rights, donation, zoning or other land use regulations, purchase of easements, and purchase of fee title. For purpose of cost analysis 250 acres are assumed to be purchased in fee and 100 acres less than fee by the State of Florida. Final costs could be substantially lower.	Acquisition by the State of Florida of 700 acres in fee in the river corridor between Indiantown Road and Jonathan Dickinson State Park. Preservation of 6,889 acres in the Loxahatchee Slough through a combination of transfer of development rights, purchase of easements, and purchase of fee title. For purpose of cost analysis, lands in the Loxahatchee Slough are assumed to be purchased in fee by the State of Florida. Final costs could be substantially lower.	N/A																

4-12

TABLE 1 - SUMMARY OF ALTERNATIVES

PLAN ELEMENTS	Alternative A	Alternative B	Alternative C
Recreational use and access	No additional access. Use of segment from Indiantown Road to Jonathan Dickinson State Park restricted based on carrying capacity established by State and county. National designation will increase visitation to Palm Beach County's Riverbend Park and Jonathan Dickinson State Park.	Same as Alternative A.	No Additional Access
Projected Visitation			
Jonathan Dickinson State Park			
1985	276,000*	276,000*	172,000
1990	200,000	200,000	191,000
2000	230,000	230,000	210,000
Riverbend Park			
1985	83,000*	83,400*	62,600
1990	70,000	70,000	69,500
2000	80,000	80,000	73,000

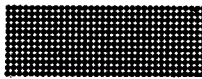
Assumes initial surge of visitation resulting from designation followed by a drop and resumption of normal rate of increase.

TABLE 1 - SUMMARY OF ALTERNATIVES

	Alternative A	Alternative B	Alternative C
<u>PLAN ELEMENTS</u>			
<u>Costs</u>			
<u>State of Florida</u>			
Acquisition	3,000,000	19,750,000	No acquisition
Development	61,000	10,000,000	No development
Operation and Maintenance (Annual)	11,300	Undetermined	-----
<u>Local</u>			
Development of Riverbend Park	110,000	110,000	No additional development
Operation and Maintenance (Annual)	25,000	25,000	-----

TABLE 1 - SUMMARY OF ALTERNATIVES

	Alternative A	Alternative B	Alternative C
<b>PLAN ELEMENTS</b>			
Impact On Land Use	Approximately 350 acres along the Northwest Fork from Indiantown Road to Jonathan Dickinson State Park would be protected to prevent land use changes in the river corridor.	Approximately 750 acres along the Northwest Fork from Indiantown Road to Jonathan Dickinson State Park would be protected to prevent land use changes in the river corridor. Approximately 6,889 acres in the Loxahatchee Slough would be protected.	Existing local land use regulations permit 1 unit/5acres. Current area growth trends indicate that the general area will be developed and approximately 70 residential structures built in the river corridor between Indiantown Road and the Jonathan Dickinson State Park.



V

## CHAPTER V

### AFFECTED ENVIRONMENT

#### Regional Location, Access and Existing Development

The Loxahatchee River is located in Palm Beach and Martin Counties in southeast Florida (see location map). The river system is comprised of three forks: the Southwest Fork, the North Fork, and the Northwest Fork. The Southwest Fork of the Loxahatchee River was not included in the legislation authorizing the river for study. The Southwest Fork is almost entirely channelized and serves as the main outlet for the C-18 Canal System. The North Fork rises in the Jonathan Dickinson State Park and flows in a southerly direction to its confluence with the main channel of the river near the Village of Tequesta. The Northwest Fork rises in the Loxahatchee Slough and flows in a northerly direction towards the Jonathan Dickinson State Park and then turns in a southerly direction. Here the Northwest Fork becomes the main channel of the river and is joined first by the Southwest Fork and then by the North Fork.

Public road access to the vicinity of the river is provided by the Florida Turnpike, U.S. 1, A1A, and State Road 706 (also known as Indiantown Road). Present plans call for linking existing segments of Interstate 95 and crossing the Loxahatchee River adjacent to the present Florida Turnpike crossing. The Florida Turnpike crossing and the proposed I-95 crossing are limited access highways and do not provide direct access to the river. Other access to the Northwest Fork between river mile 13 and river mile 6 includes a few unimproved dirt roads between State Road 706 (Indiantown Road) and the Florida Turnpike as well as public access roads within Jonathan Dickinson State Park. There is an unimproved road to the Trapper Nelson's interpretive site at river mile 10 within the Jonathan Dickinson State Park but it is not open to the public.

Below river mile 6 to Jupiter Inlet the shoreline of the Loxahatchee River is entirely developed. Numerous residential streets provide continuous access to this section of the Loxahatchee River. Existing development along the river includes the Village of Tequesta and the Town of Jupiter.

#### Description of the River Corridor

The Northwest Fork of the Loxahatchee River originates in the Loxahatchee Slough in an area where surface flows have been dramatically altered by an extensive network of drainage canals and levees. From its origin to river mile 13.5, the Northwest Fork has been straightened and channelized and receives its flow from a series of smaller canals and drainage ditches.

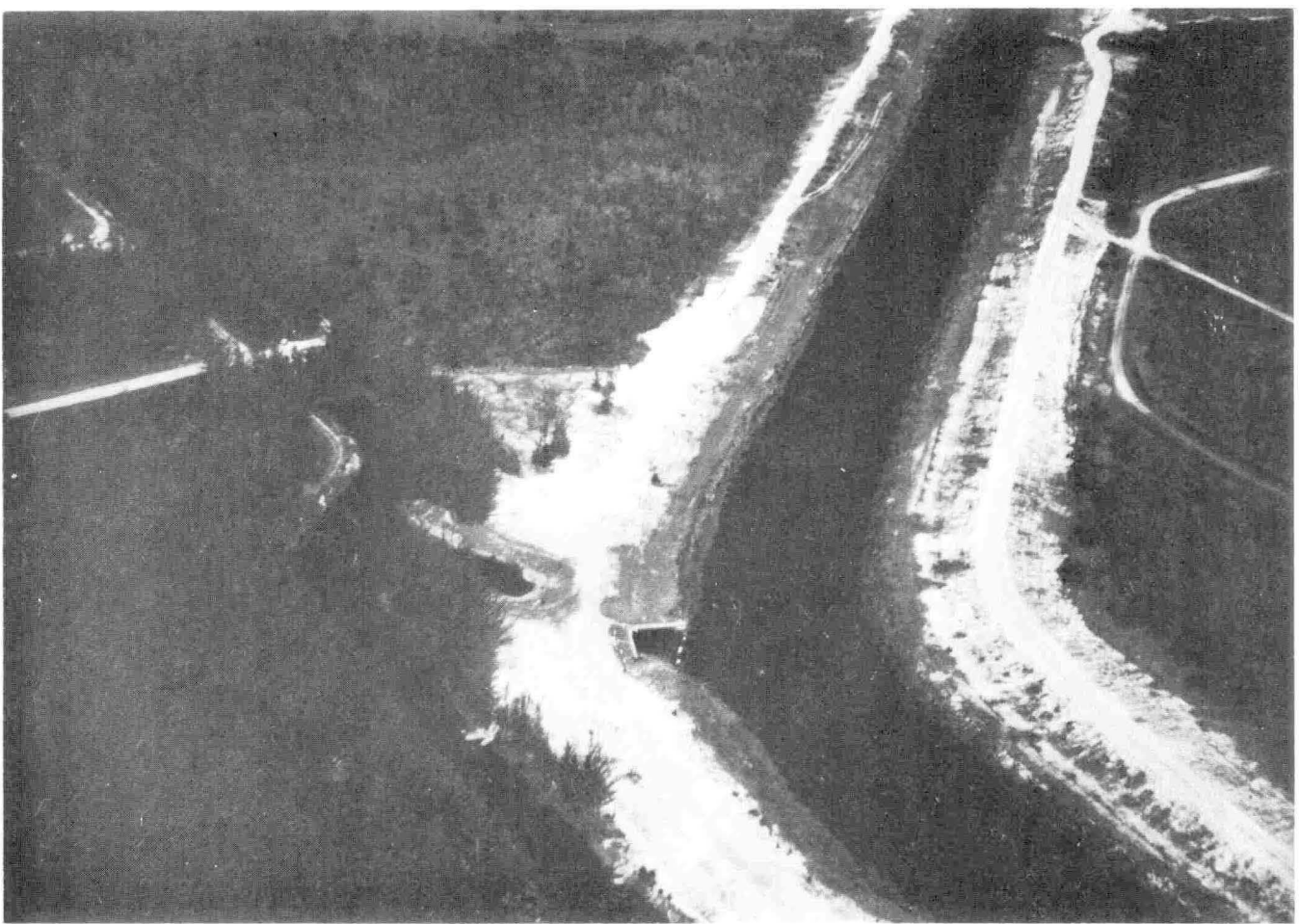
The river's natural meander pattern begins at approximately river mile 13.5, however, this segment has been channelized in the past. Palm Beach County has purchased a 187-acre tract along this segment of the river to develop a passive recreation area named Riverbend Park.



The Loxahatchee River Rises in the Loxahatchee Slough



The C-18 Canal System Drains the Loxahatchee Slough



River Mile 14.5 - The Loxahatchee River (left) Flow is Augmented by the C-18 Canal System (right) Culvert Diversion



River Mile 14 - From its Origin to River Mile 13.5 the Northwest Fork Receives its Flow From a Series of Smaller Canals and Drainage Ditches





River Mile 13.5 - Palm Beach County has Purchased a 187-Acre Site Along the Loxahatchee River at Indiantown Road. The County Removed an Existing Trailer Park and Plans to Develop the Site as a Passive Recreation Park Focused on the River



River Mile 13 - Indiantown Road Presently Serves as an Undeveloped Launching Site for Canoeists. Downstream of the Indiantown Road Bridge the Canoeist Enters a Cypress River-Swamp Community.

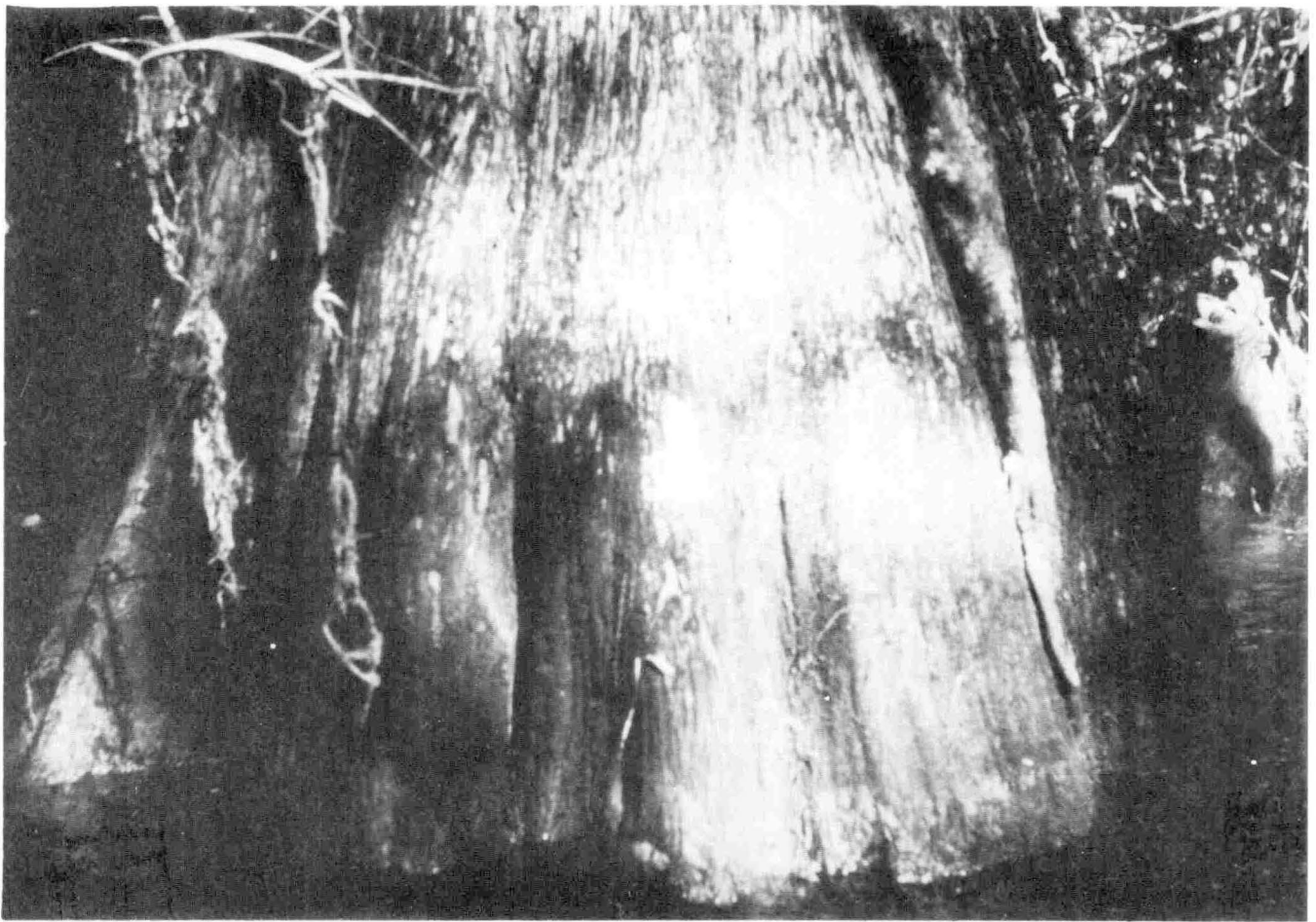


River Mile 12.5 - Bald Cypress Trees Tower Overhead and Provide a Canopy Over the River

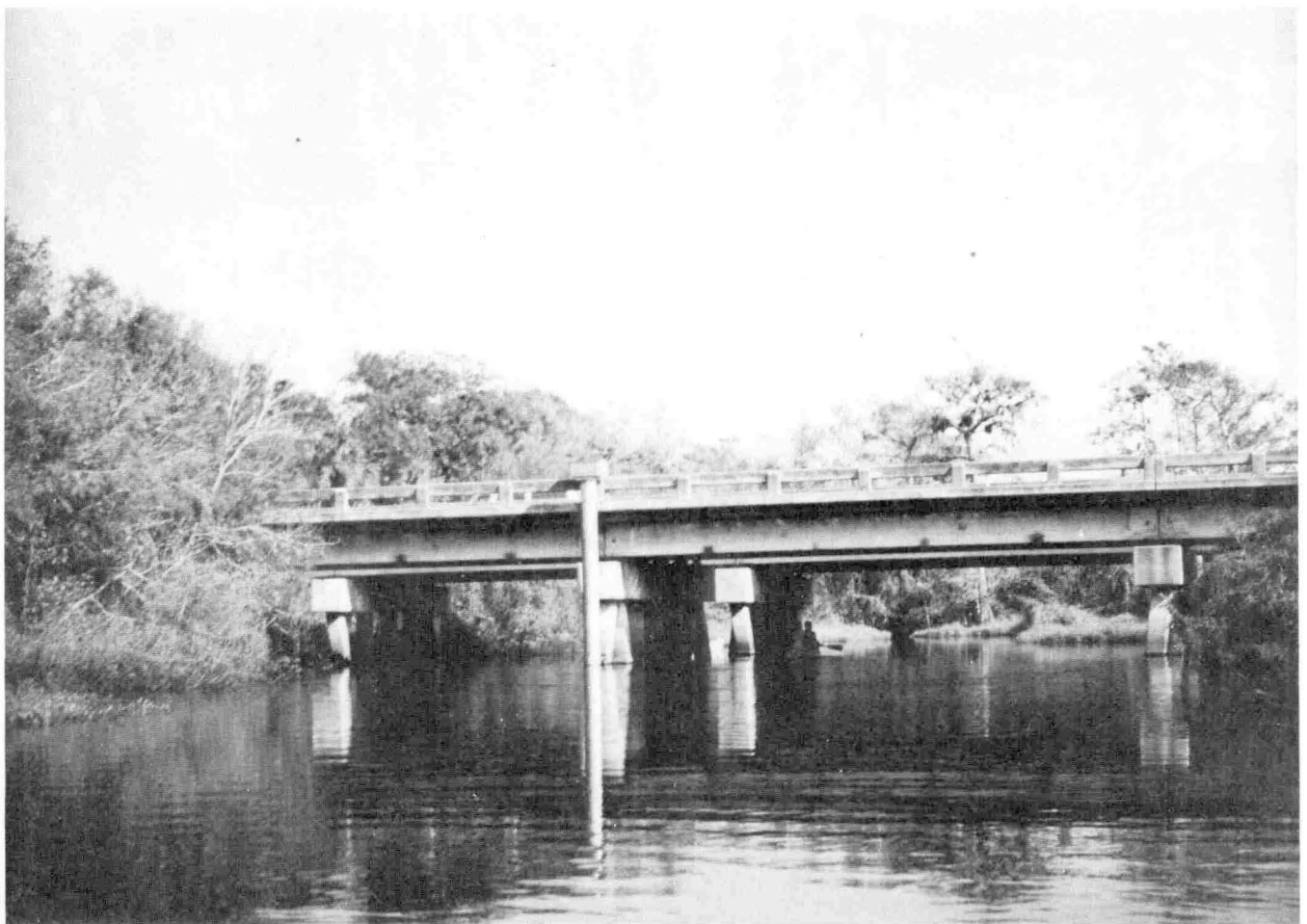


River Mile 12 - Species Diversity in the Understory is High Due to the Overlap of Tropical and Temperate Communities in the Loxahatchee River Area





The Most Mature Cypress Range From 300 - 500 Years of Age



River Mile 11.5 - The First Major Intrusion on the Natural Scene is the Florida Turnpike Highway Crossing



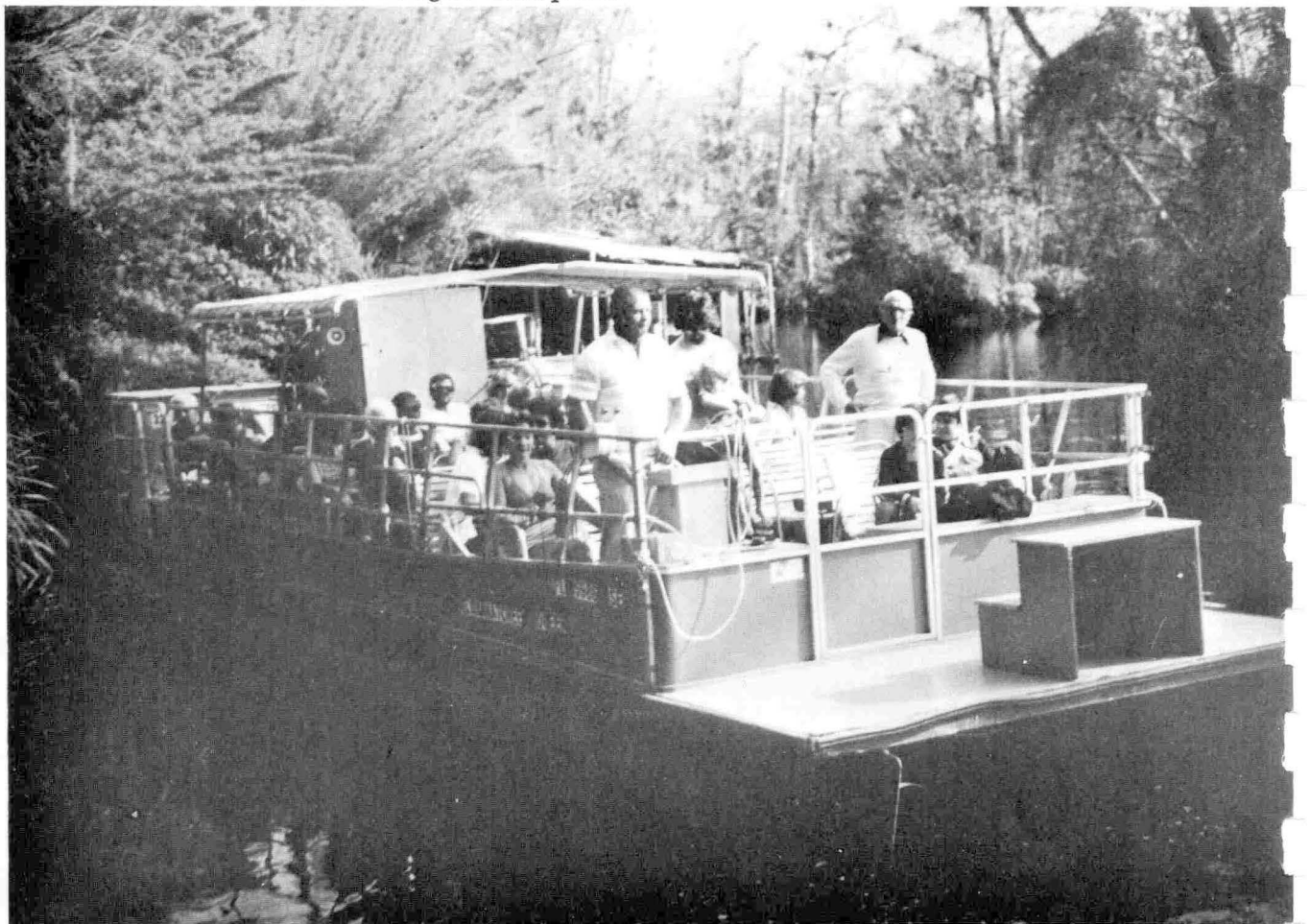
River Mile 11 - Beyond the Florida Turnpike the Canoeist is Once Again in a Pristine Cypress River Swamp Environment







River Mile 10 - Trapper Nelson's, a Remote Homestead, is Managed by Jonathan Dickinson State Park as an Interpretive Site. Below Trapper Nelson's the River Becomes Wider and is no Longer Canopied.



River Mile 10 - Public Access to Trapper Nelson's is Provided by the "Loxahatchee Queen" Tour Boat.



River Mile 9 - Downstream of Trapper Nelson's Mangroves Dominate the River's Edge and Most of the Cypress Trees are Dead.



River Mile 9.5 - Below Trapper Nelson's the First Mangroves Appear and Most Cypress Trees Appear Stressed



River Mile 8 - Within the Jonathan Dickinson State Park the Loxahatchee River Remains Undeveloped. Residential Development Dominates the River Edge Downstream of the State Park.





River Mile 1 - The Estuary Near Jupiter Inlet is Highly Developed. This Portion of the River is a Segment of the Intracoastal Waterway.



River Mile 0 - The Loxahatchee River Flows Into the Atlantic Ocean at Jupiter Inlet.



Below State Road 706 (Indiantown Road) the river remains in a largely natural condition. Presently canoeists using the river gain access to the river at the Indiantown Road bridge. There is no developed canoe launching site available or a parking area at this site. Presently cars park along the side of the road to gain canoe access to the river. The County of Palm Beach is planning to develop a canoe launching site and provide adequate parking in Riverbend Park. The concept plan for the park calls for a concessionaire to provide canoe rentals.

Downstream of the Indiantown Road bridge the canoeist enters a cypress river-swamp community. The channel is still narrow at the point and its sinuous, meandering course offers the canoeist a challenging and interesting journey through the largely pristine cypress river swamp. Bald cypress (Taxodium distichum) trees in this reach of the river tower overhead and provide a canopy over the river. The most mature of these trees range from 300-500 years. Species diversity in the understory is high due to the overlapping of tropical and temperate vegetation communities in the Loxahatchee River area. There are several small cabins along this reach of the river but these do not constitute a major intrusion on the natural scene. The land use beyond the river-swamp vegetation corridor is primarily agriculture but little evidence of this is visible from the river. Occasionally cattle wander close to the river and feed on the lush vegetation there or are heard beyond the tree line. A small run of the river private dam requires portaging of canoes at times of low flow.

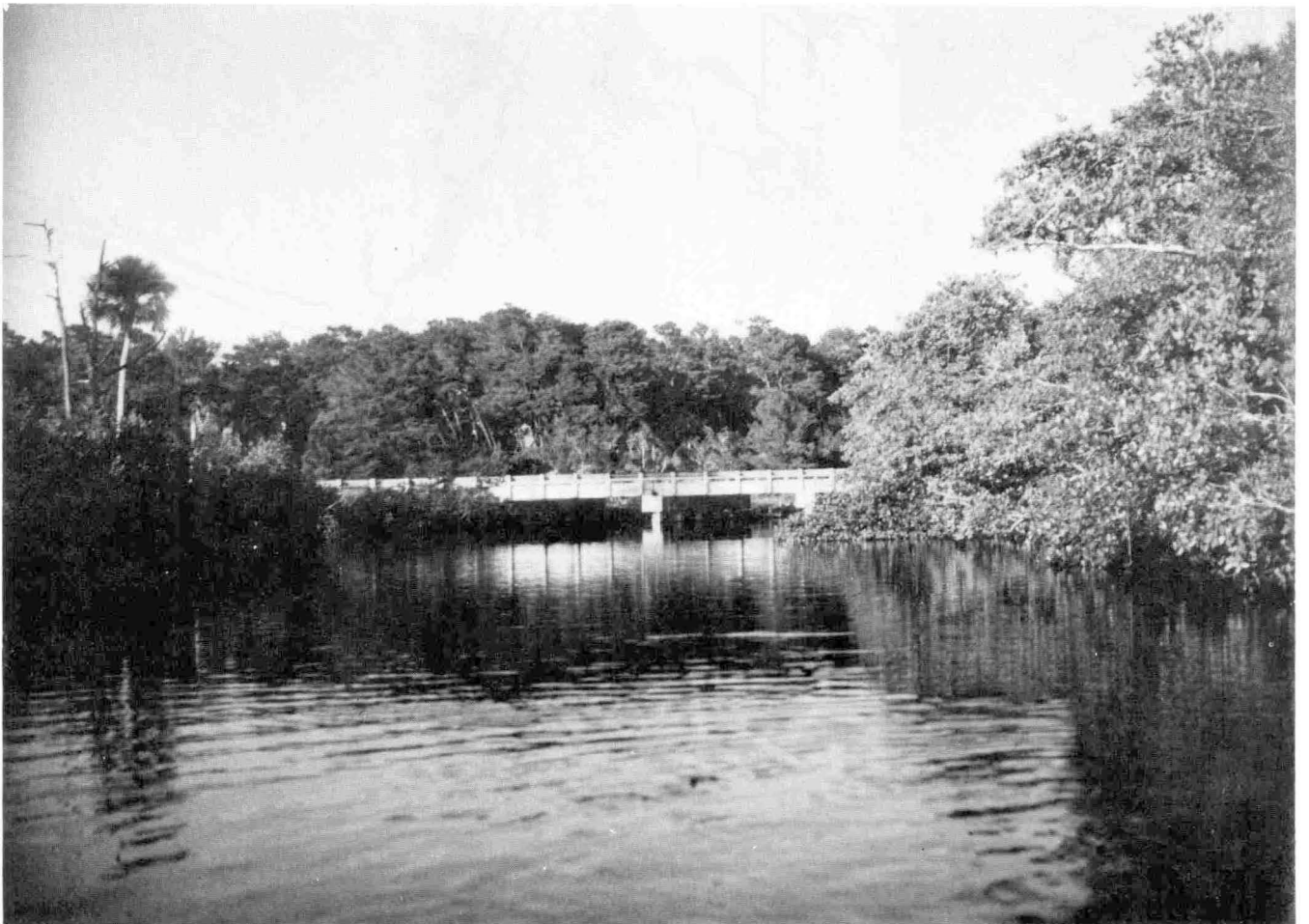
The first major intrusion on the natural scene is the Florida Turnpike crossing at approximately river mile 11.5. The proposed alignment of I-95 linking existing segments in Martin County and Palm Beach County, will cross the Loxahatchee River adjacent to the Florida Turnpike. Due to concerns about preservation of the river, the proposed I-95 bridge crossing has been designed to closely abut the existing highway in order to minimize impacts on the river.

The river turns in a northwesterly direction beyond the Florida Turnpike crossing and once again the canoeist is in a pristine cypress river-swamp environment. However, the sound of the Florida Turnpike intrudes on the wilderness experience of the visitor and it is expected that the noise levels will increase with the addition of I-95. The river enters Jonathan Dickinson State Park at river mile 10.25. There are no significant man-made intrusions between the Florida Turnpike and Trapper Nelson's. The Jonathan Dickinson State Park manages Trapper Nelson's, an early resident's homesite at river mile 10, as an interpretive center which is accessible to the public only by boat.

Below Trapper Nelson's the character of the Northwest Fork changes dramatically. The river widens and there is no longer a closed canopy overhead. The main channel of the river is joined by Cypress Creek, Kitching Creek, and several smaller tributaries swelling the volume of the river. The first mangroves begin to appear in this reach of the river. Cypress trees close to Trapper Nelson's appear stressed, presumably by salt water. Further downstream, mangroves dominate the river's edge and most of the Cypress trees are dead. The Jonathan Dickinson State Park concession area provides access to this reach of the river. Canoe rentals are



The North Fork Originates in the Jonathan Dickinson State Park and Flows South through a Developed Area



Mangroves Dominate the North Fork's River Banks Well Within the State Park Boundary





available here and most canoeists who float the Northwest Fork take their canoes out of the water at this point.

At approximately river mile six the river leaves the Jonathan Dickinson State Park. Once outside the park the banks of the river are almost entirely developed with single family homes for the entire length of the river to Jupiter Inlet. There are several bridge crossings including U.S. 1 and A1A. The presence of the lighthouse near the Intracoastal Waterway provides a scenic glimpse into the past in an otherwise densely developed area.

The North Fork of the Loxahatchee River originates in a pond cypress (*Taxodium ascendens*) strand, a marshy area in the Jonathan Dickinson State Park. The freshwater environment soon gives way to more saline conditions and mangroves dominate the North Fork's river banks well within the State park boundary. The North Fork of the Loxahatchee River estuary is shallower and receives less freshwater inflow than the Northwest Fork. As a result, the North Fork has a more uniform, brackish salinity than the Northwest Fork.

The North Fork flows in a southerly direction and leaves the State park near the County Line Road bridge crossing. The 3-mile segment between this bridge crossing and the confluence with the main channel of the river is almost entirely developed with private single family residences. There are several small canals in this reach of the river as well as the Tequesta Drive bridge over the North Fork.

### The River Basin

The Loxahatchee River basin covers approximately 210 square miles (see River Basin map). The basin is comprised of nine subbasins that range in size from 3 square miles to 117 square-miles. Man's activities since the turn of the century have changed dramatically the natural drainage patterns of the basin. Drainage canals, roadways, railroads, residential developments and other man-made features now define much of the basin and its subbasins.

Historically the basin covered about 270 square miles and was defined entirely by the natural landforms of the region. In the past 50 years the natural hydrologic regime of this watershed has been altered by drainage activities associated with real estate and agricultural development. Much of the area has been transected by canals and levees with the area's water table being lowered because of these activities. The Northwest Fork of the Loxahatchee River originally received surface flows from the Loxahatchee Slough and Hungryland Slough. The construction of canals for drainage and flood protection has diverted this surface flow to the Southwest Fork of the river.

The drainage and diversion of the headwaters of the Loxahatchee River has caused changes in the flow characteristics of the Northwest Fork. River flow rates are now more varied, since there is no large storage area to supply water during drought periods. As a result, brackish water can move further upstream from the estuary area than it did historically. This has

contributed to stress and eventual death of the cypress trees which added to the scenic qualities of the Loxahatchee River in Jonathan Dickinson State Park. In place of the freshwater cypress dominated river forest community, saline tolerant red mangroves have invaded and succeeded the original cypress forest along the lower reaches of the river.

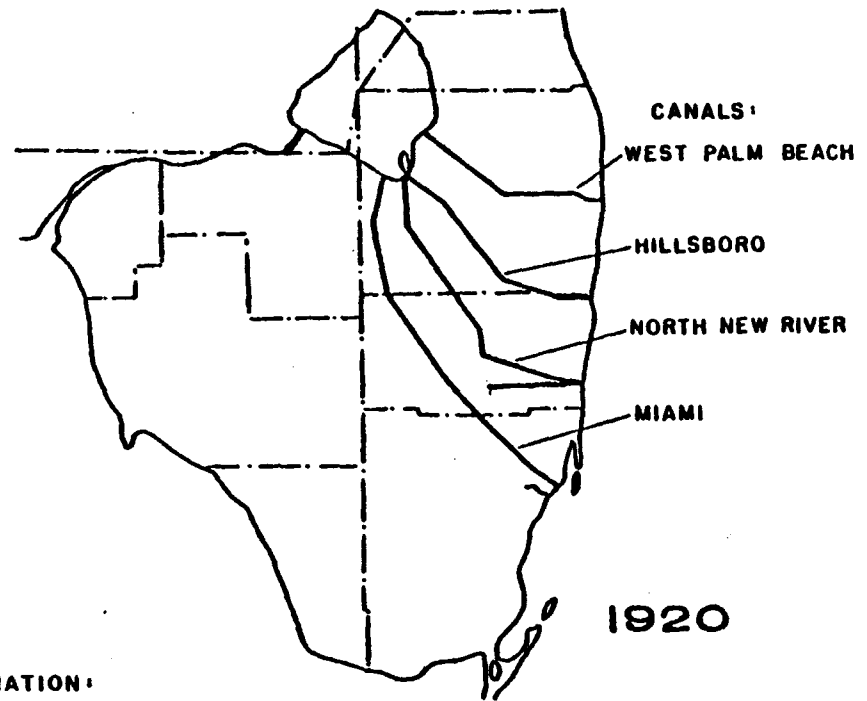
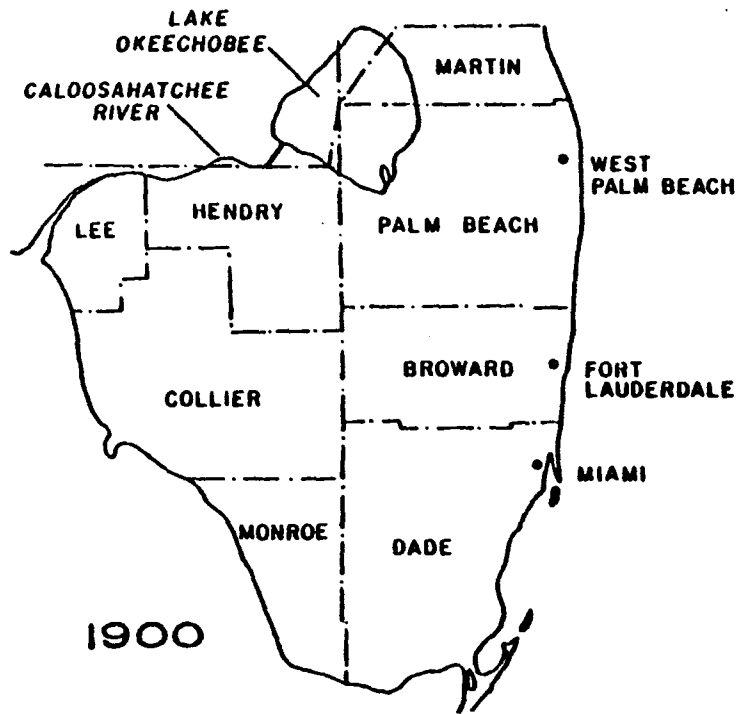
Water Management in South Florida. Despite extensive modifications in the Loxahatchee River basin, the natural condition of the Northwest Fork of the system makes it relatively unique in south Florida as a natural waterway. Prior to 1900, large portions of the native south Florida environment were inundated during the wet season. Development of the area dictated mechanisms for removal of this water. This resulted in the construction of an extensive drainage system.

The first major canal in south Florida was begun in 1882. This was the Caloosahatchee Canal, a flood control and drainage canal connecting Lake Okeechobee with the Caloosahatchee River to the west. In 1905, the Florida Legislature established the Everglades Drainage District and by 1921 the Miami, North New River, Hillsboro, and West Palm Beach canals had been constructed for land drainage and "reclamation" purposes. Between 1916 and 1924, the St. Lucie Canal was excavated to regulate the water level of Lake Okeechobee. The first levee along the south and east sides of Lake Okeechobee was completed in 1924, but it was destroyed by the hurricanes of 1926 and 1928. A replacement, Hoover Dike, was in place by 1938 and has subsequently been enlarged several times. Since the 1920's numerous other major and minor canals have been built, and the natural pre-1900 drainage patterns in the Everglades and along the east coast of south Florida have been thoroughly distorted. These canals have also lowered ground water levels by several feet in southeast Florida.

After the Central and Southern Florida Flood Control District was formed in 1949, one of their initial major projects was the enclosure of conservation areas. This project began in the early 1950's and the impoundments were essentially completed by 1967. These large reservoirs are manipulated through a complex system of canals and control structures to remove and/or temporarily store flood water during the wet season and then disburse it during the dry season.

C-18 Canal System. Canal 18 was constructed in 1958 with a design capacity of 30 percent standard project flood to provide increased drainage and flood protection for adjacent agricultural lands, manufacturing firms, and the J.W. Corbett Wildlife Management Area. The system supplanted and augmented earlier drainage works. Canal 18 and Structure 46, the control structure at the mouth of the canal, drain a 106 square mile area into the Southwest Fork of the Loxahatchee River. The C-18 drainage area includes the northern section of the Loxahatchee Slough and lands west of the Slough. This area comprises over 50 percent of the total Loxahatchee River basin.

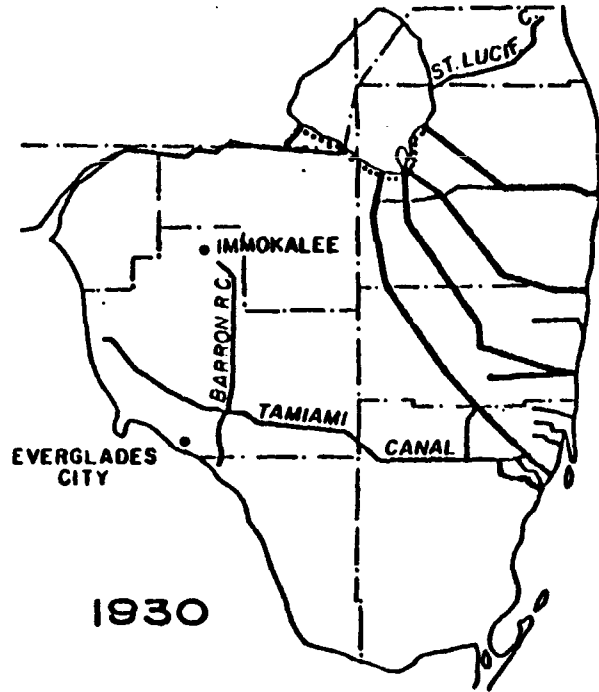
The alteration of the historic water flows in the Loxahatchee River basin has endangered a unique and scenic river ecosystem. Historically the Loxahatchee Slough remained inundated for much of the year. Water levels rose during the rainy season and, owing to Florida's flat topography, drained off gradually as a shallow sheet flow during the dry season. The introduction of an extensive drainage system has resulted in surface waters



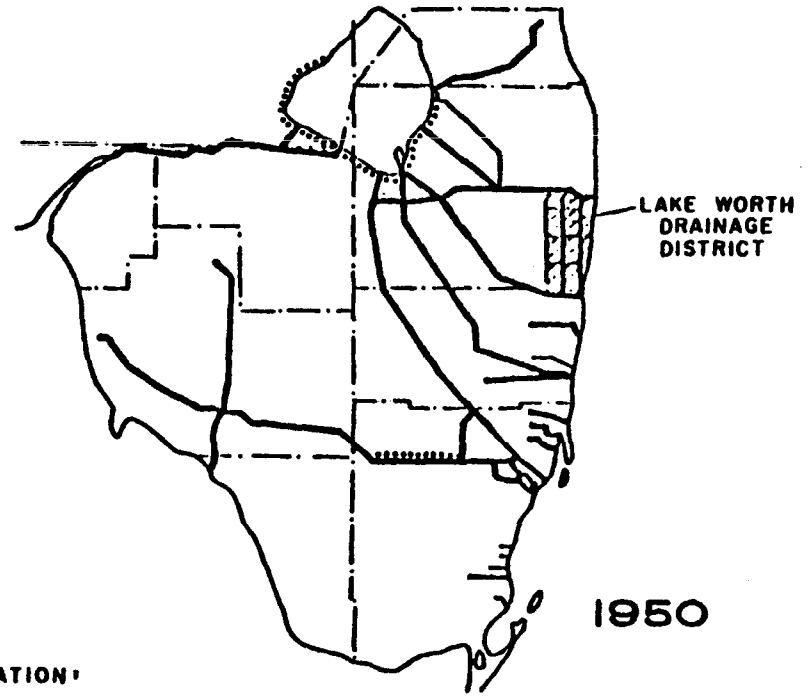
**EXPLANATION:**  
— MAJOR CANAL EXISTING AT GIVEN DATE  
— NEW CANAL SINCE LAST DATE

Historical Development of the South Florida Canal System

Source: Klein et al, 1975



1930

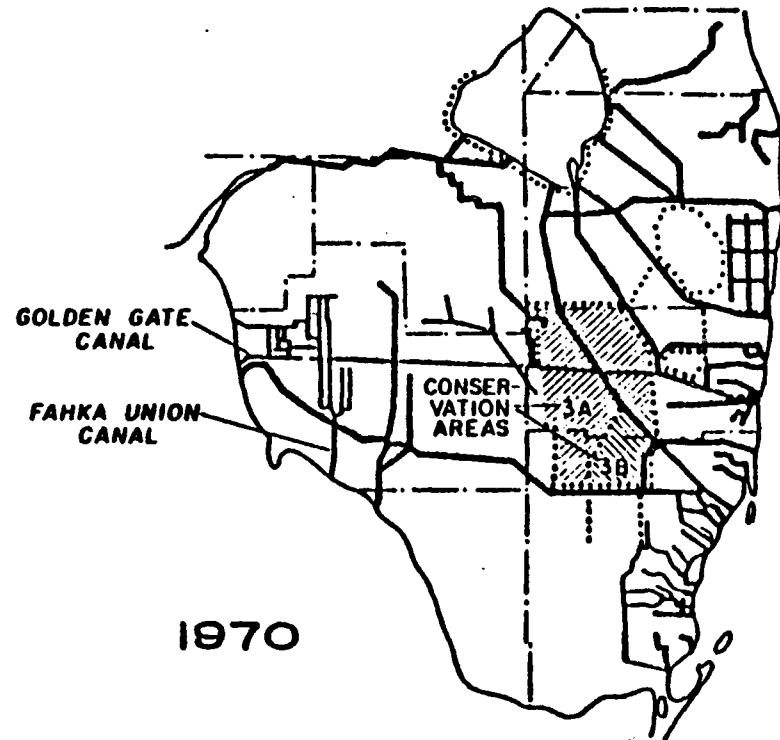
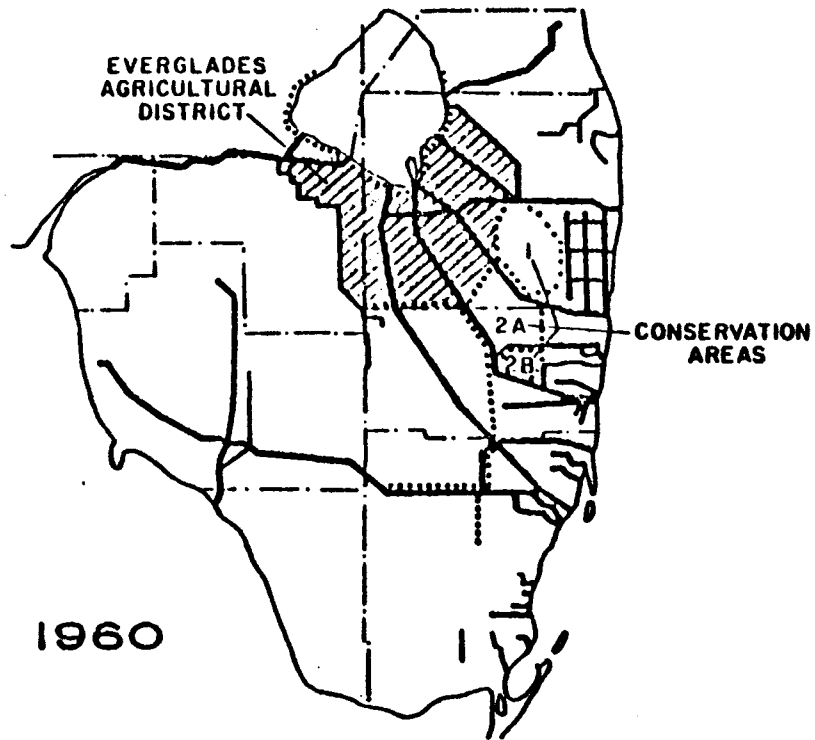


1950

**EXPLANATION:**

- MAJOR CANAL EXISTING AT GIVEN DATE
- NEW CANAL SINCE LAST DATE
- .....** MAJOR LEVEE





- EXPLANATION:
- MAJOR CANAL EXISTING AT GIVEN DATE
  - NEW CANAL SINCE LAST DATE
  - ..... MAJOR LEVEE

being transported rapidly to tide. The period of surface flooding has been reduced to only three or four months, about half the length of the historic hydroperiod. As a result, the recharge of shallow aquifers has been decreased and ground water levels have been lowered.

The C-18 Canal System was modified in 1972 by the placement of a culvert to divert up to 50 cubic feet per second (cfs) of water to the Northwest Fork of the Loxahatchee River. The South Florida Water Management District, which is responsible for the management of the C-18 Canal System, agreed with the Loxahatchee Environmental Control District (ENCON) and the South Indian River Drainage District to provide this additional freshwater input to the Northwest Fork in order to preserve the reach of the river from Indiantown Road to the junction of Cypress Creek. The additional flow was intended to prevent the migration of saltwater further upstream. Discharge through the culvert has averaged 21 cfs resulting in the diversion of millions of gallons from C-18 to the Northwest Fork to benefit the freshwater vegetation community in the middle reach of the river. However, since Canal 18 has little storage capacity, no deliveries can be made during drought conditions. The modification of the original project, while successful to a great extent, has not achieved the goal of a guaranteed minimum flow to protect the freshwater character of the Northwest Fork.

Another concern is focused on the kind and amount of suspended sediment transported to the Loxahatchee River estuary by Canal 18. There is concern that the settling of this sediment in the estuary might smother benthic life and alter circulation patterns. To answer this and other questions related to water resources, water quality, estuarine mechanics, and the estuarine environment, the U.S. Geological Survey is currently conducting a comprehensive investigation of the river system. The results of this study will provide managers of the river with baseline data for making management decisions.

The U.S. Army Corps of Engineers is currently conducting a study of the C-18 Canal System to formulate plans for water supply, flood control, and maintenance of environmental quality in the river basin. The condition of the Northwest Fork is an important consideration in the ongoing Corps of Engineers study.

### Water Quality

Existing water quality data which has been collected at various stations on the Loxahatchee River is not comprehensive enough to conclusively assess water quality; however, data currently available indicate water quality is good. Currently water quality information is being collected by the U.S. Geological Survey, the U.S. Army Corps of Engineers, and other agencies. Upon completion, these studies will provide much more in depth information than is currently available.

Water quality in portions of national wild and scenic rivers that are designated "wild" must meet or exceed federal criteria or federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming) except where exceeded by natural background

TABLE 2

## WATER QUALITY CRITERIA AND FIELD SAMPLING DATA

Federal/State Criteria		Loxahatchee River				
		River Bend Park River Mile 13	Cypress Creek River Mile 9.5	Kitching Creek River Mile 8	Jonathan Dickinson State Park River Mile 6.5	At North Fork Bridge
Fecal Coliforms 14/100 ml. maximum Federal 14/100 ml. maximum State	<u>Mean</u>	145.0	No Date Available	10.0	193.0	15.16
	<u>Maximum</u>	145.0		10.0	350.0	46.0
	<u>Minimum</u>	145.0		10.0	49.0	2.0
Temperature (centigrade) 29.6°C maximum	<u>Mean</u>	25.6	21.0	21.6	22.0	23.0
	<u>Maximum</u>	27.0	21.0	22.2	22.0	23.0
	<u>Minimum</u>	25.0	21.0	21.0	22.0	23.0
Dissolved Oxygen Minimum 5mg/L Federal Minimum 4mg/L State	<u>Mean</u>	5.2	6.8	7.8	9.4	9.4
	<u>Maximum</u>	6.0	6.8	7.8	9.4	9.4
	<u>Minimum</u>	4.3	6.8	7.8	9.4	9.4
pH 6.5 - 8.5pH units	<u>Mean</u>	7.5	7.0	7.3	7.4	7.75
	<u>Maximum</u>	8.1	7.0	7.4	7.5	7.8
	<u>Minimum</u>	6.2	7.0	7.2	7.3	7.7

Source: EPA STORET Data File, May 1979; Florida Administrative Code, Chapter 17.3

conditions. "Scenic" and "recreational" portions of a designated river have no water quality criteria prescribed in the National Wild and Scenic Rivers Act. However, the Federal Water Pollution Control Act Amendments of 1972 have established a national goal that all waters of the United States be made fishable and swimmable by July 1, 1983.

Water quality criteria established by the Environmental Protection Agency in 1972 include parameters such as aesthetics, microbiological considerations, temperature, pH, and dissolved oxygen (DO) levels. The State of Florida's water quality criteria, established by Chapter 17.3 of the Florida Administrative Codes, is stricter in the areas of fecal coliforms and dissolved oxygen levels. To meet aesthetic criteria the river must be free from matter that settles to form objectionable deposits, floating debris, oil or scum, substances producing objectionable color, odor, taste or turbidity, and substances or conditions producing undesirable aquatic life. Failure to meet the established water quality criteria will not preclude a river from scenic or recreational classification at the time of the study, provided a water quality improvement plan exists or is being developed.

A major water quality concern is the interrelationship of the C-18 canal and the Loxahatchee River. The natural hydroperiod of the river has been altered, resulting in threats to the unique and scenic qualities of the river. When drought or low rainfall conditions exist and the water supply from the C-18 to the Loxahatchee River is diminished, brackish water moves further upstream.

A second major water quality concern is the high level of fecal coliforms in portions of the river. This is partially due to runoff from agricultural and pasture lands and the lack of sufficient movement of water.

Criteria for Class II waters (Florida Administrative Code, Chapter 17.3):

<u>Parameter</u>	<u>Limitation</u>
Bacteriological Quality (total coliform bacteria and fecal coliform bacteria)	The medium coliform MPN (most probable number) of water shall not exceed seventy (70) per one hundred (100) milliliters, and not more than ten (10) percent of the samples shall exceed an MPN of two hundred and thirty (230) per one hundred (100) milliliters. The fecal coliform bacteria level shall not exceed a median value of fourteen (14) MPN per one hundred (100) milliliters with not more than ten (10) percent of the sample exceeding forty three (43) MPN per one hundred (100) milliliters.
Dissolved Oxygen (DO)	The concentration in all waters shall not average less than five (5) milligrams per liter (mg/L) in a twenty four (24) hour period and shall never be less than four (4) mg/L. Normal daily and seasonal fluctuations above these levels shall be maintained.

The Loxahatchee has been classified a Class II river. Waters under this classification are suitable for shellfish propagation or harvesting and surface water supply.

### Vegetation

The first detailed account of plant communities in southeastern Florida was given by Jonathan Dickinson in 1699. He noted in his journal the presence of freshwater marsh, swamp, and mangrove communities. Modern botanists have noted the "massive deterioration" of the natural vegetation in the region due to increased urbanization and water management practices (Richardson 1977).

The Northwest Fork of the Loxahatchee River represents a last vestige of the native vegetational communities of southeast Florida. Most of the native bald cypress (*Taxodium distichum*) in southern Florida was harvested by the lumber industry by the 1930's and only isolated strands of cypress exist in places which were extensive forests. The cypress river-swamp community on the Northwest Fork of the Loxahatchee River remains largely intact from the pressures of lumbering and urban development. Many specimens along this reach of the river range from 300-500 years in age, representing an irreplaceable ecological and scenic resource.

The cypress river-swamp community of the Northwest Fork extends for a 4-mile segment along the river from Indiantown Road to approximately river mile 9. Originally extending further downriver the freshwater cypress river-swamp community has receded and a more saline tolerant mangrove community has migrated upriver due to increased saltwater intrusion from the estuary (Alexander 1975). Dead cypress trees towering amid dense mangroves along this section of the river bear witness to the former character of the river. Along tributaries of the Northwest Fork within Jonathan Dickinson State Park (Kitching Creek, Cypress Creek, and Moonshine Creek), the native cypress communities still exist.

The cypress river-swamp community along the Northwest Fork exhibits high species diversity due to the overlap of tropical and temperate zones. Along with cypress, the floodplain harbors maple, water hickory, cabbage palm, pond apple, water oak, and cocoplum. Tropical vegetation such as wild coffee, myrsine, leather fern, and cocoplum may be found along with water ash, water hickory, red bay, royal fern and buttonbush, which are considered to be examples of more northern flora. Abundant ferns, bromelads and orchids enhance the lush tropical environment of this reach of the river.

The slightly elevated areas which border the Loxahatchee River are dominated by pine. These are primarily south Florida slash pine which are widely scattered and provide very little canopy. More abundant in these areas is the saw palmetto. Also common are areas of dwarfed and gnarled scrub oak, and many herbs and grasses. Major grasses include wire grass and broom sedge. Pennyroyal, pine lily, and rabbit tobacco may be found under the shade of the pines.




Red mangroves dominate the river banks from river mile 9 to river mile 6. Below the Jonathan Dickinson State Park to the mouth of the river at Jupiter Inlet very little native vegetation remains due to residential and commercial development along the river banks.

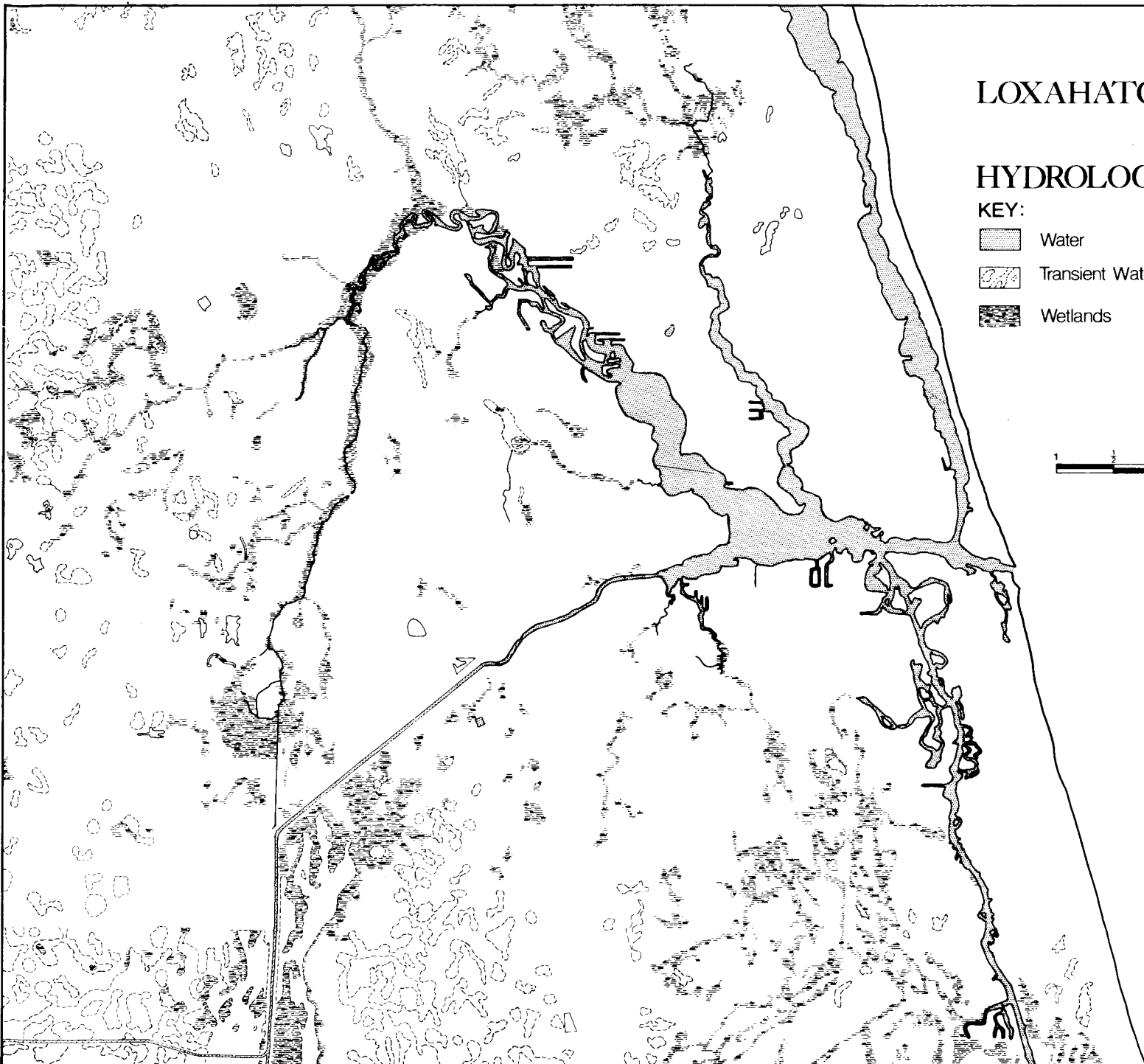
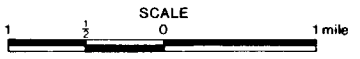
# LOXAHATCHEE RIVER

Wild & Scenic River Study



## HYDROLOGY

- KEY:
-  Water
  -  Transient Water
  -  Wetlands













## Fish and Wildlife

The expansiveness and diversity of habitats occurring in or adjacent to the Loxahatchee River has attracted and continues to support many species of native animals. This is apparent to the canoeist on the Northwest Fork who encounters numerous animals at the waters edge as well in the water itself. These include such common species as racoon, opposum, turtles, and an occassional deer as well as rare species such as the bald eagle, osprey, red-cockaded woodpecker and the West Indian manatee.

Two hundred sixty-seven species representing 169 genera and 78 families have been recorded in the Loxahatchee River and its estuary (Christensen, 1965). These include temperate, tropical, and pelagic gulf stream species due to location of the river in a faunal boundary area.

Certain of these species are of special concern because of their appearance on the lists compiled by the Florida Committee on Rare and Endangered Plants and Animals. These include:

Gopher Tortoise	- threatened
American Alligator	- species of special concern
Eastern Indigo Snake	- species of special concern
Wood Stork	- endangered
Red-cockaded Woodpecker	- endangered
Brown Pelican	- threatened
Osprey	- threatened
Florida Sandhill Crane	- threatened
Florida Scrub Jay	- threatened
Bald Eagle	- threatened
Little Blue Heron	- species of special concern
Great Egret	- species of special concern
Snowy Egret	- species of special concern
Louisiana Heron	- species of special concern
Black-crowned Night Heron	- species of special concern
Yellow-crowned Night Heron	- species of special concern
Least Bittern	- species of special concern
Glossy Ibis	- species of special concern
White Ibis	- species of special concern
Manatee	- threatened

## Endangered and Threatened Species

Plants or animals included on the federal list of endangered species and known to occur as residents or migrants to the Loxahatchee River study area are: bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), brown pelican (*Pelecanus*), Florida everglade kite (*Posthramus sociabilis plubeus*), eastern indigo snake (*Drymarchon corais couperi*), West Indian manatee (*Trichechus manatus*), and the American alligator (*Alligator mississippiensis*).

In addition, the entire Loxahatchee River has been designated as a critical habitat for the West Indian (or Florida) manatee by the U.S. Fish and Wildlife Service.

The National Park Service has completed a biological assessment analyzing the impacts of the proposed action on endangered and threatened species as required by the 1973 Endangered Species Act, as amended. The National Park Service concluded that the proposed actions would have beneficial effects on endangered species in the area. The U.S. Fish and Wildlife Service has concurred that the proposals will have no effect on the continued existence of listed endangered or threatened species. However, if the river is designated, the proposed State-administering agency would reevaluate effects on endangered or threatened species during development of a river management plan.

### Geology

The Loxahatchee River study area is divided into three physiographic regions: the Atlantic Coastal Ridge, Eastern Flatlands, and Everglades.

The Atlantic Coastal Ridge parallels the coast and extends inland 2 to 3 miles. This is the only part of the study that has any noticeable relief or slope with elevations on the ridge ranging from 35 to 50 feet above sea level. The geological development of Florida and the eastern portions of Palm Beach and Martin Counties resulted in the shallow Anastasia rock formation which forms the backbone of the Atlantic Coastal Ridge. This formation is underlain by the Tamiami and Fort Thompson formations and the Caloosahatchee Marl.

The Eastern Flatlands lie between the Atlantic Coastal Ridge and the Everglades. Elevations in this area range from 110 to 20 feet above sea level. The area consists mostly of pine and palmetto flatwoods with numerous small ponds and shallow depressions.

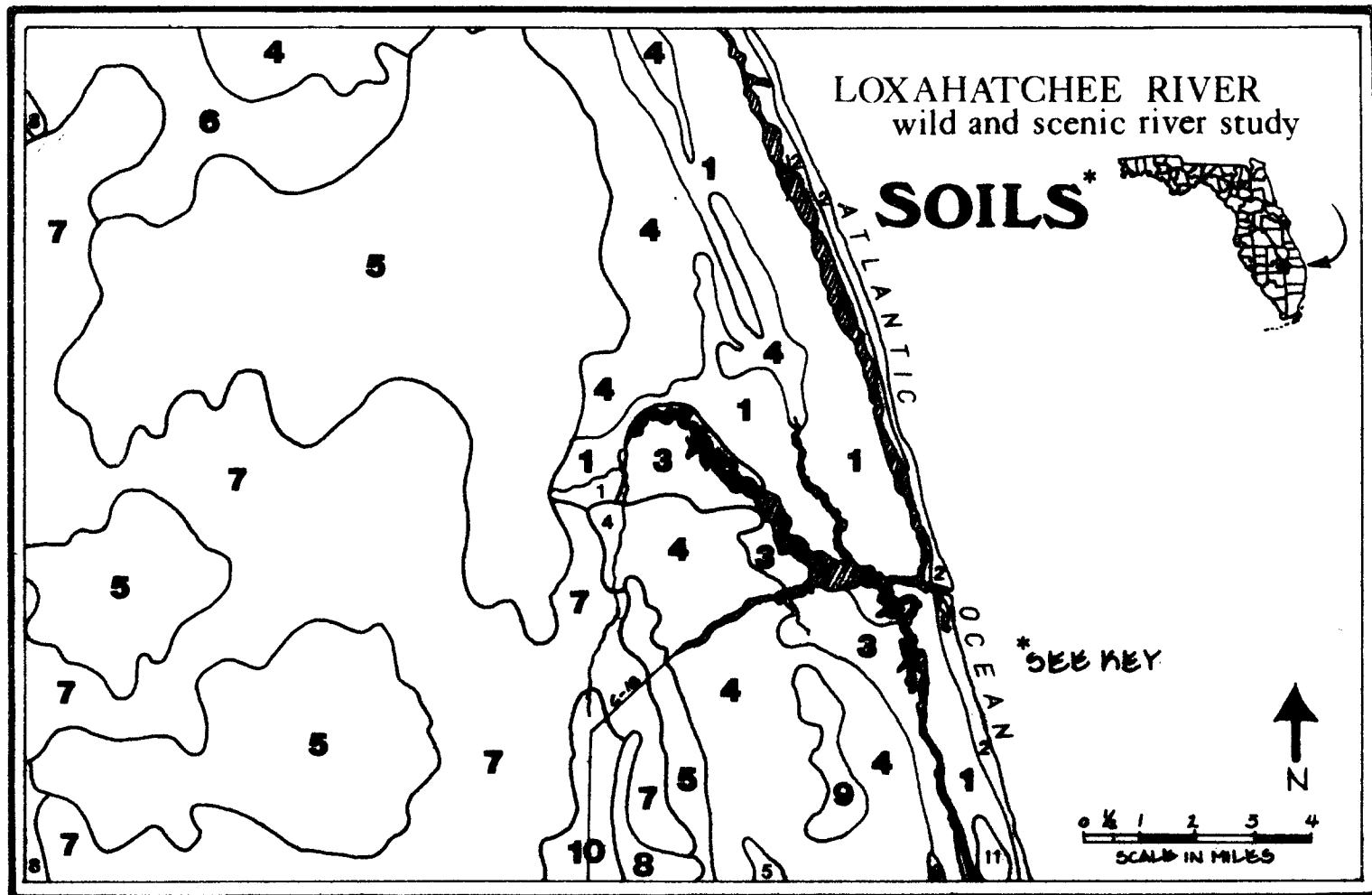
The Everglades region includes a portion of the study area drained by the C-18 Canal System. This area is a nearly level, generally treeless, sawgrass marsh that has an elevation of only 14 to 16 feet above sea level. Under natural conditions water inundates the surface for months and only during extremely dry seasons is the surface exposed. The soils are organic and are underlain by limestone at a depth that ranges from 2 to 8 feet. Drainage of much of the Everglades region in the Loxahatchee basin has resulted in changes to the native vegetation, hydrologic regime, and soils.

### Soils

There are three basic types of soil in the study area:

- 1) Sandy, droughty soils not subject to flooding;
- 2) Moderately well to poorly drained soils not subject to flooding;  
and
- 3) Poorly and very poorly drained soils subject to flooding.

The soils map indicates the general location of these soil types and groups soil types into various associations (see key). Along the north bank of the river from the mouth through the Jonathan Dickinson State Park, soils of the St. Lucie, Urban Land-Paola Association are dominate. These soils are nearly level to sloping, excessively drained and sandy. In this same area



along the southern banks of the river soils of the Pomello-Immokalee Association dominate. These soils are gently sloping, moderately well drained and sandy, with weakly cemented sandy subsoil.

Between the boundary of the Jonathan Dickinson State Park and the area of the Florida Turnpike, the Myakka Immokalee-Basinger Association is dominate on both sides of the river. These soils are nearly level, poorly drained and sandy. South of the Florida Turnpike to the area where the river becomes channelized, the Riviera Association dominates. These soils are nearly level, poorly drained and sandy with loamy subsoil. The Loxahatchee Slough area contains the poorly drained Winder-Tequesta Association which is characterized by long periods of flooding.

An inventory of prime and unique farmland conducted by the U.S. Department of Agriculture indicated that there are no soils within Palm Beach and Martin Counties which meet the criteria for designation as prime farmland or prime forest land.

#### Mineral Resources

Mining in the study area is limited to several inoperative gravel pits. There are no known oil, gas, phosphate, or other commercially significant mineral deposits, present in the study area.

## KEY TO LOXAHATCHEE SOIL ASSOCIATIONS MAP

### AREAS DOMINATED BY SANDY DROUGHTY SOILS NOT SUBJECT TO FLOODING

1. ST. LUCIE, URBAN LAND-PAOLA ASSOCIATION: Nearly level to sloping, excessively drained soils, sandy throughout; much of which has been developed for urban uses.
2. PALM BEACH, URBAN LAND-CANAVERAL ASSOCIATION: Nearly level to sloping long narrow ridges of excessively and moderately well drained soils, sandy throughout; much of which has been developed for urban uses.

### AREAS DOMINATED BY MODERATELY WELL TO POORLY DRAINED SOILS NOT SUBJECT TO FLOODING

3. POMELLO-IMMOKALEE ASSOCIATION: Nearly level to gently sloping moderately well and poorly drained sandy soils with weakly cemented sandy subsoil.
4. MYAKKA-IMMOKALEE-BASINGER ASSOCIATION: Nearly level poorly drained sandy soils with weakly cemented sandy subsoil and poorly drained soils, sandy throughout.
5. WABASSO-RIVIERA-OLDSMAR ASSOCIATION: Nearly level poorly drained sandy soils with a weakly cemented sandy subsoil layer underlain by loamy subsoil and poorly drained sandy soils with loamy subsoil.
6. OLDSMAR-WABASSO-EAU GALLIE ASSOCIATION: Nearly level poorly drained sandy soils with a weakly cemented sandy subsoil layer underlain by loamy subsoil and poorly drained soils with very thick sandy layers over loamy subsoil.

### AREAS DOMINATED BY POORLY AND VERY POORLY DRAINED SOILS SUBJECT TO FLOODING

7. RIVIERA ASSOCIATION: Nearly level poorly drained sandy soils with loamy subsoil.
8. RIVIERA-BOCA ASSOCIATION: Nearly level poorly drained sandy soils with loamy subsoil and poorly drained sandy soils with loamy subsoil, underlain by limestone.
9. BASINGER ASSOCIATION: Nearly level poorly drained soils, sandy throughout.
10. WINDER-TEQUESTA ASSOCIATION: Nearly level poorly drained soils with thin sandy layers over loamy subsoil and very poorly drained soils with thin mucky surface layers over sands, underlain by loamy subsoil.
11. TERRA CEIA ASSOCIATION: Nearly level very poorly drained, well decomposed organic soils more than 51 inches thick.
12. TIDAL SWAMPS ASSOCIATION: Nearly level very poorly drained soils subject to frequent flooding by tidal waters.

## Air Quality

Currently transportation activities represent the largest source of air pollution in the study area. The most widely distributed and most commonly occurring air pollutant is carbon monoxide (CO). The National Ambient Air Quality Standards (NAAQS) for carbon monoxide have been established by the federal government as 35 parts per million (ppm) maximum 1-hour concentration, and 9 ppm maximum 8-hour concentration. In August 1980, the U.S. Environmental Protection Agency proposed the maximum 1-hour concentration be changed from 35 ppm to 25 ppm.

Air quality data for the immediate study area has not been collected. The closest permanent air quality monitoring station is located in downtown West Palm Beach, a heavily congested area. The 1-hour maximum CO concentration for this monitoring station, in 1975, was 8.6 ppm, while the 8-hour maximum was 5.0 ppm. Because the monitoring site is in an area which is more developed than the study area and CO is a highly localized pollutant that is usually detected in high concentrations near the emission source, the CO levels recorded cannot be considered representative of the study area. It is reasonable to assume that ambient CO concentrations within the project corridor are lower than those at the monitoring station. According to the U.S. Environmental Protection Agency's "Guidelines for Air Quality Maintenance Planning and Analysis Volume 9: Evaluating Indirect Sources," a background CO concentration level of 1 ppm can generally be assumed for rural areas. CO concentrations in the study area probably fall between the Palm Beach readings and the background level for rural areas (1 ppm - 8.6 ppm).

In the area where the Florida Turnpike and the proposed I-95 route cross the river, slightly higher levels of CO are probable. However, according to the final Environmental Impact Statement (EIS) prepared by Florida's Department of Transportation, for I-95, there will be no violations of either the 1-hour or the 8-hour NAAQS. The EIS projects that in the year 2000, 1-hour concentrations of CO at the river crossing will be 7.2 ppm and 8-hour concentrations will be 4.3 ppm.

There is a NAAQS for airborne lead, but no Florida urbanized area was listed by the U.S. EPA as exceeding the 1975 standard. The average lead content in gasoline will be reduced by 91 percent between 1975 and 1985, which will greatly reduce airborne lead levels.

While no serious air quality problems currently occur in the study area, further development may increase concentrations of CO and other air pollutants.

## Climate

The stable, temperate/tropical climate of the study area is a result of its southerly location and marine influences. Summer temperatures are generally tempered by the ocean breeze. August is the warmest month usually having over 20 days with temperatures above 90 degrees. The average temperature for the summer months is approximately 82 degrees. Even in the coldest winters, temperatures which reach the freezing point are rare. The average winter time temperature is approximately 66 degrees.

Air in the study area is moist and unstable. These characteristics lead to frequent rain showers, usually of short duration. During the summer months, thundershowers can be expected on the average of every other day. The total annual average rainfall is approximately 61 inches. However, most of this rainfall occurs during the rainy season from June through October.

Prevailing winds are east/southeast with an average velocity of approximately 10 miles per hour.

### Archaeology and History

Jupiter Inlet has been known by several names throughout its existence. First, the inlet was known as Hobe or Jobe for a tribe of aboriginal Jeaga Indians who lived near the inlet. The English interpretation of Jobe was Jove, which later became Jupiter.

Later in history, Indians which became known as Seminoles began drifting into north Florida as a result of pressures from the white men. The Seminoles occupied south Florida during and shortly after the second Seminole War of 1835-1842, which drove them into the swamps and everglades. A battle with the Seminoles reportedly took place on January 24, 1838, in a dense hammock bordering the Loxahatchee River near the present Indiantown Road. This is referred to as "Jessup's Battle" after the commanding officer of the force pursuing the Seminoles.

Early in January 1838 General Thomas Jesup marched south with about 1,200 men in search of the Seminoles who had clashed with an amphibious patrol near Jupiter Inlet. On the 24th, Jesup's column encountered about 150 Seminoles and their black allies, at a crossing of the Loxahatchee, some 6 miles above where it discharges through Jupiter Inlet. A brief but savage fight ensued, during which General Jesup was slightly wounded, and 7 of his soldiers killed and 31 wounded. The Indians and their allies fought with the usual skill and determination, and retired with slight losses. The next day, the 25th, the soldiers erected an enclosure, which they named Fort Jupiter, where they remained for a week. They then moved forward a day's march and camped. Both during and following the seven years war, many Seminoles were removed to the Indian Territory, present day Oklahoma.

The name Loxahatchee originated from the two Seminole words, "Lowchow" meaning turtle and "Hatchee" meaning river. The spelling was changed from Lowchowhatchee to Lochahatchee by General Jesup in letters he wrote while serving at Fort Jupiter. In later years the spelling was again revised to Loxahatchee by a workman painting a barge who had difficulty spelling the previous version.

The Florida Master Site File lists Jonathan Dickinson State Park, Jupiter Inlet Midden 1 and Jupiter Inlet Midden 2 as archaeological sites and Jupiter Inlet Lighthouse as an historical site. Jupiter Inlet Middens 1 and 2 are large shell mounds created by the original inhabitants of the area. Midden 1 is irregular in shape because much of it was borrowed for use as road foundations. At one time, it was 600 yards long and 20 feet high. In addition, an indian mound has been identified along the Loxahatchee River between Indiantown Road and the Florida Turnpike.



The site of the Trapper Nelson's zoo also lies within the boundaries of the Jonathan Dickinson State Park. Trapper Nelson was born in New Jersey in 1909. Dislike for the bitter northern winters caused Trapper to move to Florida while still in his teens. Because of disgust with civilization, Trapper abandoned his original beach settlement near Jupiter and moved to a wilderness area on the Northwest Fork of the Loxahatchee River. There he started to develop what was to become a nationally famous zoo after laws restricted him to trapping on a seasonal basis. Trapper Nelson's large land holdings made him a millionaire soon after World War II. Problems associated with wealth and the closing of his zoo by health officials turned Trapper into a recluse. After this, he accepted visitors by appointment only and discouraged trespassers with a shotgun. In 1968, Trapper Nelson was found dead of a shotgun blast and today many people still wonder if he died at his own hands or those of an intruder.

Jupiter Inlet Lighthouse was started on March 3, 1853, when Congress appropriated \$35,000 for the erection of a first class lighthouse near Jupiter Inlet. By the time the light was completed in 1860, nearly twice the original \$35,000 had been spent. This was mainly due to the high cost of transporting construction materials to the area.

Initially, because of the opposition of local Indians it was very difficult to operate the lighthouse. During the Civil War, confederate sympathizers removed the light mechanism and hid it in Jupiter Creek until 1866. During a 1928 hurricane, a magnifying Bullseye lens was blown out. Because the lens was impossible to duplicate the lighthouse keeper, Captain Seabrook, salvaged every piece and had it reconstructed in Charleston.

### Population

The Loxahatchee River is located in a two-county area undergoing explosive population growth. Population growth and characteristics found in this area are typical of that found in the coastal regions of Florida. The main component of this growth has been immigration by retirees and others from mid-western and northeastern states.

The State, as a whole, experienced a 41 percent increase during the past decade. However, the two-county study area grew by a staggering 63 percent to a 1980 total of 615,000 people. Growth rates of nearby metropolitan areas are even greater. Ft. Lauderdale-Broward County on the southern boundary of Palm Beach County is the fastest growing SMSA in the entire nation. Most of this population growth has occurred within 5 miles of the coastline and east of Florida's Turnpike. However, as developable coastal lands have become scarce, a westward movement of the population is occurring, especially in the Lake Worth-West Palm Beach area southeast of the Loxahatchee basin.

The major portion of growth in the municipalities of the Loxahatchee River basin has occurred since 1960. Juno Beach doubled its size between 1960 and 1970 and again between 1970 and 1978. Tequesta, the second largest municipality in the planning area, had a 50 percent increase in population in the 1970 to 1978 period. Although not as large in total population, Jupiter Inlet Colony has experienced growth rates higher than that of Palm

Beach County for comparable periods. Jupiter is the largest municipality in the planning area at over 8,000, and has experienced similar growth rates.

There are indications that growth rates in the study area are moderating. Most of the growth in residents occurred during the first half of the 1970's when increases ranged from 5 to 9 percent annually. Growth rates in Palm Beach County during 1977 and 1978 were estimated at 2 to 3 percent annually. This decrease may be attributable to slow growth in the national economy, increasing land costs as prime sites become exhausted, and increasing regulation by local government to insure adequate water, sewer, and drainage services.

Although growth rates are diminishing, migration into the study area can be expected to continue for the foreseeable future (see Population Projections Table 3). Population projections for this region are made more difficult due to the need to estimate seasonal residents and tourists; groups which are substantial population component. Different growth projections have been made for the Loxahatchee River Planning Area by the Area Planning Board and the Loxahatchee Environmental Control District. Both projections indicate that the 72 square-mile area surrounding the river will have 100,000 inhabitants by the year 2000.

TABLE 3

Population Change 1970-80, U.S. and Study Area

	<u>1970</u>	<u>1980</u>	<u>% Change</u>
United States Total	203,302,000	224,478,000	+ 10.9%
Florida Total	6,791,000	9,579,000	+ 41 %
9 County - Southeast Florida (BEA Region 43)	2,372,024	3,456,724	+ 45 %
2 County - Study Area	377,000	615,000	+ 63 %

Source: 1980 U.S. Census of Population and Housing  
Preliminary Report

TABLE 4  
POPULATION PROJECTIONS

	1985	1990	2000	2020
Florida	10,190,000 <sup>1/</sup>	11,114,000	12,682,000	17,238,000
Southeast Florida (BEA Region 43)	3,677,000 <sup>1/</sup>	4,023,000	4,611,000	6,233,000
Martin County	77,700 <sup>2/</sup>	89,000	110,500	N/A
Palm Beach County	764,000 <sup>3/</sup>	967,000	1,297,000	N/A
Loxahatchee River Planning Area (72 sq. mi.)	41,955 <sup>3/</sup>	62,709	101,062	N/A

Source: <sup>1/</sup> 1978 Bureau of Economic Analysis Projections, U.S. Department of Commerce

<sup>2/</sup> Martin County Planning Department

<sup>3/</sup> 1979 Projections, Area Planning Board of Palm Beach County

### Economy

The Loxahatchee River flows through two counties--Martin and Palm Beach. Consequently, changes in the management or use of this river would have the greatest impact on the economy of these counties.

The region's economy can be broadly characterized as follows:

1. The area has experienced rapid economic growth due to immigration.
2. Residents are affluent having per capita incomes above the national average.
3. The area economy is dominated by the residential construction industry and the tourist industry--both very cyclical and unpredictable industries.
4. High-technology manufacturing firms are increasing in number and importance.
5. Agriculture is a substantial sector of the economy and is holding steady in employment and production.

The distribution of economic activity and employment generally follows the geographic distribution of population. The cities along the coast, Stuart, Jupiter, Palm Beach Gardens, West Palm Beach and Boca Raton, all serve as centers of primarily service-related economic activity. The only major

exception to this distribution of economic activity is the Pratt and Whitney Aircraft Engine Test Facility located 8 miles west of the river corridor. This facility is the largest single employer in the study area with 5,000 employees.

Income and Employment. The study area has experienced, since 1960, rapid economic growth marked by periods of severe recession. The magnitude of those economic cycles exceeded the experience of the Nation as a whole. This is attributable to a regional economy that relies heavily on construction activity and tourism as basic industries. These sectors are very sensitive to national economic trends.

Personal per capita income is an indicator of living standards and welfare. It can be defined as that part of income to the region that people take home in the form of personal earnings from all sources before taxes. It is in essence, the reward for supplying input, particularly labor, to the production process. Personal or per capita income in the study area has grown rapidly and now exceeds the national average. Estimated 1977 per capita income in Martin County was \$5,882 and in Palm Beach County was \$7,554. These figures represent approximately 100 percent increases over 1970 levels in the two counties. This change is largely the result of massive immigration of affluent residents. Many of these new residents are retirees. Supporting this statement is the fact that many residents receive a significant amount of "unearned" income or transfer payments. In 1975, there were over 114,000 people in Palm Beach County alone receiving social security payments.

Employment in the study area has been generally increasing since the 1960's. Approximately 220,000 people were employed in Palm Beach County and 20,000 in Martin County during 1980. Unemployment rates in early 1981 stood at an average of 5.7 percent in the two counties.

Economic Base. The basic sector of the economy consists of those activities which arise in response to outside forces. Industries composing the economic base of a region are those which serve as suppliers or exporters of goods and services to firms or consumers located outside the region. Presumably, basic economic activities reflect the advantages of the local economy over other regions in the Nation. The non-basic sector consists of firms that provide support services for firms and employees in the basic sector. The most recent and detailed economic base information is for Palm Beach County. Since this county has roughly ten times the population and economic activity of Martin County, data for Palm Beach County will be used to profile the economic structure of the region.

In Palm Beach County, the following classifications can be made: Basic Industries--agriculture, manufacturing, construction, finance, insurance, real estate and tourism; Non-basic Industries--transportation, trade, services (excluding tourism); and government.

In 1980, employment in Palm Beach County was distributed among the various economic sectors as follows:

- 1) Agriculture - 6.3%
- 2) Construction - 7%
- 3) Manufacturing - 11.3%
- 4) Transportation, communication and utilities - 3.7%
- 5) Wholesale and Retail Trade - 25.3%
- 6) Finance, Insurance and Real Estate - 7.5%
- 7) Services - 24.8%
- 8) Government - 14%

Source: U.S. Army Corps of Engineers, Jacksonville District, Economic Base Study for Martin County Study Area and Canal 18 Study Area, Jacksonville, Florida, 1981.

Basic Industries. Agriculture is a major sector of the economy in the two-county study area. Roughly 6 percent of Palm Beach's labor force and 10 percent of Martin County's labor force were employed in agriculture in 1980. This is substantially above the national rate of employment in agriculture. The actual size of the agricultural work force fluctuated from 17,000 to 25,000 between 1967 and 1977 in Palm Beach. Although the work force has increased in number and value of output since 1967, other economic sectors have increased more rapidly. Agriculture has therefore declined in importance in the economy. As urbanization continues, the agricultural sector will probably decline in absolute terms as well as in proportion to other sectors.

Manufacturing is the third largest basic economic sector in terms of personal income generated, trailing behind the service sector and the wholesale and retail trade sector. During the 1960's, a significant number of major manufacturing firms were attracted to the area, locating mainly in Palm Beach County. Industrial growth subsided during the mid-70's economic recession. The manufacturing sector is composed of high-technology firms--aircraft, electronics and communications; and firms producing non-durable goods such as sugar refining and newspaper companies.

The construction industry is a basic economic activity which has had major impacts on the two-county study area since 1960, especially in residential building. Activity in construction has been extremely cyclical with three major advances followed by declines during that period. The most recent and serious collapse in construction activity occurred in 1975 and 1976. Since that collapse, residential construction has substantially recovered toward the historic trend. Preliminary U.S. Census Bureau figures reported 2,377 residential construction permits issued in Martin County and approximately 20,000 permits issued in Palm Beach County during 1980. Demand for residential construction is related to immigration. The construction permit figures indicate that demand for housing is strong enough to sustain new construction even through periods of high interest rates as existed in 1980.

Finance, insurance and real estate have historically been a minor sector of the region's economy. But over the last decade it has experienced fairly steady growth. Growth in this sector is related to growth in construction

and rapid urbanization. This sector can be expected to expand in the future as higher income residents continue to locate in the region and create demand for these services.

Tourism comprises the single largest economic activity in the region. Visitors to Palm Beach County contributed over \$407.5 million to the local economy in 1975. It is somewhat difficult to identify the full extent of the tourist industry because it is expressed in demand for retail goods and services along with locally generated demand that is non-basic in character. In 1980, 24.8 percent of the work force was employed in the service sector and 25.3 percent in the wholesale and retail trade sector. Much of this employment can be attributed to tourist trade. The share of the work force in these sectors has increased historically and should continue to do so.

According to an analysis by the Palm Beach Area Planning Board, service sector employment in actual tourist-related activities has remained stagnant since the mid-70's exhibiting no clear signs of growth. This may be evidence of hesitation on the part of hotels, restaurants, and other firms to expand in the face of uncertainty about tourism due to the energy crisis. Studies by Palm Beach County indicate that 51 percent of the tourists who visit the county obtain lodging in the 326 hotels operating there. The remainder stay with friends or camp or do not stay overnight. About one-third of these hotels are located along the Atlantic Ocean.

#### Land Use

The existing land use and the types of natural terrain surrounding a river are extremely important factors in assessing its qualifications as a wild and scenic river. Land use needs to be examined at two scale levels: a) within the immediate visual corridor of the river where land use and development intrusion affect the river's wild and scenic qualities; and b) within the larger area defined by the watershed of the river where land use affects the hydrology and water quality of the river.

Watershed Land Use. The U.S. Geological Survey has recently published land use data for the Loxahatchee River's hydrologic basin or watershed. The data was based upon color infrared aerial photos taken in March 1979. The watershed covers about 210-square miles and is defined by both topography and manmade features including canals, levees, and roads (see River Basin map and Table 5). About 50 percent of the basin is wetland. The nonforested freshwater wetlands cover 6-square miles mostly in the Loxahatchee Slough at the southern-most part of the watershed. Mixed forested and nonforested wetlands are by far the dominant category and cover 98.5-square miles. This category includes large areas of slash pine and wet prairies. Urban and built-up land covers about 17 percent of the basin. Areas under development account for 38 percent of the total urban land. An extensive area of approximately 17-square miles located immediately southwest of the river has been subdivided and is currently subject to development.

Most of the existing residential land is clustered near the mouth of the river at Jupiter Inlet. This development can be characterized as single family, low to medium density housing. Residential land in 1979 accounted for only 3 percent of the basin. However, the south Florida region is experiencing explosive population growth on the order of 3 to 8 percent



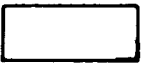
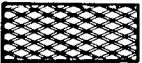
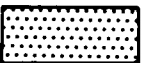

TABLE 5

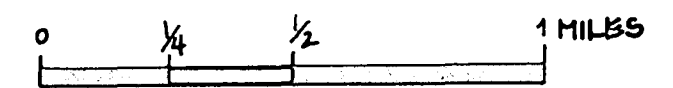
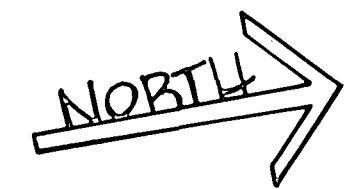
LAND USE AND LAND COVER IN THE LOXAHATCHEE RIVER BASIN, 1979  
(Values in square miles)

Land use and land cover	Subbasin									TOTAL
	1	2	3	4	5	6	7	8	9	
Urban and built up										
Residential	1.5	0.7	0.7	—	—	0.9	1.0	1.2	0.7	6.7
Commercial	.05	—	.05	—	—	—	.03	—	.2	.3
Industrial	.03	—	.03	—	—	—	.07	—	.7	.8
Institutional	—	—	.02	—	—	—	.1	—	—	.1
Transportation	—	—	—	—	0.5	—	.09	.03	1.1	1.7
Open and others	.6	.7	.3	—	—	.2	2.2	10.4	11.2	25.6
TOTALS	2.2	1.4	1.1	—	.5	1.1	3.5	11.6	13.9	35.3
Agriculture										
Cropland	—	—	.9	1.9	1.7	0.8	—	1.3	1.5	8.1
Pasture	—	—	6.1	1.7	1.4	.4	1.4	1.4	9.3	21.7
Orchards, groves	.01	.02	.6	—	4.3	—	.01	.02	2.7	7.7
Confined feeding	—	—	—	—	—	—	—	—	.1	.1
TOTALS	.01	.02	7.6	3.6	7.4	1.2	1.4	2.7	13.6	37.5
Forested uplands										
Coniferous	2.3	.7	2.9	.2	7.1	2.9	.8	1.8	1.5	20.2
Mixed forest	—	—	.09	—	.6	—	.08	.4	5.6	6.8
TOTALS	2.3	.7	3.0	.2	7.7	2.9	.9	2.2	7.1	27.0
Wetlands										
Forested, freshwater	.5	—	.2	.1	.3	.3	—	.2	.5	2.1
Nonforest, freshwater	.3	—	.4	—	—	—	—	—	5.3	6.0
Forested, saltwater	.06	.04	—	.01	—	.2	—	—	—	.3
Mixed forested and nonforested (pine and wet prairie).	6.9	.8	7.2	—	8.7	—	—	.1	74.8	98.5
TOTALS	7.8	.8	7.8	.1	9.0	.5	—	.3	80.6	106.9
Water, fresh	1.1	.01	.2	.01	—	.5	.3	—	1.0	3.1
Barren land										
Extractive	—	—	.3	—	.1	—	—	.3	.1	.8
Spoil areas	—	—	—	—	—	—	—	—	.3	.3
TOTALS	—	—	.3	—	.1	—	—	.3	.4	1.1
TOTALS	13.4	2.9	20.0	3.9	24.7	6.2	6.1	17.1	116.6	210.9

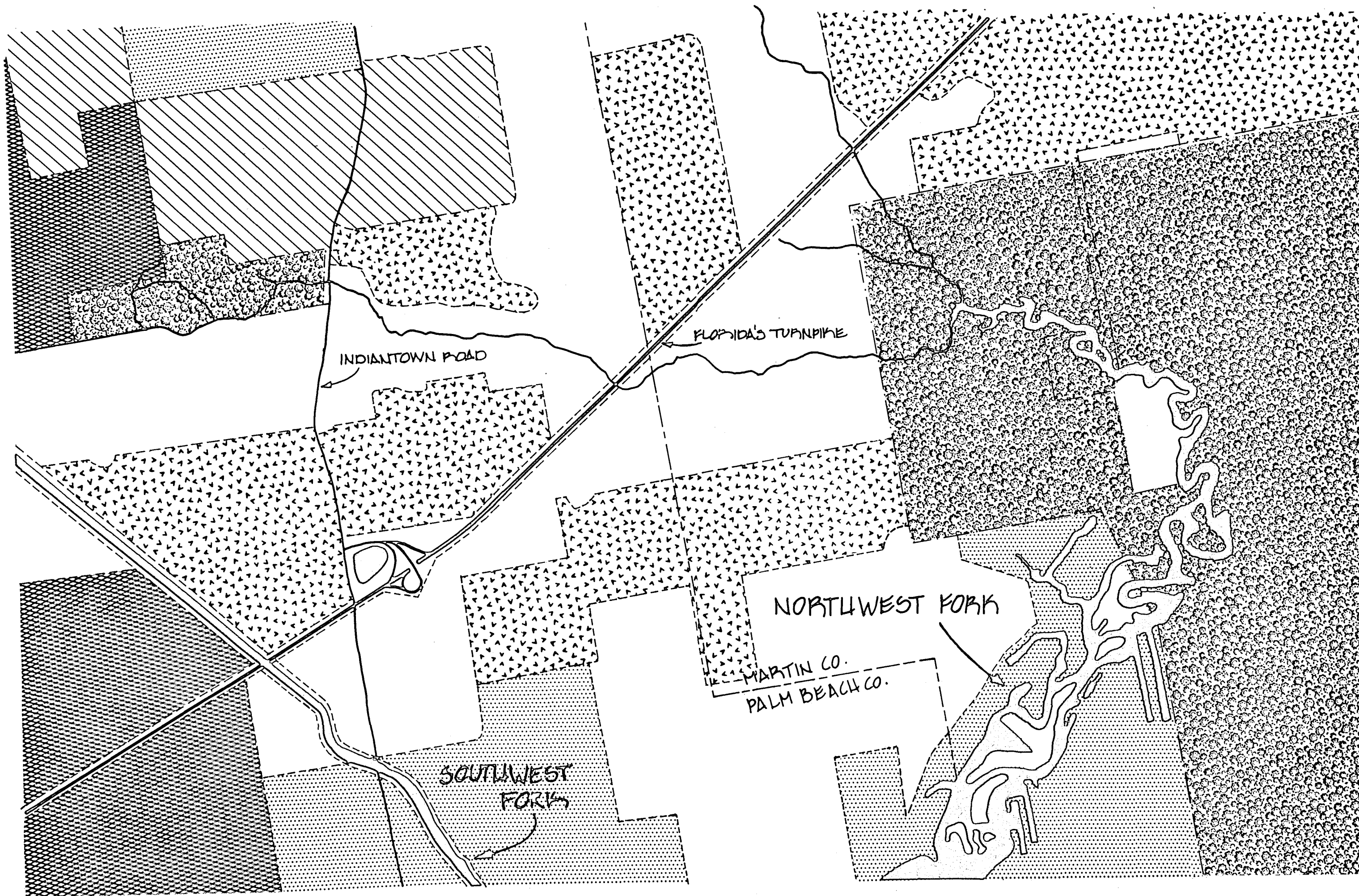
LOXAHATCHEE RIVER  
wild and scenic river study

EXISTING  
LAND USE

-  PARK AND RECREATION
-  AGRICULTURE
-  OPEN SPACE
-  PROPOSED RESIDENTIAL
-  RESIDENTIAL
-  COMMERCIAL / INDUSTRIAL / MINING



FEBRUARY, 1981  
USDI/NPS





annually. New housing development will certainly increase over the next decade and increase the amount of residential land in the basin. Agricultural lands cover 18 percent of the basin. Most of this is in improved pasture. There are 7.2-square miles of citrus orchards and 8.1-square miles of cropland devoted exclusively to truck crops.

Forested uplands cover about 13 percent of the basin, most of which is slash pine flatwoods. Mixed forest including overgrown fields and tropical hammocks account for 6.8-square miles of forested uplands.

River Corridor Land Use. Land use in the portion of the river corridor area proposed for designation is displayed in Existing Land Use map. The first 6 miles of the corridor above Jupiter Inlet are heavily urbanized. Single family residential structures line the shore almost without interruption. Extensive bulkhead and riprap construction has occurred to prevent shoreline erosion. From river mile 6 to river mile 10.3, the Loxahatchee flows within the bounds of Jonathan Dickinson State Park. Land cover within the park is almost entirely natural terrain. Thick mangroves are found where water is brackish. Mangroves are gradually replaced by mixed-cypress forest farther upstream near the southern boundary of the park. Two significant recreational facilities are located in sight of the river within Jonathan Dickinson Park. These facilities are the canoe concession, public wharf, and picnic area located near river mile 7.0 and the Trapper Nelson Homestead at river mile 9.9. Upstream of this point, the Loxahatchee channel narrows. It begins a meander pattern through a freshwater river swamp which varies in width from approximately 300 to 1000 feet. Beyond this relatively narrow river swamp are extensive pine flatwoods and scattered open terrain. From the park boundary south to Indiantown Road, a distance of about 2.5 miles, the river is bordered on the east by two large agricultural fields producing tomatoes and other truck crops. The fields lie at an average distance of 0.3 miles from the river channel. At river mile 11.58, the Loxahatchee is traversed by the Florida Turnpike. The highway right-of-way parallels the river for a distance of 1,600 feet where it lies approximately 300 feet west of the channel. The west side of the river from river mile 12 to river mile 13 at Indiantown Road is marked by scattered residential development, small citrus orchards, and pasture for livestock. The residential structures in this area number less than a dozen and include single family houses, mobile homes, and camps. A small community shopping center is located two-tenths of a mile west of the river on Indiantown Road. The road crosses the river channel just above river mile 13. Below the road lies the planned 187-acre Riverbend Park that is being developed by Palm Beach County. A major interchange of the Florida Turnpike is located at Indiantown Road 1.1 mile east of the river.

Land Use Controls. Local land use regulation in the proposed Loxahatchee Wild and Scenic River area is the responsibility of the County of Palm Beach, the Town of Jupiter, and the County of Martin. Land along the river from Indiantown Road to Jonathan Dickinson State Park is currently zoned for low density residential use (1 unit/5 acres) in all three jurisdictions. Local governments have generally expressed a desire to protect the river through local land use regulation. A recent application for a rezoning of land in Jupiter along Indiantown Road was denied by the town council in order to further the goal of preserving the Loxahatchee River. However, under current regulations some 70 homes could be constructed along the river between Indiantown Road and Jonathan Dickinson State Park.

### Landownership

Approximately 5.7 miles of land along the banks of the Loxahatchee River is presently in public ownership. The public lands include 4.25 miles of riverfront property in Jonathan Dickinson State Park, and 1.5 miles of riverfront property in a recently acquired 187.5-acre county park south of Indiantown Road.

Privately owned property between Indiantown road and the State park is divided into parcels ranging from 50 to over 600 acres. The major portion of this land is held in trust for the John D. McArthur Foundation. There are also several 10-acre parcels of land adjacent to this segment of the river for a total of 13 separate private landholdings in this reach of the river.

Riverfront property between the State park and Jupiter Inlet makes up approximately 43 percent of the total. This land is held by hundreds of single family lot owners, as is the land adjacent to the North Fork.

### Land Values

A survey made in the winter of 1981 indicated a wide variation in the estimated value of land along the Loxahatchee River and in the Loxahatchee Slough. This variation is largely based on development potential and access. In the Loxahatchee Slough area land values are in the range of \$500 to \$2,500 per acre. The comparatively low values reflect the development potential of this low lying, periodically inundated area which has been designated a conservation area by local governments.

Land values in the Jupiter Farms community near Riverbend Park range from \$8,000 to \$12,000 per acre. Between Indiantown Road and the Jonathan Dickinson State Park land in the river corridor is estimated at \$7,000 to \$12,000 per acre.

Below the State park boundary to the Jupiter Inlet there are few waterfront properties which remain undeveloped. Most of the properties in this reach of the river as well as on the North Fork are small single-family residential lots. Improved properties range from \$150,000 to \$400,000. Unimproved lots range from \$25,000 to \$75,000.

### Real Property Taxes

The current millage rate on assessed property values in Martin and Palm Beach Counties is 12.5 per thousand dollars. The impact on the tax base of local government of each alternative considered in this report is presented under Environmental Consequences.

### Navigability and Riparian Rights

The distinction between a navigable body of water and a non-navigable one is a key issue in the law of water rights and riparian rights. Classification as a navigable water body indicates that the State of Florida holds ownership of the river bottom up to the ordinary high water line. If

the river is not classified as navigable, the riparian owner holds title to the river bed to the center of the stream. Development of detailed meaning and application of the navigability question has been, for the most part, left to the courts operating on a case-by-case basis.

The test of navigability applied by Federal courts has undergone considerable change. Current opinions state that for some purposes, the federal tests look not only to whether the water body is navigable, in fact, in its natural state, but whether it can be made so by manmade improvements. The United States Supreme Court opinion in U.S. vs. Appalachian Electric Power Company 311 U.S. 377 (1940), indicated that suitability for commercial navigability can be proved by personal or private use of boats upon the water. Congress added an amendment to the Rivers and Harbors Act which stated, ". . .commerce shall include the use of waterways by seasonal passenger craft, yachts, houseboats, fishing boats, motor boats, and other similar craft, whether or not operated for hire."

Florida courts, in Baker vs. State ex rel. Jones, 87 So. 2d 497 (1956) and Lopez vs. Smith 145 So. 2d 509 (2d D.C.A. Florida 1962), have equated navigability with the possibility of use for purposes common to the public. The definition of navigability is also tied closely to the use of a water body or at least potential use for commerce at the period of statehood.

There are four basic determinants of the commercial use of a waterbody.

1. The nature and character of waterborne commerce during the statehood period.
2. The nature of the craft used for this purpose.
3. Size, depth, location and other physical characteristics of the water body.
4. Obstructions to navigation.

Florida courts have issued opinions indicating that current potential commercial use rather than commercial history is the test for navigability. Federal courts have traditionally granted State governments the authority to remove any obstructions to navigation.

Evidence indicating that the Loxahatchee River is navigable includes:

1. The extent and manner of commercial use is not an issue. The river only need be capable of being used for commerce, no matter in what mode the commerce may be conducted.
2. The region of Florida in which the Loxahatchee River runs its course was dependent upon waterways for transportation before the advent of the railroads in 1880. In rivers, which could not support large craft, such as the Loxahatchee, pirogues, cypress canoes, and cypress skiffs, were in regular use by the military, Indians, and settlers. A reasonable conclusion may be drawn that canoes and shallow draught skiffs were a customary mode of trade and travel in the region and on the Loxahatchee River during the statehood period.

3. Florida experiences a great deal of pleasure boating by tourists which courts have implied is a commercial activity or use of the water. Recreational and commercial boating are criteria for determining navigability.
4. The Loxahatchee River is on the U.S. Army Corps of Engineers administrative list of navigable rivers.

#### Recreation Resources

Florida, perhaps more than any other State, is associated with tourism and recreation. The State is endowed with an excellent climate and an extensive coastline featuring some of the world's most scenic beaches. Tourism is Florida's largest industry with over 35 million tourists visiting the State in 1980 generating nearly \$17 billion in expenditures. According to the 1981 Florida State Comprehensive Outdoor Recreation Plan, this figure represents 1.3 percent of the world's market. Tourists generate 64 percent of the total demand for outdoor recreation activities. The resident population is also active in outdoor recreation. The most popular recreation activities are beach activities and outdoor swimming pool use.

Freshwater swimming in natural waters ranks ninth in overall demand among 26 activities surveyed by the State Department of Natural Resources. Sailing, water-skiing, and salt and fresh-water fishing are also popular activities.

Recreation Facilities - Federal. The following recreation facilities are administered by the U.S. Department of Interior's National Park Service within the State.

Big Cypress National Preserve - Adjoining the northwest section of Everglades National Park, this large area provides a freshwater supply crucial to the park's survival. Subtropical plant and animal life abounds in this ancestral home of the Seminole and Miccosukee Indians.  
Acreage - 570,000

Biscayne National Park - Most of the park is reef and water, but within its boundaries about 25 keys, or islands, form a north-south chain, with Biscayne Bay on the west and the Atlantic Ocean on the east.  
Acreage - 180,127.65

Canaveral National Seashore - Immediately north of the famed Kennedy Space Center, the seashore offers a great variety of wildlife, including many species of birds, on a segment of largely undeveloped wild lands. The area includes a portion of 140,393-acre Merritt Island National Wildlife Refuge, administered by Fish and Wildlife Service, U.S. Department of the Interior.  
Acreage - 57,627

Castillo de San Marcos National Monument - Construction of this oldest masonry fort in the continental United States was started in 1672 by the Spanish to protect St. Augustine. It is the first permanent settlement by Europeans in the continental United States (1565).  
Acreage - 20.49

De Soto National Memorial - The landing of Spanish explorer Hernando deSoto in Florida in 1539 and the first extensive organized exploration of what is now the southern United States by Europeans are commemorated here.  
Acreage - 30

Everglades National Park - This largest remaining subtropical wilderness in the coterminous United States has extensive fresh and saltwater areas, open Everglades prairies, and mangrove forests. Abundant wildlife includes rare and colorful birds.  
Acreage - 1,398,800

Fort Caroline National Memorial - The fort overlooks the site of a French Huguenot colony of 1564 to 1565, the second French attempt at settlement within the present United States. Here, the French and Spanish began two centuries of European colonial rivalry in North America.  
Acreage - 138.88

Fort Jefferson National Monument - Built in 1856 to help control the Florida Straits, this is the largest all-masonry fortification in the Western World. It served as a federal military prison during and after the Civil War. The bird refuge and marine life here are features.  
Acreage - 47,125

Fort Matanzas National Monument - This Spanish fort was built between 1740 and 1742 to protect St. Augustine from the British.  
Acreage - 298.51

Gulf Islands National Seashore - Offshore islands and keys have both sparkling white sand beaches and historic ruins. Mainland features of this unit, which is located near Pensacola, Florida, include the Naval Live Oaks Reservation, beaches, and ruins of military forts. All areas are accessible by car.  
Acreage - 65,816.64

Three national forests are maintained by the U.S. Forest Service in the State. They are the Apalachicola, Osceola, and Ocala National Forests. All three are located in the northern region of the State over 180 miles from the Loxahatchee River. There are 23 National Wildlife Refuges located in Florida. Those closest to the study area are Pelican Island, Hobe Sound, and the Loxahatchee National Wildlife Refuges. The Loxahatchee Refuge covers an area of 145,000 acres and is located about 20 miles south of the point where the river crosses Indiantown Road. These refuges offer limited recreation opportunities since their primary objective is to preserve essential wildlife habitats.

Recreation Facilities - State. The State of Florida has developed an extensive park and recreation system. This system is managed by the State Department of Natural Resources' Division of Parks and Recreation. There are two State parks and five State recreation areas located within a 50-mile radius of the mouth of the Loxahatchee at Jupiter Inlet. These facilities are described below.

St. Lucie Inlet State Park - Located approximately 20 miles north of Jupiter Inlet; presently under development; fishing, boating, campsites.  
Acreage - 927.

Jonathan Dickinson State Park - Eighth largest park in the State system; opened in 1975; 4 miles of the Loxahatchee River lie within the park boundaries; camping - 135 sites, boating, canoe rental, picnic area, extensive habitat for waterfowl observation.  
Acreage - 10,284.

Fort Pierce Inlet State Recreation Area - Located 4 miles northeast of Fort Pierce; fishing, swimming, picnicking; historical museum.  
Acreage - 340.

John D. MacArthur State Recreation Area - Located 1 mile east of North Palm Beach; presently undeveloped; extensive ocean beach and inland waterway frontage.  
Acreage - 225.

Pahokee State Recreation Area - Located on southeastern shore of Lake Okeechobee; picnicking, fishing, swimming; canoe rental and 40 campsites.  
Acreage - 30.

Pepper Beach State Recreation Area - Located about 4 miles northeast of Fort Pierce; swimming, fishing, picnicking; extensive habitat for waterfowl observation.  
Acreage - 1,002.

Palm Beach Pines State Recreation Area - Located 8 miles west of Lake Worth; presently undeveloped.  
Acreage - 812.

Wild and Scenic Rivers in Florida. None of the rivers in the State of Florida are included in the National Wild and Scenic Rivers System. The Suwannee River, was studied for inclusion into the National Wild and Scenic Rivers System. That study, completed by the Bureau of Outdoor Recreation in 1974, recommended the river be included in the System by State action under Section 2(a)(ii) of the Wild and Scenic Rivers Act. To date, there has been no formal State action by Florida or Georgia to designate the river as a national wild and scenic river. The Myakka River, located in southwest Florida near Sarasota is also currently under study. The draft report has proposed, as in the Loxahatchee study, that the river be included in the National System by State action under Section 2(a)(ii).

On June 24, 1983, the Governor signed legislation creating the Loxahatchee River Wild and Scenic Designation and Preservation Act. This Act of the Florida Legislature is one of the requirements under Section 2(a)(ii) designation which would then enable the Governor to petition the Secretary of the Interior to include it in the National System. The Loxahatchee is the only river included in this legislation.

The Loxahatchee as a Recreation Resource. The Loxahatchee River functions as a major recreation resource for the residents of southeast Florida. Whereas most outdoor recreation activity by tourists is centered around the ocean beaches of the area, residents frequently seek a contrasting recreation experience. The Loxahatchee now serves to meet some of this need. The river is the focal point of two parks: Jonathan Dickinson State Park and Palm Beach County's Riverbend Park.

Jonathan Dickinson State Park includes over 10,000 acres and has averaged 184,000 visitors per year since 1978. The park has 135 campsites and utility hook-ups for recreational vehicles. Canoes and small boats are available at a concession stand in the park. Most of the canoeists are novices who paddle for brief trips within the park boundaries. The park provides extensive opportunities for nature observation especially by canoe or small boat.

Riverbend Park is currently being planned as a 187-acre multiuse facility. The park is located south of Indiantown Road (State Road 706) where it crosses the Loxahatchee. The park is planned to include a 10-acre picnic area, a canoe rental concession, a nature interpretive center, and approximately 150 campsites for tent camping. The park will be oriented primarily toward passive recreation experiences.

The Loxahatchee is designated as an aquatic preserve under the Florida Aquatic Preserve Act of 1975. This statute grants protection to all submerged lands which are State owned and that are deemed to have exceptional aesthetic or ecological values. Private submerged lands within an aquatic preserve area can also be managed as part of the preserve. Although aquatic preserve management programs promote compatible recreation uses, there has been no development of recreational facilities on the Loxahatchee under this program. The Loxahatchee is also a candidate for designation as a State canoe trail under the Florida Recreation Trails System. However, this program has not yet been made operational and no formally designated system of canoe trails has been implemented.

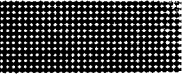
The Loxahatchee serves as a focal point for a substantial amount of recreation activity. These activities take place in a setting not usually found in south Florida. Recreation activities along the river vary according to the width and depth of the stream and the intensity of shore development. Near Jupiter Inlet, the river is suitable for water skiing, sailing, and salt water fishing. Within Jonathan Dickinson State Park, the most suitable activities are freshwater fishing, canoeing, swimming, and nature observation. Upstream and south of the park, the river channel narrows to under 30 feet and riverbank vegetation increases in density. This restricts recreation activities to more passive, nature oriented experiences such as canoeing and nature observation. The amount and intensity of recreation use of the river generally declines as one moves from Jupiter Inlet upstream past Jonathan Dickinson State Park.

Regional Recreation Needs. The Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) for 1981 contains projections and assessments of recreation demand and the need for new facilities for the next decade. According to that study, Florida's requirements for the type of recreation

activities provided by the Loxahatchee will increase steadily through the 1980's. New facilities or park areas will be needed for freshwater swimming, hiking, nature study, and camping. The SCORP does not project the quantity of additional canoe trails that will be needed. It does indicate that demand for canoeing will increase 27.4 percent statewide by 1990.\*

\*Outdoor Recreation in Florida, 1981: A Comprehensive Program for Meeting Florida's Outdoor Recreation Needs, State of Florida Department of Natural Resources, Dec. 1980 p.211, infra.





**VI**

## CHAPTER VI

### ENVIRONMENTAL CONSEQUENCES

#### Scoping

Issues have been identified through public participation activities, review of existing literature, and contact with administrators of other Federal, State and local agencies.

The public participated throughout the study process in public meetings and public planning workshops to identify issues and develop alternatives. Also, numerous personal contacts were made. A copy of a public information brochure summarizing the results of a public planning workshop is provided in the Appendix and provides greater detail on public response to the issues raised by the study. Many of the comments and suggestions provided by the public have been incorporated in the proposed alternative.

Coordination with the Florida Department of Natural Resources, the South Florida Water Management District, the Corps of Engineers, the Fish and Wildlife Service, and other agencies has been invaluable in the preparation of this report. Other agencies providing assistance and input are listed in Chapter VII.

The Governor of Florida and the Florida Legislature have demonstrated their cooperation and dedication to preserving the river by passing the Loxahatchee River Wild and Scenic Designation and Preservation Act.

Impacts as determined through the above process relate primarily to two areas. First, the legal restriction on development in the river corridor or in areas that would impact on the river through the permitting requirements contained in the Wild and Scenic Rivers Act and other existing federal laws and regulations.

Due to flat topography the Loxahatchee River is not suitable for a dam or reservoir. Therefore, one of the most significant protections afforded by Section 7(a) of the Wild and Scenic Rivers Act would not affect the Loxahatchee. Section 7(a) would, however, be important from the standpoint of other water resource projects such as drainage works. Protection against the sale of land or the regulation of mining claims or other federal management activities as provided for in Section 8, 9, and 12 of the Wild and Scenic Rivers Act also would have no affect here in that there is no federal land along the river.

In addition to legal restrictions contained in the Wild and Scenic Rivers Act, existing federal review requirements through Section 404 permits, etc., would require protection of those values that qualify the river for the National System.

The second area of emphasis in regard to impacts relates to those qualities without which the Loxahatchee would not have the outstandingly

remarkable attributes which qualifies it for designation. The Loxahatchee is eligible for Wild and Scenic River status because:

1. It is the best remaining example of a south Florida river swamp in that it is undeveloped, in a natural condition, and has freshwater rather than having undergone the ecological changes from saltwater intrusion.
2. Cypress trees, some from 300 to 500 years old, form a canopy over the river which is unique due to the narrowness of the river channel.

Although the river has many positive environmental qualities it is outstandingly remarkable for the above reasons. Intensive water management and drainage over the last 70 years has left other south Florida river swamps invaded by mangroves. Salinity of these river systems has increased due to decreased discharge, drainage of headwaters, inlet developments and salt water intrusion. The Northwest Fork of the Loxahatchee River has signs of salt water intrusion as is demonstrated by the presence of mangroves as understory plants to dead cypress trees in the segment downstream from Trapper Nelson's. However, many of the other rivers in south Florida have already been converted over from freshwater swamp to mangroves, because of the implementation of the Intracoastal Waterway and development pressures.

In summary, the analysis of environmental consequences will be most heavily weighted toward an analysis of freshwater flows in the Loxahatchee and the impact of freshwater on the river's outstandingly remarkable qualities.

#### Description of the Proposed Action

The proposed action (Alternative A) involves designation of the 7.5-mile eligible segment as a State-administered component of the National Wild and Scenic Rivers System. There are 4.25 miles of riverfront property in Jonathan Dickinson State Park in public ownership and also .5 miles of riverfront south of Indiantown Road which is being developed as a county park.

The South Florida Water Management District has recently identified an acquisition corridor consisting of 550.8 acres in 19 separate parcels of land. The parcels in the acquisition corridor vary in width based upon the extent of the natural environment remaining. At this time there is no acquisition timetable. The success and rapidity of purchases along the river corridor depends largely on the willingness of the sellers since the Water Management District does not have the power of eminent domain at this time for this purpose.

The proposed action (Alternative A) has recommended a river corridor of 350 acres for protection. This assumes a uniform corridor width of 1/5-mile. The differences between the 350 acres and the 550.8 acres that has been identified by the South Florida Water Management District is due to the fact that the individual parcels of land do not form a corridor that is uniform in width.

The District has acquired, as of January 31, 1984, one parcel on the west bank of the Loxahatchee River immediately north of the SR 706 bridge. Negotiations have been initiated on two other parcels. They have had preliminary contacts with the remaining owners along the river corridor and plan to begin formal negotiations in the near future. Property appraisals have been completed and surveying is in its final stages.

The South Florida Water Management District is directed by a nine-member Governing Board appointed by the Governor to establish policy, in conjunction with State and federal laws. Appointments are made on a staggered basis as vacancies occur, with a goal of maintaining balanced geographical representation.

The waters of the State are among the District's basic resources. To conserve and fully control these waters so as to realize their full beneficial use, the State Legislature provides the following policy guidelines for the Water Management District:

- To provide for the management of water and related land resources;
- To promote the conservation, development, and use of surface and ground water;
- To develop and regulate dams, impoundments and other works and to provide water storage;
- To prevent damage from floods, soil erosion and excessive drainage;
- To preserve natural resources, fish and wildlife;
- To promote recreational development, protect public lands, and assist in maintaining the navigability of rivers and harbors;
- To promote the health, safety and general welfare of the people of the State.

The South Florida Water Management District has recently stated that there are no plans to purchase the Loxahatchee Slough with public funds. However, the Slough has been designated as a "conservation area" in the Palm Beach County Comprehensive Land Use Plan. It is also under the jurisdiction of the U.S. Army Corps of Engineers, the State Department of Environmental Regulation and the South Florida Water Management District as a wetland. Permitting criteria for all three agencies restricts development in wetlands such as the Slough. Furthermore, the District owns and operates the six culverts regulating flow into and out of the Loxahatchee Slough and is committed to continue operating those culverts to maintain an appropriate hydroperiod for the Slough system. Therefore, there is good assurance of preserving the Slough as a viable, functioning wetlands even though we expect it to remain outside of public ownership.

Several proposals are under consideration by the South Florida Water Management District for restoring greater freshwater flows to the Northwest Fork of the Loxahatchee River. (See letter in Appendix E) Among these are increasing the capacity of the diversion culverts from

Canal 18 (C-18) to the Northwest Fork, in order to facilitate increased flows. Modification of the flashboard risers in the Loxahatchee Slough culverts could also provide additional storage for flows to the Northwest Fork during the early part of the dry season. The District is also looking into the feasibility of rebuilding the Lainhart Dam at its present location in order to maintain higher freshwater stages upstream of the dam, which is located about 100 yards north of the SR 706 bridge on the Northwest Fork. This rebuilding process would be undertaken using indigenous materials to retain the rustic look of the structure.

The State of Florida would be responsible for adopting a program of action to provide permanent protection for the natural and cultural qualities of the designated segment as well as determining the precise boundaries of the wild and scenic river area. It is further proposed that:

--The State of Florida adopt a program of action to provide permanent protection for the natural and cultural qualities of the designated segment of the Loxahatchee River. Protective measures may include, but are not limited to, fee acquisition, scenic easements or other than fee acquisition, zoning, construction and setback lines, building permits, or other similar land-use controls enacted in cooperation with local jurisdictions.

--The Loxahatchee Wild and Scenic River area be jointly managed by the State of Florida represented by the Department of Natural Resources and the South Florida Water Management District.

--An intergovernmental cooperative agreement be concluded between the State of Florida, the County of Palm Beach, the South Florida Water Management District and other local governments and water control districts concerning the management of the Loxahatchee River.

--Federal agencies be required to support in their planning and projects the preservation of the Loxahatchee River as a national wild and scenic river.

It is also proposed that the County of Palm Beach manage the designated segment of the river within the county's Riverbend Park. The State of Florida's Department of Natural Resources will manage the designated segment downstream of Indiantown Road, including the portion of the river within the Jonathan Dickinson State Park.

Under the proposed action the State of Florida will be responsible for management of the river corridor between Riverbend Park and Jonathan Dickinson State Park as that land is brought into public ownership. This protected area may be fenced to prevent domestic livestock from feeding on vegetation along the river's edge and prevent recreationists from crossing over to private property. The Florida Park Service professional staff will use appropriate management techniques to prevent invasion of exotic plant species into the river corridor. Florida Park Service rangers will patrol the area to ensure the safety of visitors and to enforce regulations.

There are two access sites provided for in the concept plan. The county's Riverbend Park would provide the major canoe access point for those wishing to float the river from Indiantown Road downstream to the Jonathan Dickinson State Park. The county is currently developing a concept plan for Riverbend Park which includes a canoe rental facility and an environmental education center. Development, operation and maintenance costs for Riverbend will be included in ongoing Palm Beach County programs.

#### The Environmental Impact of the Proposed Action

The overriding issue in most actions involving resources in south Florida is the issue of fresh water. Simply stated, it involves the difficult choice between flooding valuable real estate to obtain an even more precious commodity - fresh water. Critical to freshwater supplies in this section of the United States is rainfall which must be allowed to remain on the land to recharge aquifers and used, or rationed, as needed for drinking and other vital human and ecological purposes. Lakes, sloughs, and other wetland areas are the holding basins that permit the sustaining of life during periods of drought. The problem is that the land in this area of the country is very valuable. Many people have a desire to use the land and it has the utility or capacity to be useful for various commercial purposes. Various people want the holding basins drained for development.

The primary holding basin for the Northwest Fork is now Loxahatchee Slough. Current hydrologic data does not allow a definitive or very accurate analysis but if increased water flow for the Loxahatchee is to be achieved, it may be necessary to increase water levels in the Loxahatchee Slough which could result in flooding certain developed areas.

The environmental impact of including the Loxahatchee in the National Wild and Scenic Rivers System relates not as much to any protection afforded by the Wild and Scenic Rivers Act as to an increased awareness of the ecological significance and ecological problems of this area, and the affect that increased awareness has on management of existing water resource projects. Projects, such as drainage canals, which may have been precluded or at least modified by Wild and Scenic River legislation are already in place and many of those adverse environmental effects which are to be avoided have already taken place.

The environmental emphasis here is to prevent future ecological damage and to reverse or mitigate past damages. One might say that the primary impact of designation will be as an impetus or catalyst to the preservation actions of water management officials and officials of State and local governments and their constituents. However, designation will also be a very important consideration in decisions regarding Federal or State permits.

Land Use - The Loxahatchee study area is an area of dynamic growth - past, present and expected future. Table 6 illustrates the rapid changes of the period from 1900 to 1973.

TABLE 6  
GENERAL LAND COVER AND USE

Year - 1900

Area	Urban		Agriculture		Natural				Total Square Miles
	Square Miles	%	Square Miles	%	Upland Square Miles		Wetland Square Miles		
Martin	0	0	0	0	440	79	116	21	556
Palm Beach	0	0	0	0	558	28	1465	72	2023

Year - 1973

Area	Urban		Agriculture		Natural				Total Square Miles
	Square Miles	%	Square Miles	%	Upland Square Miles		Wetland Square Miles		
Martin	31	5	283	51	26	5	216	39	556
Palm Beach	200	9	961	48	539	27	323	15	2023

SOURCE - The South Florida Study, Center for Wetlands and Division of State Planning, Tallahassee, Florida, 1976.

There has been a dramatic increase in urban and agricultural development and a dramatic decrease in natural areas.

Present land use broken down into use within the watershed and within the immediate river corridor is contained in Chapter V. Of the 7.5 miles of river proposed for designation, approximately 4.25 miles is within Jonathan Dickinson State Park and approximately .5 mile within Riverbend Park. Using a corridor width of approximately 1/5-mile this equates to 540.9 acres within Jonathan Dickinson State Park, 63.6 acres within Riverbend Park and 350 acres of corridor on private land. Privately owned property between Riverbend Park and the State park, a distance of 2.75 river miles, is divided into parcels ranging from 50 to over 600 acres. The major portion of this land is held in trust by the John D. McArthur Foundation. There are also several 10-acre parcels of land adjacent to this segment of the river for a total of 13 separate private landholdings of 10 acres or larger in this reach of the river. In addition, there are also a few 5-acre parcels of land in private ownership.

Future projections of land use are related to estimates of future population increases. Table 4 on page 5-38 indicates a projected increase of population in the Loxahatchee River area from 41,955 in 1985 to 101,062 in the year 2000, an increase of 141 percent.

This increase in population will result in an increase in land pressures. Those pressures will be greatest in the areas of housing and services to population centers.

According to the Palm Beach County Water Quality Management Plan, during 1970-2000, the open space will be reduced from 225,000 acres to 175,000 acres, the urban areas will increase from 60,000 acres to 170,000 acres and agricultural land will decrease from 100,000 acres to 48,000 acres.

The consultants report prepared as input to the Corps of Engineers' "Feasibility Report and Environmental Assessment for Canal 18 Basin Loxahatchee Slough" predicted that the largest increase within the urban category will be high-density residential housing with a projected increase of 1351.4 percent from 1980 to 2035.

It is significant that local land-use regulation in the proposed Loxahatchee Wild and Scenic River area is the responsibility of the County of Palm Beach, the Town of Jupiter, and the County of Martin. Land along the river from Indiantown Road to Jonathan Dickinson State Park is currently zoned for low density residential use (1 unit/5 acres) in all three jurisdictions which would allow for approximately 70 homes to be constructed along the river between Indiantown Road and Jonathan Dickinson State Park. Local governments have generally expressed a desire to protect the river through local land use regulation. A recent application for a rezoning of land in Jupiter along Indiantown Road was denied by the town council in order to further the goal of preserving the Loxahatchee River. Martin County also prohibits building in wetland areas.

Despite urban growth pressures on the private land along the 2.75 miles of river, development immediately adjacent to the river would be unlikely because it is a wetland area and as mentioned on page 5-45, ownership to the high water mark is questionable due to the issue of navigability and riparian rights. In other words, as explained on page 5-44, the Loxahatchee is listed on the Corps of Engineers' administrative list as a navigable river and classification as a navigable river means that the State of Florida holds ownership of the river bottom up to the ordinary high water mark. This issue has not come before the courts so we can not say with certainty, but there is a good possibility that the State of Florida already owns the river corridor or at least the most environmentally sensitive part of the river corridor for the 2.75 miles of river through private land. The State has indicated that they will pursue their claim to ownership of all submerged lands in the river corridor.

In summary, land use impacts would be negligible, since approximately 4.75 miles of the 7.5 miles of river corridor are owned by the State and county in fee simple with most of the remaining corridor under State control. Since designation would be through the 2(a)(ii) process no federal acquisition authority exists. Any purchase of additional lands along the river would be through State and local laws and authorities, such as the



South Florida Water Management District's purchases through the "Save Our Rivers" program. Even with additional purchases, most of the land use would remain unchanged since most of these parcels are presently undeveloped and used as conservation areas. Existing agricultural areas are adjacent to river segments classified as scenic or recreational, therefore, there is no conflict with this use and it could remain relatively unchanged.

Vegetation - The abiotic (physical/chemical) components of the river swamp ecosystem that determine the character or nature of the organisms (plant and animal) inhabiting the system are: (1) duration and periodicity of flooding, or length and recurrence of hydroperiod(s), (2) depth of flooding as determined by elevation and drainage of soil, (3) intensity of stream flow, (4) length of time covered by vegetation, (5) the amount of organic matter (peat) accumulated in place, (6) quantity, nature, and deposition rates of sediment carried by the stream, (7) the chemical aspects of the water (salinity, dissolved oxygen and CO<sub>2</sub>, other dissolved inorganic nutrients, and acidity), and (8) the occurrence of fire.

Swamp communities, including cypress swamps, are probably the most complex of the wetland communities. The most extensive swamp communities are found along old riverine valleys such as the Loxahatchee River. Typical swamp species include bald cypress (Taxodium distichum), red maple (Acer rubrum), red bay (Persea borbonia), buttonbush (Cephalanthus occidentalis), waxmyrtle (Myrica cerifera), saltbush (Baccharis halimifolia), and various herbs and vines. During pre-drainage conditions cypress swamps were interspersed among wet prairie and marsh communities.

The drainage of the headwaters has caused the Northwest Fork water flow characteristics to change. River flow rates are now more varied, since there is no large storage area to supply water during drought periods. Therefore, during dry periods, brackish water can move upstream further than it did historically. Prior to these drainage projects the combination of a higher water table that maintained sufficient base flows and oyster and sand bars at the mouth of the river kept salt water out of the river during dry seasons.

These drainage projects have contributed to stress and eventual death of many of the cypress trees which are vital to the scenic qualities of the Loxahatchee River in Jonathan Dickinson State Park. In place of the freshwater cypress dominated forest, young saline-tolerant red mangroves and the Australian exotic melaleuca tree are invading and forming new strands of vegetation. The melaleuca, or "punk tree," poses a threat to the continuing existence of the wetland area, by transforming marsh and wetland areas into stands of hardwood.

In the upstream portion of the Loxahatchee the floodplain is about a quarter of a mile wide and continues to support a dense growth of freshwater tropical trees and plants such as the bald cypress, pond apple, and air plants. In the lower reaches the floodplain widens to more than half a mile and is marked by communities of red and black mangrove which typify a brackish water environment. In many places dead cypress trees

tower above the mangrove reflecting a former freshwater habitat. The red mangroves dominate the river banks of the Loxahatchee within the lower 3 miles of the area proposed for designation.

The Loxahatchee River is primarily being stressed by development in its watershed. The main watershed area, "Loxahatchee Slough," has been affected by drainage activities associated with real estate and agriculture. Much of the area has been transected by canals and levees with the area's water table being lowered because of these activities.

Canals have almost completely replaced the natural drainage causing the water table to drop as much as 10 feet. In addition, flood waters are now diverted into Canal 18 of the Central and Southern Florida Flood Control Project.

Culverts were installed through the berm of Canal 18 at various intervals to allow the passage of water into the canal. The culverts are equipped with risers and flashboards to control water elevations and drainage of the surrounding areas.

Due to past and present drainage activities marshes in the Loxahatchee Slough area are being invaded by waxmyrtle (Myrica cerifera), saltbush (Baccharis halimifolia), and the exotic species Brazilian pepper (Schinus terebinthifolius). Wet prairies also have been stressed by drier conditions and are being invaded by slash pine (Pinus elliottii var. densa) and Melaleuca quinquenervia.

The most desirable hydroperiod for the Loxahatchee Slough area in order to maintain historic diversity of species is approximately 75 percent inundation. Further research will need to be done on the effects of attaining 75 percent inundation. It is possible that flooding will occur in certain areas surrounding Loxahatchee Slough although the extent of it is not known nor have mitigating measures been analyzed.

In summary, past drainage projects have had a profound impact on vegetation along this river corridor and in upstream areas. Future changes will result from the management of these existing projects rather than from new projects. Therefore, the relationship or effect that federal designation would have on vegetation relates directly to how that designation would affect the thinking of water management officials and their constituents. It is expected that designation would produce an increase in awareness of the ecological significance and the ecological problems of the Northwest Fork. This increase in awareness should produce significant changes in river management and a genuine improvement in the river's cypress tree vegetation.

Although the State of Florida has not completed a draft of their management plan for the river, State officials have said they will be recommending approximately a 50 percent increase in flows down the Northwest Fork. If this recommendation should be implemented it would still not restore vegetation along the Northwest Fork to what it was prior to the drainage projects, but it would reverse salt water intrusion and significantly reduce any future vegetative changes and stabilize existing plant communities. Under Alternative A the State of Florida's protective

management plan for the river corridor from Indiantown Road to the State park boundary will protect the unique cypress river swamp community in this reach of the river from encroachment by residential development. Management by the Florida Department of Natural Resources' professional staff will prevent invasion by exotic plants and allow controlled burning and other management practices to maintain the integrity of the existing vegetative community. Education of user groups and patrolling of the river area should help to minimize damage to vegetation due to recreational use.

Table 7 illustrates the changes in vegetation resulting from changes in the hydroperiod.

Water Quality - Water quality considerations, other than water salinity, are not critical to our analysis because they have not been and are not expected to be a problem. Current federal and State pollution laws are adequate to maintain water quality in the river. Even in the area of non-point sources of pollution the primary area of concern would be in Jupiter Inlet Estuary not on the Northwest Fork of the river. Critical to permanent river protection and subsequent to proposed designation is freshwater flow maintenance in the river corridor.

The consultants' findings for the Corps of Engineers' Feasibility Report for the Canal 18 Basin and Loxahatchee Slough found that there is a direct relationship between water flow and salinity levels at all points along the river except at the point closest to Jupiter Inlet, below our study section, which is saline almost all of the time and in the uppermost reaches of the river which are fresh most of the time. For the first 1 to 2 miles upstream from Jupiter Inlet salinity is usually slightly less than that of seawater with tidal fluctuations in the Northwest Fork extending more than 10 miles up the river.

The alteration of the historic water flows in the Loxahatchee River basin has endangered a unique and scenic river ecosystem. Historically the Loxahatchee Slough remained inundated for much of the year. Water levels rose during the rainy season and, owing to Florida's flat topography, drained off gradually as a shallow sheet flow during the dry season. The introduction of an extensive drainage system has resulted in surface waters being transported rapidly to tide. The period of surface flooding has been reduced to only 3 or 4 months, about half the length of the historic hydroperiod. As a result, the recharge of shallow aquifers has been decreased and ground water levels have been lowered.

The drainage and diversion of the headwaters of the Loxahatchee River has caused changes in the flow characteristics of the Northwest Fork. River flow rates are now more varied, since there is no large storage area to supply water during drought periods. As a result, brackish water can move further upstream from the estuary area than it did historically. As stated previously, increased seawater encroachment is primarily responsible for the death of cypress trees in the lower 8 or 9 miles of the river. In the upstream portions of the river this same type of vegetation is healthy. In place of the freshwater cypress dominated river forest community, saline tolerant red mangroves have invaded and succeeded the original cypress forest along the lower reaches of the river.

TABLE 7

## VEGETATION AND HYDROPERIOD\*

COMMUNITY	PERCENT INUNDATION	SPECIES	
		SCIENTIFIC NAME	COMMON NAME
Wet prairie community and transition to aquatic communities	50-80	<u>Centella repanda</u>	centella
		<u>Cephalanthus occidentalis</u>	buttonbush
		<u>Cyperus lecontei</u>	umbrella sedge
		<u>Eleocharis baldwinii</u>	road-grass
		<u>Fimbristylis sp.</u>	fimbristylis
		<u>Heliotropium leavenworthi</u>	heliotrope
		<u>Hydrochloa carolinensis</u>	water grass
		<u>Hydrocotyle sp.</u>	pennywort
		<u>Isnardia sp.</u>	marsh purslane
		<u>Mikania sp.</u>	climbing hempweed
		<u>Panicum hemitomon</u>	maidencane
		<u>Panicum paludivagum</u>	panic grass
		<u>Panicum repens</u>	torpedo grass
		<u>Peltandra virginica</u>	arum
		<u>Polygonum punctatum</u>	water smartweed
		<u>Pontederia lanceolata</u>	pickerelweed
		<u>Rhynchospora tracyi</u>	beakrush
		<u>Sagittaria lancifolia</u>	arrowhead
		<u>Scirpus americanus</u>	common three-square
		<u>Teucrium sp.</u>	germanders
		<u>Utricularia sp.</u>	bladderwort
Sawgrass community and transition to wet prairie community	30-50	<u>Centella repanda</u>	centella
		<u>Diodia sp.</u>	buttonweed
		<u>Hydrocotyle sp.</u>	pennywort
		<u>Hydrotrida sp.</u>	waterhyssop
		<u>Lippia nodiflora</u>	capeweed
		<u>Cladium jamaicensis</u>	sawgrass
		<u>Panicum hemitomon</u>	maidencane
		<u>Panicum repens</u>	torpedo grass
		<u>Paspalum vaginatum</u>	salt joint-grass
		<u>Rhynchospora microcarpa</u>	breakrush
<u>Sagittaria lancifolia</u>	arrowhead		

\*SOURCE: Consultant Report to Corps of Engineers Draft Feasibility Report of Canal 18 Basin and Loxahatchee Slough, January 1982.

The construction of Canal 18 took water from areas such as Hungryland Slough and Loxahatchee Marsh, which had been draining into the Northwest Fork and diverted that flow into the Southwest Fork of the estuary. Canal 18 was constructed in 1958 with a design capacity of 30 percent standard project flood to provide increased drainage and flood protection for adjacent agricultural lands, manufacturing firms, and the J. W. Corbett Wildlife Management Area. The system supplanted and augmented earlier drainage works. Canal 18 and Structure 46, the control structure at the mouth of the canal, drain a 106 square-mile area into the Southwest Fork of the Loxahatchee River. The Canal 18 drainage area includes the northern section of the Loxahatchee Slough and lands west of the Slough. This area comprises over 50 percent of the total Loxahatchee River basin.

The C-18 Canal System was modified in 1972 by the placement of a culvert to divert up to 50 cubic feet per second (cfs) of water to the Northwest Fork of the Loxahatchee River. The South Florida Water Management District, which is responsible for the management of Canal 18, agreed with the Loxahatchee Environmental Control District (ENCON) and the South Indian River Drainage District to provide this additional freshwater input to the Northwest Fork in order to preserve the reach of the river from Indiantown Road to the junction of Cypress Creek which includes the segment for proposed designation. The additional flow was intended to prevent the migration of saltwater further upstream. Discharge through the culvert has averaged 21 cfs resulting in the diversion of millions of gallons from Canal 18 to the Northwest Fork to benefit the freshwater vegetation community in the middle reach of the river. However, since Canal 18 presently has a very limited storage capacity, no water is available during drought conditions. The modification of the original project, while successful to a great extent, has not achieved the goal of a guaranteed minimum flow to protect the freshwater character of the Northwest Fork.

In order to get additional water during the dry season the water managers would need to allow the water level in Loxahatchee Slough to rise so as to provide more storage for release during the dry season. Adjusting project culverts going into Canal 18 will maintain those higher water levels in the Loxahatchee Slough area and could have the added benefit of increasing wetland communities in the Slough. However, raising the level of the Loxahatchee Slough could possibly flood or increase the risk of flooding in surrounding developed areas.

The consultant's report to the Corps of Engineers Feasibility Report for Canal 18 Basin, Loxahatchee Slough states that total water flow into the Northwest Fork from Canal 14, which connects the Northwest Fork with Canal 18, has been maintained at approximately 50 cfs except during dry months when flow has dropped significantly below 50 cfs. If water flows into the Loxahatchee are significantly lowered, it can be devastating to the cypress trees and other freshwater vegetation. The U.S. Geological Survey has estimated that with 26 cfs inflow to the Northwest Fork of the Loxahatchee River brackish conditions extend upstream through all of Jonathan Dickinson State Park.

The Corps of Engineers study referenced in the preceding paragraph, estimated that a base flow of approximately 50 cfs is needed to maintain a predominantly freshwater environment in the area of the Loxahatchee above Cypress Creek which is at river mile 9.5.

Table 8 gives the most recent United States Geological Survey (USGS) estimate of the relationship between freshwater inflow and salinity intrusion in the Northwest Fork. These figures show a freshwater inflow requirement approximately 50 percent greater than Corps of Engineers estimates.

TABLE 8  
FRESHWATER INFLOW AND SALINITY INTRUSTION

Total Mean Daily Freshwater Discharge Cubic Feet/Second	Saltwater Intrusion River Mile
220	7.0
130	8.0
120	8.2
75	9.0
43	10.0
26	11.0

SOURCE: Freshwater Runoff and Salinity Distribution in Loxahatchee River Estuary, Southeast Florida, 1981 - 1982, U.S. Geological Survey.

The above figures are at mean high tide and define brackish water at 2 parts/1000 bottom water salinity. The USGS estimated freshwater average inflow during 1980 - 1981 at 57 cubic feet.

The Location Map on page 5-14 shows Jonathan Dickinson State Park in relation to river mileage figures. The park extends from river mile 6 to river mile 10.25. Using USGS data the inescapable conclusion is that unless freshwater inflow can be increased, the cypress trees along approximately 3.75 of the 4.25 miles of river in Jonathan Dickinson State Park will eventually be destroyed.

The State of Florida's draft management plan has not yet been released for public review, however, indications are that they will use USGS data and recommend a freshwater inflow of 75 cubic feet/second so as to stop freshwater intrusion at river mile 9. The State management plan when finalized will outline the commitment by the State and local agencies to protect the ecological values and enhance the resource values of the river.

In summary, designation would most likely decrease salinity because of the increased inflow recommended for the Northwest Fork by the State of Florida's management plan. Additional data needs to be gathered to find that water regime which would alleviate current conditions which are adverse and producing stress in the remaining cypress tree community and which would permit the possibility of regenerating cypress trees in areas where they have died. Current adverse conditions are the result of inadequate inflow on a year-round basis and the result of an extended drought period that is unacceptably long. Water flow conditions within the last few years have been changing due to the adding and adjusting of culverts in Canal 18 and Canal 14 so there is a lack of sound empirical data at this time and therefore differing conclusions on minimum acceptable inflow to the Northwest Fork. However, we can state with certainty that some increase in inflow would certainly be desirable and perhaps critical, either in year-round flow or dry season supplements, to preserve present cypress trees and associated vegetation. Other actions, such as a weir or salinity lock at the river mouth to block the saltwater intrusion could also be identified as a possible solution or an element of solutions to this problem.

Designation of the river may affect some projects defined as water resource projects as a result of protection under Section 7(a) of the Wild and Scenic Rivers Act. These would include dredging projects and channelization in the designated area as well as outside of the area, if these are found to adversely impact the designated segment of the river and diminish the values for which it was included in the National System.

Although federal water resource development would be foreclosed with designation, it is highly unlikely that federal development would occur in the proposed segment. Reconstruction of the Lainhart Dam at its present site by the South Florida Water Management District would be allowed as well as any other activities benefiting flows and halting salt water intrusion.

Fish and Wildlife Resources - A listing of threatened and endangered species is included in this report on page 5-30. In that all of these species have wide ranging habitats within the State of Florida, this particular area is important only in that it is part of the total habitat for these species. The Fish and Wildlife Service has stated that the proposal will have no effect on the continuation of these species. In other words, the importance of total habitat can be evaluated quite thoroughly but the effect of this project on a very small portion of that habitat is impossible to quantify.

Having made the above statement, we can still make some fairly specific conclusions about the value of freshwater wetlands. The analysis of vegetation illustrates the wider diversity of vegetation in a freshwater wetland area. This means a greater variety of food for fauna within that habitat and, therefore, a greater potential diversity of fauna.

We know that the conditions that existed prior to drainage activities supported a wide diversity of wetland flora and fauna, and that over time there has been a fairly abrupt change to an estuarine and marine type

ecology and associated flora and fauna. Designation and the impetus it would provide to increasing freshwater flows could halt and perhaps even reverse these ecological changes.

A freshwater river would be much more valuable as a recreational fishing resource. The game fish, such as bass, most popular with fishermen require fresh water. This is a significant use of the resource in this area, as fishing is a very popular sport throughout Florida. We don't have estimates on fishing use for the Loxahatchee River so although precise estimates are difficult to calculate it is prudent to assume that freshwater game fish are an important recreational resource in Florida.

In summary, fish and wildlife will benefit due to the preservation of 350+ acres of habitat and range. Disturbance of wildlife by river users may occur but will be minimized by limiting use of the river based on carrying capacity. The Fish and Wildlife Service has concurred that Alternative A would not adversely impact threatened and endangered species in the study area. However, the State-administering agency is reevaluating effects on endangered or threatened species during the development of its management plan. This would ensure maximum protection while considering appropriate management.

Recreation Use and Costs - Public recreation use will increase whether or not the river is added to the National Wild and Scenic Rivers System; however, inclusion of the river in the System would probably increase visitation at a greater rate. The addition of Riverbend Park will provide public facilities at both ends of the study segment. Increased visitor use, if not controlled, could cause environmental damage from over-use, vandalism, litter, undesirable noise, or deviant behavior. However, this is unlikely to occur to any significantly greater extent than if the river was not designated. An increase in management can always compensate for the increased use.

Canoeing use for the period of July 1, 1982, to June 30, 1983, has been estimated for Riverbend Park and Jonathan Dickinson State Park and the area between them. The State of Florida has compiled the following estimates primarily from canoe rentals at the following locations:

<u>AREA</u>	<u>VISITOR DAYS</u>
Jonathan Dickinson State Park	15,000
Riverbend Park	2,426
Tanah-Keeta Boy Scout Camp	<u>726</u>
TOTAL	18,152

The State of Florida is estimating that if the Loxahatchee would be designated a wild and scenic river in the Federal System this could increase canoeing visitor use up to approximately 20 percent. They estimate that the river could handle this increased use and that the maximum carrying capacity would be at or above this figure. If it is determined that carrying capacity for a quality canoeing experience is



lower than expected they can regulate use by decreasing the allowed carrying capacity. Projected total park visitation figures for Jonathan Dickinson and Riverbend are given on page 4-13.

Under the proposed action the area would be patrolled by Florida Park Service rangers. An additional Florida Park Service ranger would cost approximately \$35,000 per year. This can be broken down into \$20,000 for salary and fringe benefits and \$15,000 for equipment, maintenance and supplies. One ranger is all that would be needed for patrolling.

In summary, implementation of Alternative A would provide long-term protection of the outstanding resources and values of the river corridor. Inclusion in the National System would ensure the provision of a variety of high quality recreational opportunities based on the preservation of these values including canoeing, rafting, sightseeing, and nature study.

In joint planning and consultation activities to date, the County of Palm Beach, the State of Florida, and the National Park Service have agreed upon the concept and criteria for the establishment of a carrying capacity for the designated segment of the river. This is being developed during the management planning process by the State.

Socio-economic Impacts. The future employment and economic base should remain essentially the same. The regional economy has experienced rapid growth and recession which is not outside existing national trends. The regional economy relies heavily on construction and tourism activities.

The construction industry in residential building is a basic economic activity employing 7 percent of the population in Palm Beach in 1980 while tourism is the single largest regional activity. Tourists to Palm Beach County contributed over \$400 million to the local economy in 1975, employing 25 percent of the workforce. More than 51 percent of tourists who visit the area stay in lodging (326 hotels) in Palm Beach.

Under the proposal, employment in the construction and tourist industry would remain unchanged from current trends. The only foreseen change would be an increase of one park ranger at Jonathan Dickinson State Park. The additional park ranger would patrol the area between Riverbend Park and Jonathan Dickinson State Park.

Real Property Taxes. The State of Florida does not compensate local governments for the loss of property taxes when acquiring lands for park purposes. Assuming the State opts to use acquisition as the primary method of preservation, a total of 350 acres will be removed from county tax rolls. Approximately 250 acres are assumed to be purchased in fee simple and 100 acres in less than fee. Land along the portion of the river where purchases would be made is priced between \$7,000 and \$12,000 per acre. Using an average cost of \$9,500 per acre, land purchases could remove approximately \$3.3 million worth of land from the tax rolls. Because of the limited amount of land involved in relation to the overall tax base the adverse impacts are negligible. However, those coming into the region to visit the Loxahatchee River can be expected to add to the

income of the local area. This income would be generated by expenditures on motel accommodations, meals at restaurants, gasoline, canoe rentals and the like. This would counter the loss of property taxes.

Summary of Additional Environmental Impacts - Table 9 summarizes the effect of the proposed plan on other resources and Table 10 summarizes the relationship of the plan with other statutes and requirements.

#### Adverse Environmental Effects Which Cannot Be Avoided

The greatest potential for adverse environmental effects on a scenic river designation in almost all instances is the resultant notoriety that the area receives and the increase in resource pressure resulting therefrom.

When a river is found to be outstandingly remarkable and put into the National Wild and Scenic Rivers System, it falls into that "this is special" category. This heightens development pressure along the river corridor. It also increases recreational use as more people choose it over other rivers that are not in this "special" category. The notoriety of this "special" category will also entice other people who had never before considered participating in a river recreation experience.

It is, therefore, of critical importance that the State outline a program of protection before a river is named as a part of the National System.

Mitigating Measures - Potential adverse environmental effects resulting from increases in development pressure and recreation use will hopefully be resolved through the State of Florida management plan and the land purchases of the South Florida Water Management District. The management plan should address both issues of development pressures in the river corridor and increases in recreation use.

#### Alternatives to the Proposed Action

Alternative B/State-Administered Wild and Scenic River With Slough Protection - Many features of this alternative would be the same as under Alternative A. However, also included would be an extensive program of environmental protection and restoration undertaken by the State of Florida in cooperation with local agencies to restore the Loxahatchee Slough.

Under this alternative a corridor would be acquired between Indiantown Road and Jonathan Dickinson State Park which would include some 700 acres of riparian land. This would double the area proposed for protection in the corridor under the proposed alternative.

This alternative entails an extensive program of environmental protection and restoration. In reflooding the Slough, water supply reservoirs could be created to augment municipal water supply sources in the area. Flood control protection for adjacent development would be reduced. However, the construction of levees around the inundated area could provide sufficient flood protection.

TABLE 9

EFFECTS OF PROPOSED PLAN ON RESOURCES  
OF PRINCIPLE NATIONAL RECOGNITION

Types of Resources	Principal Sources of National Recognition	Measure of Effects
Air Quality	Clean Air Act, as amended (42 USC 1857h-7 <u>et seq.</u> )	No Effect.
Areas of particular concern within the coastal zone	Coastal Zone Management Act of 1972, as amended (16 USC 1451 <u>et seq.</u> )	Plan determined to be consistent with Florida Coastal Management Program.
Endangered and threatened species critical habitat	Endangered Species Act of 1973, as amended (16 USC 1531 <u>et seq.</u> )	350+ acres of habitat protected. Biological assessment favorable.
Fish and Wildlife habitat	Fish and Wildlife Coordination Act (16 USC Sec 661 <u>et seq.</u> )	350+ acres of habitat protected.
Flood plains	Executive Order 11988, Flood Plain Management	350+ acres of flood plain would be protected.
Historic and cultural properties	National Historic Preservation Act of 1966, as amended (16 USC Sec 470 <u>et seq.</u> )	Historical and archaeological sites in 350+ acre corridor protected.
Prime and unique farmland	CEQ Memorandum of August 1, 1980: Analysis of Impacts on Prime and Unique Agricultural lands in Implementing the National Environmental Policy Act.	No Effect.
Water quality	Clean Water Act of 1977 (33 USC 1251 <u>et seq.</u> )	Decrease in water salinity.
Wetlands	Executive Order 11990, Protection of Wetlands Clean Water Act of 1977 (42 USC 1857h-7, <u>et seq.</u> )	350+ acres of wetlands would be protected.

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TABLE 10

RELATIONSHIP OF PROPOSED PLAN TO ENVIRONMENTAL REQUIREMENTS, PROTECTION  
STATUTES, AND OTHER ENVIRONMENTAL REQUIREMENTS

FEDERAL POLICIES	COMPLIANCE
<u>Federal Statutes</u>	
Archaeological and Historic Preservation Act, as amended, 16 USC 469, <u>et seq.</u>	FC
Clean Air Act, as amended, 42 USC 1857h-7, <u>et seq.</u>	NA
Clean Water Act, as amended, (Federal Water Pollution Control Act) 33 USC 1251, <u>et seq.</u>	FC
Coastal Zone Management Act, as amended, 16 USC 1451, <u>et seq.</u>	FC
Endangered Species Act, as amended, 16 USC 1531, <u>et seq.</u>	FC
Estuary Protection Act, 16 USC 1221, <u>et seq.</u>	FC
Federal Water Project Recreation Act, as amended, 16 USC 460-1(12), <u>et seq.</u>	FC
Fish and Wildlife Coordination Act, as amended, 16 USC 661, <u>et seq.</u>	FC
Land and Water Conservation Fund Act, as amended, 16 USC 4601 - 4601-11, <u>et seq.</u>	FC
Marine Protection, Research and Sanctuaries Act, 33 USC 1401, <u>et seq.</u>	FC
National Historic Preservation Act, as amended, 16 USC 470a <u>et seq.</u>	FC
National Environment Policy Act, as amended, 42 USC 4321, <u>et seq.</u>	FC
Rivers and Harbors Act, 33 USC 401, <u>et seq.</u>	FC
Watershed Protection and Flood Prevention Act, 16 USC 1001, <u>et seq.</u>	FC
<u>Executive Orders, Memoranda, etc.</u>	
Flood Plain Management (E.O. 11988)	FC
Protection of Wetlands (E.O. 11990)	FC
Environmental Effects Abroad of Major Federal Actions (E.O. 12114)	FC
Analysis of Impacts on Prime and Unique Farmlands (CEQ Memorandum, 11 Aug 80)	FC

NOTES: The compliance categories used in this table were assigned based on the following definitions:

- FC. Full compliance - All requirements of the statute, E.O., or other policy and related regulations have been met for this stage of planning.
- PC. Partial compliance - Some requirements of the statute, E.O., or other policy and related regulations remain to be met for this stage of planning.
- NC. Noncompliance - None of the requirements of the statute, E.O., or other policy and related regulations have been met for this stage of planning.

Restoration of the Loxahatchee Slough offers direct benefits in terms of municipal water supply for Palm Beach County. The creation of water supply reservoirs in the Slough and the increase in groundwater levels and the recharge of aquifers will help to meet the municipal water needs of the area.

The natural environment will also benefit from the repair of natural systems. The Northwest Fork of the Loxahatchee River would be assured a constant level of freshwater flow throughout the year. Water quality of flows from the Slough would be improved due to the increased contact time with vegetation.

For the purpose of this analysis, the implementation of the Loxahatchee Slough restoration component of the plan is carried out through State action. However, this aspect of the plan could be implemented in a separate program by local government, water management authorities, and private interests.

Alternative C/No Action - This alternative characterizes the future conditions expected to occur in the study area without a formal management plan or designation as a wild and scenic river. The existing trend plan assumes that growth and development in the river basin study area will occur as projected in existing local and regional plans. The river would not be included in the National Wild and Scenic Rivers System but would continue to receive protection from local, State, and Federal Government agencies.

Local governments and special districts are presently attempting to protect the Loxahatchee River corridor in a number of ways. Palm Beach County is pioneering the use of the Transfer of Development Rights concept to protect environmentally sensitive areas in the Loxahatchee Slough. Both Martin and Palm Beach Counties have zoning ordinances which limit densities in the river corridor. The Jupiter Inlet District is exploring with other local governments a dock ordinance to limit dock construction on the river. Palm Beach County is currently developing Riverbend Park, south of Indiantown Road, as a multi-use recreation area.

Federal agencies which may play a role in the protection of the Loxahatchee River include the Environmental Protection Agency, the Fish and Wildlife Service, and the U.S. Army Corps of Engineers. The Corps of Engineers is considering the environmental integrity of the Loxahatchee River in its present study of the C-18 Canal System. Federal agencies, however, would be required to give greater consideration to the protection of the river under the provisions of the Wild and Scenic Rivers Act.

The Loxahatchee is currently protected under Section 7(b) of the Wild and Scenic Rivers Act. However, upon the termination of study river status not provisions of protection would be afforded.

Table 11 summarizes the relationship of Alternatives A, B, and C and their effect on various resources.

TABLE 11

## COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES

Significant Resources	Alternative A	Alternative B	Alternative C	Notes	
Land Use	300+ acres preserved*	700+ acres preserved*	No effect	Acreage figures assume uniform width of river corridor.	
Community Cohesion	No effect	No effect	No effect		
Community Growth	No effect	No effect	No effect		
Housing	No effect	No effect	No effect		
Employment	No effect*	No effect*	No effect		Addition of 1 park ranger at Jonathan Dickinson State Park.
Displacement of People	No effect	No effect	No effect		
Public Facilities and Services	No effect	No effect	No effect		
Transportation	No significant effect*	No significant effect*	No effect		No road crossings other than I-95 are anticipated.
Property Values	No effect	No effect	No effect		

\* See notes column for further explanation.

TABLE 11

COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES  
(Continued)

Significant Resources	Alternative A	Alternative B	Alternative C	Notes
Tax Values	No significant effect*	No significant effect*	No effect	Corridor acreage if purchased in fee simple would be removed from tax rolls.
Noise	No effect	No effect	No effect	
Recreation	Beneficial*	Beneficial*	No effect	Publicity of river would increase use under Alternatives A and B.
Aesthetics	Beneficial*	Beneficial*	No effect	Freshwater ecosystem would be maintained.
Riparian Environment	Beneficial*	Beneficial*	No effect	Maintenance of cypress trees and other freshwater vegetation.
Fish and Wildlife	Beneficial*	Beneficial*	No effect	
Threatened and Endangered Species	Beneficial*	Beneficial*	No effect	Wider diversity of food and cover in freshwater habitat.
Air Quality	No effect	No effect	No effect	
Water Quality	Beneficial*	Beneficial*	No effect	Improvement in salinity levels.

\* See notes column for further explanation.

TABLE 11

COMPARISON OF ALTERNATIVES AND EFFECTS ON RESOURCES  
(Continued)

Significant Resources	Alternative A	Alternative B	Alternative C	Notes
Erosion	No effect	No effect	No effect	
Cultural Resources	Beneficial*	Beneficial*	No effect	Resources within river corridor would be protected.
Historic and Archeologic	Beneficial*	Beneficial*	No effect	Resources within river corridor would be protected.
Minerals	No effect*	No effect*	No effect*	There are no mining activities in the river corridor.
Timber	No effect*	No effect*	No effect*	There are no timber harvesting activities in the river corridor.

\* See notes column for further explanation.



Land Use - Generally, the no action alternative is expected to result in adverse impacts on the natural environment of the Loxahatchee River, particularly the segment between Indiantown Road (river mile 13) and the Jonathan Dickinson State Park (river mile 10.25). Local land use controls restrict residential development to one unit per 5 acres in the river corridor. Current growth trends in the area indicate that the area may be developed and approximately 70 homes or cottages would be permitted to be built in the corridor. In addition, unrestricted recreational use will increase pressure on the river corridor.

Vegetation - Increased residential development in the Loxahatchee River corridor between Indiantown Road and the State Park may result in the destruction of some of the native cypress river-swamp vegetation community.

The creation of panoramic views of the majestic cypress of the river swamp could result in the piecemeal destruction of the ecosystem as a whole.

Unrestricted recreational use of this segment of the river will result in the removal of rare plants and damage to the vegetative community. In addition, exotic species will likely invade and flourish in the river corridor.

The freshwater vegetative community of the Northwest Fork will suffer from continuing saltwater encroachment unless existing water management practices are changed. The no action alternative may, therefore, result in continued stress on the freshwater vegetative community due to saltwater intrusion.

Water Quality - Alternative C may have adverse impact on water quality. As adjacent lands are developed increased sedimentation and urban runoff may degrade water quality.

Fish and Wildlife - Increased residential development and activity in the segment from Riverbend Park to Jonathan Dickinson State Park will result in the destruction of wildlife habitat and the disturbance of wildlife range. The elimination of wildlife habitat and range by continuing residential development and unrestricted use will likely have adverse impacts on the threatened and endangered species of the area including those within Jonathan Dickinson State Park.

Plant or animals included on the federal list of endangered species and known to occur as residents or migrants to the Loxahatchee River Study area are: bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (*Picoides borealis*), brown pelican (*Pelecanus*), Florida everglade kite (*Posthrampus sociabilis plubeus*), eastern indigo snake (*Drymarchon corais couperi*), West Indian manatee (*Trichechus manatus*), and the American alligator (*Alligator mississippiensis*). In addition, the entire Loxahatchee River has been designated as a critical habitat for the West Indian (or Florida) manatee by the Fish and Wildlife Service. A no action alternative may reduce the range and distribution of the species by 350 acres.

Recreation - Public recreation use of the river will increase whether or not the river is included in the National Wild and Scenic Rivers System. The establishment of Riverbend Park by Palm Beach County will provide a new access site, adequate parking, and a canoe rental concession. This can be expected to increase the use of the river in the near future. Palm Beach County will not be able to control access and use outside of Riverbend Park. Uncontrolled visitor access and use in the segment of the river between Indiantown Road and Jonathan Dickinson State Park will cause environmental damage from overuse, vandalism, litter, undesirable noise, and deviant behavior. Jonathan Dickinson State Park will continue to manage the portion of the river within its boundaries to provide a quality recreation experience.

Real Property Taxes - The State of Florida does not compensate local governments for loss of property taxes when lands are acquired for park purposes. Approximately 250 acres to be purchased in fee simple and 100 acres in less than fee will remain on the tax roles. Using an average cost of \$9,500 per acre approximately \$3.3 million worth of land will remain taxable income for local governments.

#### The Relationship Between Local Short-Term Uses of the Environment and Enhancement of Long-Term Productivity

Designation of a river as a wild and scenic river and inclusion in the National System can in virtually all cases be said to be an enhancement of long-term productivity. The purpose of the legislation is to preserve or conserve this nation's resources for the use of future generations as well as the current generation. Alternative A and B would enhance long-term productivity of natural and recreational resources at the expense of forclosing federal water resource projects which as stated earlier is most unlikely.

The short-term uses that might be foregone as a result of either Alternative A or Alternative B are additional drainage of the Loxahatchee Slough and other wetland areas. Increased development made possible by the drainage activities would create a need for additional freshwater which would have been depleted by the drainage. In other words, short-term uses would be self defeating in that the act of short-term commercial development actually destroys one of the most essential ingredients for that development - an ample supply of freshwater.

#### Irreversible and Irretrievable Commitments of Resources

Federal designation is not an irreversible action in the same way that a structural project such as a dam would be. The adverse impacts of a reservoir and accompanying facilities cannot begin to be reversed until many years after the effective life of the project. On the other hand, if national resource priorities change, designation can be modified through congressional action. No physical effects would have to be reversed.

The withdrawal of 350 acres of land from the tax base would be a resource commitment which could have long-term impacts. However, even this could be reversed if designation is modified through congressional action and

the 350 acres is subsequently sold. The purchase of this land for public purposes could also temporarily preclude other resource uses such as timber harvesting, however, these are also resource commitments that could be easily reversed.

On the other hand, if saltwater intrusion is allowed to continue it would be an irreversible and irretrievable commitment of freshwater flora and fauna, affecting more than 540 acres in the study corridor. In addition, an increase in drainage and the resultant commercial development would be for all intent and purposes irreversible because of the prohibitive cost of removing or flooding developed areas.



**VII**

## CHAPTER VII

### LIST OF PREPARERS

Fred W. van Vonno, Outdoor Recreation Planner, National Park Service, Southeast Regional Office. B.A. (1974), Political Science, University of Florida; M.C.P., (1980), Master of City Planning/Environmental Planning, Georgia Institute of Technology. Study coordinator for wild and scenic river planning effort. Expertise/experience in land use planning, evaluation of riverine environments, public involvement, planning process, and design and coordination of research efforts.

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VIII

## CHAPTER VIII

### LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT ARE SENT

#### A. Coordination in the Review of the Draft Environmental Statement

Copies of the draft environmental impact statement were sent to the following agencies, organizations, and persons for their review and comment.

##### Federal Agencies

Department of Energy  
Department of Agriculture  
Department of Defense  
Environmental Protection Agency  
Department of Transportation  
Bureau of Reclamation  
Department of the Interior  
Department of Commerce  
Department of Housing and Urban Development

##### State of Florida

Office of the Governor  
South Florida Water Management District  
Department of Environmental Regulation  
Game and Fresh Water Fish Commission  
Department of Natural Resources  
Department of Transportation

##### Local/Regional

Martin County  
Palm Beach County  
Jupiter Inlet District  
Palm Beach Area Planning Board  
Loxahatchee River Environmental Control District (ENCON)  
Treasure Coast Regional Planning Council  
Village of Tequesta  
Town of Jupiter

##### Special Interest Groups and Individuals

Adjacent Landowners  
Bankers Land Co.  
Mr. Nathaniel B. Reed  
Mr. Bill Lund  
Mr. James D. Harrison  
Mr. Patrick Carnahan  
Mr. Steven W. Osborne  
Mr. William E. Hoffman

Mr. K. Kelm  
Mr. Arthur Marshal  
Mr. J.D. Yoder, Jr.  
Gee & Jenson, Inc.  
Audubon Soceity, Inc.  
Florida Wildlife Federation  
Florida Defenders of the Environment  
The Trust for Public Land  
Wildlife Conservation League of Palm Beach County  
Florida Nature Conservancy  
Sierra Club Southeast Chapter  
Palm Beach Pack and Paddle Club, Inc.

B. Consultation and Coordination in the Development of the Proposal and in Preparation of the Draft Environmental Impact Statement

The chronology of major actions is as follows:

November 10, 1978	The Loxahatchee River was authorized for study by the Congress to determine its potential for inclusion in the National Wild and Scenic Rivers System.
January 17, 1979	The National Park Service held a public meeting in the Jupiter-Tequesta area and found strong local support for starting the study.
September 24-28, 1979	The National Park Service met with local, State, and federal officials to discuss planned initiation of study.
February 27, 1980	The National Park Service study team held a meeting in Hobe Sound with representatives of local, State, and federal agencies as well as environmental interests to identify issues of concern as well as potential roles of agencies cooperating in the study. Prior to and following this meeting the entire group conducted a field reconnaissance of the study area.
March 7, 1980	A National Park Service press release announces the formal initiation of the study.
March 31, 1980	The National Park Service hosts a public meeting at the Tequesta Village Hall. Broad public support for designation of the river is expressed by the 90-100 persons attending the meeting.
August 23, 1980	The National Park Service hosts a public planning workshop at the Pine Jog Environmental Sciences Center in West Palm Beach to explore in detail the issues raised by the study. A summary of the workshop is provided in Appendix A of this report.



January 26, 1981

The National Park Service presents a concept plan for joint management of the river to State and Palm Beach County officials. Officials at the State and county levels express their support for the concept and agree to participate in a joint planning process to further develop the concept plan.

February 26, 1981

Meeting with State and county planners to address concerns raised during January meeting.

July 1982

A combined draft study report and draft environmental impact statement is released for a 90 day review and comment period.



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**APPENDIX A**

# Loxahatchee River Study Update

November, 1980

united states department of the interior / national park service



## INTRODUCTION

This is the second National Park Service (NPS) report on the progress of our study of the Loxahatchee River to determine its potential for inclusion in the National Wild and Scenic Rivers System. This report provides a summary of the public planning workshop held recently in West Palm Beach. It also presents, in general terms, the planning alternatives being considered by the NPS study team.

## THE PUBLIC PLANNING WORKSHOP

NPS hosted a public planning workshop at the Pine Jog Environmental Sciences Center on Saturday, August 23, 1980. Nearly 100 people attended the workshop and spent the entire afternoon discussing the various issues raised by the NPS study. Workshop participants included local elected officials, representatives of various government agencies, landowners, environmental interests, and other interested citizens. We appreciate the thoughtful contributions of the workshop participants, as well as the comments and suggestions mailed in by many others. We are especially grateful to Mr. Bob Bergen and the Pine Jog Center for making the facility available and assisting in arrangements for the workshop.

The workshop was structured to allow for maximum participation. Five working groups were created to deal with specific questions and were asked to report their opinions back to the group as a whole. The following is a summary of the issues addressed by the workshop:

### 1. What are the outstanding values of the river?

Numerous values were listed by the various workshop groups. Foremost was that the Loxahatchee River, a naturally meandering subtropical river, is unique in southeast Florida because it remains in a largely undeveloped and pristine natural condition. Other values which were noted included:

- The historic and archeological significance of the river and adjacent lands
- The river corridor provides a habitat for at least 30 rare and endangered plant and animal species
- An irreplaceable Cypress canopied river with Cypress trees as old as 300-500 years





2. How can these values best be protected?

The general consensus of the workshop participants was that the values of the river could best be protected by the outright purchase of the scenic river areas. There was no suggestion to attempt to buy land in the developed areas along the river. Acquisition was discussed only for the undeveloped portion between Indiantown Road and the Jonathan Dickinson State Park.

Other methods for protecting the river focused on protection of the watershed as a whole to insure adequate water quality and quantity for the Northwest Fork and the estuary.

3. Which, if any, of these values would be considered of national significance?

Most of the outstanding values established in discussion of question one were also thought to be of national significance and worthy of federal protection efforts.

4. Which agencies are likely to best be able to protect the river?

Workshop participants considered various agencies which could take the primary role in protecting the river, as well as, the cooperating roles of other agencies. The general consensus was that the Florida Department of Natural Resources was the most appropriate agency to manage the river provided National Park Service guidelines are followed. The Jonathan Dickinson State Park already has several miles of the river within its boundaries and has a capable staff to manage the river. It was felt that the Florida Department of Natural Resources cannot manage the river without substantial cooperation and assistance from other agencies of government.

5. To effectively protect the river corridor, how wide should this conservation corridor be?

The opinions of the various workshop groups ranged from acquisition of the entire river basin to a cautionary note to compromise and not to ask for too much. Some important factors mentioned in determining the width of the corridor were access considerations, width of the floodplain, tree line, visual corridor, fire protection, and future trail construction. The consensus of one workshop group was that the corridor width should extend at least 150ft. beyond the existing outer tree line.

6. Should land inside of a conservation corridor be purchased in fee or should the purchase of easements be considered?

The workshop groups were unanimous in their opinion that acquisition in fee simple was the best method to protect the conservation corridor. However, most felt that the individual landowners should be consulted as to their preference.

7. Is it feasible to ask local governments to effectively protect the river corridor through techniques such as transfer of development rights, zoning, etc., as a part of the wild and scenic river plan?

Workshop participants, including a number of local officials who were present, felt that local governments could not protect the river corridor on their own. However, local governments were perceived as having many tools for protection and as being a necessary part of any plan to preserve the river.

8. Should a "carrying capacity" be established to limit the number of people using the Loxahatchee River at any given time?

The workshop groups supported the establishment of a carrying capacity for the Northwest Fork. Access to the upper reaches of the Northwest Fork could be controlled by limiting the number of access points to the river. The actual number of people using the river could be controlled by requiring permits to float the river with only a limited number issued per day. It was recognized that it would be difficult to limit use of the lower reaches of the Northwest Fork. However, there were suggestions to limit the horsepower of boats in the State Park to less than five, ban motor boats in the park, and limit ramp access in the park to small boats.

9. Is the continuation of private ownership of land in the conservation corridor compatible with river protection efforts?

There was little general discussion of this question. The group asked to consider this question thought that in the "wild" areas between Indiantown Road and the State Park the river could best be protected by acquisition of private land. The group thought that the values of the more developed areas of the river could be protected without acquiring land.

10. Is it feasible to protect the river relying solely on the efforts of adjacent landowners?

Workshop participants generally felt that the river could not be protected "relying solely on efforts of adjacent landowners". Some thought the question was worded poorly and that an either/or answer would ignore what landowners could do. Many saw the possibility of landowners protecting the river in more developed areas. There are also opportunities for private landowners to assist in an overall management plan by donating easements or title to land to a managing agency. The private landowner could improve his tax situation, as well as the desirability of his remaining land, by donating land or interests in land to a river managing agency.

11. What types of uses of the river and the adjacent land area would be compatible with protection of the outstanding values of the river? Incompatible?

Generally, everyone was in agreement on these issues:

Compatible

- Canoeing
- Fishing
- Camping in authorized campgrounds in Jonathan Dickinson State Park
- Walking
- Low density development and continued private ownership as long as there is no infringement on the river corridor
- Agriculture out of sight and hearing range from the river
- Non-chemical control of aquatic weeds
- Water treatment plants employing tertiary treatment

Incompatible

- Camping along the river
  - Hunting
  - Commercial uses
  - Cattle ranches
  - High density residential development
  - Point sources of pollutants
  - I-95 crossing if it goes outside of the existing Florida Turnpike corridor
  - Exotic vegetation types
  - Power boats in the segment between Indiantown Road and Trapper Nelson's.
  - Unrestricted access to the river.
  - Increased noise levels from outside the river corridor.
12. What kind of interpretive program and facilities would be appropriate on the river? Could this be a way to alleviate certain user problems?

Numerous suggestions were made concerning appropriate facilities, activities, and interpretive programs. The various comments can be summarized as follows:

- Palm Beach County's newly acquired Riverbend Park should be a key interpretive center and "the springboard for activities" on the river. It was suggested that canoe rental facilities could be located at Riverbend and that access to the river could be controlled at this point. Trash bags could be distributed at Riverbend to reduce user impacts.
- A hiking trail, possibly connecting with the Florida Trail, could be constructed in the river corridor. However, it was noted that there should be no campsites in the "wild" portion of the river.
- Limit use of daytime activities.
- Establish a carrying capacity for river use based on visitor impact on the resource.
- Provide restroom facilities at the Florida Turnpike crossing.
- Provide shuttle service for canoeist from Jonathan Dickinson State Park to Riverbend.
- Provide guided tours and brochures describing what plants and wildlife may be seen in the river corridor. Another suggestion was to provide a slide show at an existing park facility stressing the fragile nature of the river ecosystem.
- Consider longterm maintenance costs in all programs.
- Collection of plant specimens in the river corridor should be prohibited.
- Restore river canopy and natural vegetation at Riverbend.

#### Other Considerations

A primary concern of the workshop participants was the effect of the C-18 canal system on the Loxahatchee River. Most people felt that the existing C-18 system is totally unsatisfactory from the standpoint of discharges, water quality and quantity, siltation, and uniformity of flow as these affect the Northwest Fork and the estuary. The Park Service was advised to consider carefully the C-18 system and to coordinate, if possible, with the U.S. Army Corps of Engineers study of C-18. Some advocated the restoration of the Loxahatchee Slough to its original condition.

A related concern was water quality from groves, drainage districts, and developing residential areas in the river basin. These should be considered in any plan to protect the river.

#### Additional Comments

The summary of the workshop represents the comments of those who attended the workshop. If you have differing ideas or additional

comments, please use the mailback sheet provided on the last page. In this way the National Park Service study will represent an analysis of all points of view.

### ALTERNATIVE PLANS

This section presents, in general terms, alternatives being considered by the National Park Service study team. The specifics for each alternative have been left open ended for discussion purposes. For example, under Alternative 2, several possibilities are suggested as a potential managing agency. The National Park Service has no preferred alternative at this point in the study process. We welcome your comments on these alternatives.

#### ALTERNATIVE 1 - No Action

An "existing trend" plan assumes that growth and development in the river basin will occur as projected in present local and regional plans. The river would not be included in the National Wild and Scenic Rivers System but private citizens, as well as, local, state, and federal agencies could elect to provide substantial protection for the river.

Private landowners along the river could enter into an agreement among themselves to place restrictions on their own use of land along the river. Such an agreement could include restrictive covenants on property which would prohibit clearing of vegetation along the river.

In this way, landowners would maintain the natural character of the river by voluntarily entering into an agreement with each other which would not substantially alter use of their own property. The success of such an approach depends on the number of private landowners willing to enter into such agreements.

Local governments and special districts are presently attempting to protect the Loxahatchee River corridor in number of ways. Palm Beach County is pioneering in the use of Transfer of Development Rights to protect environmentally sensitive areas in the Loxahatchee Slough. Both Martin and Palm Beach Counties have zoning ordinances which limit densities in the river corridor. Martin County is considering an ordinance to protect vegetation along the Northwest Fork of the Loxahatchee. The Jupiter Inlet District is exploring a possible dock ordinance to regulate dock construction.

The State's Department of Parks and Recreation is already managing the portions of the Northwest and North Forks which are located in the Jonathan Dickinson State Park. Possible future land acquisition by the Florida State Park System could increase the extent of the protected segment of the river. Other state agencies such as the South Florida Water Management District and the Game and Freshwater Fish Commission could continue to follow policies which protect the Loxahatchee River.

Federal agencies which may play a role in protecting the Loxahatchee River include the Environmental Protection Agency, Fish and Wildlife Service, and the U.S. Army Corps of Engineers. The Corps of Engineers is considering the environmental integrity of the Loxahatchee River in its present study of the C-18 Canal System. Federal agencies, however, would be required to give greater consideration to protecting the river under provisions of the Wild and Scenic Rivers Act.

ALTERNATIVE 2 - Inclusion of a 7 mile segment of the Loxahatchee River in the National Wild and Scenic River System.

This alternative assumes designation of the 7 miles of the Loxahatchee River between Indiantown Road and the lower boundary of Jonathan Dickinson State Park and implementation of a management plan conserving its existing environmental and cultural values. There are numerous management options possible for protecting the river within the National Wild and Scenic River System. The following listing offers some possibilities for discussion purposes:

Managing Agency

- Federal agency such as the National Park Service or U.S. Forest Service
- State agency such as the Florida Department of Natural Resources Division of Recreation and Parks
- Local government or association of governments such as the Loxahatchee Council of Governments
- River basin council or watershed association possibly serving in an advisory capacity
- Other?

River Recreation Use

- Limit access and establish a carrying capacity to govern the number of visitors
- Establish new access sites to the river and encourage visitation
- Establish an interpretive program to educate the public about the river and its ecology
- Increase picnic facilities along the river
- Other?

Width of Conservation Corridor

- Sufficient to protect visual corridor varying as to the density of vegetation and slope of adjacent land

- A uniform width of 50 or 100 feet
- Sufficient to preserve the ecological integrity of the river and the adjacent river-forest community
- Other?

#### Methods of Protecting the Conservation Corridor

- Purchase in fee simple
- Purchase of a conservation/scenic easement
- Donation by riparian landowners for tax benefits and as part of private initiative to protect the scenic qualities of the corridor
- Transfer of development rights
- Zoning and other local ordinances (e.g. construction setback ordinances, tree ordinances)
- Combination of some or all of the above
- Other?

#### ALTERNATIVE 3 - Inclusion of a 13 mile segment of the Loxahatchee River in the National Wild and Scenic River System

This alternative assumes designation of the Loxahatchee River from its mouth at Jupiter Inlet to River Mile 13 at Indiantown Road and implementation of a management plan which conserves the existing environmental and cultural value of the river. The management options would be similar to those listed in Alternative 2.

Under this alternative, the segment between Jupiter Inlet and River Mile 6 might be managed as a "recreational" river. The segment between Mile 6 and River Mile 13 might be managed as a combination of "wild" and "scenic".

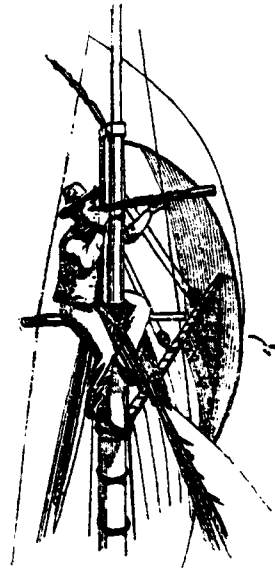
#### Environmental Impacts

From the public input to date, most supporters envision National Wild and Scenic River designation as curbing development along the river and as essentially a low-use public recreational and educational resource. Generally, environmental impacts could be expected to be negligible, except, perhaps, at access points to the river. Increased use of the river could also disturb the habitat of certain rare or endangered species. We welcome more specific information which would help to identify potential environmental impacts and suggestions for reducing such impacts. The National Park Service, in accordance with National Environmental Policy Act guidelines, is presently preparing an environmental assesment to identify impacts and to aid our planning process. The environmental assesment will also indicate if an Environmental Impact Statement (EIS) will be required.



### Looking Ahead

Following our analysis of the feedback we hope to get from the public, NPS will prepare a draft report on its study of the Loxahatchee River. The report will make a recommendation to the Congress on the eligibility of the Loxahatchee River for inclusion in the National Wild and Scenic Rivers System. If the river is determined to be qualified, the report will indicate the NPS study team's preferred alternative and will set forth a conceptual management plan. This draft report will undergo formal public and inter-governmental review beginning in April of next year. Because of decreasing funds, we can print and distribute only a limited number of copies of the complete draft report. However, we will mail a summary of the findings and recommendations contained in that report to everyone on our mailing list. A limited number of copies of the draft report will be available upon request to our Atlanta Office. If we receive sufficient public interest NPS could hold additional public meetings in the Jupiter-Tequesta area on the findings and recommendations of the report.



### Feedback to NPS

We sincerely welcome your continuing involvement in developing planning alternatives for the Loxahatchee River Study. Please use the addressed, postage paid mail-back sheet if it is convenient for what you want to tell us. To help us be more responsive to you, we need your comments by December 22. Because of the large number of individuals and organizations participating in this study, we will be unable to acknowledge responses. However, we will consider carefully all comments and points of view in preparing our draft report.

**Feedback to NPS**

**Dear NPS:**

**Re: The Loxahatchee River Study**

**Please fold, staple, and mail back to NPS. Postage paid.**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
SOUTHEAST REGION  
75 SPRING STREET, S.W.  
ATLANTA, GEORGIA 30303

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PENALTY FOR PRIVATE USE, \$300

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U.S. DEPARTMENT OF THE INTERIOR  
INT 417



National Park Service  
Resource Area Studies  
75 Spring Street SW Suite 1046  
Atlanta, Georgia 30303  
Attention: Fred van Vonno

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(FOLD HERE)

**APPENDIX B**

Public Law 90-542  
(16 U.S.C. 1271 et seq.)  
WILD AND SCENIC RIVERS ACT  
as amended  
through P.L. 96-580, December 23, 1980

AN ACT

To provide for a National Wild and Scenic Rivers System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) this Act may be cited as the "Wild and Scenic Rivers Act".

(b) It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

(c) The purpose of this Act is to implement this policy by instituting a national wild and scenic rivers system, by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

SEC. 2. (a) The national wild and scenic rivers system shall comprise rivers (i) that are authorized for inclusion therein by Act of Congress, or (ii) that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature of the State or States through which they flow, that are to be permanently administered as wild, scenic or recreational rivers by an agency or political subdivision of the State or States concerned, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned, or a person or persons thereunto duly appointed by him or them, to meet the criteria established in this Act and such criteria supplementary thereto as he may prescribe, and that are approved by him for inclusion in the system, including, upon application of the Governor of the State concerned, the Allagash Wilderness Waterway, Maine; that segment of the Wolf River, Wisconsin, which flows through Langlade County; and that segment of the New River in North Carolina extending from its confluence with Dog Creek downstream approximately 26.5 miles to the Virginia State line. Upon receipt of an application under clause (ii) of this subsection, the Secretary shall notify the Federal Energy Regulatory Commission and publish such application in the Federal Register. Each river designated

under clause (ii) shall be administered by the State or political subdivision thereof without expense to the United States other than for administration and management of federally owned lands. For purposes of the preceding sentence, amounts made available to any State or political subdivision under the Land and Water Conservation Act of 1965 or any other provision of law shall not be treated as an expense to the United States. Nothing in this subsection shall be construed to provide for the transfer to, or administration by, a State or local authority of any federally owned lands which are within the boundaries of any river included within the system under clause (ii).

(b) A wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in section 1, subsection (b) of this Act. Every wild, scenic or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the national wild and scenic rivers system and, if included, shall be classified, designated, and administered as one of the following:

(1) 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.

(2) 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.

(3) 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.

SEC. 3. (a) The following rivers and the land adjacent thereto are hereby designated as components of the national wild and scenic rivers system:

(1) CLEARWATER, MIDDLE FORK, IDAHO.--The Middle Fork from the town of Kooskia upstream to the town of Lowell; the Lochsa River from its junction with the Selway at Lowell forming the Middle Fork, upstream to the Powell Ranger Station; and the Selway River from Lowell upstream to its origin; to be administered by the Secretary of Agriculture.

(2) ELEVEN POINT, MISSOURI.--The segment of the river extending downstream from Thomasville to State Highway 142; to be administered by the Secretary of Agriculture.

(3) FEATHER, CALIFORNIA.--The entire Middle Fork downstream from the confluence of its tributary streams one kilometer south of Beckwourth, California; to be administered by the Secretary of Agriculture.

(4) RIO GRANDE, NEW MEXICO.--The segment extending from the Colorado State line downstream to the State Highway 96 crossing, and the lower four miles of the Red River; to be administered by the Secretary of the Interior.

(5) ROGUE, OREGON.--The segment of the river extending from the mouth of the Applegate River downstream to the Lobster Creek Bridge; to be administered by agencies of the Departments of the Interior or Agriculture as agreed upon by the Secretaries of said Departments or as directed by the President.

(6) SAINT CROIX, MINNESOTA AND WISCONSIN.--The segment between the dam near Taylors Falls, Minnesota, and the dam near Gordon, Wisconsin, and its tributary, the Namekagon, from Lake Namekagon downstream to its confluence with the Saint Croix; to be administered by the Secretary of the Interior: Provided, That except as may be required in connection with items (a) and (b) of this paragraph, no funds available to carry out the provisions of this Act may be expended for the acquisition or development of lands in connection with, or for administration under this Act of, that portion of the Saint Croix River between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, until sixty days after the date on which the Secretary has transmitted to the President of the Senate and Speaker of the House of Representatives a proposed cooperative agreement between the Northern States Power Company and the United States (a) whereby the company agrees to convey to the United States, without charge, appropriate interests in certain of its lands between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, including the company's right, title, and interest to approximately one hundred acres per mile, and (b) providing for the use and development of other lands and interests in land retained by the company between said points adjacent to the river in a manner which shall complement and not be inconsistent with the purposes for which the lands and interests in land donated by the company are administered under this Act. Said agreement may also include provision for State or local governmental participation as authorized under subsection (e) of section 10 of this Act. A one-thousand-three-hundred-and eighty-acre portion of the area commonly known as the Velie Estate, located adjacent to the Saint Croix River in Douglas County, Wisconsin, as depicted on the map entitled "Boundary Map/Velie Estate--Saint Croix National Scenic Riverway", dated September 1980, and numbered 630-90,001, may be acquired by the Secretary without regard to any acreage limitation set forth in subsection (b) of this section or subsection (a) or (b) of section 6 of this Act.

(7) SALMON, MIDDLE FORK, IDAHO.--From its origin to its confluence with the main Salmon River; to be administered by the Secretary of Agriculture.

(8) WOLF, WISCONSIN.--From the Langlade-Menominee County line downstream to Keshena Falls; to be administered by the Secretary of the Interior.

(9) LOWER SAINT CROIX, MINNESOTA AND WISCONSIN.--The segment between the dam near Taylors Falls and its confluence with the Mississippi River: Provided, (i) That the upper twenty-seven miles of this river segment shall be administered by the Secretary of the Interior; and (ii) That the lower twenty-five miles shall be designated by the Secretary upon his approval of

an application for such designation made by the Governors of the States of Minnesota and Wisconsin.

(NOTE: The indented portion that follows was included in the legislation adding the Lower Saint Croix River to the System (P.L. 92-560), but not as an amendment to P.L. 90-542.)

SEC. 3. The Secretary of the Interior shall, within one year following the date of enactment of this Act, take, with respect to the Lower Saint Croix River segment, such action as is provided for under section 3(b) of the Wild and Scenic Rivers Act: Provided, That (a) the action required by such section shall be undertaken jointly by the Secretary and the appropriate agencies of the affected States; (b) the development plan required by such section shall be construed to be a comprehensive master plan which shall include, but not be limited to, a determination of the lands, waters, and interests therein to be acquired, developed, and administered by the agencies or political subdivisions of the affected States; and (c) such development plan shall provide for State administration of the lower twenty-five miles of the Lower Saint Croix River segment and for continued administration by the States of Minnesota and Wisconsin of such State parks and fish hatcheries as now lie within the twenty-seven-mile segment to be administered by the Secretary of the Interior.

SEC. 4. Notwithstanding any provision of the Wild and Scenic Rivers Act which limits acquisition authority within a river segment to be administered by a Federal agency, the States of Minnesota and Wisconsin may acquire within the twenty-seven-mile segment of the Lower Saint Croix River segment to be administered by the Secretary of the Interior such lands as may be proposed for their acquisition, development, operation, and maintenance pursuant to the development plan required by section 3 of this Act.

SEC. 5. Nothing in this Act shall be deemed to impair or otherwise affect such statutory authority as may be vested in the Secretary of the Department in which the Coast Guard is operating or the Secretary of the Army for the maintenance of navigation aids and navigation improvements.

SEC. 6. (a) There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, but not to exceed \$7,275,000 for the acquisition and development of lands and interests therein within the boundaries of the twenty-seven-mile segment of the Lower Saint Croix River segment to be administered by the Secretary of the Interior.

(b) No funds otherwise authorized to be appropriated by this section shall be expended by the Secretary of the Interior until he has determined that the States of Minnesota and Wisconsin have



initiated such land acquisition and development as may be proposed pursuant to the development plan required by section 3 of this Act, and in no event shall the Secretary of the Interior expend more than \$2,550,000 of the funds authorized to be appropriated by this section in the first fiscal year following completion of the development plan required by section 3 of this Act. The balance of funds authorized to be appropriated by this section shall be expended by the Secretary of the Interior at such times as he finds that the States of Minnesota and Wisconsin have made satisfactory progress in their implementation of the development plan required by section 3 of this Act.

(10) CHATTOOGA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA.--The segment from 0.8 mile below Cashiers Lake in North Carolina to Tugaloo Reservoir, and the West Fork Chattooga River from its junction with Chattooga upstream 7.3 miles, as generally depicted on the boundary map entitled "Proposed Wild and Scenic Chattooga River and Corridor Boundary", dated August 1973; to be administered by the Secretary of Agriculture: Provided, That the Secretary of Agriculture shall take such action as is provided for under subsection (b) of this section within one year from the date of enactment of this paragraph (10): Provided further, That for the purposes of this river, there are authorized to be appropriated not more than \$5,200,000 for the acquisition of lands and interests in lands and not more than \$809,000 for development.

(11) RAPID RIVER, IDAHO.--The segment from the headwaters of the main stem to the national forest boundary and the segment of the West Fork from the wilderness boundary downstream to the confluence with the main stem, as a wild river.

(12) SNAKE, IDAHO AND OREGON.--The segment from Hells Canyon Dam downstream to Pittsburgh Landing, as a wild river; and the segment from Pittsburgh Landing downstream to an eastward extension of the north boundary of section 1, township 5 north, range 47 east, Willamette meridian, as a scenic river.

(13) FLATHEAD, MONTANA.--The North Fork from the Canadian border downstream to its confluence with the Middle Fork; the Middle Fork from its headwaters to its confluence to the South Fork; and the South Fork from its origin to the Hungry Horse Reservoir, as generally depicted on the map entitled "Proposed Flathead Wild and Scenic River Boundary Location" dated February 1976; to be administered by agencies of the Departments of the Interior and Agriculture as agreed upon by the Secretaries of such Departments or as directed by the President. Action required to be taken under subsection (b) of this section shall be taken within one year from the date of enactment of this paragraph. For the purposes of this river, there are authorized to be appropriated not more than \$6,719,000 for the acquisition of lands and interests in lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.

(14) MISSOURI, MONTANA.--The segment from Fort Benton one hundred and forty-nine miles downstream to Robinson Bridge, as generally depicted on the boundary map entitled "Missouri Breaks Freeflowing River Proposal", dated October 1975, to be administered by the Secretary of the Interior. For the

purposes of this river, there are authorized to be appropriated not more than \$1,800,000 for the acquisition of lands and interests in lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.

(NOTE: The indented portion that follows was included in the legislation adding the Missouri River to the System (P.L. 94-486), but not as an amendment to P.L. 90-542.)

SEC. 202. After consultation with the State and local governments and the interested public, the Secretary shall, pursuant to section 3(b) of the Wild and Scenic Rivers Act and within one year of enactment of this Act--

(1) establish detailed boundaries of the river segment designated as a component of the National Wild and Scenic Rivers System pursuant to section 1 of this Act (hereinafter referred to as the "river area"): Provided, That the boundaries of the portion of the river area from Fort Benton to Coal Banks Landing and the portion of the river area within the boundaries of the Charles M. Russell National Wildlife Range shall be drawn to include only the river and its bed and exclude all adjacent land except significant historic sites and such campsites and access points as are deemed necessary by the Secretary, and to which the Secretary finds no reasonable alternative, as set forth in the management plan required pursuant to clause (2) of this section; and

(2) determine, in accordance with the guidelines in section 2(b) of the Wild and Scenic Rivers Act, which of the three classes--wild river, scenic river, or recreation river--best fit portions of the river segment, designate such portions in such classes, and prepare a management plan for the river area in accordance with such designation.

SEC. 203. (a) The Secretary of the Interior (hereinafter referred to as the "Secretary") shall manage the river area pursuant to the provisions of this Act and the Wild and Scenic Rivers Act, and in accordance with the provisions of the Taylor Grazing Act (48 Stat. 1269), as amended (43 U.S.C. 315), under principles of multiple use and sustained yield, and with any other authorities available to him for the management and conservation of natural resources and the protection and enhancement of the environment, where such Act, principles, and authorities are consistent with the purposes and provisions of this Act and the Wild and Scenic Rivers Act.

(b)(1) The Secretary may acquire land and interests in land only in accordance with the provisions of this Act and the Wild and Scenic Rivers Act and the limitations contained in section 6 of that Act and only: (A) at Fort Benton for the visitor facility as provided in subsection (g)(2) of this section; (B) at the site of Fort McKenzie; (C) in that portion of the river area downstream

from Fort Benton to Coal Banks Landing for historic sites, campsites, and access points in accordance with section 202(1) of this Act; and (D) in that portion of the river area downstream from Coal Banks Landing so as to provide, wherever practicable and necessary for the purposes of this Act and the Wild and Scenic Rivers Act, rim-to-rim protection for such portion.

(2) In accordance with section 6(b) of the Wild and Scenic Rivers Act, the Secretary shall not acquire fee title to any lands by condemnation under the authority of that Act or this Act, except that the Secretary may use condemnation when necessary and within the limitations on acquisition set forth in clause (1) of this subsection to clear title, acquire scenic easements, or acquire such other easements as are reasonably necessary to give the public access to the river segment within the river area and to permit its members to traverse the length of said river area or of selected portions thereof.

(3) The Secretary shall, to the extent feasible, give priority in expenditure of funds pursuant to this Act for the acquisition and development of campsites and historic sites, including the site of the visitor center at Fort Benton and the site of Fort McKenzie.

(c) Consistent with the provisions of this Act and the Wild and Scenic Rivers Act, the Secretary may issue easements, licenses, or permits for rights-of-way through, over, or under the lands in Federal ownership within the river area, or for the use of such lands on such terms and conditions as are in accordance with the provisions of this Act, the Wild and Scenic Rivers Act, and other applicable law.

(d) The Secretary is authorized to permit the construction of a bridge across the river in the general vicinity of the community of Winifred, Montana, in order to accommodate the flow of north-south traffic. Such construction shall be in accordance with a plan which is mutually acceptable to the Secretary and State and local highway officials, and which is consistent with the purposes of this Act and the Wild and Scenic Rivers Act.

(e) To the extent and in a manner consistent with the purposes of the Wild and Scenic Rivers Act the Secretary shall permit such pumping facilities and associated pipelines as may be necessary to assure the continuation of an adequate supply of water from the Missouri River to the owners of lands adjacent to the river and for future agricultural use outside the river corridor. The Secretary is authorized to permit such pumping facilities and associated pipelines for use for fish, wildlife, and recreational uses outside the river corridor.

(f) The Secretary shall permit hunting and fishing in the river area in accordance with applicable Federal and State laws, except that he may designate zones where, and periods when, no

hunting or fishing shall be permitted for reasons of public safety or administration.

(g)(1) The Secretary, acting through the Bureau of Land Management, shall exercise management responsibilities in the river area for:

(A) the grazing of livestock;

(B) the application of the United States mining and mineral leasing laws;

(C) the management of fish and wildlife habitat;

(D) the diversion and use of water for agricultural and domestic purposes;

(E) the acquisition of lands and interests therein;

(F) the administration of public recreational uses of, and any historic sites and campsites in, the river area; and

(G) all other management responsibilities except those set forth in paragraph (2) of this subsection.

(2) The Secretary, acting through the National Park Service, shall be responsible for the construction, operation, and management of any visitor facility in or near Fort Benton which is found necessary in accordance with the management plan developed pursuant to section 202 and the provision, at such facility, of interpretive services for the historic, archeological, scenic, natural, and fish and wildlife resources of the area.

(15) OBED, TENNESSEE.--The segment from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River; Clear Creek from the Morgan County line to the confluence with the Obed River, Daddys Creek from the Morgan County line to the confluence with the Obed River; and the Emory River from the confluence with the Obed River to the Nemo bridge as generally depicted and classified on the stream classification map dated December 1973. The Secretary of the Interior shall take such action, with the participation of the State of Tennessee as is provided for under subsection (b) within one year following the date of enactment of this paragraph. The development plan required by such subsection (b) shall include cooperative agreements between the State of Tennessee acting through the Wildlife Resources Agency and the Secretary of the Interior. Lands within the Wild and Scenic River boundaries that are currently part of the Catoosa Wildlife Management Area shall continue to be owned and managed by the Tennessee Wildlife Resources Agency in such a way as to protect the wildlife resources and primitive character of the area, and without further development of roads, campsites, or associated recreational facilities unless deemed necessary by that agency for wildlife management practices. The Obed Wild and Scenic River shall be managed

by the Secretary of the Interior. For the purposes of carrying out the provisions of this Act with respect to this river, there are authorized to be appropriated such sums as may be necessary, but not to exceed \$2,000,000 for the acquisition of lands or interests in lands and not to exceed \$400,000 for development. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.

(16) PERE MARQUETTE, MICHIGAN.--The segment downstream from the junction of the Middle and Little South Branches to its junction with United States Highway 31 as generally depicted on the boundary map entitled "Proposed Boundary Location, Pere Marquette Wild and Scenic River,"; to be administered by the Secretary of Agriculture. After consultation with State and local governments and the interested public, the Secretary shall take such action as is provided for under subsection (b) with respect to the segment referred to in this paragraph within one year from the date of enactment of this paragraph. Any development or management plan prepared pursuant to subsection (b) shall include (a) provisions for the dissemination of information to river users and (b) such regulations relating to the recreational and other uses of the river as may be necessary in order to protect the area comprising such river (including lands contiguous or adjacent thereto) from damage or destruction by reason of overuse and to protect its scenic, historic, esthetic and scientific values. Such regulations shall further contain procedures and means which shall be utilized in the enforcement of such development and management plan. For the purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph, there are authorized to be appropriated not more than \$8,125,000 for the acquisition of lands or interests in lands and \$402,000 for development.

(17) RIO GRANDE, TEXAS.--The segment on the United States side of the river from river mile 842.3 above Mariscal Canyon downstream to river mile 651.1 at the Terrell-Val Verde County line; to be administered by the Secretary of the Interior. The Secretary shall, within two years after the date of enactment of this paragraph, take such action with respect to the segment referred to in this paragraph as is provided for under subsection (b). The action required by such subsection (b) shall be undertaken by the Secretary, after consultation with the United States Commissioner, International Boundary and Water Commission, United States and Mexico, and appropriate officials of the State of Texas and its political subdivisions. The development plan required by subsection (b) shall be construed to be a general management plan only for the United States side of the river and such plan shall include, but not be limited to, the establishment of a detailed boundary which shall include an average of not more than 160 acres per mile. Nothing in this Act shall be construed to be in conflict with--

(A) The commitments or agreements of the United States made by or in pursuance of the treaty between the United States and Mexico regarding the utilization of the Colorado and Tijuana Rivers and of the Rio Grande, signed at Washington, February 1944 (59 Stat. 1219), or

(B) the treaty between the United States and Mexico regarding maintenance of the Rio Grande and Colorado River as the international boundary between the United States and Mexico, signed November 23, 1970.

For purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph, there are authorized to be appropriated such sums as may be necessary, but not more than \$1,650,000 for the acquisition of lands and interests in lands and not more than \$1,800,000 for development.

(18) SKAGIT, WASHINGTON.--The segment from the pipeline crossing at Sedro-Woolley upstream to and including the mouth of Bacon Creek; the Cascade River from its mouth to the junction of its North and South Forks; the South Fork to the boundary of the Glacier Peak Wilderness Area; the Suiattle River from its mouth to the boundary of the Glacier Peak Wilderness Area at Milk Creek; the Sauk River from its mouth to its junction with Elliott Creek; the North Fork of the Sauk River from its junction with the South Fork of the Sauk to the boundary of the Glacier Peak Wilderness Area; as generally depicted on the boundary map entitled "Skagit River--River Area Boundary"; all segments to be administered by the Secretary of Agriculture. Riprapping related to natural channels with natural rock along the shorelines of the Skagit segment to preserve and protect agricultural land shall not be considered inconsistent with the values for which such segment is designated. After consultation with affected Federal agencies, State and local government and the interested public, the Secretary shall take such action as is provided for under subsection (b) with respect to the segments referred to in this paragraph within one year from the date of enactment of this paragraph; as part of such action, the Secretary of Agriculture shall investigate that portion of the North Fork of the Cascade River from its confluence with the South Fork to the boundary of the North Cascades National Park and if such portion is found to qualify for inclusion, it shall be treated as a component of the Wild and Scenic Rivers System designated under this section upon publication by the Secretary of notification to that effect in the Federal Register. For the purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph there are authorized to be appropriated not more than \$11,734,000 for the acquisition of lands or interest in lands and not more than \$332,000 for development.

(19) UPPER DELAWARE RIVER, NEW YORK AND PENNSYLVANIA.--The segment of the Upper Delaware River from the confluence of the East and West branches below Hancock, New York, to the existing railroad bridge immediately downstream of Cherry Island in the vicinity of Sparrow Bush, New York, as depicted on the boundary map entitled "The Upper Delaware Scenic and Recreational River", dated April 1978; to be administered by the Secretary of the Interior. Subsection (b) of this section shall not apply, and the boundaries and classifications of the river shall be as specified on the map referred to in the preceding sentence, except to the extent that such boundaries or classifications are modified pursuant to section 704(c) of the National Parks and Recreation Act of 1978. Such boundaries and classifications shall be published in the Federal Register and shall not become effective until ninety days after they have been forwarded to the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate. For purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph there are authorized to be appropriated such sums as may be necessary.

(NOTE: The indented portion that follows was included in the legislation adding the Upper Delaware River to the System (P.L. 95-625), but not as an amendment to P.L. 90-542.)

(b)(1) Notwithstanding any requirement to the contrary contained in section 6(c) of the Wild and Scenic Rivers Act, within one hundred and eighty days after the date of enactment of this Act, the Secretary shall publish in the Federal Register general guidelines for land and water use control measures to be developed and implemented by the appropriate officials of the States of New York and Pennsylvania (hereinafter referred to as the "directly affected States"), by the local political subdivisions, and by the Delaware River Basin Commission (hereinafter referred to as the "Commission"). The Secretary shall provide for participation in the development of the said general guidelines by all levels of State, county, and local government, and concerned private individuals and organizations, and also shall seek the advice of the Upper Delaware Citizens Advisory Council established in subsection (f) (hereinafter referred to as the "Advisory Council"). In each of the directly affected States, prior to publication of such general guidelines, public hearings shall be conducted by the Secretary or his designee, in the region of the Upper Delaware River designated by subsection (a) (hereinafter in this section referred to as the "Upper Delaware River").

(2) The Secretary may from time to time adopt amended or revised guidelines and shall do so in accordance with the provisions of paragraph (1) hereof.

(c)(1) Within three years from the date of the enactment of this Act, the Secretary, in cooperation with the Commission, the Advisory Council, the directly affected States and their concerned political subdivisions and other concerned Federal agencies, shall develop, approve, and submit to the Governors of the directly affected States a management plan (hereinafter in this section referred to as the "management plan" or "the plan") for the Upper Delaware River which shall provide for as broad a range of land and water uses and scenic and recreational activities as shall be compatible with the provisions of this section, the Wild and Scenic Rivers Act, and the general guidelines for land and water use controls promulgated by the Secretary under the provisions of subsection (b).

(2) The plan shall apply to the Upper Delaware River and shall set forth--

(A) a map showing detailed final landward boundaries, and upper and lower termini of the area and the specific segments of the river classified as scenic and recreational, to be administered in accordance with such classifications;

(B) a program for management of existing and future land and water use, including the application of available management techniques;

(C) an analysis of the economic and environmental costs and benefits of implementing the management plan including any impact of the plan upon revenues and costs of local government;

(D) a program providing for coordinated implementation and administration of the plan with proposed assignment of responsibilities to the appropriate governmental unit at the Federal, regional, State, and local levels; and

(E) such other recommendations or provisions as shall be deemed appropriate to carry out the purposes of this section.

(3) Immediately following enactment of this Act, the Secretary, through the National Park Service or such other designee, shall develop and implement such interim programs as he shall deem necessary and appropriate to protect the Upper Delaware River and its environs and to protect the public health and safety. Such interim programs shall include provisions for information to river users, education and interpretation activities, and regulation of recreational use of the river.

(4) To enable the directly affected States and their political subdivisions to develop and implement programs compatible with the management plan, the Secretary shall provide such technical assistance to the said States and their political subdivisions as he deems appropriate.

(5) The Secretary shall promote public awareness of and participation in the development of the management plan, and shall develop and conduct a concerted program to this end. Prior to final approval of the management plan, the Secretary shall hold two or more public hearings in the Upper Delaware River region of each directly affected State.

(6) Upon approval of the management plan by the Secretary, it shall be published in the Federal Register and shall not become effective until ninety days after it shall have been forwarded to the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate. The plan shall be administered by the Secretary in accordance with the provisions of this section and the Wild and Scenic Rivers Act. The Secretary is hereby granted such authority as may be required to implement and administer said plan.

(d) Notwithstanding any provision of the Wild and Scenic Rivers Act, the Secretary may not acquire more than a total of



four hundred and fifty acres of land and interests in land for access, development sites, the preservation of scenic qualities, or for any other purposes: Provided, That the Secretary may acquire additional land and interests in land for such purposes not in excess of one thousand acres if such additional acquisition is recommended and provided for in the management plan as finally approved by the Secretary. The limitations contained in this section shall not apply under the circumstances set forth in subsection (e)(4) of this section. Prior to acquisition of any land or interests in land which has been used for business purposes during the annual period immediately preceding the date of the enactment of this Act, the Secretary shall first make such efforts as he deems reasonable to acquire easements or restrictive covenants, or to enter into any other appropriate agreements or arrangements with the owners of said land, consistent with the purposes of this section.

(e)(1) For the purpose of protecting the integrity of the Upper Delaware River, the Secretary shall review all relevant local plans, laws, and ordinances to determine whether they substantially conform to the approved management plan provided for in subsection (c) and to the general guidelines promulgated by the Secretary pursuant to subsection (b). Additionally, the Secretary shall determine the adequacy of enforcement of such plans, laws, and ordinances, including but not limited to review of building permits and zoning variances granted by local governments, and amendments to local laws and ordinances.

(2) The purpose of such reviews shall be to determine the degree to which actions by local governments are compatible with the purposes of this section. Following the approval of the management plan and after a reasonable period of time has elapsed, but not less than two years, upon a finding by the Secretary that such plans, laws, and ordinances are nonexistent, are otherwise not in conformance with the management plan or guidelines, or are not being enforced in such manner as will carry out the purposes of this section (as determined by the Secretary), the Secretary may exercise the authority available to him under the provisions of paragraph (4) hereof.

(3) To facilitate administration of this section, the Secretary may contract with the directly affected States or their political subdivisions to provide, on behalf of the Secretary, professional services necessary for the review of relevant local plans, laws, and ordinances, and of amendments thereto and variances therefrom, and for the monitoring of the enforcement thereof by local governments having jurisdiction over any area in the region to which the management plan applies. The Secretary shall notify the appropriate State or local officials as to the results of his review under

this section within forty-five days from the date he receives notice of the local government action.

(4) In those sections of the Upper Delaware River where such local plans, laws, and ordinances, or amendments thereto or variances therefrom, are found by the Secretary not to be in conformance with the guidelines or the management plan promulgated pursuant to subsections (b) and (c) of this section, respectively, or are not being enforced in such manner as will carry out the purposes of this section (as determined by the Secretary), the Secretary is hereby authorized to acquire land or interests in land in excess of the acreage provided for in subsection (d) of this section. Land and interests in land acquired pursuant to this subsection shall be restricted to the geographical area of the local governmental unit failing to conform with the said guidelines or management plan, and shall be limited to those lands clearly and directly required, in the judgment of the Secretary, for protection of the objectives of this Act. The total acreage of land and interests in land acquired pursuant to this subsection shall not in any event exceed the limitations contained in section 6(a) of the Wild and Scenic Rivers Act. This subsection shall apply notwithstanding the first sentence of section 6(c) of the Wild and Scenic Rivers Act. Notwithstanding any limitation on amounts authorized to be appropriated for acquisition of land and interests in land which is contained in section 3(a)(21) of the Wild and Scenic Rivers Act or in any other provision of law, there are authorized to be appropriated such sums as may be necessary to carry out this subsection.

(f)(1) At the earliest practicable date following enactment of this Act, but no later than one hundred and twenty days thereafter, there shall be established an Upper Delaware Citizens Advisory Council. The Advisory Council shall encourage maximum public involvement in the development and implementation of the plans and programs authorized by this section. It shall report to the Commission and the Secretary from time to time during preparation of the management plan. Following completion of the management plan, it shall report to the Secretary and the Governors of the directly affected States no less frequently than once each year its recommendations, if any, for improvement in the programs authorized by this Act, or in the programs of other agencies which may relate to land or water use in the Upper Delaware River region.

(2) Membership on the Advisory Council shall consist of seventeen members appointed as follows: there shall be--

(A) six members from each of the directly affected States appointed by the Secretary from nominations submitted by the legislatures of the respective counties and appointed such that two members shall be from each of Orange, Delaware, and Sullivan Counties, New York, and

three members shall be from each of Wayne and Pike Counties, Pennsylvania (at least one appointee from each county shall be a permanent resident of a municipality abutting the Upper Delaware River);

(B) two members appointed at large by each Governor of a directly affected State; and

(C) one member appointed by the Secretary.

The Secretary shall designate one of the aforesaid members to serve as Chairperson of the Advisory Council who shall be a permanent resident of one of the aforementioned counties. Vacancies on the Advisory Council shall be filled in the same manner in which the original appointment was made. Members of the Advisory Council shall serve without compensation as such, but the Secretary is authorized to pay expenses reasonably incurred by the Advisory Council in carrying out its responsibilities under this Act on vouchers signed by the Chairman.

(g) With respect to the land and water in areas which are not owned by the United States but which are within the boundaries of the segment of the Delaware River designated as a wild and scenic river under subsection (a), the Secretary is authorized to enter into contracts with the appropriate State or political subdivisions thereof pursuant to which the Secretary may provide financial assistance to such State or political subdivision for purposes of--

(1) enforcing State and local laws in such areas, and

(2) removing solid waste from such areas and disposing of such waste.

(h) Nothing in this section shall be construed as limiting the right to fish and hunt on any of the lands or waters within the boundaries of the Upper Delaware River in the manner provided in section 13 of the Wild and Scenic Rivers Act.

(i) There are hereby authorized to be appropriated to carry out the purposes of this section such sums as may be necessary.

(j) Where any provision of the Wild and Scenic Rivers Act is inconsistent with any provisions of this section, the provision of this section shall govern. In applying the provisions of section 6(g)(3) of the Wild and Scenic Rivers Act, with regard to "improved property", the date specified therein, shall, for purposes of the river designated in this Act, be the date of enactment of this Act (rather than January 1, 1967).

(20) DELAWARE, NEW YORK, PENNSYLVANIA, AND NEW JERSEY.--The segment from the point where the river crosses the northern boundary of the Delaware Water

Gap National Recreation Area to the point where the river crosses the southern boundary of such recreation area; to be administered by the Secretary of the Interior. For purposes of carrying out this Act with respect to the river designated by this paragraph, there are authorized to be appropriated such sums as may be necessary. Action required to be taken under subsection (b) of this section with respect to such segment shall be taken within one year from the date of enactment of this paragraph, except that, with respect to such segment, in lieu of the boundaries provided for in such subsection (b), the boundaries shall be the banks of the river. Any visitors facilities established for purposes of use and enjoyment of the river under the authority of the Act establishing the Delaware Water Gap National Recreation Area shall be compatible with the purposes of this Act and shall be located at an appropriate distance from the river.

(21) AMERICAN, CALIFORNIA.--The North Fork from a point 0.3 mile above Heath Springs downstream to a point approximately 1,000 feet upstream of the Colfax-Iowa Hill Bridge, including the Gold Run Addition Area, as generally depicted on the map entitled "Proposed Boundary Maps" contained in Appendix I of the document dated January 1978 and entitled "A Proposal: North Fork American Wild and Scenic River" published by the United States Forest Service, Department of Agriculture; to be designated as a wild river and to be administered by agencies of the Departments of Interior and Agriculture as agreed upon by the Secretaries of such Departments or as directed by the President. Action required to be taken under subsection (b) shall be taken within one year after the date of the enactment of this paragraph; in applying such subsection (b) in the case of the Gold Run Addition Area, the acreage limitation specified therein shall not apply and in applying section 6(g)(3), January 1 of the calendar year preceding the calendar year in which this paragraph is enacted shall be substituted for January 1, 1967. For purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph, there are authorized to be appropriated not more than \$850,000 for the acquisition of lands and interests in land and not more than \$765,000 for development.

(22) MISSOURI RIVER, NEBRASKA, SOUTH DAKOTA.--The segment from Gavins Point Dam, South Dakota, fifty-nine miles downstream to Ponca State Park, Nebraska, as generally depicted in the document entitled "Review Report for Water Resources Development, South Dakota, Nebraska, North Dakota, Montana", prepared by the Division Engineer, Missouri River Division, Corps of Engineers, dated August 1977 (hereinafter in this paragraph referred to as the "August 1977 Report"). Such segment shall be administered as a recreational river by the Secretary. The Secretary shall enter into a written cooperative agreement with the Secretary of the Army (acting through the Chief of Engineers) for construction and maintenance of bank stabilization work and appropriate recreational development. After public notice and consultation with the State and local governments, other interested organizations and associations, and the interested public, the Secretary shall take such action as is required pursuant to subsection (b) within one year from the date of enactment of this section. In administering such river, the Secretary shall, to the extent, and in a manner, consistent with this section--

(A) provide (i) for the construction by the United States of such recreation river features and streambank stabilization structures as the

Secretary of the Army (acting through the Chief of Engineers) deems necessary and advisable in connection with the segment designated by this paragraph, and (ii) for the operation and maintenance of all streambank stabilization structures constructed in connection with such segment (including both structures constructed before the date of enactment of this paragraph and structures constructed after such date, and including both structures constructed under the authority of this section and structures constructed under the authority of any other Act); and

(b) permit access for such pumping and associated pipelines as may be necessary to assure an adequate supply of water for owners of land adjacent to such segment and for fish, wildlife, and recreational uses outside the river corridor established pursuant to this paragraph.

The streambank structures to be constructed and maintained under subparagraph (A) shall include, but not be limited to, structures at such sites as are specified with respect to such segment on pages 62 and 63 of the August 1977 Report, except that sites for such structures may be relocated to the extent deemed necessary by the Secretary of the Army (acting through the Chief of Engineers) by reason of physical changes in the river or river area. The Secretary of the Army (acting through the Chief of Engineers) shall condition the construction or maintenance of any streambank stabilization structure or of any recreational river feature at any site under subparagraph (A)(i) upon the availability to the United States of such land and interests in land in such ownership as he deems necessary to carry out such construction or maintenance and to protect and enhance the river in accordance with the purposes of this Act. Administration of the river segment designated by this paragraph shall be in coordination with, and pursuant to the advice of a Recreational River Advisory Group which shall be established by the Secretary. Such Group may include in its membership, representatives of the affected States and political subdivisions thereof, affected Federal agencies, and such organized private groups as the Secretary deems desirable. Notwithstanding the authority to the contrary contained in subsection 6(a) of this Act, no land or interests in land may be acquired without the consent of the owner: Provided, That not to exceed 5 per centum of the acreage within the designated river boundaries may be acquired in less than fee title without the consent of the owner, in such instance of the Secretary's determination that activities are occurring, or threatening to occur thereon which constitute serious damage or threat to the integrity of the river corridor, in accordance with the values for which this river was designated. For purposes of carrying out the provisions of this Act with respect to the river designated by this paragraph, there are authorized to be appropriated not to exceed \$21,000,000, for acquisition of lands and interests in lands and for development.

(23) SAINT JOE, IDAHO.--The segment above the confluence of the North Fork of the Saint Joe River to Spruce Tree Campground, as a recreational river; the segment above Spruce Tree Campground to Saint Joe Lake, as a wild river, as generally depicted on the map entitled "Saint Joe River Corridor Map" on file with the Chief of the Forest Service and dated September 1978; to be administered by the Secretary of Agriculture. Notwithstanding any other provision of law, the classification of the Saint Joe River under this paragraph and the subsequent development plan for the river prepared by the Secretary

of Agriculture shall at no time interfere with or restrict the maintenance, use, or access to existing or future roads within the adjacent lands nor interfere with or restrict present use of or future construction of bridges across that portion of the Saint Joe designated as a 'recreational river' under this paragraph. Dredge or placer mining shall be prohibited within the banks or beds of the main stem of the Saint Joe and its tributary streams in their entirety above the confluence of the main stem with the North Fork of the river. Nothing in this Act shall be deemed to prohibit the removal of sand and gravel above the high water mark of the Saint Joe River and its tributaries within the river corridor by or under the authority of any public body or its agents for the purposes of construction or maintenance of roads. The Secretary shall take such action as is required under subsection (b) of this section within one year from the date of enactment of this paragraph. For the purposes of this river, there are authorized to be appropriated not more than \$1,000,000 for the acquisition of lands or interest in lands.

(24)(A) SALMON, IDAHO.--The segment of the main river from the mouth of the North Fork of the Salmon River downstream to Long Tom Bar in the following classes:

(i) the forty-six-mile segment from the mouth of the North Fork of the Salmon River to Corn Creek as a recreational river; and

(ii) the seventy-nine-mile segment from Corn Creek to Long Tom Bar as a wild river; all as generally depicted on a map entitled "Salmon River" dated November 1979, which is on file and available for public inspection in the Office of the Chief, Forest Service, United States Department of Agriculture.

(B) This segment shall be administered by the Secretary of Agriculture: Provided, That after consultation with State and local governments and the interested public, the Secretary shall take such action as is required by subsection (b) of this section within one year from the date of enactment of this paragraph.

(C) The use of motorboats (including motorized jetboats) within this segment of the Salmon River shall be permitted to continue at a level not less than the level of use which occurred during calendar year 1978.

(D) Subject to existing rights of the State of Idaho, including the right of access, with respect to the beds of navigable streams, tributaries or rivers, dredge and placer mining in any form including any use of machinery for the removal of sand and gravel for mining purposes shall be prohibited within the segment of the Salmon River designated as a component of the Wild and Scenic Rivers System by this paragraph; within the fifty-three-mile segment of the Salmon River from Hammer Creek downstream to the confluence of the Snake River; and within the Middle Fork of the Salmon River; and its tributary streams in their entirety: Provided, That ~~nothing in~~ this paragraph shall be deemed to prohibit the removal of sand and gravel, outside the boundaries of the River of No Return Wilderness or the Gospel-Hump Wilderness, above the high water mark of the Salmon River or the Middle Fork and its tributaries for the purposes of construction or maintenance of public roads: Provided further, That this paragraph shall not apply to

any written mineral leases approved by the Board of Land Commissioners of the State of Idaho prior to January 1, 1980.

(E) The provisions of section 7(a) of this Act with respect to the licensing of dams, water conduits, reservoirs, powerhouses, transmission lines or other project works, shall apply to the fifty-three-mile segment of the Salmon River from Hammer Creek downstream to the confluence of the Snake River.

(F) For the purposes of the segment of the Salmon River designated as a component of the Wild and Scenic Rivers System by this paragraph, there is hereby authorized to be appropriated from the Land and Water Conservation Fund, after October 1, 1980, not more than \$6,200,000 for the acquisition of lands and interests in lands.

(25) ALAGNAK, ALASKA.--That segment of the main stem and the major tributary to the Alagnak, the Nonvianuk River, within Katmai National Preserve; to be administered by the Secretary of the Interior.

(26) ALATNA, ALASKA.--The main stem within the Gates of the Arctic National Park; to be administered by the Secretary of the Interior.

(27) ANIAKCHAK, ALASKA.--That portion of the river, including its major tributaries, Hidden Creek, Mystery Creek, Albert Johnson Creek, and North Fork Aniakchak River, within the Aniakchak National Monument and National Preserve; to be administered by the Secretary of the Interior.

(28) CHARLEY, ALASKA.--The entire river, including its major tributaries, Copper Creek, Bonanza Creek, Hosford Creek, Derwent Creek, Flat-Orthmer Creek, Crescent Creek, and Moraine Creek, within the Yukon-Charley Rivers National Preserve; to be administered by the Secretary of the Interior.

(29) CHILIKADROTNA, ALASKA.--That portion of the river within the Lake Clark National Park and Preserve; to be administered by the Secretary of the Interior.

(30) JOHN, ALASKA.--That portion of the river within the Gates of the Arctic National Park; to be administered by the Secretary of the Interior.

(31) KOBUK, ALASKA.--That portion within the Gates of the Arctic National Park and Preserve; to be administered by the Secretary of the Interior.

(32) MULCHATNA, ALASKA.--That portion within the Lake Clark National Park and Preserve; to be administered by the Secretary of the Interior.

(33) NOATAK, ALASKA.--The river from its source in the Gates of the Arctic National Park to its confluence with the Kelly River in the Noatak National Preserve; to be administered by the Secretary of the Interior.

(34) NORTH FORK OF THE KOYUKUK, ALASKA.--That portion within the Gates of the Arctic National Park; to be administered by the Secretary of the Interior.

(35) SALMON, ALASKA.--That portion within the Kobuk Valley National Park; to be administered by the Secretary of the Interior.

(36) TINAYGUK, ALASKA.--That portion within the Gates of the Arctic National Park; to be administered by the Secretary of the Interior.

(37) TLIKAKILA, ALASKA.--That portion within the Lake Clark National Park; to be administered by the Secretary of the Interior.

(38) ANDREAFSKY, ALASKA.--That portion from its source, including all headwaters, and the East Fork, within the boundary of the Yukon Delta National Wildlife Refuge; to be administered by the Secretary of the Interior.

(39) IVISHAK, ALASKA.--That portion from its source, including all headwaters and an unnamed tributary from Porcupine Lake within the boundary of the Arctic National Wildlife Range; to be administered by the Secretary of the Interior.

(40) NOWITNA, ALASKA.--That portion from the point where the river crosses the west limit of township 18 south, range 22 east, Kateel River meridian, to its confluence with the Yukon River within the boundaries of the Nowitna National Wildlife Refuge; to be administered by the Secretary of the Interior.

(41) SELAWIK, ALASKA.--That portion from a fork of the headwaters in township 12 north, range 10 east, Kateel River meridian to the confluence of the Kugarak River; within the Selawik National Wildlife Refuge to be administered by the Secretary of the Interior.

(42) SHEENJEK, ALASKA.--The segment within the Arctic National Wildlife Refuge; to be administered by the Secretary of the Interior.

(43) WIND, ALASKA.--That portion from its source, including all headwaters and one unnamed tributary in township 13 south, within the boundaries of the Arctic National Wildlife Refuge; to be administered by the Secretary of the Interior.

(44) ALAGNAK, ALASKA.--Those segments or portions of the main stem and Nonvianuk tributary lying outside and westward of the Katmai National Park/Preserve and running to the west boundary of township 13 south, range 43 west; to be administered by the Secretary of the Interior.

(45) BEAVER CREEK, ALASKA.--The segment of the main stem from the vicinity of the confluence of the Bear and Champion Creeks downstream to its exit from the northeast corner of township 12 north, range 6 east, Fairbanks meridian within the White Mountains National Recreation Area, and the Yukon Flats National Wildlife Refuge, to be administered by the Secretary of the Interior.

(46) BIRCH CREEK, ALASKA.--The segment of the main stem from the south side of Steese Highway in township 7 north, range 10 east, Fairbanks meridian, downstream to the south side of the Steese Highway in township 10 north, range 16 east; to be administered by the Secretary of the Interior.

(47) DELTA, ALASKA.--The segment from and including all of the Tangle Lakes to a point one-half mile north of Black Rapids; to be administered by the Secretary of the Interior.



(48) FORTYMILE, ALASKA.--The main stem within the State of Alaska; O'Brien Creek; South Fork; Napoleon Creek, Franklin Creek, Uhler Creek, Walker Fork downstream from the confluence of Liberty Creek; Wade Creek; Mosquito Fork downstream from the vicinity of Kechumstuk; West Fork Dennison Fork downstream from the confluence of Logging Cabin Creek; Dennison Fork downstream from the confluence of West Fork Dennison Fork; Logging Cabin Creek; North Fork; Hutchison Creek; Champion Creek; the Middle Fork downstream from the confluence of Joseph Creek; and Joseph Creek; to be administered by the Secretary of the Interior.

(49) GULKANA, ALASKA.--The main stem from the outlet of Paxson Lake in township 12 north, range 2 west, Copper River meridian to the confluence with Sourdough Creek; the south branch of the west fork from the outlet of an unnamed lake in sections 10 and 15, township 10 north, range 7 west, Copper River meridian to the confluence with the west fork; the north branch from the outlet of two unnamed lakes, one in sections 24 and 25, the second in sections 9 and 10, township 11 north, range 8 west, Copper River meridian to the confluence with the west fork; the west fork from its confluence with the north and south branches downstream to its confluence with the main stem; the middle fork from the outlet of Dickey Lake in township 13 north, range 5 west, Copper River meridian to the confluence with the main stem; to be classified as a wild river area and to be administered by the Secretary of the Interior.

(50) UNALAKLEET, ALASKA.--The segment of the main stem from the headwaters in township 12 south, range 3 west, Kateel River meridian extending downstream approximately 65 miles to the western boundary of township 18 south, range 8 west; to be administered by the Secretary of the Interior.

(b) The agency charged with the administration of each component of the national wild and scenic rivers system designated by subsection (a) of this section shall, within one year from the date of this Act, (except where a different date is provided in subsection (a)) establish detailed boundaries therefor (which boundaries shall include an average of not more than three hundred and twenty acres per mile on both sides of the river); determine which of the classes outlined in section 2, subsection (b), of this Act best fit the river or its various segments; and prepare a plan for necessary developments in connection with its administration in accordance with such classification. Said boundaries, classification, and development plans shall be published in the Federal Register and shall not become effective until ninety days after they have been forwarded to the President of the Senate and the Speaker of the House of Representatives.

SEC. 4.(a) The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and submit to the President reports on the suitability or nonsuitability for addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system. The President shall report to the Congress his recommendations and proposals with respect to the designation of each such river or section thereof under this Act. Such studies shall be completed and such reports shall be made to the Congress with respect to all rivers named in subparagraphs 5(a)(1) through (27) of this Act no later

than October 2, 1978. In conducting these studies the Secretary of the Interior and the Secretary of Agriculture shall give priority to those rivers (i) with respect to which there is the greatest likelihood of developments which, if undertaken, would render the rivers unsuitable for inclusion in the national wild and scenic rivers system, and (ii) which possess the greatest proportion of private lands within their areas. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244; 42 U.S.C. 1962 et seq.).

Each report, including maps and illustrations, shall show among other things the area included within the report; the characteristics which do or do not make the area a worthy addition to the system; the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area, should it be added to the system, be administered; the extent to which it is proposed that such administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system. Each such report shall be printed as a Senate or House document.

(b) Before submitting any such report to the President and the Congress, copies of the proposed report shall, unless it was prepared jointly by the Secretary of the Interior and the Secretary of Agriculture, be submitted by the Secretary of the Interior to the Secretary of Agriculture or by the Secretary of Agriculture to the Secretary of the Interior, as the case may be, and to the Secretary of the Army, the Chairman of the Federal Power Commission, the head of any other affected Federal department or agency and, unless the lands proposed to be included in the area are already owned by the United States or have already been authorized for acquisition by Act of Congress, the Governor of the State or States in which they are located or an officer designated by the Governor to receive the same. Any recommendations or comments on the proposal which the said officials furnish the Secretary or Secretaries who prepared the report within ninety days of the date on which the report is submitted to them, together with the Secretary's or Secretaries' comments thereon, shall be included with the transmittal to the President and the Congress.

(c) Before approving or disapproving for inclusion in the national wild and scenic rivers system any river designated as a wild, scenic or recreational river by or pursuant to an act of a State legislature, the Secretary of the Interior shall submit the proposal to the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Federal Power Commission; and the head of any other affected Federal department or agency and shall evaluate and give due weight to any recommendations or comments which the said officials furnish him within ninety days of the date on which it is submitted to them. If he approves the proposed inclusion, he shall publish notice thereof in the Federal Register.

SEC. 5.(a) The following rivers are hereby designated for potential addition to the national wild and scenic rivers system:

- (1) Allegheny, Pennsylvania: The segment from its mouth to the town of East Brady, Pennsylvania.
- (2) Bruneau, Idaho: The entire main stem.
- (3) Buffalo, Tennessee: The entire river.
- (4) Chattooga, North Carolina, South Carolina, and Georgia: The entire river.
- (5) Clarion, Pennsylvania: The segment between Ridgway and its confluence with the Allegheny River.
- (6) Delaware, Pennsylvania and New York: The segment from Hancock, New York, to Matamoras, Pennsylvania.
- (7) Flathead, Montana: The North Fork from the Canadian border downstream to its confluence with the Middle Fork; the Middle Fork from its headwaters to its confluence with the South Fork; and the South Fork from its origin to Hungry Horse Reservoir.
- (8) Gasconade, Missouri: The entire river.
- (9) Illinois, Oregon: The entire river.
- (10) Little Beaver, Ohio: The segment of the North and Middle Forks of the Little Beaver River in Columbiana County from a point in the vicinity of Negly and Elkton, Ohio, downstream to a point in the vicinity of East Liverpool, Ohio.
- (11) Little Miami, Ohio: That segment of the main stem of the river, exclusive of its tributaries, from a point at the Warren-Clermont County line at Loveland, Ohio, upstream to the sources of Little Miami including North Fork.
- (12) Maumee, Ohio and Indiana: The main stem from Perrysburg, Ohio, to Fort Wayne, Indiana, exclusive of its tributaries in Ohio and inclusive of its tributaries in Indiana.
- (13) Missouri, Montana: The segment between Fort Benton and Ryan Island.
- (14) Moyie, Idaho: The segment from the Canadian border to its confluence with the Kootenai River.
- (15) Obed, Tennessee: The entire river and its tributaries, Clear Creek and Daddys Creek.
- (16) Penobscot, Maine: Its east and west branches.
- (17) Pere Marquette, Michigan: The entire river.

- (18) Pine Creek, Pennsylvania: The segment from Ansonia to Waterville.
- (19) Priest, Idaho: The entire main stem.
- (20) Rio Grande, Texas: The portion of the river between the west boundary of Hudspeth County and the east boundary of Terrell County on the United States side of the river: Provided, That before undertaking any study of this potential scenic river, the Secretary of the Interior shall determine, through the channels of appropriate executive agencies, that Mexico has no objection to its being included among the studies authorized by this Act.
- (21) Saint Croix, Minnesota and Wisconsin: The segment between the dam near Taylors Falls and its confluence with the Mississippi River.
- (22) Saint Joe, Idaho: The entire main stem.
- (23) Salmon, Idaho: The segment from the town of North Fork to its confluence with the Snake River.
- (24) Skagit, Washington: The segment from the town of Mount Vernon to and including the mouth of Bacon Creek; the Cascade River between its mouth and the junction of its North and South Forks; the South Fork to the boundary of the Glacier Peak Wilderness Area; the Suiattle River from its mouth to the Glacier Peak Wilderness Area boundary at Milk Creek; the Sauk River from its mouth to its junction with Elliott Creek; the North Fork of the Sauk River from its junction with the South Fork of the Sauk to the Glacier Peak Wilderness Area boundary.
- (25) Suwannee, Georgia and Florida: The entire river from its source in the Okefenokee Swamp in Georgia to the gulf and the outlying Ichetucknee Springs, Florida.
- (26) Upper Iowa, Iowa: The entire river.
- (27) Youghiogheny, Maryland and Pennsylvania: The segment from Oakland, Maryland, to the Youghiogheny Reservoir, and from the Youghiogheny Dam downstream to the town of Connellsville, Pennsylvania.
- (28) American, California: The North Fork from the Cedars to the Auburn Reservoir.
- (29) Au Sable, Michigan: The segment downstream from Foot Dam to Oscoda and upstream from Loud Reservoir to its source, including its principal tributaries and excluding Mio and Bamfield Reservoirs.
- (30) Big Thompson, Colorado: The segment from its source to the boundary of Rocky Mountain National Park.
- (31) Cache la Poudre, Colorado: Both forks from their sources to their confluence, thence the Cache la Poudre to the eastern boundary of Roosevelt National Forest.

(32) Cahaba, Alabama: The segment from its junction with United States Highway 31 south of Birmingham downstream to its junction with United States Highway 80 west of Selma.

(33) Clarks Fork, Wyoming: The segment from the Clark's Fork Canyon to the Crandall Creek Bridge.

(34) Colorado, Colorado and Utah: The segment from its confluence with the Dolores River, Utah, upstream to a point 19.5 miles from the Utah-Colorado border in Colorado.

(35) Conejos, Colorado: The three forks from their sources to their confluence, thence the Conejos to its first junction with State Highway 17, excluding Platoro Reservoir.

(36) Elk, Colorado: The segment from its source to Clark.

(37) Encampment, Colorado: The Main Fork and West Fork to their confluence, thence the Encampment to the Colorado-Wyoming border, including the tributaries and headwaters.

(38) Green, Colorado: The entire segment within the State of Colorado.

(39) Gunnison, Colorado: The segment from the upstream (southern) boundary of the Black Canyon of the Gunnison National Monument to its confluence with the North Fork.

(40) Illinois, Oklahoma: The segment from Tenkiller Ferry Reservoir upstream to the Arkansas-Oklahoma border, including the Flint and Barren Fork Creeks.

(41) John Day, Oregon: The main stem from Service Creek Bridge (at river mile 157) downstream to Tumwater Falls (at river mile 10).

(42) Kettle, Minnesota: The entire segment within the State of Minnesota.

(43) Los Pinos, Colorado: The segment from its source, including the tributaries and headwaters within the San Juan Primitive Area, to the northern boundary of the Granite Peak Ranch.

(44) Manistee, Michigan: The entire river from its source to Manistee Lake, including its principal tributaries and excluding Tippy and Hodenpyl Reservoirs.

(45) Nolichucky, Tennessee and North Carolina: The entire main stem.

(46) Owyhee, South Fork, Oregon: The main stem from the Oregon-Idaho border downstream to the Owyhee Reservoir.

(47) Piedra, Colorado: The Middle Fork and East Fork from their sources to their confluence, thence the Piedra to its junction with Colorado Highway 160.

- (48) Shepaug, Connecticut: The entire river.
- (49) Sipsey Fork, West Fork, Alabama: The segment, including its tributaries, from the impoundment formed by the Lewis M. Smith Dam upstream to its source in the William B. Bankhead National Forest.
- (50) Snake, Wyoming: The segment from the southern boundaries of Teton National Park to the entrance to Palisades Reservoir.
- (51) Sweetwater, Wyoming: The segment from Wilson Bar downstream to Spring Creek.
- (52) Tuolumne, California: The main river from its source on Mount Dana and Mount Lyell in Yosemite National Park to Don Pedro Reservoir.
- (53) Upper Mississippi, Minnesota: The segment from its source at the outlet of Itasca Lake to its junction with the northwestern boundary of the city of Anoka.
- (54) Wisconsin, Wisconsin: The segment from Prairie de Sac to its confluence with the Mississippi River at Prairie du Chien.
- (55) Yampa, Colorado: The segment within the boundaries of the Dinosaur National Monument.
- (56) Dolores, Colorado: The segment of the main stem from Rico upstream to its source, including its headwaters; the West Dolores from its source, including its headwaters, downstream to its confluence with the main stem; and the segment from the west boundary, section 2 township 38 north, range 16 west, NMPM, below the proposed McPhee Dam, downstream to the Colorado-Utah border, excluding the segment from one mile above Highway 90 to the confluence of the San Miguel River.
- (57) Snake, Washington, Oregon, and Idaho: The segment from an eastward extension of the north boundary of section 1, township 5 north, range 47 east, Willamette meridian, downstream to the town of Asotin, Washington.
- (58) Housatonic, Connecticut: The segment from the Massachusetts-Connecticut boundary downstream to its confluence with the Shepaug River.
- (59) Kern, California.--The main stem of the North Fork from its source to Isabella Reservoir excluding its tributaries.
- (60) Loxahatchee, Florida.--The entire river including its tributary, North Fork.
- (61) Ogeechee, Georgia.--The entire river.
- (62) Salt, Arizona.--The main stem from a point on the north side of the river intersected by the Fort Apache Indian Reservation boundary (north of Buck Mountain) downstream to Arizona State Highway 288.

(63) Verde, Arizona.--The main stem from the Prescott National Forest boundary near Paulden to the vicinity of Table Mountain, approximately 14 miles above Horseshoe Reservoir, except for the segment not included in the national forest between Clarkdale and Camp Verde, North segment.

(64) San Francisco, Arizona.--The main stem from confluence with the Gila upstream to the Arizona-New Mexico border, except for the segment between Clifton and the Apache National Forest.

(65) Fish Creek, New York.--The entire East Branch.

(66) Black Creek, Mississippi.--The segment from Big Creek Landing in Forrest County downstream to Old Alexander Bridge Landing in Stone County.

(67) Allegheny, Pennsylvania.--The main stem from Kinzua Dam downstream to East Brady.

(68) Cacapon, West Virginia.--The entire river.

(69) Escatawpa, Alabama and Mississippi.--The segment upstream from a point approximately one mile downstream from the confluence of the Escatawpa River and Jackson Creek to a point where the Escatawpa River is joined by the Yellowhouse Branch in Washington County, Alabama, near the town of Deer Park, Alabama; and the segment of Brushy Creek upstream from its confluence with the Escatawpa to its confluence with Scarsborough Creek.

(70) Myakka, Florida.--The segment south of the southern boundary of the Myakka River State Park.

(71) Soldier Creek, Alabama.--The segment beginning at the point where Soldier Creek intersects the south line of section 31, township 7 south, range 6 east, downstream to a point on the south line of section 6, township 8 south, range 6 east, which point is 1,322 feet west of the south line of section 5, township 8 south, range 6 east in the county of Baldwin, State of Alabama.

(72) Red, Kentucky.--The segment from Highway numbered 746 (also known as Spradlin Bridge) in Wolf County, Kentucky, downstream to the point where the river descends below seven hundred feet above sea level (in its normal flow) which point is at the Menifee and Powell County line just downstream of the iron bridge where Kentucky Highway numbered 77 passes over the river.

(73) Bluestone, West Virginia.--From its headwaters to its confluence with the New.

(74) Gauley, West Virginia.--Including the tributaries of the Meadow and the Cranberry, from the headwaters to its confluence with the New.

(75) Greenbrier, West Virginia.--From its headwaters to its confluence with the New.

(76) Birch, West Virginia: The main stem from the Cora Brown Bridge in Nicholas County to the confluence of the river with the Elk River in Braxton County.

- (77) Colville, Alaska.
- (78) Etivluk-Nigu, Alaska.
- (79) Utukok, Alaska.
- (80) Kanektok, Alaska.
- (81) Kisaralik, Alaska.
- (82) Melozitna, Alaska.
- (83) Sheenjek (lower segment), Alaska.
- (84) Situk, Alaska.
- (85) Porcupine, Alaska.
- (86) Yukon (Ramparts section), Alaska.
- (87) Squirrel, Alaska.
- (88) Koyuk, Alaska.

(b)(1) The studies of rivers named in subparagraphs (28) through (55) of subsection (a) of this section shall be completed and reports thereon submitted by not later than October 2, 1979: Provided, That with respect to the rivers named in subparagraphs (33), (50), and (51), the Secretaries shall not commence any studies until (i) the State legislature has acted with respect to such rivers or (ii) one year from the date of enactment of this Act, whichever is earlier.

(2) The study of the river named in subparagraph (56) of subsection (a) of this section shall be completed and the report thereon submitted by not later than January 3, 1976.

(3) The studies of the rivers named in paragraphs (59) through (76) of subsection (a) shall be completed and reports submitted thereon not later than five full fiscal years after the date of the enactment of this paragraph. The study of rivers named in paragraphs (62) and (64) of subsection (a) shall be completed and the report thereon submitted by not later than April 1981.

(4) There are authorized to be appropriated for the purpose of conducting the studies of the rivers named in subparagraphs (28) through (56) such sums as may be necessary, but not more than \$4,060,000. There are authorized to be appropriated for the purpose of conducting the studies of the rivers named in subparagraphs (59) through (76) such sums as may be necessary.

(4) The studies of the rivers in paragraph (77) through (88) shall be completed and reports transmitted thereon not later than three full fiscal years from date of enactment of this paragraph. For the rivers listed in paragraphs (77), (78), and (79) the studies prepared and transmitted to the Congress pursuant to section 105(c) of the Naval Petroleum Reserves Production



Act of 1976 (Public Law 94-258) shall satisfy the requirements of this section.

(5) Studies of rivers listed in paragraphs (80) and (81) shall be completed, and reports submitted within and not later than the time when the Bristol Bay Cooperative Region Plan is submitted to Congress in accordance with section 1204 of the Alaska National Interest Lands Conservation Act.

(c) The study of any of said rivers shall be pursued in as close cooperation with appropriate agencies of the affected State and its political subdivisions as possible, shall be carried on jointly with such agencies if request for such joint study is made by the State, and shall include a determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the national wild and scenic rivers system.

(d) In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

SEC. 6. (a) The Secretary of the Interior and the Secretary of Agriculture are each authorized to acquire lands and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system designated in section 3 of this Act, or hereafter designated for inclusion in the system by Act of Congress, which is administered by him, but he shall not acquire fee title to an average of more than 100 acres per mile on both sides of the river. Lands owned by a State may be acquired only by donation, and lands owned by an Indian tribe or a political subdivision of a State may not be acquired without the consent of the appropriate governing body thereof as long as the Indian tribe or political subdivision is following a plan for management and protection of the lands which the Secretary finds protects the land and assures its use for purposes consistent with this Act. Money appropriated for Federal purposes from the land and water conservation fund shall, without prejudice to the use of appropriations from other sources, be available to Federal departments and agencies for the acquisition of property for the purposes of this Act.

(b) If 50 per centum or more of the entire acreage within a federally administered wild, scenic or recreational river area is owned by the United States, by the State or States within which it lies, or by political subdivisions of those States, neither Secretary shall acquire fee title to any lands by condemnation under authority of this Act. Nothing contained in this section, however, shall preclude the use of condemnation when necessary to clear title or to acquire scenic easements or such other easements as are reasonably necessary to give the public access to the river and to permit its members to traverse the length of the area or of selected segments thereof.

(c) Neither the Secretary of the Interior nor the Secretary of Agriculture may acquire lands by condemnation, for the purpose of including such lands in any national wild, scenic or recreational river area, if such lands are located within any incorporated city, village, or borough which has in force and applicable to such lands a duly adopted, valid zoning ordinance that conforms with the purposes of this Act. In order to carry out the provisions of this subsection the appropriate Secretary shall issue guidelines, specifying standards for local zoning ordinances, which are consistent with the purposes of this Act. The standards specified in such guidelines shall have the object of (A) prohibiting new commercial or industrial uses other than commercial or industrial uses which are consistent with the purposes of this Act, and (B) the protection of the bank lands by means of acreage, frontage, and setback requirements on development.

(d) The appropriate Secretary is authorized to accept title to non-Federal property within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress and, in exchange therefor, convey to the grantor any federally owned property which is under his jurisdiction within the State in which the component lies and which he classifies as suitable for exchange or other disposal. The values of the properties so exchanged either shall be approximately equal or, if they are not approximately equal, shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(e) The head of any Federal department or agency having administrative jurisdiction over any lands or interests in land within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress is authorized to transfer to the appropriate Secretary jurisdiction over such lands for administration in accordance with the provisions of this Act. Lands acquired by or transferred to the Secretary of Agriculture for the purposes of this Act within or adjacent to a national forest shall upon such acquisition or transfer become national forest lands.

(f) The appropriate Secretary is authorized to accept donations of lands and interests in land, funds, and other property for use in connection with his administration of the national wild and scenic rivers system.

(g)(1) Any owner or owners (hereinafter in this subsection referred to as "owner") of improved property on the date of its acquisition, may retain for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term not to exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, or the death of either or both of them. The owner shall elect the term to be reserved. The appropriate Secretary shall pay to the owner the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner.

(2) A right of use and occupancy retained pursuant to this subsection shall be subject to termination whenever the appropriate Secretary is given

reasonable cause to find that such use and occupancy is being exercised in a manner which conflicts with the purposes of this Act. In the event of such a finding, the Secretary shall tender to the holder of that right an amount equal to the fair market value of that portion of the right which remains unexpired on the date of termination. Such right of use or occupancy shall terminate by operation of law upon tender of the fair market price.

(3) The term "improved property", as used in this Act, means a detached, one-family dwelling (hereinafter referred to as "dwelling"), the construction of which was begun before January 1, 1967, (except where a different date is specifically provided by law with respect to any particular river) together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the appropriate Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

SEC. 7. (a) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 791a et seq.), on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of approval of this Act. No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration, or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior or the Secretary of Agriculture, as the case may be, in writing of its intention so to do at least sixty days in advance, and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

Any license heretofore or hereafter issued by the Federal Power Commission affecting the New River of North Carolina shall continue to be effective only for that portion of the river which is not included in the National Wild and Scenic Rivers System pursuant to section 2 of this Act and no project or undertaking so licensed shall be permitted to invade, inundate or otherwise adversely affect such river segment.

(b) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river which is listed in section 5, subsection (a), of this Act, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval--

(i) during the ten-year period following enactment of this Act or for a three complete fiscal year period following any Act of Congress designating any river for potential addition to the national wild and scenic rivers system, whichever is later, unless, prior to the expiration of the relevant period, the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, on the basis of study, determine that such river should not be included in the national wild and scenic rivers system and notify the Committees on Interior and Insular Affairs of the United States Congress, in writing, including a copy of the study upon which the determination was made, at least one hundred and eighty days while Congress is in session prior to publishing notice to that effect in the Federal Register: Provided, That if any Act designating any river or rivers for potential addition to the national wild and scenic rivers system provides for a period for the study or studies which exceeds such three complete fiscal year period the period provided for in such Act shall be substituted for the three complete fiscal year period in the provisions of this clause (i); and (ii) during such additional period thereafter as, in the case of any river the report for which is submitted to the President and the Congress, is necessary for congressional consideration thereof or, in the case of any river recommended to the Secretary of the Interior for inclusion in the national wild and scenic rivers system under section (2)(a)(ii) of this Act, is necessary for the Secretary's consideration thereof, which additional period, however, shall not exceed three years in the first case and one year in the second.

Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a potential wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or diminish the scenic, recreational, and fish and wildlife values present in the potential wild, scenic or recreational river area on the date of approval of this Act. No department or agency of the United States shall, during the periods hereinbefore specified, recommend authorization of any water resources project on any such river or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture in writing of its intention so to do at least sixty days in advance of doing so and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(c) The Federal Power Commission and all other Federal agencies shall, promptly upon enactment of this Act, inform the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, of any proceedings, studies, or other activities within their jurisdiction which are now in progress and which affect or may affect any of the rivers specified in section 5, subsection (a), of this Act. They shall likewise inform him of any such proceedings, studies, or other activities which are hereafter commenced or resumed before they are commenced or resumed.

(d) Nothing in this section with respect to the making of a loan or grant shall apply to grants made under the Land and Water Conservation Fund Act of 1965 (78 Stat. 897; 16 U.S.C. 4601-5 et seq.).

SEC. 8. (a) All public lands within the authorized boundaries of any component of the national wild and scenic rivers system which is designated in section 3 of this Act or which is hereafter designated for inclusion in that system are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States.

(b) All public lands which constitute the bed or bank, or are within one-quarter mile of the bank, of any river which is listed in section 5, subsection (a), of this Act are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States for the periods specified in section 7, subsection (b), of this Act. Notwithstanding the foregoing provisions of this subsection or any other provision of this Act, subject only to valid existing rights, including valid Native selection rights under the Alaska Native Claims Settlement Act, all public lands which constitute the bed or bank, or are within an area extending two miles from the bank of the river channel on both sides of the river segments referred to in paragraphs (77) through (88) of section 5(a) are hereby withdrawn from entry, sale, State selection or other disposition under the public land laws of the United States for the periods specified in section 7(b) of this Act.

SEC. 9. (a) Nothing in this Act shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that--

(i) all prospecting, mining operations, and other activities on mining claims which, in the case of a component of the system designated in section 3 of this Act, have not heretofore been perfected or which, in the case of a component hereafter designated pursuant to this Act or any other Act of Congress, are not perfected before its inclusion in the system and all mining operations and other activities under a mineral lease, license, or permit issued or renewed after inclusion of a component in the system shall be subject to such regulations as the Secretary of the Interior or, in the case of national forest lands, the Secretary of Agriculture may prescribe to effectuate the purposes of this Act;

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources

as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture; and

(iii) subject to valid existing rights, the minerals in Federal lands which are part of the system and constitute the bed or banks or are situated within one-quarter mile of the bank of any river designated a wild river under this Act or any subsequent Act are hereby withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto.

Regulations issued pursuant to paragraphs (i) and (ii) of this subsection shall, among other things, provide safeguards against pollution of the river involved and unnecessary impairment of the scenery within the component in question.

(b) The minerals in any Federal lands which constitute the bed or banks or are situated within one-quarter mile of the bank of any river which is listed in section 5, subsection (a) of this Act are hereby withdrawn from all forms of appropriation under the mining laws during the periods specified in section 7, subsection (b) of this Act. Nothing contained in this subsection shall be construed to forbid prospecting or the issuance of leases, licenses, and permits under the mineral leasing laws subject to such conditions as the Secretary of the Interior and, in the case of national forest lands, the Secretary of Agriculture find appropriate to safeguard the area in the event it is subsequently included in the system. Notwithstanding the foregoing provisions of this subsection or any other provision of this Act, all public lands which constitute the bed or bank, or are within an area extending two miles from the bank of the river channel on both sides of the river segments referred to in paragraphs (77) through (88) of section 5(a), are hereby withdrawn, subject to valid existing rights, from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto, during the periods specified in section 7(b) of this Act.

SEC. 10. (a) Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.

(b) Any portion of a component of the national wild and scenic rivers system that is within the national wilderness preservation system, as established by or pursuant to the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), shall be subject to the provisions of both the Wilderness Act and this Act with respect to preservation of such river and its immediate environment, and in case of conflict between the provisions of these Acts the more restrictive provisions shall apply.

(c) Any component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through the National Park Service shall become a part of the national park system, and any such component that is administered by the Secretary through the Fish and Wildlife Service shall become a part of the national wildlife refuge system. The lands involved shall be subject to the provisions of this Act and the Acts under which the national park system or national wildlife system, as the case may be, is administered, and in case of conflict between the provisions of these Acts, the more restrictive provisions shall apply. The Secretary of the Interior, in his administration of any component of the national wild and scenic rivers system, may utilize such general statutory authorities relating to areas of the national park system and such general statutory authorities otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act.

(d) The Secretary of Agriculture, in his administration of any component of the national wild and scenic rivers system area, may utilize the general statutory authorities relating to the national forests in such manner as he deems appropriate to carry out the purposes of this Act.

(e) The Federal agency charged with the administration of any component of the national wild and scenic rivers system may enter into written cooperative agreements with the Governor of a State, the head of any State agency, or the appropriate official of a political subdivision of a State for State or local governmental participation in the administration of the component. The States and their political subdivisions shall be encouraged to cooperate in the planning and administration of components of the system which include or adjoin State- or county-owned lands.

SEC. 11. (a) The Secretary of the Interior shall encourage and assist the States to consider, in formulating and carrying out their comprehensive statewide outdoor recreation plans and proposals for financing assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), needs and opportunities for establishing State and local wild, scenic and recreational river areas. He shall also, in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), provide technical assistance and advice to, and cooperate with, States, political subdivisions, and private interests, including nonprofit organizations, with respect to establishing such wild, scenic and recreational river areas.

(b) The Secretaries of Agriculture and of Health, Education, and Welfare shall likewise, in accordance with the authority vested in them, assist, advise, and cooperate with State and local agencies and private interests with respect to establishing such wild, scenic and recreational river areas.

SEC. 12. (a) The Secretary of the Interior, the Secretary of Agriculture, and the head of any other Federal department or agency having jurisdiction over any lands which include, border upon, or are adjacent to, any river included within the National Wild and Scenic Rivers System or under consideration for such inclusion, in accordance with section 2(a)(ii), 3(a), or 5(a), shall take such action respecting management policies, regulations, contracts, plans,

affecting such lands, following the date of enactment of this sentence, as may be necessary to protect such rivers in accordance with the purposes of this Act. Such Secretary or other department or agency head shall, where appropriate, enter into written cooperative agreements with the appropriate State or local official for the planning, administration, and management of Federal lands which are within the boundaries of any rivers for which approval has been granted under section 2(a)(ii). Particular attention shall be given to scheduled timber harvesting, road construction, and similar activities which might be contrary to the purposes of this Act.

(b) Nothing in this section shall be construed to abrogate any existing rights, privileges, or contracts affecting Federal lands held by any private party without the consent of said party.

(c) The head of any agency administering a component of the national wild and scenic rivers system shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the river.

SEC. 13. (a) Nothing in this Act shall affect the jurisdiction or responsibilities of the States with respect to fish and wildlife. Hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable State and Federal laws and regulations unless, in the case of hunting, those lands or waters are within a national park or monument. The administering Secretary may, however, designate zones where, and establish periods when, no hunting is permitted for reasons of public safety, administration, or public use and enjoyment and shall issue appropriate regulations after consultation with the wildlife agency of the State or States affected.

(b) The jurisdiction of the States and the United States over waters of any stream included in a national wild, scenic or recreational river area shall be determined by established principles of law. Under the provisions of this Act, any taking by the United States of a water right which is vested under either State or Federal law at the time such river is included in the national wild and scenic rivers system shall entitle the owner thereof to just compensation. Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

(c) Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this Act, or in quantities greater than necessary to accomplish these purposes.

(d) The jurisdiction of the States over waters of any stream included in a national wild, scenic or recreational river area shall be unaffected by this Act to the extent that such jurisdiction may be exercised without impairing the purposes of this Act or its administration.

(e) Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made



by any States which contain any portion of the national wild and scenic rivers system.

(f) Nothing in this Act shall affect existing rights of any State, including the right of access, with respect to the beds of navigable streams, tributaries, or rivers (or segments thereof) located in a national wild, scenic or recreational river area.

(g) The Secretary of the Interior or the Secretary of Agriculture, as the case may be, may grant easements and rights-of-way upon, over, under, across, or through any component of the national wild and scenic rivers system in accordance with the laws applicable to the national park system and the national forest system, respectively: Provided, That any conditions precedent to granting such easements and rights-of-way shall be related to the policy and purpose of this Act.

SEC. 14. The claim and allowance of the value of an easement as a charitable contribution under section 170 of title 26, United States Code, or as a gift under section 2522 of said title shall constitute an agreement by the donor on behalf of himself, his heirs, and assigns that, if the terms of the instrument creating the easement are violated, the donee or the United States may acquire the servient estate at its fair market value as of the time the easement was donated minus the value of the easement claimed and allowed as a charitable contribution or gift.

SEC. 14A. (a) Where appropriate in the discretion of the Secretary, he may lease federally owned land (or any interest therein) which is within the boundaries of any component of the National Wild and Scenic Rivers System and which has been acquired by the Secretary under this Act. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act.

(b) Any land to be leased by the Secretary under this section shall be offered first for such lease to the person who owned such land immediately before its acquisition by the United States.

SEC. 15. Notwithstanding any other provision to the contrary in sections 3 and 9 of this Act, with respect to components of the National Wild and Scenic Rivers System in Alaska designated by paragraphs (38) through (50) of section 3(a) of this Act--

(1) the boundary of each such river shall include an average of not more than six hundred and forty acres per mile on both sides of the river. Such boundary shall not include any lands owned by the State or a political subdivision of the State nor shall such boundary extend around any private lands adjoining the river in such manner as to surround or effectively surround such private lands; and

(2) the withdrawal made by paragraph (iii) of section 9(a) shall apply to the minerals in Federal lands which constitute the bed or bank or are situated within one-half mile of the bank of any river designated a wild river by the Alaska National Interest Lands Conservation Act.

SEC. 16. As used in this Act, the term--

(a) "River" means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

(b) "Free-flowing", as applied to any river or section of a river, means 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 at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such 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.

(c) "Scenic easement" means the right to control the use of land (including the air space above such land) within the authorized boundaries of a component of the wild and scenic rivers system, for the purpose of protecting the natural qualities of a designated wild, scenic or recreational river area, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement.

SEC. 17. There are hereby authorized to be appropriated, including such sums as have heretofore been appropriated, the following amounts for land acquisition for each of the rivers described in section 3(a) of this Act:

Clearwater, Middle Fork, Idaho, \$2,909,800;  
Eleven Point, Missouri, \$10,407,000;  
Feather, Middle Fork, California, \$3,935,700;  
Rio Grande, New Mexico, \$253,000;  
Rogue, Oregon, \$15,147,000;  
St. Croix, Minnesota and Wisconsin, \$21,769,000;  
Salmon, Middle Fork, Idaho, \$1,837,100; and  
Wolf, Wisconsin, \$142,150.

NOTE: The following amendments have been made to P.L. 90-542 through December 23, 1980:

P.L. 92-560  
P.L. 93-279  
P.L. 93-621  
P.L. 94-199  
P.L. 94-407  
P.L. 94-486  
P.L. 95-625  
P.L. 96-87  
P.L. 96-199  
P.L. 96-487  
P.L. 96-580

## APPENDIX C



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

15 NORTH LAURA STREET

JACKSONVILLE, FLORIDA 32202

July 1, 1981

## Memorandum

To: Regional Director, National Park Service, Southeast Regional Office, Atlanta, Georgia

From: Area Manager, Fish and Wildlife Service, Jacksonville, Florida

Subject: Biological Assessment, Proposed Loxahatchee National Wild and Scenic River (Fish and Wildlife Service Log No. 4-1-81-080)

The Fish and Wildlife Service has reviewed the biological assessment submitted with your April 15 memo regarding the proposal to include in the National Wild and Scenic Rivers System a portion of the Loxahatchee River in Palm Beach and Martin Counties, Florida. The biological assessment was submitted in accordance with Section 7 of the Endangered Species Act, as amended.

The 7.5 mile reach of the Loxahatchee River from riverbend to the southern boundary of Jonathan Dickinson State Park has been recommended for inclusion in the Wild and Scenic Rivers System. The bald eagle, red-cockaded woodpecker, brown pelican, Florida everglade kite, eastern indigo snake, West Indian manatee and American alligator were considered in this assessment. We assume that the fourth listed species on page one was intended to be the Florida everglade kite, not the Florida pelican.

In concept, we believe that the proposed action will benefit the natural resources of the Loxahatchee River. The biological assessment, however, is very sketchy in analysis of actual and potential endangered species problems associated with the proposed river designation. In general, we find the assessment to be basically a reproduction of the list supplied to you on March 3, 1981, together with a thorough project description. The further objectives of a biological assessment are to determine the actual distribution of the species of interest; the actual and potential impacts of the project on listed species; and discussion of the efforts that will be taken to reduce, eliminate, or mitigate any adverse effects.

It is our understanding that details outlining specific impacts and potential protective measures will be addressed in a general management plan to be prepared jointly by Palm Beach County, Florida Department of Natural Resources and the U.S. Department of the Interior. At such time, a more concise evaluation of potential endangered species concerns should be made.

We request that the Service have the opportunity to review this plan, and if necessary, provide consultation, under Section 7 of the Endangered Species Act.

Based on information contained in your assessment, however, we concur with your determination that your proposal will not adversely impact the above listed species. This does not constitute a Biological Opinion as described in Section 7 of the Endangered Species Act; however, it does fulfill the requirements of the Act and no further action on your part is required at this time.

If modifications are made in the project or when additional information involving potential impacts to listed species arise, such as the preparation of the general management plan, consultation may have to be reinitiated. We appreciated the opportunity to review your proposal, and we look forward to receiving a copy of the general management plan when it becomes available.

  
Donald J. Hankla

## APPENDIX D



FLORIDA DEPARTMENT OF STATE  
George Firestone  
Secretary of State  
Ron Levitt  
Assistant Secretary of State

DIVISION OF ARCHIVES, HISTORY  
AND RECORDS MANAGEMENT  
L. Ross Morrell, Director  
(904) 488-1480

December 19, 1980

Mr. Dennis Ragsdale  
U. S. Department of the Interior  
National Park Service  
Southeast Regional Office  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

Re: L58-SER-OA

Dear Mr. Ragsdale:

A check of the Florida Master Site File shows three archaeological and one historic sites recorded for the area mentioned in your request of December 11, 1980.

Enclosed please find photocopies of county road maps showing the locations of these sites. A list giving some information on these sites is also enclosed.

There may be other sites that exist along the Loxahatchee River but are as yet unreported. There has been no survey for cultural resources conducted for that area.

I hope this information will be helpful to you. If you have any questions, please do not hesitate to call or write.

Sincerely,

M. Katherine Jones  
Archaeologist and Master  
Site File Coordinator

MKJ:hs

Enclosures

Site No. 8Mt20

Site Name: Jonathan Dickinson  
State Park

Description:

Jonathan Dickinson State Park encompasses 9,564 acres of coastal terrain to the west of Hobe Sound, the body of water separating the mainland and Jupiter Island.

Within the area designated by this nomination are shell mounds in excess of 30 feet in elevation. These are monumental vestiges of an aboriginal culture based on gathering the abundant aqua life in the nearby sounds, bays, and estuary. The aboriginals Dickinson's party came in contact with followed the same life style and could very well have added to the shell mounds within the park area.

The flat low lying terrain, the tropical vegetation, the tidal flow through the estuary - all provide a remarkable sensory experience and a vibrant link to the past.  
(From the Florida Master Site File)

Site No. 8PB34

Site Name: Jupiter Inlet Midden 1

Description:

The Jupiter Inlet Midden 1 is an irregular mound of shell approximately 80 yards long by 25-50 yards wide. It varies in height between 3 and 15 feet. This is all that remains of the midden which, in the early 20th century was estimated to be 600 yards long and 20 feet high.

At present, there is a house built atop the mound (apparently the only reason the mound is still in existence); all the rest of this site has, in the recent past, been borrowed as road surfacing material.

The site, as it exists today, in no way resembles its original configuration. The major part of the midden has been carried away and the shoreline of the inlet has been altered by modern dredging.  
(From the Florida Master Site File)





FLORIDA DEPARTMENT OF STATE

George Firestone  
Secretary of State

DIVISION OF ARCHIVES,  
HISTORY AND RECORDS MANAGEMENT  
The Capitol, Tallahassee, Florida 32301  
(904) 488-1480

April 26, 1982

In reply refer to:

Mr. Louis Tesar  
Historic Sites Specialist  
(904)487-2333

Ms. Sharon Keene, Chief  
Rivers and Trails Division  
Southeast Division  
National Park Service  
75 Spring Street, Southwest  
Atlanta, Georgia 30303

Re: April 15, 1982 Letter and Attachments  
L58-SER-P7  
Cultural Resource Assessment Request  
Loxahatchee River National Wild and Scenic River Study  
Martin and Palm Beach Counties, Florida

Dear Ms. Keene:

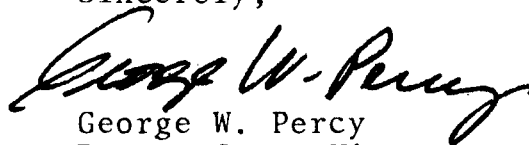
In accordance with the procedures contained in 36 C.F.R., Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

A review of the Florida Master Site File indicates that site 8PB36, located in T40S-R42E, Sec. 32, is the only site recorded within the study area, while other nearby sites are also recorded. However, the lack of sites is not deemed significant, since the study area has not previously been subjected to a systematic site assessment survey. Indeed, based on known site distribution for the area, we would expect a number of previously recorded sites to be located adjacent to and within 150 meters of the Loxahatchee River and within the study area. Some of these sites, including 8PB36, are probably eligible for listing on the National Register of Historic Places. Designation of the study area as a national wild and scenic river would serve to help protect these resources.

Ms. Sharon Keene  
April 26, 1982  
Page Two

If you have any questions concerning our comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "George W. Percy". The signature is written in black ink and is positioned above the typed name.

George W. Percy  
Deputy State Historic  
Preservation Officer

GWP:Teb

Site No. 8PB35

Site Name: Jupiter Inlet Midden 2

Description:

Large midden (very little information given by recorder)

Site No. 8PB64

Site Name: Jupiter Inlet Lighthouse

## APPENDIX E

## APPENDIX E

### LETTERS OF REVIEW AND COMMENT

Letters of comment from the various Federal, State and local government agencies are hereby appended to this report in their entirety. Letters of comment from organizations and individuals have been summarized.

Organizations submitting comments are as follows:

National Wildlife Federation  
National Audubon Society  
Audubon Society of the Everglades  
Sierra Club, Loxahatchee Group  
Palm Beach Pack and Paddle Club, Inc.

These organizations were very supportive of the study and of designation of the Loxahatchee as a wild and scenic river. Comments such as the following from the Sierra Club were typical:

"Should Alternative A be the plan chosen, we will support it to the maximum level that our group can muster. However, we are very much in favor of Alternative B being chosen."

Comments were received from 36 individuals of which 30 were clearly in favor of wild and scenic river designation and only one was clearly opposed to designation. The other 5 letters were informative but it was difficult to clearly discern their feelings about designation. Of the 30 letters clearly supporting designation, 15 of those clearly preferred Alternative B.

The following is a list of the State, Federal, and local government agencies which commented on the draft study.

#### State of Florida

Office of the Governor  
Department of Natural Resources  
South Florida Water Management District

#### Federal

Environmental Protection Agency  
Department of Energy  
Forest Service  
Department of the Army  
Department of the Air Force  
Federal Highway Administration

Local/Regional

Martin County  
Palm Beach County  
Jupiter Inlet District  
Treasure Coast Regional Planning Council

The only comment requiring a response which amended the plan was the letter from Mr. John R. Wodraska, Deputy Executive Director of the South Florida Water Management District. Our response to points raised by the Water Management District is presented following that letter.



BOB GRAHAM  
GOVERNOR

STATE OF FLORIDA

## Office of the Governor

THE CAPITOL  
TALLAHASSEE 32301

November 16, 1982

Mr. G. Ray Arnett  
Assistant Secretary  
Fish and Wildlife and Parks  
U.S. Department of the Interior  
Washington, D.C. 20240

Dear Ray:

I appreciate your forwarding for our review the draft Loxahatchee Wild and Scenic River Study and Environmental Impact Statement. The Loxahatchee is South Florida's last free-flowing river, and your documents adequately describe the natural features of this outstanding river system.

This subtropical resource requires preservation if we expect our citizens now and in the future to enjoy the experience of visiting a truly unique river. To achieve preservation of the Loxahatchee will require a concerted effort by State, regional and local governments. I am optimistic that our units of government, cooperating with the U.S. Department of Interior Park Service can develop a management plan that will serve as a model for preserving and restoring this system. When this important goal is realized, the Loxahatchee will continue to be a haven for fish and wildlife and a source of beauty and recreation.

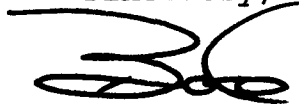
Within the next several weeks I will request that the State Cabinet, as fellow members of the Board of Natural Resources, join with me to support your inclusion of the Loxahatchee into the National Wild and Scenic River System. We will direct the Department of Natural Resources' staff and other affected agencies to develop a detailed management plan that will meet the requirements of the Wild and Scenic Rivers Act. This plan's principal goal will be preserving and restoring the river to the maximum extent possible. We hope to achieve this by guaranteeing a near constant supply of freshwater to the river. This will give the freshwater-dependent vegetation an opportunity to grow and multiply while retarding undesirable saltwater intrusion. I am certain that we can look forward to the Department of the Interior's participation and implementation of a cooperatively developed management plan.

Mr. G. Ray Arnett  
Page Two

My staff will be forwarding to you State agency comments and documents and resolutions from local governments supporting designation.

With best wishes,

Sincerely,

A handwritten signature in black ink, appearing to be "B. G. Arnett", written over a horizontal line.

Governor

BG/mlk





State of Florida  
DEPARTMENT OF NATURAL RESOURCES

DR. ELTON J. GISSENDANNER  
Executive Director  
Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard, Tallahassee, Florida 32303

BOB GRAHAM  
Governor  
GEORGE FIRESTONE  
Secretary of State  
JIM SMITH  
Attorney General  
GERALD A. LEWIS  
Comptroller  
BILL GUNTER  
Treasurer  
DOYLE CONNER  
Commissioner of Agriculture  
RALPH D. TURLINGTON  
Commissioner of Education

November 1, 1982

Mr. Robert Baker  
Regional Director  
National Park Service  
Southeast Regional Office  
75 Spring Street  
Atlanta, Georgia 30303

Dear Mr. Baker:

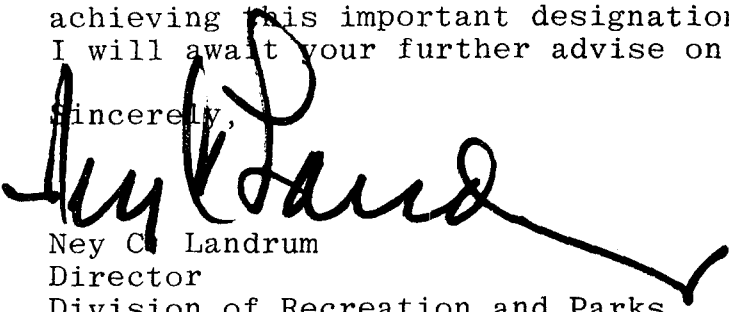
Reference is made to the draft environmental impact statement prepared by the National Park Service concerning the proposed designation of the Loxahatchee River as a component of the national Wild and Scenic Rivers System.

I am sure that you will be pleased to know that interest in achieving this designation continues to grow. Several state agencies and local governments are working to clarify their respective roles in the designation and management of the river.

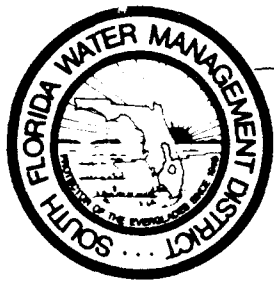
It appears that some misunderstandings have developed regarding the proposed designation, particularly concerning the role of the Florida Legislature in the designation process. I would appreciate your assistance in clarifying the avenues available for pursuing designation of the river under the Wild and Scenic Rivers Act, and the requirements of the State of Florida under each.

We look forward to continuing our work with you toward achieving this important designation for the Loxahatchee River. I will await your further advise on this matter.

Sincerely,

  
Ney C. Landrum  
Director  
Division of Recreation and Parks

NCL/ags



# South Florida Water Management District

John R. Maloy, Executive Director

Post Office Box V 3301 Gun Club Road  
West Palm Beach, Florida 33402  
Telephone (305) 686-8800  
Florida WATS Line 1-800-432-2045

IN REPLY REFER TO:

6A-3-C18  
X6A-5-EIS

October 8, 1982

Mr. Robert M. Baker, Regional Director  
National Park Service  
75 Spring Street, Southwest  
Atlanta, GA 30303

RE: DRAFT EIS -- LOXAHATCHEE RIVER

Dear Mr. Baker:

The District's staff has evaluated the Draft Environmental Impact Statement for the Wild and Scenic River Study of the Loxahatchee River. The unique environment of the Loxahatchee River has long been recognized by the District; as stated in the EIS, portions of the Northwest Fork indeed possess outstanding and remarkable environmental values. It is for this reason that the District has actively supported and participated in the studies of the river (U.S. Geological Survey, Corps of Engineers, National Park Service, et al). The District concurs that the Northwest Fork of the Loxahatchee River must be protected.

Although members of staff from both the District and the National Park Service have maintained close contact during the development of the Draft EIS, it would be beneficial to elaborate on the District's goals and objectives regarding the Loxahatchee River as they relate to the proposed designation. As you may be aware, the District is a sponsor for the U.S. Army Corps of Engineers and the U.S. Geological Survey C-18/Loxahatchee River Basins studies that are currently underway. The District's objectives in sponsoring the studies are three-fold: (1) to protect the Northwest Fork of the Loxahatchee River, (2) to maintain flood protection, and (3) to maintain water supply for the area.

Although the Corps of Engineers and the U.S. Geological Survey studies have not been completed, sufficient analysis has been performed to allow for the identification of courses of action that could be taken in order to obtain the three objectives cited above. At this point in time, it is the District's intent to implement the following water management plan for the C-18/Loxahatchee River Basins:

Robert L. Clark, Jr.  
Chairman — Fort Lauderdale

Robert W. Padrick  
Vice Chairman — Fort Pierce

Stanley W. Hole  
Naples

J. Neil Gallagher  
St. Cloud

Nathaniel P. Reed  
Hobe Sound

John L. Hundley  
Pahokee

Aubrey L. Burnham  
Okeechobee

Charles L. Crumpton  
Miami Shores

Jeanne Bellamy  
Coral Gables

(1) Acquisition of the Northwest Fork

The District has completed a tax roll search of all property owners holding title to lands along the river corridor and its major tributaries (from Indiantown Road to Jonathan Dickinson State Park). In addition, an independent appraisal firm is in the process of establishing land values for the subject property. Approximately 1,500 acres of land are being considered for purchase. (At the time that surveying is completed the exact acreage will be ascertained.) The intent of the acquisition is to protect not only the Northwest Fork corridor but to also protect base flows by acquiring significant tributaries to the Northwest Fork.

(2) Replacement of the Lainhart Dam

The existing Lainhart Dam ( $\pm 600$  feet north of Indiantown Road, within the Northwest Fork) is in a state of disrepair. As a result, the ability to control groundwater flows has been greatly diminished and overdrainage of this area of the Northwest Fork is occurring. The new Lainhart Dam would provide a mechanism for preventing overdrainage.

(3) Augment Flows to the Northwest Fork

Additional supplemental discharges from the C-18 Basin could be utilized to augment the flows in the Northwest Fork. This could result in environmental benefits by providing increased flows which would maintain the cypress along the reaches of the Fork.

As part of the plan to increase flows to the Northwest Fork, a new control structure would be constructed south of Indiantown Road. The structure would be designed to pass low to moderate flows from the C-18 Basin to the Northwest Fork. Both environmental and flood protection criteria would be utilized in designing and locating the structure. It should be noted that the structure is not to be located in the area recommended for designation by the National Park Service.

(4) Restoration of the Loxahatchee Slough

The final element of the District's proposed management plan is the restoration of the headwaters of the Loxahatchee. The District intends to restore the slough by increasing water storage in the marsh area during the wet season and bleeding off the system to the Northwest Fork as the dry season approaches. This stored water would provide an additional source of flows to the river. It is the District's intent to accomplish this objective through the District's regulatory program in cooperation with the landowner and Palm Beach County.

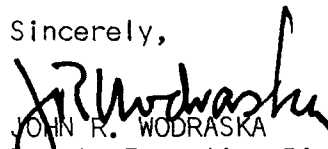
6A-3-C18  
X6A-5-EIS  
Mr. Robert M. Baker  
October 8, 1982  
Page 3

As indicated in the District's proposed water management plan, considerable activity will be taking place in the C-18/Loxahatchee River Basins. Obviously, the District is quite concerned about ensuring the integrity of this plan. Specifically, if the designation of the Northwest Fork, as part of the National Wild and Scenic Rivers System, were to preclude the execution of the District's plan, the District would have to object to the designation on the basis that the designation would not be in the best interest of the river; implementing an effective hydrologic regimen is crucial to maintaining the life of the river. It is the District's position that this proposed water management plan must be incorporated into the management plan that would be required by the National Park Service in the event that the designation takes place. To further ensure the hydrologic protection of the river, via the District's plan, the state of Florida should take the initiative in preparing a state management plan as opposed to allowing a federal plan to be developed under congressional auspices.

The final element to be addressed pertains to the alternatives presented in the Draft EIS. A review of the EIS indicates that none of the three alternatives include the District's water management plan. In view of the District's intent to restore some of the values of the river, it is obvious that the District cannot support Alternative C, the no action proposal. Alternative B, on the other hand, contains an element that is in direct conflict with the District's responsibilities to provide flood protection to this area; it recommends the partial backfilling of the C-18 Canal. Due to the fact that extensive existing development is dependent on the C-18 Canal for flood protection, backfilling part of the canal is not feasible. Through the process of elimination, it appears that Alternative A would provide the least conflict with the District's goals and objectives for the C-18/Loxahatchee River Basins. The District's staff notes that Alternative A is general in nature and could provide the flexibility for implementation of the District's water management plan for the area. The District's staff is of the opinion, however, that the District's role in the management of the river should be acknowledged in the alternatives presented in the Final Environmental Impact Statement.

In summary, the District is currently pursuing the implementation of a water management plan for the C-18/Loxahatchee River Basins. This activity should be acknowledged in the designation process by incorporating it into a state initiated management plan. If the integrity of the District's water management plan is protected in the designation process, the District will support the designation of the Northwest Fork as part of the National Wild and Scenic Rivers Systems. The staff is looking forward to working with the National Park Service to ensure that the hydrologic functions of the river are protected.

Sincerely,

  
JOHN R. WODRASKA  
Deputy Executive Director

JRW/jhm  
cc: Mr. Nathaniel Reed  
Mr. Robert Padrick

Response to Comments by South Florida Water Management District

1. The objective of the South Florida Water Management District (SFWMD) "to protect the Northwest Fork of the Loxahatchee River" coincides with the purpose of wild and scenic river designation. The four specific actions proposed in the letter of October 8, 1982, would contribute to that objective without apparently conflicting with inclusion in the National System.

A very significant event occurred on June 24, 1983, when the State of Florida passed legislation (See Appendix F) designating this 7.5-mile segment of the Northwest Fork of the Loxahatchee River as wild and scenic. In order to assure that the management plan of the SFWMD does not conflict with possible future inclusion of the river in the National Wild and Scenic Rivers System, Section 5(1) provides that:

The Florida Department of Natural Resources and the South Florida Water Management District shall jointly develop a proposed management plan for the designated segment of the Loxahatchee River, which management plan, subject to and consistent with the provisions of this Act, will be designed to qualify the designated segment of the river for inclusion in the National Wild and Scenic Rivers System.

The legislation also requires close coordination with the National Park Service in the development of the plan. Consequently, no conflict is anticipated between the jointly developed management plan and wild and scenic river designation. Finally, the legislation has meant that the District's wishes that the State of Florida take the initiative in preparing the management plan is being fulfilled.

2. While none of the three alternatives in the draft report/EIS specifically included the District's water management plan, Alternative A would not preclude it and as recognized in the above response, the plan would contribute to the natural values enhancement objective of the Wild and Scenic Rivers Act (Section 10(a) of the National Act). The final report has been revised to recognize the role of the SFWMD.
3. Pursuant to Section 5(1) of the State legislation, the SFWMD's water management plan for the C-18/Loxahatchee River Basin will be included in the Loxahatchee River Wild and Scenic River Plan. There appears to be no reason why the goals of the SFWMD and designation in the National Wild and Scenic Rivers System should lead to irreconcilable conflict. On the contrary, given mutually similar goals, they should complement each other.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

4PM-EA/CD

SEP 30 1982

Mr. Robert M. Baker  
Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

Dear Mr. Baker:

We have completed our review of the Draft Environmental Impact Statement on the Loxahatchee River Wild and Scenic River Study, Palm Beach and Martin Counties, Florida.

Our review of the data presented indicates that the 7.5-mile segment of the Loxahatchee River proposed for inclusion as a "Wild and Scenic River" meets the necessary qualifications because of its outstanding ecological, fish and wildlife, and recreational values, and the fact that it has remained in a relatively pristine condition. The Northwest Fork of the Loxahatchee River is the best remaining example of South Florida river-swamp and its environmental values can best be protected by designating it a "Wild and Scenic River." Therefore, we agree with the selection of the proposed concept of Alternative A.

Based upon our review of the subject document, a rating of LO-1 is assigned; i.e., we have no objections to the recommended proposal.

If we may be of additional assistance, please contact Ms. Clara J. DeLay, (404) 881-7901.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Sheppard N. Moore".

Sheppard N. Moore, Chief  
Environmental Review Section  
Environmental Assessment Branch



Department of Energy  
Washington, D.C. 20585

OCT 13 1982

Honorable G. Ray Arnett  
Assistant Secretary for Fish  
and Wildlife and Parks  
U.S. Department of the Interior  
Washington, D.C. 20240

Dear Mr. Arnett:

In response to your August 13, 1982, letter to Secretary Edwards, we have reviewed the draft report and environmental impact statement on the proposed Loxahatchee Wild and Scenic River, Florida.

We have determined that the proposed action (Alternative A) which will include the eligible section of the river as a state-administered component of the National Wild and Scenic Rivers System does not have significant implications on potential energy sources.

Sincerely,

A handwritten signature in cursive script that reads "William A. Vaughan".

William A. Vaughan  
Assistant Secretary  
Environmental Protection, Safety,  
and Emergency Preparedness



United States  
Department of  
Agriculture

Forest  
Service

Washington  
Office

24-2  
12th & Independence, SW  
P.O. Box 2417  
Washington, DC 20013

Reply to: 1920 (AP&D)

Date: JAN 12 1983

┌

Mr. Russell E. Dickenson  
Director, National Park Service  
U.S. Department of the Interior  
Washington, DC 20240

└

Dear Mr. Dickenson:

We have reviewed the Loxahatchee Wild and Scenic River Study - Draft Environmental Impact Statement (DEIS) and offer the following comments for your consideration:

1. We concur with the study findings that 7.5 miles of the North Fork of the Loxahatchee River qualify for inclusion in the National Wild and Scenic Rivers System. We agree with the findings that the 7.5-mile segment contains outstandingly remarkable ecological, fish, wildlife and recreational values which will make this river segment a unique addition to the system.

2. The alternatives presented in the DEIS appear to cover a reasonable range, considering current budgetary conditions.

3. We concur with the proposal that the eligible segment of the river be included as a State administered component of the Wild and Scenic River System.

If additional information is needed, please contact Mr. John E. Alcock, Regional Forester, 1720 Peachtree Road, NW, Atlanta, Georgia 30367 (FTS 257-4177).

Sincerely,

R. MAX PETERSON  
Chief







DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
WASHINGTON, D.C. 20310

22 SEP 1982

~~135~~  
780

Honorable G. Ray Arnett  
Assistant Secretary for Fish, Wildlife and Parks  
U.S. Department of the Interior  
Washington, D.C. 20240

Dear Mr. Arnett:

Thank you for your letter of August 13, 1982, requesting review of the draft environmental impact statement for the proposed Loxahatchee Wild and Scenic River, Florida. We submit the following comments:

- a. We concur with the selection of alternative A, the proposed plan; it is compatible with current Corps planning.
- b. Alternative B, which calls for partial backfilling, is not recommended. This alternative has been dropped as infeasible in the Corps study due to its engineering, economic, and environmental characteristics.
- c. We concur with the low emphasis placed on alternative C, the no-action alternative, by the National Park Service.

If we can be of further assistance, let us know.

Sincerely,

*William R. Gianelli*

William R. Gianelli  
Assistant Secretary of the Army  
(Civil Works)



DEPARTMENT OF THE AIR FORCE  
REGIONAL CIVIL ENGINEER, EASTERN REGION (HQ AFESC)  
526 TITLE BUILDING, 30 PRYOR STREET, S.W.  
ATLANTA, GEORGIA 30303

REPLY TO  
ATTN OF: ROV2

21 September 1982

SUBJECT: Draft Wild and Scenic River Study Environmental Impact Statement, Loxahatchee River, Palm Beach and Martin Counties, Florida

TO: National Park Service  
Attn: Mr. Robert M. Baker  
Regional Director  
75 Spring Street, S. W.  
Atlanta, Georgia 30303

1. We have reviewed the subject study and find that designation of the Loxahatchee as a wild and scenic river will not adversely impact Air Force operations in Florida.

2. Thank you for the opportunity to review this study. Our point of contact is Mr. Winfred G. Dodson, FTS number 242-6821/6776.

THOMAS D. SIMS  
Chief  
Environmental Planning Division

Cy to: USAF/LEEV  
AFSC/DEV  
TAC/DEEV  
31 CSG/DEEV  
6550 ABW/DEEV



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Florida Division Office

223 West College Avenue  
Tallahassee, Florida 32301

October 7, 1982

IN REPLY REFER TO: HEC-FL

Mr. Robert M. Baker, Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

Dear Mr. Baker:

Subject: Florida - Loxahatchee River - Wild and Scenic River  
Study and Draft Environmental Impact  
Statement (EIS)

We have reviewed the Wild and Scenic River Study and Draft EIS for the Loxahatchee River and have considered the proposed action in relation to the responsibilities of this office in administering the Federal-aid highway program in Florida. Your Draft EIS addresses the proposed Interstate 95 project, which provides for a new structure over the Loxahatchee River just east of the Florida Turnpike.

The I-95 project is being developed by the Florida Department of Transportation (FDOT) following the normal Federal-aid highway procedures. As indicated on page 6-3 of your Draft EIS, the Loxahatchee River Crossing has been designed to minimize impacts on the river. Both our agency and the FDOT will continue to work and coordinate with your agency during the development of our I-95 project.

Sincerely yours,

P. E. Carpenter  
Division Administrator

Chairman  
**JOHN W. HOLT, JR.**  
District 5

Vice-Chairman  
**SHERRI KING**  
District 3

**ALEX L. HAYNES**  
District 1

**THOMAS J. HIGGINS**  
District 2

**MAGGY HURCHALLA**  
District 4

**BOARD OF COUNTY COMMISSIONERS**

*P. O. Box 626 • Stuart, Florida 33495*

**ROBERT H. OLDLAND** • County Administrator

PHONE (305) 283-6760

**COUNTY OF MARTIN**



**STATE OF FLORIDA**

October 12, 1982

Honorable Bob Graham  
The Capitol  
Tallahassee, Florida 32301

Dear Governor Graham:

The Board of County Commissioners at their regular meeting of October 12, 1982 voted to support the inclusion of the Loxahatchee River into the National System of Wild and Scenic Rivers, and ask for your support.

The Board would like to have your endorsement to the National Park Service for consideration of a 7.5 mile segment of the Loxahatchee River being made a part of the National Park System. A recent study of the river conducted by the National Park Service - Department of the Interior, reveals that this 7.5 segment is of outstandingly remarkable ecological, fish and wildlife, and recreational values.

Under the proposed concept plan management of the Loxahatchee River would be a cooperative effort by the State of Florida and the County of Palm Beach.

Sincerely,

John W. Holt, Chairman  
Martin County Commission

cc: Cabinet Members  
Robert M. Baker, National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

JWH/cg

**Board of County Commissioners**

Norman Gregory, Chairman  
Peggy B. Evatt, Vice - Chairman  
Frank Foster  
Dennis Koehler  
Bill Bailey

**County Administrator**

John C. Sansbury

**Department of Planning, Zoning, & Building**

**Robert E. Basehart**  
Director



September 20, 1982

Mr. Robert M. Baker, Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

Re: Loxahatchee River Wild and Scenic  
River Study

Dear Mr. Baker:

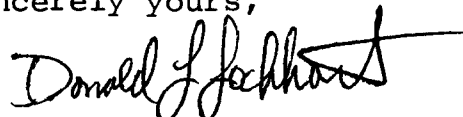
Please be advised that we are in total support of the National Park Service efforts to designate the Loxahatchee River as a state-administered component of the National Wild and Scenic Rivers System. This action is consistent with existing Comprehensive Plan policies and would protect the river as a key element for an outstanding natural resource experience for the river user from the existing Riverbend Park at Indiantown Road to Jonathan Dickensen State Park in Martin County.

Palm Beach County has been interested and committed to the protection of the Loxahatchee River since the early seventies. Our efforts have included active participation in the Comprehensive Loxahatchee River Study as well as coordination with the Corps of Engineers and South Florida Water Management District in the C-18 Basin Study (Loxahatchee Slough). We have expended considerable funds for purchase and planning for Riverbend Park and intend to develop Riverbend in a manner which will enhance the acquisition of the corridor area for inclusion into the National Wild and Scenic River System.

Robert M. Baker  
September 20, 1982  
Page 2

Thank you for the opportunity to review your study report and we reiterate our support for having the Loxahatchee included in the National System as a state-administered component.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Donald L. Lockhart". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Donald L. Lockhart  
Principal Planner

DLL:cjs  
cc: John Sansbury  
Bob Basehart  
Dennis Eshleman  
Jeanne Hall  
Fred van Vonno

# JUPITER INLET DISTRICT

BOX 73

JUPITER, FLORIDA 33458-0009

BOARD OF COMMISSIONERS

David S. Meisel  
Chairman  
R. F. Gladwin, Jr.  
Vice-Chairman  
Billie D. Jenkins  
Secretary-Treasurer  
Kenneth W. Holley  
Russell D. Terpening

OFFICE

910 Town Hall Avenue  
(305) 746-2223  
ADMINISTRATOR  
Caleb Christian

September 9, 1982

Mr. Robert M. Baker, Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

SUBJECT: Inclusion of 7.5 miles of the Loxahatchee River  
in the National Wild and Scenic System.

Reference: Draft Environmental Impact State, July 1982.

Dear Mr. Baker:

The Jupiter Inlet District, created by a special act of the State legislature in 1921, has the basic responsibility of maintaining the Jupiter Inlet in an open condition and the Loxahatchee River in the best possible condition. Thus, the National Park Service recommendations to include a portion of the River in the Wild and Scenic System, are of vital concern to the district.

In accordance therewith the District passed the following motion at its workshop meeting on August 25, 1982:

"Resolved, that the District support inclusion of 7.5 miles of the Loxahatchee River in the National Wild and Scenic System provided: (A) management would be at the state and/or local government level, and (B) the implementing legislation, written with the assistance of Mr. Broome, would stipulate that the District could continue its historic role, including construction projects in the inlet and the river area outside the area designated Wild and Scenic."

The phraseology of the motion was established because there are many problems both upstream and downstream of the section proposed to be Wild and Scenic. Significant examples are:

Upstream - Construction, residential, commercial, including the C-18 canal, during the past 20-30 years has drastically changed the water flow patterns in the river headwaters. The construction is expected to continue at an accelerated rate in the future.

September 9, 1982

Downstream - Siltation has significantly shallowed the river during the past 20 years with attendant changes in water quality, flow patterns, and characteristics for support of grass beds, fish propagation and benthic life.

Overall the Jupiter Inlet District is addressing river problems as follows:

1. Encouraging studies that provide the baseline scientific data as to current river and basin conditions.
2. Helping in the inter-governmental coordination and the collation of the study data into a readily understandable format.
3. Continuing the effort to convince: (A) the impacted governments that needed controls must be established and enforced, and (B) that construction activities needed to correct problems that now exist should be activated.

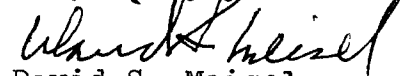
The study costs for the past three years is approximately 1.6 million dollars, and the District expects, for example, that the results will show that: (1) accumulated siltation should be dredged from the river downstream of the proposed Wild and Scenic portion, and (2) that improved siltation controls will be needed in the upstream drainage system, and (3) these actions are needed as soon as possible.

In summary the District believes that: (A) The local governments are involved and knowledgeable; (B) that this will be the future situation; and (C) that they must have the freedom to act without undue control by the National government.

The subject study was "well done" and the District is most appreciative. Unquestionably this effort is a major positive accomplishment that will help preservation of the beautiful Loxahatchee, and it was our pleasure to assist in every way possible. We firmly believe that through mutual cooperation the Wild and Scenic concept can be implemented overall, the problem in other areas will be appropriately corrected, and the future outlook for a beautiful river is bright.

We trust you will most earnestly consider our comments. With continuing cooperation and understanding the Loxahatchee will retain its beauty and serenity -- the real desire of us all.

Very truly yours,



David S. Meisel  
Chairman



# JUPITER INLET DISTRICT

BOX 73

BOARD OF COMMISSIONERS

JUPITER, FLORIDA ~~33458-0009~~

33468-0073

OFFICE

910 Town Hall Avenue

(305) 746-2223

ADMINISTRATOR

Caleb Christian

David S. Meisel

Chairman

R. F. Gladwin, Jr.

Vice-Chairman

Billie D. Jenkins

Secretary-Treasurer

Kenneth W. Holley

Russell D. Terpening

September 17, 1982

Mr. Robert M. Baker, Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, Georgia 30303

SUBJECT: Inclusion of 7.5 miles of the Loxahatchee River  
in the National Wild and Scenic System -

Reference: Letter Mr. Meisel to Mr. Baker, same subject,  
dated September 9, 1982 -

Dear Mr. Baker:

Please be advised that the district motion: "Resolved, that the District support inclusion of 7.5 miles of the Loxahatchee River in the National Wild and Scenic System provided: (A) management would be at the state and/or local government level, and (B) the implementing legislation, written with the assistance of Mr. Broome, would stipulate that the District could continue its historic role, including construction projects in the inlet and the river area outside the area designated Wild and Scenic", was approved by a three to two vote, the undersigned commissioners being opposed.

The commissioners all agreed that a "minority report" was appropriate and that is the purpose of this letter.

We do not believe the river should be included in the National Wild and Scenic System because:

1. The area proposed to be so designated is largely in Jonathan Dickinson State Park and, in the near future, the area not now included will be purchased by the South Florida Water Management District, and thus will be owned by local government.
2. With this ownership, protection can be implemented and maintained by these governments.

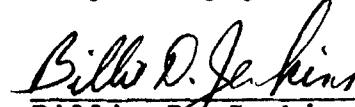
TO: Mr. Robert M. Baker  
Page 2


September 17, 1982

3. The involvement of the National Government with the proposed designation will impose a layer of control that is unneeded. The likely result will be undue delays in implementing needed construction activities in both the headwater and tailwater area.

Please understand we are dedicated to preserving the river. We do, however, believe that National designation is unneeded in this effort. We trust you will most earnestly consider our comments.

Very truly yours,

  
\_\_\_\_\_  
Billie D. Jenkins  
Secretary/Treasurer

  
\_\_\_\_\_  
Russell D. Terpening  
Commissioner

mc

cc: W. Broome  
JID Commissioners

indian river

st. lucie

martin

palm beach

treasure  
coast  
regional  
planning  
council

October 6, 1982

Robert M. Baker  
Regional Director  
National Park Service  
75 Spring Street, S.W.  
Atlanta, GA 30303

Subject: Loxahatchee River - DRAFT EIS

Dear Mr. Baker:

On September 17, 1982 the Treasure Coast Regional Planning Council acting as the Areawide Clearinghouse pursuant to OMB Circular A-95, reviewed the DRAFT EIS for the Loxahatchee River. As a result of that review the Council endorsed the recommendation to include the Loxahatchee River as part of the National Wild and Scenic River System. However, the Council did not concur with the DRAFT EIS recommendation that Alternative A be accepted. Rather the Council expressed support for Alternative B and therefore would encourage the Park Service to reconsider the recommendation presented in the DRAFT EIS.

I have attached for your information the staff memorandum that was considered by the Council which more completely sets forth Councils concern and position.

I trust these comments will be of assistance and should you wish additional information or review by the Council please contact me at your earliest convenience.

Yours truly,



Sam Shannon  
Executive Director

Attachment

SS/ab

TREASURE COAST REGIONAL PLANNING COUNCIL

MEMORANDUM

To: Council Members  
From: Staff  
Date: September 17, 1982 Council Meeting  
Subject: National Wild and Scenic River Designation -  
Loxahatchee River

Background

On several occasions, the Council has expressed a keen interest in the preservation and enhancement of the Loxahatchee River and Slough as a special and unique regional resource. In August 1977 the Council adopted Resolution 77-6 expressing support for HR 172, which authorized a study of the Loxahatchee River for possible inclusion in the National Wild and Scenic Rivers system (resolution attached). The Loxahatchee River system and Slough have also been identified as a "Geographical Area of Particular Concern" in the Council's adopted Coastal Zone Management Interim Goals, Objectives and Policies.

Further, the Council, when reviewing the PGA development, was highly supportive of the applicant's plans to provide restoration of the Loxahatchee Slough as part of the overall development program.

The U.S. Department of Interior/National Parks Service has recently released the DRAFT Environmental Impact Statement (EIS) on the potential of including the Loxahatchee River as part of the national system, and requested interested parties, including the Council, to provide comments both on the DRAFT EIS and its recommendations. Comments are to be received by October 13, 1982. (Copy of the Summary is attached.)

Overview

The DRAFT EIS indicates that the study conducted by the National Parks Service has identified "...outstanding remarkable ecological, fish and wildlife and recreational values...on the Northwest Fork of the Loxahatchee River" and, therefore, the River is eligible for inclusion in the National Wild and Scenic River System. Some of the more noteworthy observations presented in the DRAFT EIS were:

- . "Some of the cypress are from 300-500 years old. This represents a virtually irreplaceable and unique resource."

- . "In relation to the rest of the United States, the diversity of plant species along the Loxahatchee River is remarkable."
- . "There are currently no rivers within the National System which even approximate the character of this unique subtropical coastal plain river."
- . "The rapidly growing southeast Florida area does not have any comparable recreational resources."

As a result of these investigations and observations by the National Parks Service, the DRAFT EIS finds that a 7.5-mile segment of the River is eligible for inclusion the Wild and Scenic Rivers National System and recommends that the segment be included as a State-administered component of the National System. The River segment of the Northwest Fork recommended for inclusion would run from the boundary of Jonathan Dickinson State Park upstream to the park recently purchased by Palm Beach County. No portion of the North Fork or Southwest Fork were recommended for inclusion. The management responsibilities are recommended to be a cooperative effort by the State of Florida and Palm Beach County. Inclusion of the Loxahatchee River as part of the National Wild and Scenic River system would provide certain protection and benefits to the River. The designation would have the following effects:

1. Protection from federally licensed or funded water resources projects, such as dams, water conduits, reservoirs, power houses, transmission lines and other project works. Section 7 of the Wild and Scenic Rivers Act addresses the question of water resource development restrictions and project impacts on stream segments being studied for potential inclusion or which are already included in the National Wild and Scenic Rivers System. It states that no federally assisted, licensed, or aided projects will be permitted on rivers in the National System if they "invade the area" or "unreasonably diminish" values which are present.
2. Added incentive to improve water quality through cooperative efforts by the managing agency, the Secretary of the Interior, the State water pollution control agencies and the Environmental Protection Agency (Section 11(c) of P.L. 90-542).
3. Higher priority for financing from existing federal programs for compatible projects which improve the river and its watershed.

In developing the DRAFT EIS, three alternatives were extensively reviewed. Alternative A includes designation of the 7.5-mile segment with special protection, preferably acquisition of a minimum of 300 acres adjacent to the River. Alternative B would also designate the 7.5-mile segment, but includes a 700-acre area to be acquired to provide additional protection to the River segment. Further, this alternative recommends that the canal area between C-18 and Riverbend Park be acquired and segments of the canal, as well as portions of C-18, be backfilled; thereby providing partial restoration of the Loxahatchee Slough. This alternative would also require construction of levees to protect adjacent developments from flooding. The final investigation in the DRAFT EIS, Alternative C, was an evaluation or projection of what effects could be expected to occur to the River if no action were taken and the River not included in the National System. A table summarizing and comparing the three alternatives is attached.

It should also be noted that several other alternatives received preliminary investigation but were eventually dropped from further consideration. Of particular interest was an alternative that would have included federal participation in acquiring lands along the Loxahatchee. This approach was considered "infeasible because of budgetary considerations and current federal land acquisition policies."

The DRAFT EIS concludes with a recommendation for Alternative A. The DRAFT also notes that subsequent to its preparation the South Florida Water Management District (SFWMD) indicated its intent to purchase 1,500 acres along the River as part of the "Save Our Rivers" program. The area to be purchased by SFWMD extends from the County's Riverbend Park to Jonathan Dickinson State Park.

#### Related Studies, Agreements, and Plans

The U.S. Army Corps of Engineers issued a report on the "Environmental Investigation of the Canal 18 Basin and Loxahatchee Slough" (January 1982). The report presents three water management alternative plans for further consideration, one of which, Alternative Plan 2, appears complementary to the Alternative B presented in the Loxahatchee River DRAFT EIS. The Alternative Plan 2 would provide for partial restoration of the Loxahatchee Slough through the creation of a Wetlands Management Area along portions of Canal 18. Water level in the Wetlands Management Area would then be managed to provide for restoration of wetland communities in the Slough area. The final report from the Corps of Engineers is expected to be released in two to three months and will contain the reconsidered plan for the C-18 Basin/Loxahatchee Slough.

Also, a "Stipulation for Consent Decree" was executed by the SFWMD, Department of Environmental Regulation (DER), and the Florida Wildlife Federation settling a complaint that the Federation had made concerning the future of the Loxahatchee River and Slough. Of particular note in

the stipulation was the agreement by SFWMD to "...recommend to the U.S. Army Corps of Engineers that the existing federally authorized project be modified to return, to the maximum extent possible, to the natural regimen that existed in regard to the tributaries to the Loxahatchee River prior to the construction of the C-18 Canal and the S-46 gated spillway. This involves diverting surface water flows to the Northwest Fork of said River to the maximum carrying capacity prior to making surface water discharges to the Southwest Fork of the River. The District shall recommend that the aforesaid objective be accomplished through the following modification to the federal project:

- A. Developing the capability to develop a greater flow of surface water runoff from C-18 to the Northwest Fork of the Loxahatchee River;
- B. Maintenance of a water retention area for the purpose of accommodating surface water runoff from those lands within the Loxahatchee Slough area and areas tributary to the Northwest Fork of the Loxahatchee River."

This stipulation is likewise supportive of Alternative B presented in the DRAFT EIS. It suggests that additional protection and water management activities south of the 7.5-mile segment are appropriate.

Finally, the Comprehensive Plan adopted by Palm Beach County identifies the Loxahatchee Slough as a conservation area and is included in the list of "major conservation and coastal resources." The Plan indicates that "the floodplain of the Loxahatchee is extremely rich and ecologically diverse and must be included in any protection plan for the River. Because of its significance and importance as part of the Loxahatchee River system, the natural characteristics and integrity of this floodplain must be maintained." Further, the Comprehensive Plan identifies the Loxahatchee Slough as a sending area for Transfer of Development Rights to minimize further development in the area.

### Conclusion

Although the DRAFT EIS does endorse inclusion of the Loxahatchee River as part of the National Wild and Scenic Rivers System, the recommended strategy or plan for future management of the River does not include the potential for enhancement or restoration of the Slough area.

The other relevant studies, agreements, and plans are sensitive to the need to include the Slough area as part of the overall management program for the Loxahatchee River system, and the recommendation of Alternative A over Alternative B does not appear appropriate. Therefore, The Park Service should be encouraged to reconsider the recommendation made in the DRAFT EIS to more accurately reflect other governmental policies and programs, and to endorse Alternative B.

### Attachments

**APPENDIX F**



ENROLLED.

312-1562-83

CS for SB 459

312-1562-83

CS for SB 459

1 A bill to be entitled  
2 An act relating to the Loxahatchee River;  
3 creating the Loxahatchee River Wild and Scenic  
4 Designation and Preservation Act; providing  
5 legislative declarations and intent; providing  
6 definitions; designating a portion of the river  
7 as a wild and scenic river; providing for  
8 development of a management plan; providing for  
9 a coordinating council; authorizing the  
10 Governor to apply for inclusion of the  
11 designated portion of the river in the National  
12 Wild and Scenic Rivers System; providing for  
13 preservation of existing governmental  
14 authority; providing for rules; specifying  
15 regulatory and permitting authority; providing  
16 for enforcement; providing for injunctions;  
17 specifying violations and penalties; providing  
18 for repeal; providing an effective date.

19  
20 Be It Enacted by the Legislature of the State of Florida:

21  
22 Section 1. Short title.--Sections 1 through 12 of this  
23 act may be cited as the "Loxahatchee River Wild and Scenic  
24 Designation and Preservation Act."  
25 Section 2. Legislative declaration.--The Legislature  
26 finds and declares that a certain segment of the Loxahatchee  
27 River in Palm Beach and Martin Counties possesses  
28 outstandingly remarkable ecological, fish and wildlife, and  
29 recreational values which are unique in the United States.  
30 These values give national significance to the river as one  
31 which should be permanently preserved and enhanced, not only

1 for the citizens of the State of Florida, but for the citizens  
2 of the United States, of present and future generations. The  
3 permanent management and administration of the river, however,  
4 involves a complex interaction of national, state, regional,  
5 and local interests which require balancing, coordination of  
6 purpose and continuing participation by and access to the  
7 public, through its elected representatives. It is the  
8 intention of the Legislature to provide for the permanent  
9 preservation of the designated segment of the Loxahatchee  
10 River by way of development of a plan for permanent  
11 administration by agencies of the state and local government  
12 which will ensure the degree of protection necessary for  
13 inclusion of that segment of the river in the National Wild  
14 and Scenic Rivers System but retaining that degree of  
15 flexibility, responsiveness, and expertise which will  
16 accommodate all of the diverse interests involved in a manner  
17 best calculated to be in the public interest.

18 Section 3. Definitions.--As used in this act:  
19 (1) "Activity" means the doing of any act or the  
20 failing to do any act, whether by a natural person or a  
21 corporation.  
22 (2) "Board" means the governing board of the South  
23 Florida Water Management District.  
24 (3) "Coordinating Council" means the council created  
25 by s. 5(3)(c).  
26 (4) "Department" means the Department of Natural  
27 Resources.  
28 (5) "Division" means the Division of Recreation and  
29 Parks of the Department of Natural Resources.  
30 (6) "Executive Board" means the Governor and Cabinet  
31 sitting as the head of the Department of Natural Resources.

1 (7) "Resource value" means any one or more of the  
2 specific scenic, recreational, geologic, fish and wildlife,  
3 historic, cultural, or ecological features identified by the  
4 National Park Service, Department of the Interior, in its  
5 Draft Wild and Scenic Rivers Study/Draft Environmental Impact  
6 Statement as being outstandingly remarkable or worthy of note.

7 (8) "River area" means that portion of the Northwest  
8 Fork of the Loxahatchee River from river mile 6 to river mile  
9 13.5, together with such abutting uplands as determined in the  
10 permanent management plan to form the corridor having visual  
11 impact on the river user, and which may be necessary to  
12 maintain the natural and scenic appeal of the river.

13 Section 4. Designation of wild and scenic river.--The  
14 Northwest Fork of the Loxahatchee River between river mile 6  
15 and river mile 13.5 is hereby designated as a wild and scenic  
16 river for the purposes of this act and subject to all of the  
17 provisions of this act. Such designated portion is more  
18 particularly described as that portion of the Northwest Fork  
19 downstream of the southern boundary of Riverbend County Park  
20 located in Palm Beach County and upstream of an east-west line  
21 passing through a point where the southern boundary of  
22 Jonathan Dickinson State Park intersects the eastern shoreline  
23 of the river.

24 Section 5. Development of management plan.--

25 (1) The department and the South Florida Water  
26 Management District shall jointly develop a proposed  
27 management plan for the designated segment of the Loxahatchee  
28 River, which management plan, subject to and consistent with  
29 the provisions of this act, will be designed to qualify the  
30 designated segment of the river for inclusion in the National  
31 Wild and Scenic Rivers System.

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1 (2) The development of the proposed management plan  
2 shall include participation by the National Park Service, by  
3 all appropriate state agencies, by all appropriate or  
4 interested local governments, including but not limited to  
5 Palm Beach County, Martin County, the Jupiter Inlet District,  
6 the Town of Jupiter, the Loxahatchee River Environmental  
7 Control District, the South Indian River Water Control  
8 District, and the Northern Palm Beach County Water Control  
9 District, the Palm Beach County Farm Bureau, and by any others  
10 deemed advisable by the department or board. To the extent  
11 not inconsistent with the provisions of this act, the plan  
12 shall include such conditions as the United States Secretary  
13 of the Interior may require.

14 (3) The proposed management plan shall include  
15 provision for:

16 (a) Permanent protection and enhancement of the  
17 ecological, fish and wildlife, and recreational values  
18 identified by the National Park Service in its draft study of  
19 the river and for which the river was chosen for inclusion in  
20 the system without, insofar as is consistent therewith,  
21 limiting other uses that do not substantially interfere with  
22 public use and enjoyment of those values; primary emphasis  
23 being given to protecting esthetic, scenic, historic,  
24 archaeological, and scientific features;

25 (b) Continuation of land uses and developments on  
26 private lands within the river area which are in existence on  
27 the effective date of this act which are not incompatible with  
28 the purposes of designation;

29 (c) Periodic studies to determine the quantity and  
30 mixture of recreation and other public uses which can be  
31

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1 permitted without adverse impact on the resource values of the  
 2 river area;

3 (d) Regulation and distribution of public access where  
 4 necessary to protect and enhance the resource values of the  
 5 river area;

6 (e) Basic facilities to absorb user impact on the  
 7 river area, including necessary toilet or refuse containers,  
 8 but located in order to minimize their intrusive impact;

9 (f) Location of major facilities such as developed  
 10 campgrounds, visitor centers, and administrative headquarters  
 11 outside the river area;

12 (g) Restriction of motorized travel by land vehicle or  
 13 boat where necessary to protect the resource values in the  
 14 river area;

15 (h) Agricultural and forestry practices similar in  
 16 nature and intensity or less intensive than those present in  
 17 the river area on the effective date of this act;

18 (i) Limitation of resource management practices to  
 19 those necessary for protection, conservation, rehabilitation,  
 20 or enhancement of river area resource values;

21 (j) Maintenance of existing water quality;

22 (k) Whenever alternative routes are unavailable,  
 23 location and construction of new public utility or road  
 24 rights-of-way in a way which minimizes adverse effects on  
 25 scenic, recreational, fish and wildlife, and other resource  
 26 values in the river area;

27 (l) Continuance of existing drainage and water  
 28 management practices, unless such existing practices will  
 29 degrade or diminish existing water quality or existing  
 30 resource values in the river area, and allowance of new water  
 31 resource management practices which will not have a

1 substantial adverse impact on resource values in the river  
 2 area;

3 (m) Review and regulation of all activities conducted  
 4 or proposed to be conducted which will or may have a  
 5 substantial adverse impact on any of the resource values in  
 6 the river area as provided in this act;

7 (n) Continuation of activities or developments below  
 8 or above the designated segment which will not invade the  
 9 river area or substantially diminish the scenic, recreational,  
 10 and fish and wildlife resource values present in the river  
 11 area on the effective date of this act; and

12 (o) A permanent management coordinating council  
 13 composed of one representative from each of the participants  
 14 provided for in subsection (2). The coordinating council  
 15 shall review and make recommendations, in the first instance,  
 16 on all applications for permits required by this act, as well  
 17 as all proposals for amendments or modifications to the  
 18 permanent management plan, and render its nonbinding advisory  
 19 opinion to the board and the department. Each participant  
 20 shall appoint one member to the coordinating council. The  
 21 coordinating council shall elect a chairman, vice chairman,  
 22 and secretary to serve for a term of 1 year. The coordinating  
 23 council shall adopt bylaws to provide for such other officers  
 24 as it may deem necessary, election of officers, removal of  
 25 officers for just cause, meetings, quorum, procedures for the  
 26 conduct of its business, and such other matters as the  
 27 membership may deem advisable in the conduct of its business.  
 28 Such professional staff as the coordinating council may  
 29 require shall be provided by the South Florida Water  
 30 Management District.

1 (4) To the extent not inconsistent with this act, the  
2 proposed management plan may also include any other provisions  
3 deemed by the department and the board to be necessary or  
4 advisable for the permanent protection of the river as a  
5 component of the National Wild and Scenic Rivers System.

6 Section 6. Authority for application for inclusion in  
7 National Wild and Scenic Rivers System.--Upon completion of  
8 the development of a proposed management plan, the executive  
9 director of the department shall forward the proposed  
10 management plan to the executive board. After the executive  
11 board has received, reviewed and accepted a proposed  
12 management plan, the Governor may apply to the United States  
13 Secretary of the Interior for inclusion of the designated  
14 segment of the Loxahatchee River into the National Wild and  
15 Scenic Rivers System.

16 Section 7. Preservation of existing governmental  
17 authority.--

18 (1) Nothing contained in this act shall operate to  
19 divest any agency, water management district, municipality,  
20 county, or special district of any authority or jurisdiction  
21 in existence on the effective date of this act.

22 (2) Construction and maintenance of improvements at  
23 the Jupiter Inlet and in the Loxahatchee River downstream from  
24 the designated segment for purposes of navigation, waterway  
25 flushing, or upland drainage, including creation or  
26 preservation of channels, maintenance dredging, jetty  
27 improvements, riprapping, construction of groins and similar  
28 improvements, and removal of sand or dead oyster shell bars  
29 when deemed to have a potential for substantial adverse impact  
30 on the resource values of the river area shall be undertaken  
31 using techniques which minimize adverse effects on scenic,

1 recreational, fish and wildlife and other values of the river  
2 area.

3 Section 8. Rulemaking authority.--After approval by  
4 the Secretary of the Interior of an application by the  
5 Governor under this act for inclusion of the Loxahatchee River  
6 in the National Wild and Scenic Rivers System, the board and  
7 the department shall each have full authority under their  
8 separate jurisdictions as provided in s. 9 to adopt rules  
9 deemed necessary for the discharge of the respective duties of  
10 each as provided herein, including the adoption of the  
11 proposed management plan as the permanent management plan, and  
12 including the power to adopt rules modifying or amending the  
13 management plan in accordance with the provisions of this act  
14 and rules providing for permanent management of the designated  
15 segment as a component of the National Wild and Scenic Rivers  
16 System.

17 Section 9. Separation of regulatory authority.--

18 (1) The department shall have full and exclusive  
19 authority to adopt rules concerning and to regulate activities  
20 within the river area having a direct and substantial adverse  
21 effect on any resource value within the river area.

22 (2) The board shall have full and exclusive authority  
23 to adopt rules concerning and to regulate activities outside  
24 the river area having substantial adverse impact on resource  
25 values within the river area.

26 (3) The department and the board shall coordinate all  
27 activities related to rule adoption and enforcement in order  
28 to avoid to the maximum extent possible any conflicts or  
29 duplication arising therefrom.

30 Section 10. Permitting authority.--

1 (1) No person or entity shall conduct any activity or  
2 do anything which will or may have an adverse impact on any  
3 resource value in the river area without first having received  
4 a permit from the board or the department, as appropriate.

5 (2) Any applicant for a permit shall file an  
6 application for a permit with the board or the department,  
7 whichever has regulatory authority, upon such forms and in  
8 such manner as the board or the department shall by rule  
9 require. The board and the department may require, with or in  
10 addition to such applications, the furnishing of any  
11 information deemed necessary or desirable for full and  
12 complete consideration of all factors relevant to informed  
13 decisions on the applications.

14 (3) A permit may be granted only after a finding by  
15 the board or the department, whichever has regulatory  
16 authority, that the activity for which a permit has been  
17 requested will not have a substantial adverse impact on  
18 resource values in the river area.

19 (4) The board and the department may adopt an  
20 application fee schedule providing for payment of reasonable  
21 fees to defray the cost of processing applications.

22 (5) The provisions of chapter 120, Florida Statutes,  
23 shall apply to the board and to the department, but not to the  
24 coordinating council, in carrying out the functions and duties  
25 prescribed for each by this act.

26 Section 11. Enforcement.--

27 (1) Officers of the division shall have full authority  
28 to enforce any rule adopted under this act with the same  
29 police powers given them by law to enforce the rules of state  
30 parks.

1 (2) The board shall have full power to enforce this  
2 act or any rule adopted under this act by action for  
3 injunctive relief or by any other method available for  
4 enforcement of rules adopted under chapter 373.

5 Section 12. Penalties.--Violation of any rule adopted  
6 under this act constitutes a misdemeanor of the second degree,  
7 punishable as provided in s. 775.082 or s. 775.083, Florida  
8 Statutes. Continuing violation after notice constitutes a  
9 separate violation for each day so continued.

10 Section 13. This act is repealed on a date 2 years  
11 after the effective date of this act, unless the portion of  
12 the Loxahatchee River designated by this act as a wild and  
13 scenic river is included in the National Wild and Scenic  
14 Rivers System on or before that date.

15 Section 14. This act shall take effect upon becoming a  
16 law.