

THE 1979 NARRATIVE REPORT FOR
OKEFENOKEE NATIONAL WILDLIFE REFUGE

IS DEDICATED TO

"RICHARD S. BOLT, JR."



RICHARD S. BOLT, JR.
1930 - 1979

March 14, 1979

IN REMEMBRANCE

Richard Simpson Bolt, Jr., age 48, a Biological Technician (GS-8) on Okefenokee National Wildlife Refuge from July 12, 1974 until February 28, 1979 was mortally burned while attempting to plow out a wildfire in the Pocket (Forest Compartment No. 8) of Okefenokee National Wildlife Refuge on February 15, 1979. Richard was burned over 70% of his body and survived for 13 days while being treated at the Brooke Army Medical Center in Fort Sam Houston, Texas before succumbing to his injuries.

Richard began his U. S. Fish and Wildlife Service career on June 1, 1964 as a temporary bulldozer operator on Santee National Wildlife Refuge, South Carolina. He became a career employee while stationed at Eufaula National Wildlife Refuge, Alabama. Subsequently, Richard served in a highly commendable manner on Key Deer and Loxahatchee National Wildlife Refuges in Florida before coming to Okefenokee.

Richard was truly a dedicated refuge employee. He gave his all and ultimately his life to the profession of which he was so very proud. Richard always will be remembered as an example in his private and professional life. He will be missed by all that knew him, and those who never knew this man will be less than they might have been.

Richard's radio number, while he was stationed at Okefenokee, was "Unit 3". From this time on, "Unit 3" is hereby retired as a memorial to a splendid human being.

John R. Eadie
Refuge Manager



YACC Enrollees
(Staff)

PERSONNEL

1. John R. Eadie (EOD 08/07/72) Refuge Manager (GS 13/6, PFT)
2. Timothy Wilkins (EOD 06/04/78) Asst. Refuge Manager (GS 11/2, PFT)
3. Lloyd A. Culp, Jr. (EOD 12/04/78) Asst. Refuge Manager (GS 9/1, PFT)
4. Royce R. Huber (EOD 12/30/79) transferred from National Key Deer NWR (picture not shown) Asst. Refuge Manager (GS 9/1, PFT)
5. Ronald A. Phernetton (EOD 01/09/74) Forester (GS 11/3, PFT)
6. George R. Vinovich (EOD 02/13/77) transferred to Forest Service 10/06/79 Forestry Technician (GS 6/1, PPT)
7. Steve Taylor (EOD 11/04/79) Forestry Technician (GS 4/1, Temporary Appt.)
8. James A. Burkhart (EOD 06/11/78) Chief Outdoor Recreation Planner (GS 11/2, PFT)
9. William C. Kent (EOD 06/03/79) transferred from YACC Outdoor Recreation Planner (GS 5/5, PFT)
10. Norman T. Lindsay (EOD 04/23/79) transferred from Park Service Outdoor Recreation Planner (GS 5/1, PFT)
11. Thomas Worthington (EOD 10/07/79) Outdoor Recreation Planner (GS 5/1, PFT)
12. Joseph P. Reinman (EOD 06/04/78) transferred to St. Marks NWR Outdoor Recreation Planner (GS 7/1, PFT)
13. Richard S. Bolt, Jr. (EOD 07/21/74) died February 28, 1979 Biological Technician (GS 8/5, PFT)
14. Douglas E. Nuss (EOD 01/16/77) Biological Technician (GS 8/2, PFT)
15. Omer L. Bowen (EOD 03/11/63) Biological Technician (GS 8/6, PFT)
16. Cecile Davis (EOD 10/16/72) Administrative Clerk (GS 6/4, PFT)
17. Dartha Pittman (EOD 12/06/76) Clerk-Stenographer (GS 5/1, PFT)

- | | | |
|-----|---|---|
| 18. | Jay Burch (EOD 12/07/61) | Auto & Equipment Mechanic
(WG 8/5, PFT) |
| 19. | Virgil Crews (EOD 01/05/69) | Engineering Equipment Operator
(WG 8/5, PFT) |
| 20. | Barcus Hamilton (EOD 01/23/69) | Maintenance Worker
(WG 6/2, PFT) |
| 21. | James Dixon (EOD 07/15/79)
transferred from YACC | Carpentry Worker
(WG 7/2, Temporary Appt.) |
| 22. | Donald Phillips (EOD 07/15/79)
transferred from YACC | Carpentry Worker
(WG 7/2, Temporary Appt.) |
| 23. | Danny Bolt (EOD 04/23/79) | Laborer
(WG 2/1, Temporary Appt.) |
| 24. | Iva Lee Chesser (EOD 10/08/79) | Laborer
(WG 1/1, Intermittent) |
| 25. | Vannie Hickox (EOD 07/14/78) | Laborer
(WG 1/1, Intermittent) |
| 26. | Rickey Crews (EOD 04/23/79)
terminated 09/29/79 | Laborer
(WG 2/1, Temporary Appt.) |
| 27. | Kim Bragg (EOD 10/22/78)
terminated 09/21/79 | Laborer
(WG 2/1, Temporary Appt.) |
| 28. | Ralph Davis (EOD 03/30/76)
terminated 08/29/79 | Laborer
(WG 2/2, Intermittent) |
| 29. | Nell Snowden (EOD 07/14/77)
terminated 11/26/79 | Laborer
(WG 1/1, Intermittent) |

YACC STAFF

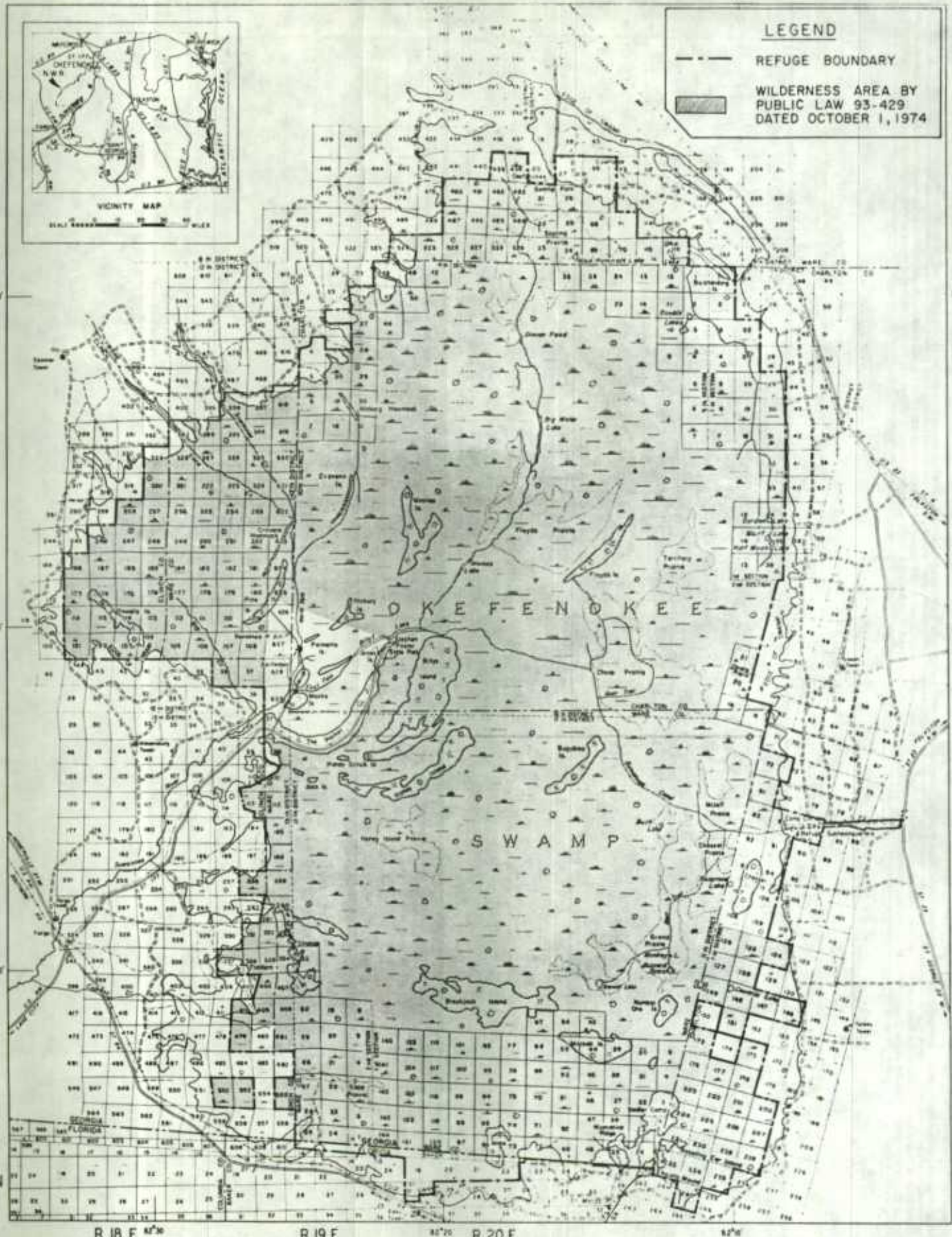
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| 30. | Walter Thompson
(transferred to Santee NWR
12/02/79) | Senior Group Leader (GS 7/2) |
| 31. | William C. Kent
(transferred to refuge 06/03/79) | Group Leader (GS 5/1) |
| 32. | John Yovu
(terminated 08/27/79) | Group Leader (GS 5/1) |
| 33. | Alton Thornton
(RIF'ed 07/14/79) | Group Leader (GS 5/1) |
| 34. | Clifton B. Johnson
(RIF'ed 07/14/79) | Maintenance Group Leader
(GS 5/1) |

OKEFENOKEE WILDERNESS AND OKEFENOKEE NATIONAL WILDLIFE REFUGE

UNITED STATES
DEPARTMENT OF THE INTERIOR

CHARLTON, CLINCH, AND WARE COUNTIES, GEORGIA

UNITED STATES
FISH AND WILDLIFE SERVICE

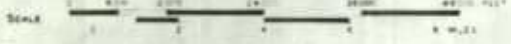


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TALLAHASSEE MERIDIAN

ATLANTA, GEORGIA

MARCH, 1976



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1962

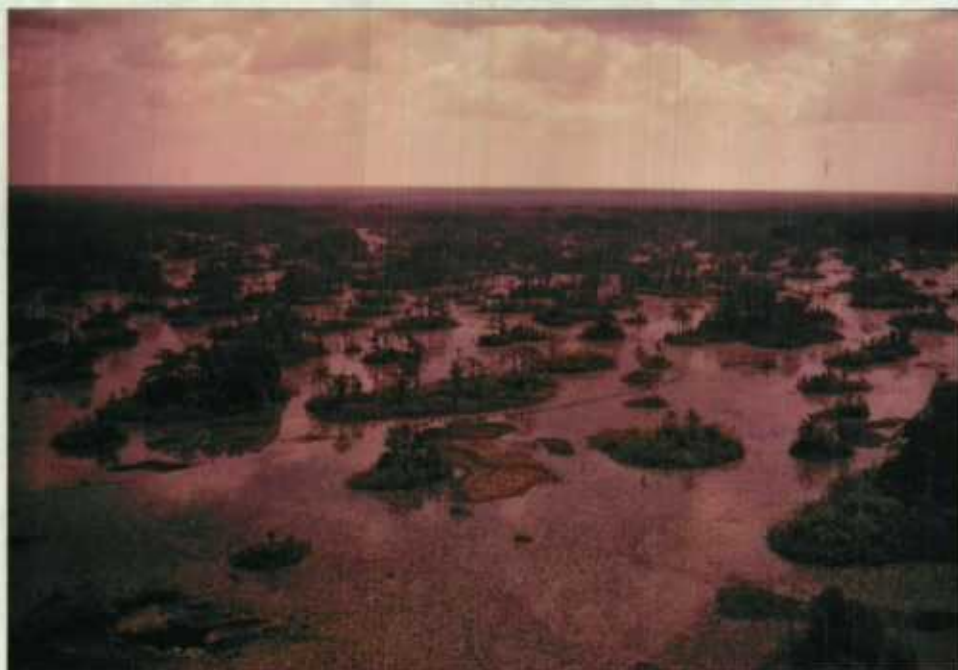
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I. GENERAL

A. Introduction

The Okefenokee Swamp is located in southeastern Georgia and is considered to be one of the oldest and most primitive swamps in America. It extends 38 miles from north to south, 25 miles across at its widest part and contains some 412,000 acres. Okefenokee National Wildlife Refuge, established in 1937, occupies 396,315 acres of which 353,981 acres are in the National Wilderness System.



A normal water year in the Okefenokee.
(Approximately 121.00 feet above sea
level) (TW) 1-OKE-79

The Okefenokee Swamp is a vast peat bog, unique in geologic origin and history, with many unusual forms of animal and plant life. Although it is currently theorized that the swamp was once a part of the ocean, it is now more than 100 feet above sea level. However, this theory may be in danger of being proven incorrect by current studies being conducted by the University of Georgia.

There are three primary entrances and one secondary entrance into the Okefenokee National Wildlife Refuge. The Suwannee Canal Recreation Area, a primary entrance eleven (11) miles southwest of Folkston, Georgia, is controlled entirely by the U. S. Fish and Wildlife Service. The second primary entrance which is located eighteen (18) miles north-east of Fargo, Georgia, is Stephen C. Foster State Park. This state park is located on Federally-owned refuge lands under the provisions of a long-term permit agreement between the U. S. Fish and Wildlife Service and the Georgia Department of Natural Resources. The third primary entrance in Okefenokee National Wildlife Refuge is the Okefenokee Swamp Park. This park is located thirteen (13) miles south of Waycross, Georgia, and is established on lands and waters of Okefenokee National Wildlife Refuge and the Waycross State Forest. The Okefenokee Swamp Park Association, Inc., a private, non-profit organization of Waycross, Georgia, administers this entrance. The secondary entrance into Okefenokee National Wildlife Refuge is Kingfisher Landing and is located about twelve (12) miles north of Folkston, Georgia, off U. S. Highway No. 1. The entrance has few facilities and access is controlled by U. S. Fish and Wildlife Service personnel.

B. Climatic and Habitat Conditions

1. Climate

Although 9.08 inches of rain fell during January and February, dry conditions causing Okefenokee's worst drought in many years continued until late April when 2.44 inches of rain fell. This April rain began the gradual normalization of the swamp water level which remained normal or above from May through December. Early rains were soaked up by dry peat beds, however, and the swamp vegetation as it came to life after its winter rest.

Rainfall totalled 57.53 inches, 4.53 inches above average and 18.37 inches above the 1978 total of 39.16 inches. March and October had the least rainfall with 0.70 inches and 0.79 inches, respectively. Rainfall during September was recorded on 22 occasions for a total of 13.53 inches and was the greatest monthly accumulation during 1979 by about 6.5 inches. Rainfall during the remaining months ranged from 2.24 inches in December to 6.97 inches in August. The greatest daily rainfall was 2.60 inches recorded on September 4.

Temperatures reached 101°F on July 5 -- down one degree from last year's 102°F recorded on June 28 and 29. The low of 17°F was recorded on January 15 and was up from the low of 11°F recorded on January 29 last year. Temperatures ranged in the mid to high 90's from June until September with July being the hottest with 95°F or above temperatures recorded on 23 days.

1979 WATER LEVEL TABLESSuwannee Canal Recreation Area

<u>High</u>	<u>Date</u>	<u>Low</u>	<u>Date</u>
120.57	01/31/79	119.91	01/01/79
120.96	02/26/79	120.54	02/02/79
120.95	03/06/79	120.54	03/31/79
120.89	04/26/79	120.47	04/04/79
121.55	05/15/79	120.81	05/02/79
121.35	06/01/79	121.00	06/25/79
121.20	07/20/79	120.89	07/07/79
121.26	08/24/79	120.88	08/22/79
122.00	09/30/79	121.10	09/03/79
122.01	10/01/79	121.52	10/31/79
121.58	11/02/79	121.30	11/30/79
121.37	12/07/79	121.23	12/05/79

Jones Island

<u>High</u>	<u>Date</u>	<u>Low</u>	<u>Date</u>
114.12	01/31/79	113.60	01/01/79
114.70	02/28/79	114.12	02/01/79
114.78	03/07/79	114.56	03/30/79
114.80	04/27/79	114.40	04/13/79
115.66	05/17/79	114.94	05/04/79
115.58	06/30/79	114.94	06/15/79
116.20	07/20/79	115.50	07/09/79
116.14	08/02/79	115.24	08/24/79
116.52	09/19/79	115.20	09/03/79
116.28	10/01/79	115.10	10/31/79
115.12	11/01/79	114.82	11/30/79
115.28	12/17/79	114.74	12/05/79



The Suwannee River Sill was breached several times due to high water levels in September. (TW) 2-OKE-79

1979 TEMPERATURES AND RAINFALL RECORDS

<u>MONTH</u>	<u>HIGH</u>	<u>LOW</u>	<u>RAIN</u>	<u>LARGEST AMOUNT</u>
January	74	17	5.41	.87
February	81	23	3.67	1.00
March	88	30	.70	.37
April	91	42	5.60	2.44
May	94	42	6.57	1.39
June	99	56	5.52	2.01
July	101	69	3.68	.65
August	98	66	6.97	2.10
September	94	60	13.53	2.60
October	89	39	.79	.33
November	85	26	2.85	1.12
December	79	24	2.24	.85
MAXIMUM	101		57.53	2.60
MINIMUM		17	(Total)	(Largest Amount)

2. Habitat Conditions

Dry conditions experienced during 1978 continued until mid-April when rainfall began to make a showing in "gator" holes and boat trails.



Canoe trail in low-water year.
(TW) 3-OKE-79

As water levels returned to normal, swamp vegetation came to life replacing winter brown with green plants and beautiful flowers. As the swamp returned to its natural "green" beauty, no one would have ever guessed that there had been a severe drought during the past two years. Waterfowl food production was excellent and in abundance when the ducks arrived in the fall. Wildlife that had concentrated around water holes during the drought dispersed giving the appearance of declining populations. As the year came to a close, swamp habitat conditions were excellent with normal water levels and abundant wildlife.

Upland habitat had its up and downs. Palmetto, low bush oaks and larger oaks produced little or nothing this year as compared to the bumper crops experienced in 1978. All acorns were gone by the end of October, and there just weren't any palmetto berries. Blackberries and gallberries did extremely well as evidenced by deer and bear signs in areas with the good berry production. General vegetation conditions were good throughout the year.

C. Land Acquisition

1. Fee Title

Union Camp Corporation donated 16,608 acres of swampland to Okefenokee Refuge on March 14, 1978. The donation added to the refuge about one-half of the swampland remaining in private ownership and raised the acreage within the refuge to 396,315 acres.

Efforts to survey the new refuge boundary which resulted from the donation were initiated in 1979. The J. R. Wood Surveyors and Planners, Inc., of Peachtree City, Georgia, was awarded a contract to survey the southeastern refuge boundary. Mr. Phil Curry, a surveyor from the Regional Office, initiated the survey of the northeastern refuge boundary. All survey work should be completed in 1980.

2. Easements

Not Applicable.

3. Other

Not Applicable.

D. Systems Status

1. Objectives

We were able to adhere to our FY 1979 Annual Work Plan to a reasonable degree. Perhaps, the biggest obstacles to adhering to the work plan were unplanned details, special training assignments, and prolonged vacancies. However, these exceptions are to be expected and were handled without too much difficulty. The major exceptions to this was "special details" for Okefenokee employees of every imaginable type. Oh, Well!!

2. Funding

After innumerable delays, several Bicentennial Land Heritage Program projects were initiated during 1979. Six contracts were awarded for construction, rehabilitation, boundary survey, and film production projects (see Table I). Okefenokee Refuge also received three job orders to aid with force account implementation of BLHP projects (see Table II).

The O & M Budget for FY 1980 was reduced significantly from our FY 1979 budget (see Table III). The significant reduction in funds along with the current inflation rate could signal a new period of austerity for Okefenokee Refuge.

Other funding available included \$30,810 to administer the Youth Conservation Corps Camp at Camp Cornelia.

In 1979, there always seemed to be a vacancy to fill at Okefenokee Refuge. Advancement opportunities allowed for three transfers of permanent employees and each vacancy required several months to fill. The following describes the current staffing pattern at the end of the year:

CALENDAR YEAR 1979
PERMANENT STAFF (17)

1. Refuge Manager, GS-13
2. Assistant Refuge Manager, GS-11
3. Assistant Refuge Manager, GS-9
4. Assistant Refuge Manager, GS-9
5. Outdoor Recreation Planner, GS-11
6. Outdoor Recreation Planner, GS-5
7. Outdoor Recreation Planner, GS-5
8. Outdoor Recreation Planner, GS-5
9. Biological Technician, GS-8
10. Biological Technician, GS-8
11. Administrative Clerk, GS-6
12. Clerk-Stenographer, GS-5
13. Forester (Administration), GS-11
14. Forestry Technician, GS-4
15. Engineering Equipment Operator, WG-8
16. Maintenance Mechanic, WG-8
17. Maintenance Worker, WG-6

TABLE I
CONTRACTS AWARDED IN 1979

1. Re-roofing (Suwannee Canal Recreation Area)	\$ 22,464
2. Spillway Construction (Suwannee River Sill)	607,010
3. Boathouse Construction (Kingfisher Landing)	64,988
4. Shop/Office Construction (Camp Cornelia)	902,127
5. Boundary Survey	32,288
6. Interpretive Film Production	13,800
TOTAL	<u>\$1,642,677</u>

TABLE II
JOB ORDERS (FORCE ACCOUNT)

<u>JOB ORDER NO.</u>	<u>PROJECT</u>	<u>AMOUNT</u>
2821-897-NQ	Water Monitoring System Installation	\$22,500*
2821-897-NR	Water System Installation, Bulkhead Construction	4,000
2821-897-T4	Boardwalk Spur Construction, Septic Tank Installation	<u>23,000</u>
	TOTAL	<u>\$49,500</u>

* Does not include \$18,104 expended for water level recorders.

TABLE III
O & M FUNDING

<u>SUBACTIVITY</u>	<u>*FY 1979</u>	<u>FY 1980</u>
1210	\$135,000	\$131,000
1220	20,000	20,000
1240	221,400	213,000
6820	34,000	42,000
8722	<u>12,400</u>	<u>--</u>
TOTAL	<u>\$422,800</u>	<u>\$406,000</u>

* Includes Pay Act additions at the end of the Fiscal Year.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Ansley and Sutton Construction Company of Savannah, Georgia, completed the bulkhead work at the Suwannee Canal Recreation Area on January 11. The new bulkhead was a big improvement over the concrete bags which were there previously.



Completed bulkhead at Suwannee Canal
boat basin - January, 1979. (TW) 4-OKE-79

The construction of the 800-foot boardwalk spur No. 1 and photo-blind was completed in May by YACC enrollees. Work was started on Spur No. 2 with 350 feet of the proposed 750-foot boardwalk being completed during the year.

The Kingfisher septic system was completed in September by Pope Concrete Company of Waycross, Georgia. This project involved the hauling and shaping of fill material by refuge personnel to raise the 40 foot x 65 foot drain field area elevation by a minimum of 18 inches. This was necessitated by the high water table in the drain field area. A 1000-gallon septic tank, lift station, and four drain lines were installed to accommodate planned public use increases when Kingfisher Landing is developed.

A 2-inch diameter, 2000-foot waterline from the Chesser Island Homestead to the boardwalk restrooms was installed to improve water quality. The entire project was completed by YACC enrollees.

Refuge personnel assisted the Union Camp Corporation with the survey work done on a small portion of the land donated to the refuge by Union Camp.

J. R. Wood Surveyors and Planners, Inc., of Peachtree City, Georgia, was awarded a \$32,288 contract to survey and plant 22 miles of the southern refuge boundary. Work was started on October 21 with 80% of the job completed by December 31. They have done an excellent job and left no doubt as to the boundary location.

Phil Curry, Regional Office Surveyor, had completed 20% of the boundary survey on the Union Camp donated land. He also surveyed elevations for refuge water level recorders at the Suwannee Canal Recreation Area, Seagrove Lake, Kingfisher Landing, Soldier Camp, Jones Island, Sapp Prairie and the Sill.

Ed Waters and Sons Contracting Company of Jacksonville, Florida, received the Sill water control structure replacement contract with a bid of \$607,010. A cofferdam had to be built below the Sill (Suwannee River side), water pumped out, critters removed, and the collapsed water control structure and fill material removed before construction of the new structure could begin. This was no minor accomplishment but was completed by the end of September. The new structure was started on October 1, 1979, but shortly ran into problems as natural limestone springs bubbled up where the new structure was to go. This problem was remedied by hauling 758 tons of crushed rock and dumping it into the springs at a cost of \$18,000. This was supposed to allow the water to run off without an erosion problem. Heavy rainfall in September threatened to breach the cofferdam on both sides of the structure. A concentrated effort by the construction company and refuge staff plus nature's decision to shut off the rain prevented any disasters such as sill or cofferdam washouts. Work was continued at an excellent pace considering conditions and was 61% completed by December 31. If the current pace continues, the new structure should be completed in April.



Damaged Suwannee River Sill Water Control Structure. (TW) 5-OKE-79



Suwannee River Sill Water Control Structure demolition and replacement. (TW) 6-OKE-79

Water level and rainfall recording stations were installed at the Suwannee Canal Recreation Area (August), Owl's Roost Tower - Seagrove Lake (November), Kingfisher Landing (December) with construction started on the Jones Island and Suwannee River Sill recorder stations. A total of 12 stations will be installed throughout the swamp in an effort to gain accurate data on interactions of the swamp's drainage systems and rainfall.



Refuge employees Phillips and Dixon installing new water level recorder at Suwannee Canal Recreation Area - September, 1979. (TW) 7-OKE-79

The Milton J. Wood Company of Brunswick, Georgia, was awarded the \$64,988 Kingfisher Landing boathouse contract. Pilings were driven in November and the building began to take shape. The first problem was with elevations. Had the boathouse been constructed as first designed, the lower walkway would have been under water 90% of the time, and the upper walkway and storage area under water during high water periods. Everything was raised 2½ feet and now normal water levels will be 8 to 12 inches below the lower walkway. Construction continued through periods of poor or no materials delivery and by December 31, 75% of the building was completed. This boathouse was designed to protect refuge boats and motors from vandalism and theft.



New boathouse construction at Kingfisher Landing - October, 1979. (TW) 8-OKE-79

The Camp Cornelia office/shop construction and the Suwannee Canal Recreation Area rehabilitation and auditorium construction contract of \$902,127 was awarded to Richard Walker Construction Company of Hilliard, Florida. Work began on the Camp Cornelia building in October with 25% completed by the year's end. No work was started at the Suwannee Canal Recreation Area, but it probably will be in full swing during peak visitor months.



Construction work begins on new headquarters at Camp Cornelia - December, 1979. (TW) 9-OKE-79

Thirty wood duck nesting boxes constructed by YCC were erected by YACC enrollees and refuge staff along the Swamp Island Drive and the Sill area in January. Another 40 nesting boxes constructed by 1979 YCC'ers were erected at Jones Island and the Sill area in December. Boxes erected at the Sill in January had almost 100% use during their first season.

Wilderness signs were posted at all refuge access points into the refuge's National Wilderness Area.

Approval was received for the construction of a 2000-foot fishing pier along the east end of the Sill. Lack of money for labor and materials prevented its start.

The only new equipment received this year was a new Dodge pickup and 4x4 Dodge power wagon to be used for Forestry work. We received an excess property forklift in June.

Stephen C. Foster State Park increased their parking area by completing a paved parking area at the concession building and boat dock.

B. Maintenance

Many maintenance projects were started and completed while others are the type with no end in sight.

All of the refuge's 120 miles of canoe and boat trails were maintained this year. Most required maintenance with the refuge trailcutter (Cookie Cutter). Only the brown trail had not been occupied by the trailcutter. Some areas required hand brushing as limbs and vines blocked trail passage. Mile-marker signs and white-topped guide marker posts were constantly being replaced due to deterioration or vandalism. Vegetation control was completed on 4½ miles of the brown trail. Maintenance of these trails is a requirement in Okefenokee's Wilderness Legislation. Chemical toilet servicing and maintenance required much time as new toilets were installed in the swamp and the old ones upgraded. During peak public use periods, toilets must be pumped every two weeks. Toilets are located at Chesser Island Homestead (2), Canal Forks, Monkey Lake, Coffee Bay (2), Canal Run, Cedar Hammock, Floyd's Island, Bluff Lake, Maul Hammock, Big Water, Craven's Hammock, and Jones Island.

Swamp shelters at Coffee Bay and Big Water were rehabilitated. The Chesser Island Boardwalk continued to deteriorate requiring replacement of complete sections of boardwalk. Boardwalk rehabilitation work had been completed on 331 feet at the year's end. Minor maintenance to other refuge boardwalk was necessary. Walking trail maintenance such as trimming, grubbing, and bark replacement was accomplished by the refuge staff and YACC and YCC enrollees. Minor maintenance to the Owl's Roost Tower was accomplished and a commercial non-skid material was painted on the steps to prevent slipping. Four lightning-struck trees were removed from the Suwannee Canal Recreation Area yard as they began to die from bug infestation. The much needed rehabilitation of the Suwannee Canal Recreation Area building roofs was begun by Cheyenne Construction Company of Jacksonville, Florida, on July 25.



Suwannee Canal Recreation Area Concession
Building prior to roofing. (TW) 10-OKE-79

The old rock and tar roofs of the concession building, picnic shelter, restrooms, fish cleaning shed and the rolled roofing of the bicycle shed were replaced with Blue Ribbon, Cedar Shake shingles. When completed, the shingles improved the looks of the buildings considerably. After many headaches, the ripping off of 12 runs of shingles, and a change in sub-contractors, the job was completed except for some touchup work. At the year's end and after many calls to Engineering, these two items were still undone! The new roofs look somewhat out of character with the green buildings, but this will be remedied when a decision is made about the new stain for the visitor center as all buildings will be stained the same color.

Automatic gates at the Suwannee Canal Recreation Area and Jones Island entrances were rehabilitated to accommodate new refuge transmitter/receivers. Now all four refuge automatic gates are operated with the same gate opener signal from hand-held transmitters.

The refuge night tour boat was dry-docked for a new coat of paint and minor maintenance. Cold weather prevented the completion of this job by the end of December.



Suwannee Canal Recreation Area Concession
 Building with refurbished Cedar Shake roof
 - October, 1979. (TW) 11-OKE-79

The following is a summary of forestry maintenance projects which were performed in the various forest-wildlife management compartments:

- COMPARTMENT 1: Pulled ditches and graded five miles of connecting roads; plowed existing firelines.
- COMPARTMENT 2: Constructed a road through Blocks 1 and 2 (.6 miles); installed three culverts in creek crossings; completed a joint refuge and Union Camp project to improve an access road into Compartment 2 by hauling clay and mixing it with the deep sand to form a usable road.
- COMPARTMENT 3: Upgraded $3\frac{1}{2}$ miles of the Boathouse Road, Phernetton Phreeway, and Perimeter Road by mixing clay in deep sand areas and grading; installed six soil cement crossings along Swamp Island Drive; installed six culverts and three earth crossings for timber harvest access along the Perimeter Road; plowed existing firelines.
- COMPARTMENT 4: Pulled ditches and graded $7/8$ mile of South Chesser Island timber access road; plowed existing firelines.

COMPARTMENT 5: Cleared brush, pulled ditches and graded five miles of Soldier Camp Road and 3/4 mile of the Moonshine Ridge Road; installed three culverts in place of three bridges and built wooden retaining walls; installed four other culverts and sandbagged two; repaired an existing culvert; hauled dirt to raise 1/4 mile of existing road; installed one culvert in Land Lot 260; plowed existing firelines; cleared and plowed new ones.

COMPARTMENT 6: Graded and sloped banks; planted pine seedlings and Bahia grass on that part of the State Line Road pushed in 1975; constructed 1/4 mile road through pine plantation connecting the State Line Road to the Mims Island Road; installed and sandbagged five culverts in the State Line Road; installed three 36-inch culverts at Mims Island Crossing and hauled fill to raise the road above the high water level in the 400-foot crossing; replaced the wooden bridge on Mims Island Road; cleared and plowed outlines.

COMPARTMENTS

8 and 9 : Plowed existing firelines in Compartment 8 and cleared firelines in Compartment 9.

Boundary lines were painted in Compartment 3, 9 and 15 with the help of YCC and YACC enrollees. Only Compartment 9 was completed.



Annually maintained permanent firelines also serve as wildlife openings. (RAP) 12-OKE-79



YCC assists with annual boundary line maintenance. (TW) 13-OKE-79

General refuge maintenance of buildings, facilities, equipment and grounds consumed its share of refuge man-hours. Major equipment maintenance included work on the TD-9 and D-6 tracks and recheck of the HD-9 engine work.

All refuge fire extinguishers were checked and recharged in December. Washouts along the Sill caused by heavy rains and high water levels required some additional fill and dozer work.

The refuge staff voted unanimously in favor of the compressed work schedule. Should this come about, there will be an increase in work accomplished and energy saved.

C. Wildfire

Okefenokee Refuge has a contract with the State of Georgia, whereby, the Georgia Forestry Commission provides protection for the entire Okefenokee National Wildlife Refuge and initial suppression services for the forest management areas of the refuge. A similar contract is being negotiated with the State of Florida for that portion of the refuge which lies in Florida.

Three wildlife fires occurred during 1979:

79-1: POCKET FIRE

The most tragic wildfire in Okefenokee's history occurred on February 15, 1979. This fire, which started as an aftermath of a prescribed burning operation, claimed the life of Biological Technician Richard S. Bolt.

Richard, Biological Technician Doug Nuss and their crew had been burning the day before in the western strip of blocks (see map - brown area). The fire backed and flanked around several small swamps in the area, leaving an irregular line by nightfall. The fire, when checked the next morning, was still slowly burning along this irregular line. No new fire was set on that day.

Shortly after 2:00 PM, a violent westerly wind caused the fire to head through the long, narrow line of swamps (orange arrows on map) reburning a gallberry understory (gray cross hatches on map) which had been burned the month before. The fire then jumped the State Highway No. 177. The following photo shows the previously burned gallberry understory (brown leaves) and the blackened strips where the fire made its run through it.



The wildfire began as an aftermath of a prescribed burning operation. High winds caused the fire to ignite the previously burned gallberry understory. The fire then jumped the road (foreground) and burned out of control on the other side. (RAP) 14-OKE-79

- 2:20 PM - Fire reported to Biological Technicians Nuss and Bolt by refuge visitor.
- 2:30 PM - Biological Technicians Nuss and Bolt arrived at the scene of the fire. The fire had spread as shown by the orange cross-hatching on the map. The fire was spreading slowly with a flame height of 3 to 5 feet. Bolt, observing the fire's slow rate of spread, picked a permanent fire break about 150 yards from the north flanking line of the fire and began plowing a line toward the swamp about 200 yards away. When a second tractor arrived on the scene, Nuss began to follow Bolt's line, widening it. Bolt reached the swamp, turned around and began heading back toward the highway also widening his plowed line.
- 2:40 PM - Bolt reached a point about 75 yards from the swamp (purple dot on map) and Nuss reached a point about 75 yards from the road (black dot on map) when another violent gust of wind caused the fire to run directly toward Nuss and Bolt (red arrows on map). The fire crossed the 150-yard unburned area in seconds. Horizontal flame length was over 40 feet.

Nuss abandoned his tractor and ran through the dense pine plantation to safety. Bolt, much farther from the road, tried to seek shelter under the tractor. The fire made its three-quarter mile run to the north end of Block 30 in less than fifteen minutes, then laid down and waited to be put out.

Nuss immediately re-entered the burned-over area to look for Bolt. He met Bolt walking out. Richard Bolt suffered first, second and third degree burns over 70% of his body. He was taken by ambulance to the Veterans Administration Hospital in Lake City, Florida, and then transferred to the Brooke Army Medical Center in Fort Sam Houston, Texas, where he died on February 28.



Richard Bolt was trapped on this tractor while plowing a fireline in an attempt to plow out the fire. The fire moved so rapidly that the only equipment damage was a melted radio.
(RAP) 15-OKE-79

Four tractor-plow units from the Georgia Forestry Commission, St. Regis Paper Company and the Langdale Company responded to our calls for help.

The fire burned 125 acres. The 14-acre slash pine plantation was destroyed. The blackened remains of the trees (photo) shows the intensity of the fire. The destroyed plantation was cleared and is now being replanted with mixed hardwoods.



"The Pocket Wildfire" that claimed the life of Biological Technician Richard S. Bolt. Ron Phernetton examines a young pine stand destroyed by the wildfire. (Staff) 16-OKE-79

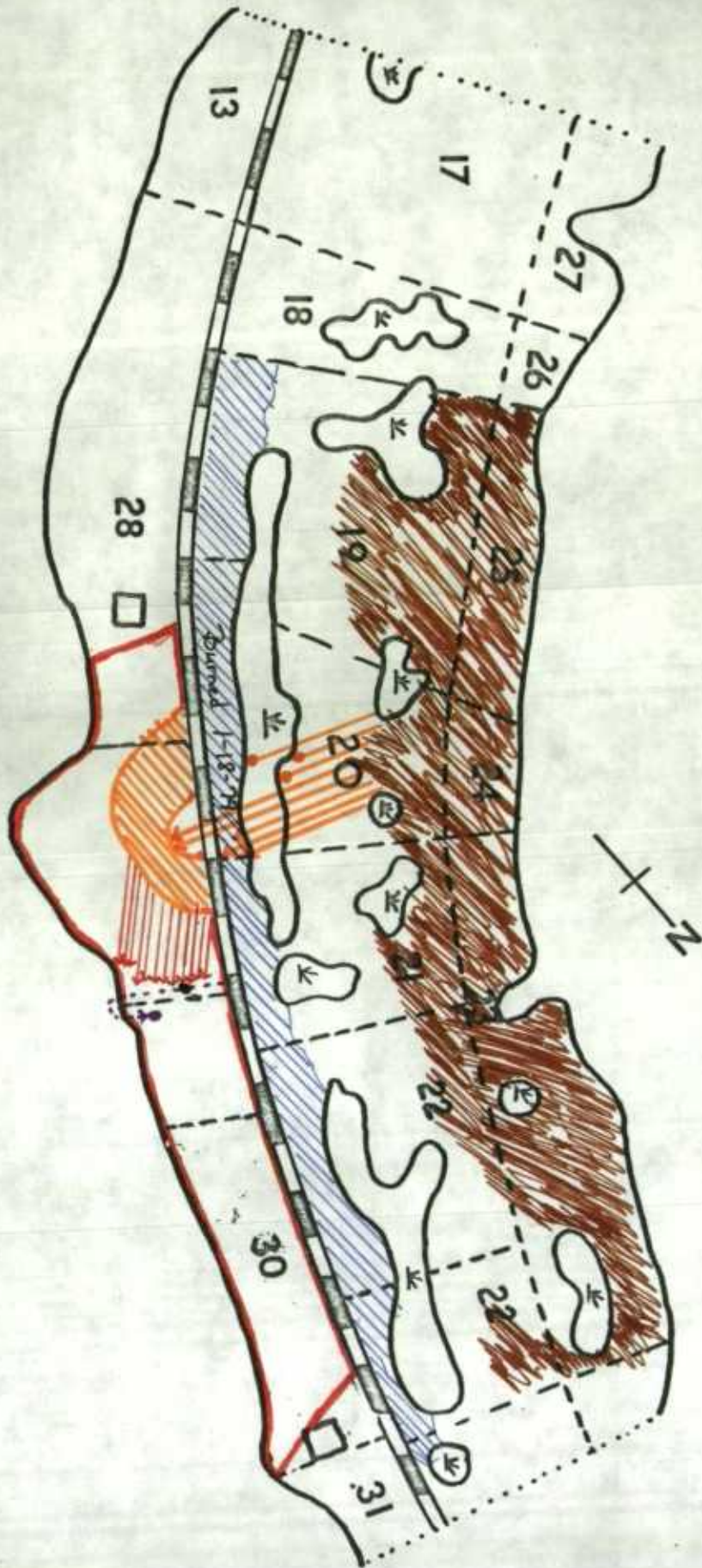


A 14-acre pine plantation destroyed by the fire will become a mixed hardwood stand and be dedicated as the Richard S. Bolt Memorial Forest. (RAP) 17-OKE-79

The remaining 111-acre, old growth, longleaf slash pine stand was severely damaged and was soon attacked by Ips beetles. In order to avoid a mile long clearcut along the scenic highway leading into Stephen C. Foster State Park, we made a tremendous effort to save this stand. The small understory saplings were the first to be attacked by the Ips beetles. They were cut and chipped to stem the beetle infestation. Larger trees were felled and sprayed with Lindane. Later salvage operations yielded 7,252 posts and 314 cords of pulpwood. The insect attack was controlled and the 111-acre stand, although much sparser than before, is recovering.



7,252 fence posts and 319 cords of pulpwood were salvaged to check insect infestation in the scenic 125-acre stand. (RAP) 18-OKE-79



COMPARTMENT 8
MIDDLE SECTION

79-2: UNION CAMP FIRE

The fire occurred on the same day as the Pocket Fire while Union Camp Corporation personnel were burning a large tract of land. A sudden wind shift causing the backing fire to head into the refuge where it burned out at the swamp's edge. About 200 acres were burned.

79-3: CHESSER ISLAND FIRE

This lightning caused fire is believed to have occurred in late August. Fortunately, it was extinguished by rain before it reached the Chesser Island Homestead about 300 yards away. The fire burned less than half an acre.

III. HABITAT MANAGEMENT

A. Croplands

Not Applicable.

B. Grasslands

Not Applicable.

C. Wetlands

Approximately 90% of the Okefenokee Refuge is wetlands, and management of the wetlands consists mainly of protection of the biota and coordination of the public use in a way to avoid disruption of the natural cycles within the swamp. The ecological stability of the swamp is such that the biological abundance and diversity could not be effectively enhanced through habitat manipulation. The construction of the Suwannee River Sill during the early 1960's was the only major attempt to manipulate the water level of the swamp. The new sill water control structure under construction will permit manipulation of swamp water down to the original bottom elevation of the Suwannee River where it leaves the Okefenokee Swamp. This manipulation will take place only if research currently underway indicates the need.

D. Forestlands

Okefenokee National Wildlife Refuge presently has 13,200 acres of upland included in its forest-wildlife habitat management program. Union Camp Corporation recently donated 16,608 acres of land (mostly swampland) to the government for addition to the National Wildlife Refuge. Surveying is now being completed on this land. When it is completed, several hundred acres of upland will be added to the forest management area.

An additional 14,000 acres of upland forest are located on islands within the interior of the swamp. These forestlands are located within the National Wilderness Area boundaries and are unmanaged except as noted in the section Unmanaged Forestlands.

Managed forestlands are divided into 15 compartments ranging in size from 150 acres to 1,850 acres (see map, page 27).

Objectives of the forest-wildlife habitat management program are: To provide habitat beneficial to a wide variety of wildlife species native to the area with special emphasis on threatened and endangered species; to demonstrate the benefits of wildlife and forest management on the same lands; to enhance forest-wildlife oriented recreation, appreciation and education opportunities; to manage forest resources on a sustained yield basis; and to preserve unique vegetation types for scientific study and enjoyment.

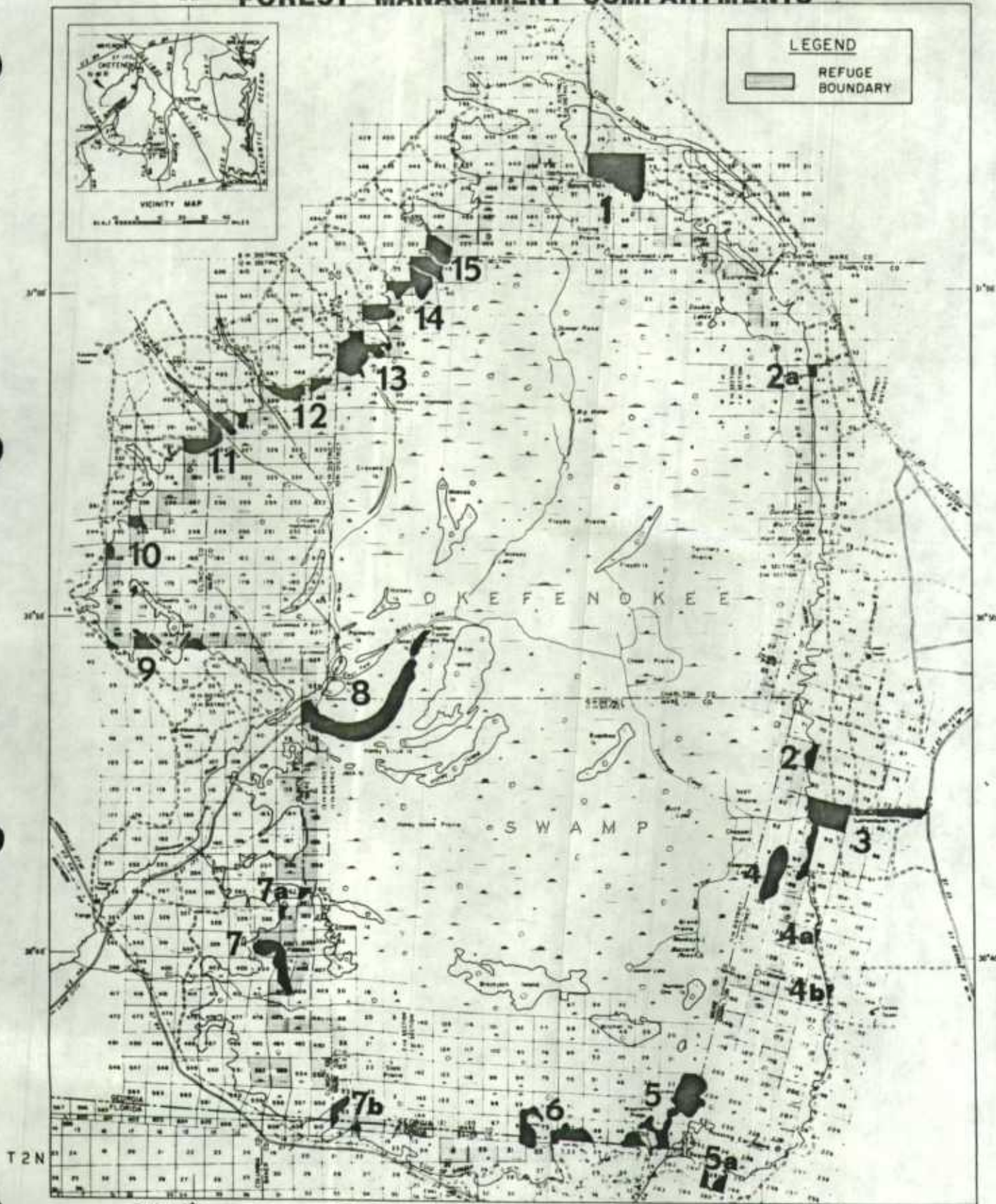
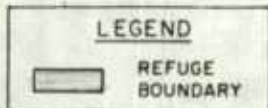
OKEFENOKEE NATIONAL WILDLIFE REFUGE

CHARLTON, CLINCH, AND WARE COUNTIES, GEORGIA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

FOREST MANAGEMENT COMPARTMENTS



COMPILED BY THE BRANCH OF REALTY
FROM SURVEYS BY F&WS, G.L.O. AND US ARMY

TALLHASSEE MERIDIAN



MEAN DECLINATION
1962

ATLANTA, GEORGIA

JUNE, 1963

4R-GA-213-405



Wild turkeys are observed commonly in small openings scattered throughout the upland forest. (RAP) 19-OKE-79

Tools used to accomplish these objectives include a long rotation (100 years or more), thinning on an eight-year cycle, and prescribed burning on a three-year cycle. The end result of this management is a wide variety of forest stands in many sizes, shapes, ages, and species. These stands, in combination with the unmanaged areas, provide the wide variety of habitats necessary to meet the needs of an optimum number of wildlife species as well as to provide an aesthetically pleasing variety of forestlands. On the following pages are examples of Okefenokee's managed, unmanaged and swampland forests:



Okefenokee forestland scene:
Upland hardwood hammock of
Chesser Island. (RAP) 20-OKE-79



Okefenokee forestland scene: Swamp
forest lake. (RAP) 21-OKE-79



Autumn Okefenokee Swamp scenery.
(RAP) 22-OKE-79

1. Timber Harvest

After two years of inactivity due to bad weather, local pulpwood mill strikes, mills oversupplied with burned wood and a shortage of small shortwood producers, Okefenokee's timber harvesting program began to move again. There were ten active permits this year which included the sale of pulpwood, stumpwood and a record (for Okefenokee) 47,000 fence posts.



Forester Ron Phernetton observes Hercules, Inc., removing stumps from a clear cut prior to reforestation. (Staff) 23-OKE-79

TABLE 1
TIMBER RECEIPTS - CY 1979

SPECIAL USE PERMIT NO.	PERMITTEE	PERMIT DATES	PRODUCT	VALUE/UNIT	TOTAL VOLUME	TOTAL VALUE	VALUE CREDITED TO CY 1979
OKE 46 (RO-468)	South Georgia Timber Co.	11/19/78- 05/31/79	Pulpwood	\$18.51/cd.	1,150 cds.*	\$21,286.50*	\$ 1,109.07
OKE 47	Folkston Post Co.	01/18/79- 09/30/79	Pulpwood Fence Posts	\$ 5.00/cd. \$.03/post	73.01 cd. 16,771 posts	365.05 503.13	365.05 503.13
OKE 48	J. E. Carter	01/22/79- 12/31/79	Fence Posts	\$.035/post	16,248 posts	568.66	568.66
OKE 49	Lewis Chancey	02/20/79- 04/30/79	Pulpwood	\$ 5.00/cd.	5.24 cd.	26.20	26.20
OKE 50	B & M Post Co.	03/15/79- 05/31/79	Fence Posts	\$.0275/post	7,252 posts	199.45	199.45
OKE 51 (RO-468)	South Georgia Timber Co.	06/01/79- 12/31/79	Pulpwood	\$18.51/cd.	1,150 cds.*	21,286.50*	0.00
OKE 52	South Georgia Timber Co.	07/23/79- 03/23/80	Pulpwood	\$20.00/cd.	266.70 cds.	5,334.00	5,334.00
OKE 53	South Georgia Timber Co.	07/17/79- 09/30/79	Pulpwood	\$12.00/cd.	314.19 cds.	3,770.28	3,770.28
OKE 54	Willy Maxwell	09/04/79- 12/31/79	Fence Posts	\$.04/post	6,713 posts	268.60	268.60
OKE 55	South Georgia Timber Co.	10/09/79- 01/09/80	Pulpwood	\$12.00/cd.	23.66 cds.	283.92	283.92
OKE 57	Hercules, Inc.	11/19/79- 12/31/79	Stumpwood	\$ 5.50/ton	33.97 tons	186.84	0.00**
TOTAL RECEIPTS FOR CY 1979							\$12,428.36

* Estimated Values

** Receipts for this Sale Credited to CY 1980

TABLE 2

TEN YEAR TIMBER REMOVAL SUMMARY
(Actual Amounts Harvested During Year)

CY	SAWTIMBER (MBF)	PULPWOOD (CDS)	STUMPWOOD (TONS)	POSTS (EA)	TOTAL VALUE
1970	-	3,421	-	-	\$ 34,210
1971	-	3,421	-	-	34,210
1972	-	3,421	-	-	34,210
1973	-	295	-	-	5,696
1974	-	18	357	-	3,637
1975	217.4	296	-	1,400	21,988
1976	-	1,243	1,286	4,309	28,890
1977	-	83	430	20,184	4,761
1978	-	33	551	30,754	5,044
1979	-	743	-	46,964	12,428

2. Prescribed Burning

Okefenokee's FY 1979 prescribed burning season could have been described as a successful one if the season had not ended with tragic wildfire which claimed the life of Biological Technician Richard S. Bolt. This wildfire is described in detail in the Wildfire section of this report.

Prescribed burning is one of the most useful silvicultural and wildlife management tools utilized. When properly applied, some of the many benefits of prescribed burning are: reduction of wildfire hazard; control of diseases, insects and parasites; increase of available wildlife food supply; seedbed preparation for natural forest regeneration; improvement of access for forest and wildlife management; and enhancement of certain aesthetic qualities.



Prescribed burning is one of the most useful silvicultural and wildlife management tools which is utilized. (RAP) 24-OKE-79

Prescribed burning is of particular importance in the management of the endangered red-cockaded woodpecker which is present in Okefenokee's longleaf pine uplands. Prescribed fire helps to maintain the open park-like conditions necessary to meet the needs of this species.



Upland forest wildlife: Refuge pine forests are managed for red-cockaded woodpecker habitat. (RAP) 25-OKE-79

Ridley's (Little) Island, Compartment 6 and part of Compartments 3, 5 and 8 were burned totalling 3,256 acres (see map, page 27).

The FY 1980 burning season began in December. As of this date (January 16), parts of Compartments 4 and 8 have been burned.

TABLE 3
PRESCRIBED BURNING ACCOMPLISHED (FY 1979 SEASON)

COMPARTMENT	ACRES BURNED	MAN HOURS	COST PER ACRE
3	56	79	\$6.72
5	668	131	1.20
6	1,128	254	1.88
8	1,368	458	1.45
Ridley's Island	36	20	2.16
	3,256	942	1.65

3. Timber Stand Improvement and Other Forestland Management Techniques

One of the principle objectives of Okefenokee's forest habitat management program is to provide the habitat diversity needed to meet the needs of a wide spectrum of wildlife species, particularly threatened or endangered species. The types of timber stand improvement work or other management techniques prescribed are those which will help to meet this objective.

Timber harvesting operations have been completed in Compartment 2. Red-cockaded woodpecker colonies in one (1) longleaf pine stand became inactive when the stand was invaded with slash and longleaf pine saplings. Pulpwood and fence post operations and a proposed prescribed burn will return this area to the desired open park-like conditions. Hopefully, the woodpeckers will return.

YCC enrollees began precommercial thinning in a dense 50-acre stand of slash pine saplings in Compartment 5. Fence posts were removed from the suppressed understory of stands in Compartments 1, 2 and 6.

4. Tree Planting

During 1979, 22,000 longleaf pine and 18,000 slash pine seedlings were planted in Compartment 5 with YACC assistance.

<u>PLANTATION SIZE</u>	<u>SPECIES</u>	<u>SURVIVAL</u>
37 acres	Longleaf and Slash Pine	70%
30 acres	Longleaf and Slash Pine	65%
14 acres	Longleaf and Slash Pine	65%

Longleaf pine is planted wherever site conditions permit to provide future habitat for the red-cockaded woodpecker. Slash pine is planted in the lower areas. Since most of our planting sites contain both high and low areas, both species are sometimes planted in the same plantation. On some of our higher areas where competing species are not too numerous, longleaf pine is seeded. This reduces the planting cost and results in a more natural looking stand. The newly emerging longleaf pine seedling shown below was planted in February of 1977. The 16-acre plantation is now very well stocked with longleaf pine seedlings, some of which are emerging from the grass stage. So far we have experienced better survival and faster development with direct seeded longleaf pine than with planted seedlings where a proper seedbed has been prepared.



Longleaf pine seedling. Refuge lands are re-forested by direct seeding (depicted here), natural regeneration, and plant seedlings. (RAP) 26-OKE-79

5. Unmanaged Forestlands

Okefenokee National Wildlife Refuge contains over 14,000 acres of upland forest located on islands within the swamp. These islands, as well as most of the swamp, are part of the National Wilderness Area. These areas receive no management except as authorized by wilderness management guidelines (Policy Update No. 12). Natural fire has played an important part in the history of these interior islands and is responsible, in part, for the open park-like longleaf pine stands found on the higher parts of them. Fifty-nine (59) active, red-cockaded woodpecker cavity trees in 13 colonies are located within these open longleaf pine stands on Billy's Island. Prescribed fire is used to maintain this excellent red-cockaded woodpecker habitat. So far, Billy's Island is the only wilderness island where prescribed fire has been used. A prescribed burn is scheduled for Strange and Boatlanding Island for the present burning season. A very beneficial, natural fire occurred on Blackjack Island in 1976. Most of the wilderness islands are designated as prescribed natural fire areas in our new Fire Management Plan.

The only other management which has taken place in these wilderness forestlands has been exploratory visits by refuge personnel to census red-cockaded woodpecker colonies and to examine available wildlife habitat types. During these visits, red-cockaded woodpecker colonies have been discovered on Blackjack, Mitchells and Number One Islands.

These wilderness islands, along with thousands of acres of forest and swampland, also provide large areas of unbroken forest beneficial to some wildlife species less adaptable to the more diversified habitat types found in the managed forestlands.

6. Benefits of Forest-Wildlife Management on Okefenokee Refuge

No formal research has been completed that would help assess the benefits of the forest-wildlife management program. However, periodic observations in compartments, which have received timber stand improvement work, thinning, and prescribed fire, showed an increasing abundance of grasses, legumes, huckleberry and ground oak. Increased browsing activity has been observed on the new understory shrub growth which follows prescribed burning.

Examination of wilderness islands, which have experienced no fire in recent years, shows deteriorating red-cockaded woodpecker habitat while those areas which have been burned generally show increased activity.

Wildlife benefits of the forest management program also become more apparent as forest-wildlife management prescriptions are completed. Understory species and wildlife observations are noted at each prescription cruise plot. These observations are showing an increased abundance of game and non-game wildlife species on managed forestlands that contain well diversified habitat types.

E. Other Habitat

Not applicable.

F. Wilderness and Special Areas

In 1974, 353,981 acres of Okefenokee Refuge were designated for preservation under the Wilderness Act. Preservation consists mainly of regulatory enforcement and monitoring the biological and physical features within the swamp. Recent channelization of streams which drain into the swamp has caused some concern since the greater volume of water within the swamp could cause major ecological changes. The channelization was being done by timber companies in order to drain surface water from managed pine stands. Although refuge personnel and researchers periodically monitor the channelization, efforts to halt this work have been limited, because the Corps of Engineers has not made a definitive ruling on the legality of the drainage operations.

During 1979, refuge personnel continued to maintain the wilderness canoe trails as provided under the Okefenokee wilderness legislation. In addition, wilderness signs were posted at access points into the area designated as wilderness.

The following areas have been designated for protection as natural areas on the refuge:

1. Threatened Community Research Natural Areas

Pond Cypress Research Natural Area -- 14,989 acres.
Sweet Bay Research Natural Area -- 2,560 acres.

2. Research Natural Areas

Floyd's Island (swamp island) -- 160 acres.
Pine Island (swamp island) -- 90 acres.
Territory Prairie (marsh & bog) -- 1,450 acres.
Blackjack Island -- (sphagnum bog) -- 15,027 acres.
Cowhouse Island (hardwood hammock) -- 10 acres.

3. Public Use Natural Areas

Chesser Island Bay (swamp forest) -- 100 acres.
Chesser Island (hardwood hammock) -- 11 acres.
Floyd's Island (swamp island) -- 575 acres.
Chesser Prairie Rookery (wading bird colony) -- 3 acres.
Chesser Prairie (marsh prairie) -- 800 acres.

G. Easements for Waterfowl Management

Not Applicable.

IV. WILDLIFEA. Endangered and/or Threatened Species1. American Alligator

The alligator population in Okefenokee is estimated at 6,000 - 10,000 animals. There has been no notable increase in population over the past few years. A study of the nesting success of alligators in the Okefenokee Swamp indicates that the black bear is exerting an effective control on the alligator population through nest predation. This is probably indicative of a density-dependent relationship, and nest predation is not resulting in a major reduction of the alligator population below the carrying capacity of the habitat.



This overly aggressive 9-foot alligator was trapped in the Suwannee Canal Recreation Area boat basin, marked, and relocated to another area on the refuge. (TW) 27-OKE-79



Yes, that's a white-tailed fawn this 11-footer has caught for dinner. (NTL) 28-OKE-79

2. Eastern Cougar

There were no reported sightings of the eastern cougar during 1979. The last reported evidence was the discovery of a suspected scat specimen on Craven's Hammock on November 12, 1976. This scat was tentatively identified by Robert Belden, Leader of the Florida Panther Recovery Team, as being panther scat; but it was finally identified as coming from a black bear.

3. Bald Eagle

The Okefenokee does not have any known bald eagle nesting sites. Eagles are transient species in this area with an occasional sighting reported during the winter months.

4. American Peregrine Falcon

Peregrine falcons are rarely observed in the Okefenokee, but a few probably pass through the area each year. They are more likely to be observed along Georgia's Sea Island Coast, which is about 50 miles east of the Okefenokee Swamp.

5. Florida Sandhill Crane

The Okefenokee contains a resident population of approximately 225 Florida sandhill cranes. The population appears to be stable. Exact reproduction during 1979 is unknown, but the stability of the total population indicates at least fair reproduction.

6. Red-cockaded Woodpecker

The red-cockaded woodpecker inhabits the upland managed forests which surround the swamp and several upland islands within the Okefenokee.

The annual survey of red-cockaded woodpecker cavities was conducted in May and June. Of the 142 known cavity trees available for use, 114 were active.

In addition to the above, four colonies on Mitchell Island and five colonies on Blackjack Island have been located and marked. One colony of three cavity trees has been located on Number One Island. This brings the refuge total to 52 known, active colonies. Other colonies probably exist on Honey, Minnies, Bugaboo, New, and Blackjack Islands.

7. Indigo Snake

The indigo snake (Drymardon corais couperi) was designated as threatened in 1978. Little is known about this species on Okefenokee except that it is present and an important target for "snake rustlers".

8. Threatened Plants

Three plants within Okefenokee Refuge are included on Georgia's endangered and threatened plant species list. These include hooded, parrot, and trumpet pitcher-plants (Sarracenia minor, psittacina, and flava). All these species, except the trumpet pitcher-plant, are relatively common on the refuge.

B. Migratory Birds

1. Waterfowl

The Okefenokee Swamp does not supply a large population of waterfowl. Peak wintering concentrations have usually numbered below 10,000 birds with wood ducks comprising about two-thirds of the total use. Wood ducks and mallards are the most abundant species that are found during the winter months. A considerable amount of use by ring-necks occurs during the spring and fall migration.

Considerable effort was made to meet a pre-season banding quota of 300 wood ducks. Unfortunately, the wood ducks could not be concentrated for trapping, and only 132 woodies were banded. However, wood duck production was very good with most of the nesting boxes being used. Natural nesting sites reduced the need for artificial structures. However, some 40 additional wood duck nesting boxes were erected during 1979 on the west side to aid wood duck production. Overall production throughout the swamp seemed to be excellent.

2. Marsh and Water Birds

Wading bird use in the swamp amounted to nearly 4,000,000 use days. Nesting activity of wading birds was heavy -- especially on the west side of the swamp. The Mack's Island Rookery was very active. It has been estimated that 15,000 nesting pairs of white ibis populated this 200-acre rookery. The white ibis is Okefenokee's most common wading bird.



Wood Storks observed in Chesser Prairie.
(JR) 29-OKE-79



This purple gallinule was observed strolling
along the Suwannee River Narrows. (LAC) 30-OKE-79



The great egret population is estimated to number over 2,000 birds during the summer months. (LAC) 31-OKE-79

3. Shorebirds, Gulls, Terns, and Allied Species

This category totalled 340,000 use days -- limited primarily to woodcock, snipe, and killdeer. While this was an increase from the 186,010 use days during 1978, Okefenokee does not have enough open water to attract a variety or abundance of birds in this category.

4. Raptors

Okefenokee has a stable raptor population. During the osprey nesting survey conducted on June 1, a total of 13 young osprey were observed in 10 active nests.

Sightings of swallow-tailed kites are not uncommon. However, we have yet to find any of their nests after years of searching.

The turkey vulture, black vulture, red-shouldered hawk, and the barred owl are Okefenokee's most common raptors. Peak populations for all these species are estimated to number 400 - 500 during the year.



Okefenokee's most populous member of the Owl family: the Barred Owl. (RAP) 32-OKE-79

5. Other Migratory Birds

The Okefenokee Swamp is home for over 225 bird species. During the Christmas Bird Count which was conducted on December 27, some 61 species were observed by the eight participants.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Deer continued to be plentiful and are frequently observed along the Swamp Island Drive. An estimated 1,000 deer inhabit the approximately 28,000 acres of upland area within the refuge which are suitable for deer.

There has been one indication of possible health problems with the refuge's deer population. In early November, a large buck simply fell down and died with no apparent disease or injury. Because of this, the University of Georgia will be taking several deer from the refuge for necropsy.

Efforts were initiated to obtain a more accurate census of the deer population at Cowhouse Island. This area, which is adjacent to hunted state-owned land, has been proposed to be opened for a managed hunt. On January 11, a deer drive count which covered 900 acres was conducted at Cowhouse Island, and 30 deer were observed. However, it is believed that many deer were not counted because of the failure of some of the survey participants to follow the directions of the survey coordinator.

The discovery in January of a rabid raccoon at the Stephen C. Foster State Park sparked the initiation of a cooperative raccoon study with the Communicable Disease Center (CDC) in Atlanta, Georgia. The CDC requested our participation in an experimental program of capturing raccoons, marking the animals, and vaccinating them with a rabies serum. It was believed that such a program could increase the raccoon population's immunity to rabies. By the time the study was terminated in October, approximately 80 - 90 raccoons had been trapped and treated. The results of the study are not known.

Raccoon, otter, opossum, and bobcat populations remained stable.



This wary fellow will live to see another hunting season. (Staff) 33-OKE-79



YACC and refuge staff participation in a deer census on Cowhouse Island in preparation for drafting of Okefenokee's first deer hunt plan.
(TW) 34-OKE-79

2. Other Mammals

The black bear population remained stable at an estimated 150 animals. Sightings of bears along the Swamp Island Drive are not uncommon. One bear was photographed by a refuge researcher while the bear was raiding an alligator nest. *-where's the photo?*

Other mammal populations on the refuge seemed to be stable.

3. Resident Birds

Bobwhite quail inhabit the forestlands around the swamp and the sandy islands within the swamp, and the population appears to be stable at an estimated 2,500 birds. Although we do not actively manage quail habitat, our prescribed burning program promotes the growth of food plants which are preferred by quail.

The turkey population appears to be stable at an estimated 60 birds. Turkeys are observed frequently along the Swamp Island Drive.

4. Other Animal Life

All other animal populations appear to be stable. Different animal lists are included at the end of this report.

V. INTERPRETATION AND RECREATIONA. Interpretation and Environmental Education1. General

Interpretation and Environmental Education at Suwannee Canal
Recreation Area, Folkston, Georgia
(No. of Visitors)

<u>Activity</u>	<u>CY 1978</u>	<u>CY 1979</u>	<u>% Change</u>
Guided Boat Tours	15,774	12,084	- 24%
Wildlife Observation (Boat)	9,228	8,406	- 9%
Interpretive Center	38,676	36,475	- 6%
Interpretive Tram	11,732	15,343	*
Self-Guided Wildlife Drive	37,563	15,577	*
Swamp Boardwalk	42,228	25,182	*
Chesser Island Homestead	20,705	15,504	-26%
Night Tour Boat	407	74	*
Walking Trails	24,378	16,777	*
Total Visitors	122,048	88,497	-28%

* The per cent change figures for these categories would be meaningless because of the erratic operation of these programs due to insufficient staffing, mechanical difficulties and weather conditions.

it will be interesting to see what the S govt do w/ the TRAM? change?



Aerial view of Suwannee Canal Recreation Area.
(WCK) 35-OKE-79

The 28% decrease in total visitation to the Suwannee Canal Recreation Area coincides with the overall 14% drop in tourism throughout the southeastern United States. This, of course, is primarily attributed to the rising cost of gasoline.



Don Berryhill, Environmental Education Coordinator with Cooperative Educational Services Agency, uses the Swamp's Edge Interpretive Center as a basis for exploring basic environmental concepts with a grade school group. (TW) 36-OKE-79

SUWANNEE CANAL RECREATION AREA CONCESSION
GROSS INCOME

<u>Year</u>	<u>Total Amount</u>
1970	48,294
1975	96,595
1977	141,369
1978	165,368
1979	133,001

Interpretation at Stephen C. Foster State Park - Fargo, Georgia
(No. of Visitors)

<u>Activity</u>	<u>CY 1978</u>	<u>CY 1979</u>	<u>% Change</u>
Guided Boat Tours	4,841	4,852	+ 1%
Wildlife Observation (Boat)	10,733	9,379	- 13%
Museum	70,179	51,635	- 27%
Total Visits	119,874	101,987	- 15%

The State of Georgia operates this entrance on 135 acres of refuge land under a long-term permit agreement. The facilities include a 69-site campground, nine 2-bedroom cottages, a pioneer camping area for youth groups, a picnic ground, a museum, and a boat launch. The States does offer some good programs and excellent wildlife-oriented recreation opportunities. However, the State still has not been able to maintain and operate this facility at Service standards. The gross revenues for the park totalled \$166,367.18 this year.

Interpretation and Environmental Education at Okefenokee Swamp Park -
Waycross, Georgia
(No. of Visitors)

<u>Activity</u>	<u>CY 1978</u>	<u>CY 1979</u>	<u>% Change</u>
Extended Boat Tours (2 hours)	5,102	3,577	- 30%
Environmental Education			
Students	3,395	2,815	- 18%
Teachers	352	231	- 35%
Total Visits	95,630*	78,493	- 18%

* These figures also reflect visits to Swamp Park's interpretative exhibits and demonstrations. *what %?*

This privately-owned, non-profit entrance into the refuge showed a decided decline in total visits which can most certainly be attributed to the energy crisis.

The Swamp Park is strongly tourism oriented with a \$4.50 per person entrance fee. The Park caters to the visitors with little time to spend in the swamp. The facility provides excellent interpretive exhibits, lectures, wildlife shows, hiking trails, an observation tower, pioneer homestead and animals in captivity.

2. On-Refuge Programs

A total of 340,982 activity hours of interpretation and a total of 21,936 activity hours of environmental education were recorded in CY 1979.



Bicycling is becoming a very popular alternate method of transportation along the scenic Swamp Island Drive. (WCK) 37-OKE-79

A. WILDERNESS CANOE TRAILS

(No. of Canoeists)*

<u>STARTING POINT</u>	<u>CY 1978</u>	<u>CY 1979</u>
Kingfisher Landing	1,251	1,595
Suwannee Canal Recreation Area	1,500	1,448
Stephen C. Foster State Park	<u>564</u>	<u>554</u>
Total No. of Canoeists	3,315	3,597

*These numbers represent individual canoeists, each spending from two to six days in the swamp.



Floyd's Island Cabin which was built during the 1920's and is maintained by Boy Scout Troop #123, Winter Haven, Florida, is used as an overnight stop on wilderness canoe trips. (WCK) 38-OKE-79

Wilderness canoe camping increased by 8% when compared to last year. The increase is attributed to the rise in the swamp water levels. From 1978 to 1979, the water rose approximately one and one-half feet. This water level increase has made the swamp more accessible and has decreased the need for canoe dragging and closing of canoe trails because of low water which was the case for the previous three years.



Bluff Lake overnight canoe shelter. (Staff) 39-OKE-79

B. TRAM OPERATION



YACC enrollee interpreting pitcher plant structure to guided tram tour. (JR) 40-OKE-79

The motorized tram was in operation for a full eight months this year (January - August). The interpretive programs which the refuge's YACC enrollees present are first rate. Visitors who ride the tram are instructed in the natural history of the swamp and receive a brief lesson in wildlife management. Better control over public use of the Swamp Island Drive and the benefits derived from the positive contact we have with refuge visitors make the tram scheduling headaches and frequent breakdowns worthwhile.

Reduction in force of our YACC crew in September curtailed tram operation. We enter 1980 with four enrollees. We hope to have the tram back in full operation soon.

C. NIGHT TOUR BOAT

Public use figures for our electrically-powered night tour boat revealed that a disappointingly low number of visitors experienced the swamp in this specially-outfitted boat. Mechanical and electrical problems and low water plagued the boat and prevented its operation most of the year. Presently, the boat is out of the water and is receiving a much-needed coat of paint.

The electric motors and individually-directed spotlights make the night tour boat a silent and visually exciting vehicle for interpreting the swamp's nocturnal wildlife. The boat should be back in the water soon and will certainly be a "must do" activity for next year's refuge visitors.

D. CHESSER ISLAND HOMESTEAD

The Chesser Island Homestead continues to be a highlight on the visitor's tour of our wildlife drive. The highly favorable comments we receive from almost every visitor to the Homestead is testimony to the excellent job our family of interpreters is doing.

Again this year, in conjunction with the Folkston Chamber of Commerce, the Chesser Island Homestead was host to the annually celebrated Okefenokee Festival's Folklife Exhibition. On October 27, over 500 people enjoyed the demonstrations of different folk crafts such as cane syrup boiling, quilting and meat smoking.



YACC enrollee interprets cane syrup grinding to visitors. (Staff) 41-OKE-79



Dale and Linda Crider of the Florida Fish and Game Commission sing the story of endangered species and vanishing habitats for the crowd at Chesser Island Homestead open house. (TL) 42-OKE-79

To kick off the Okefenokee Festival activities, a Young People's Fishing Derby was held at the Suwannee Canal Recreation Area on October 20. Twenty-five youths, ages 6 to 16, tested their fishing skills that day.



Suwannee Canal Recreation Area Children's Fishing Derby. (TL) 43-OKE-79

We are continuing to work on a series of short, tape-recorded messages. These repeating units will be installed at interpretive exhibits along the Homestead Trail. The taped messages are narrated by some of the more famous "swamp folk" of the area in an attempt to add some "cultural flavor" to the interpretive program.

E. INTERPRETIVE CENTER

The Suwannee Canal Recreation Area's Swamp's Edge Interpretive Center gained two (2) new interpretive films this year. The first was a specially tailored film. Audubon photographer and lecturer Dennis Holt was commissioned to produce a 10-minute introductory film on the Okefenokee Refuge. This film is planned as a basic introduction to the refuge and a multitude of activities available to the visitor.



Audubon lecturer Dennis Holt preparing introductory Okefenokee film for our new auditorium. 44-OKE-79

The second film was produced by the Georgia Department of Natural Resources and tells the story of endangered species of Georgia.

We also acquired a film perforation repair system which has allowed us to restore badly damaged films and increase the viewing life of our new films.

In cooperation with the Eastern National Park and Monument Association, the refuge has opened a bookstore in the interpretive center. We now sell 17 different titles on both natural and cultural history. The operation is an excellent aid to our interpretive efforts. It allows us to dispense more in-depth information to the visitor which, otherwise, would not be possible. The operation grossed a total of over \$900 from March to December. We have plans for an expanded program in the new future.

BLHP funds have been appropriated and a contract issued for the construction of a 100-seat auditorium and refurbishing of the public use facilities at the Suwannee Canal Recreation Area. Construction on this project is scheduled to commence in the early 1980's.

Professor Chris Trowell of South Georgia College presented a 2-part lecture series on "Indians of the Okefenokee" at the Swamp's Edge Interpretive Center this past summer. The program was received well by the public, and we were encouraged to provide more of such programs.



"Indians of the Okefenokee" interpretive program given by Professor Chris Trowell of South Georgia College. (WCK) 45-OKE-79

F. WALKING TRAILS

The walking trail system is still growing at the Suwannee Canal Recreation Area. This year our YCC enrollees began construction of the "Ridley's Little Island Trail". When completed, this trail will, for the first time, enable the visitor to walk by hiking trails from the interpretive center to the swamp boardwalk -- a distance of a little over four miles.

Currently, our walking trail system winds through three and a quarter miles of upland pine forest communities and includes two observation towers from which white-tailed deer, wild turkeys, and occasionally a black bear can be seen. When Ridley's Little Island Trail is completed, our trail system will total five miles.



YCC crew preparation of new Ridley's
Little Island walking trail. (WCK)
46-OKE-79

G. BOARDWALK AND PHOTOGRAPHIC SPURS

Construction of the first swamp boardwalk spur and photo-blind shelter was completed this year. The spur extends 800 feet from the main boardwalk. The newly finished photo-blind has five portals from which quiet nature study and photography is possible. Construction of a second spur and photo-blind has been started and is scheduled for completion in 1980.

Renovation of the swamp boardwalk commenced this year. The old pine planking, now roughly 10 years old, is being replaced by more durable cypress.



YACC enrollee construction
of new Chesser Island board-
walk spur and photo-blind
(June, 1979). (CR) 47-OKE-79
--Left--



Completed Chesser Island
boardwalk spur and photo-
blind (foreground) (June,
1970) --(Job Order No.
2821-897-T4) (WCK)
48-OKE-79
--Right--

H. VIP GUESTS ON THE REFUGE

- George Minnucci, Fiscal Administrator for the Eastern National Park and Monument Association, and Paul McCreary, Superintendent of Cumberland Island National Seashore, visited the refuge in January to assist in planning the new book display and bookstore area.
- Phil Morgan from the Regional Office brought an 8-member panel of the Director's Task Force on Employee Orientation, chaired by Gordon Watson, to the refuge in April.
- Dale Crider, Environmental Biologist for the Florida Game and Fresh Water Fish Commission and professional musician, accompanied by his wife, Linda, performed at the Chesser Island Homestead's Folklife Festival in October.
- Fred Rath, Executive Secretary of the Eastern National Park and Monument Association, visited the refuge in October.
- Don Pfitzer of our Regional Office visited the refuge in May with a group from the information working team of the National Wildfire Coordination Group to view wildlife benefits gained from our prescribed burning program.

I. TELEVISION PROGRAMS

- Okefenokee Refuge sponsored a series of short, public service announcements promoting National Wildlife Week. These announcements were aired over a 2-week period beginning March 11 by several area radio and television stations.
- CBS News filmed a brief segment of wildlife scenes of the Okefenokee Swamp which was featured on their national news program "Sunday Morning" on March 25.

3. Off Refuge Programs

- A. There were 60 newspaper articles concerning the refuge this year.
- B. Successful efforts were made this year in forming the Chesser Island Homestead Association. The refuge and the Charlton County Historical Society are now working cooperatively in this association to further the appreciation of both the natural resources and the cultural heritage of the early settlers of the Okefenokee Swamp. The Association sponsored two events this year: the Okefenokee Festival Celebration at the Chesser Island Homestead and an Old Fashioned Christmas at the Chesser Island Homestead.
- C. Training Sessions attended by refuge personnel:

1. CPR Training (January, 1979) given to YACC enrollees by Waycross-Ware Tech and Charlton County Hospital (on refuge).
2. Federal Law Enforcement Training (January 15, 1979 - February 9, 1979) 4 weeks, Brunswick, Georgia -- Joe Reinman.
3. FSS/Fedstrip Seminar (February 5, 1979) Jacksonville, Florida (GSA) -- Cecile Davis and Dartha Pittman.
4. Association of Interpretive Naturalist Workshop (February 13-16, 1979) Minneapolis, Minnesota -- William Kent.
5. Crew Boss Training (February 26 - March 2, 1979) Ft. Walton Beach, Florida -- Ron Phernetton.
6. Small Purchase/Federal Supply Schedule (March 5-9, 1979) Atlanta, Georgia -- Cecile Davis.
7. Introduction to Fire Behavior, S-190 (April 10, 1979) (8-hour course taught on the refuge by National Park Service personnel) -- 20 persons of which two Area Office personnel and six YACC enrollees participated in this course.
8. Refuge Academy (March 19 - April 13, 1979) Beckley, West Virginia -- Joe Reinman.
9. Defensive Driving and Multi-Media First Aid, Instructor's Training (May, 1979) Atlanta, Georgia -- Robin Vinovich.
10. Federal Law Enforcement Training (Refresher) (May 21-25, 1979) Brunswick, Georgia -- Tim Wilkins.
11. Accelerated Reading (June 11-15, 1979) Atlanta, Georgia -- Cecile Davis.
12. Application of Aquatic & Forest Pesticides (June, 1979) Statesboro, Georgia -- 10 refuge personnel attended.
13. Defensive Driving (July 3, 1979) This 8-hour course was taught on the refuge by Forestry Technician George R. Vinovich and was attended and completed by seven refuge personnel and four YCC staff members.
14. First Aid Training (July 5, 1979) This 8-hour course was taught on the refuge by Forestry Technician George R. Vinovich and was attended and completed by seven refuge personnel and four YCC staff members.
15. Accelerated Reading (August 13-17, 1979) Charleston, South Carolina -- Dartha Pittman.
16. Fire Training Workshop (September 6, 1979) Atlanta, Georgia -- Ron Phernetton.

17. Fire Behavior Course (September 10-14, 1979) Chapel Hill, Tennessee -- Douglas Nuss.
18. Area Office On-the-Job Training (September 24-28, 1979) Jacksonville, Florida -- Dartha Pittman.
19. Fire Management Workshop (November 5-9, 1979) Atlanta, Georgia -- Steve Taylor and Tom Worthington.
20. Eastern National Park and Monument Association Workshop (November 27-29, 1979) Philadelphia, Pennsylvania -- Terry Lindsay.
21. Fire Behavior Officer's School (November 30 - December 20, 1979) Morana, Arizona -- Ron Phernetton.

B. Recreation

1. Wildlife Oriented

Fishing and wildlife observation continued to be popular activities with refuge visitors. However, this year's total of 215,350 visitor activity hours is a 29% decrease from last year.

The total number of fishermen dropped 42% from the previous year. The Sill fishing area, closed for 11 months last year, was open for eight months this year with 5,116 anglers trying their luck. The new water control structure construction has closed the Sill fishing area again this year.

Wildlife observation opportunities attracted 20% fewer visitors this year. The total number of visitors using motorboats and canoes for wildlife observation decreased 11%. The number of land vehicle observers dropped 21%. These sharp decreases coincided with the onset of the gasoline shortage.

2. Non-Wildlife Oriented

Picnicking and camping accounted for a total of 246,968 visitor activity hours in 1979. This was a 13% decrease from 1978. Facilities for picnicking are provided at the Suwannee Canal Recreation Area and at the Stephen C. Foster State Park. Youth group campsites are available by advance registration at the Suwannee Canal Recreation Area, Stephen C. Foster State Park and on Mixon's Hammock.

C. Law Enforcement

<u>SITE OF APPREHENSION</u>	<u>CY 77</u>	<u>CY 78</u>	<u>CY 79</u>
Stephen C. Foster State Park	40/65%	109/89%	49/57%
Suwannee Canal Recreation Area	14/35%	13/11%	28/43%
Total Refuge Cases	54	122	77

A total of 77 cases was made during the past year. Eight cases have been disposed of with fines at \$50. Two warnings were issued to juveniles and all other cases are still pending.

Federal violations were for possession of firearms (27 cases), trespassing (19 cases), exceeding the speed limit (10 cases), canoe permit violations (7 cases), failure to abide by posted visitor hours (4 cases), possession of weapons other than firearms (2 cases), hunting on refuge (1 case), and miscellaneous violations (7 cases).

Refuge Manager John Eadie, Assistant Refuge Manager Tim Wilkins and Biological Technician Doug Nuss were detailed to Harris Neck National Wildlife Refuge during ownership disputes by the local Blacks in late April and early May of 1979.

Biological Technician Doug Nuss assisted the Georgia State Game and Fish Law Enforcement Division for several days prior to and during the opening day of dove season in the Metter, Georgia district.

As usual, large groups of trainees from the Federal Law Enforcement Training Center in Glynco, Georgia, descended on the refuge during several weekends.



A poacher's view of the refuge's deer herd.
(Staff) 49-OKE-79

VI. OTHER ITEMS

A. Field Investigations

Okefenokee Refuge has a very active research program involving many different aspects of ecological study. Much of the research during the past few years is now in the process of being published. Much of the research data, such as the effect of the Sill on the swamp, has management implications.

The following is a listing of the research projects being conducted on the refuge:

UNIVERSITY OF GEORGIA

1. "Okefenokee Swamp Ecosystem Study". The goal of this research program which is directed by Dr. Bernard Patten is to understand the structure and functions of the Okefenokee ecosystem and those factors essential to its maintenance. This involves the collection of comprehensive, fundamental data on the effects of fire, drought, the Suwannee River Sill, upland stream channelization, visitor use development, waterways, pollution, and habitat and species protection.
2. "Biotic Survey". Dr. Joshua Laerm of the Museum of Natural History is the leader of this research project which was initiated during 1979. The purpose of the survey is to provide information on the distribution and densities of the vertebrate fauna of the Okefenokee Swamp and surrounding uplands. A systematic collection of representative specimens of all nominal taxa is being retained by the University of Georgia's Museum of Natural History.

NATIONAL AUDUBON SOCIETY

1. "Tree Ring and Hydroperiod Studies". Dr. Michael Duever is the project leader for this study which was begun in 1977 in cooperation with the University of Georgia's swamp ecosystem studies. This series of studies is designed to gather data on successional processes and microhydrology-vegetation relationships to test the generality of swamp ecology and management theories developed through previous research.

ATLANTA ZOOLOGICAL PARK

1. "Ecology and Natural History of the American Alligator." Mr. Howard Hunt, Curator of Herpetology at the Atlanta Zoological Park, initiated this study in 1975. The main objective of his study is to record factors influencing nesting success, hatchling survival, and juvenile dispersal of the alligator. Mr. Hunt was successful in remotely photographing bears raiding an alligator nest during 1979. In addition, he photographed a female alligator removing hatchling alligators from the nest.



This bear was remotely photographed while raiding an alligator nest.
(R. Howard Hunt) 50-OKE-79



Howard Hunt photographed this alligator while it was removing hatchling alligators from the nest. (R. Howard Hunt) 51-OKE-79

GOVERNORS STATE UNIVERSITY, ILLINOIS

1. "Organic Geochemical Studies in the Okefenokee and Everglades Peat-Forming System". Dr. Dan Casagrande was the project leader for this research which is largely a biochemical study of the sulphur, metals, and chemical changes occurring within the peat as a result of bacterial oxidation. During 1979, Dr. Casagrande left the University to take a position with Exxon. Thus, Dr. Peter Gunther will be taking over this project.

This study has received the funding from the National Science Foundation.

2. "Ecological Factors Affecting Plant Distribution". Dr. Peter Gunther initiated this project during 1974 to determine interactions controlling the distribution of dominant plants in the Okefenokee Swamp. The work is centered specifically on seed ecology, dispersal and distribution, physical conditions required for germination, dormancy requirements, allelochemical effects, and factors affecting the survival of seeds and seedlings.

ILLINOIS NATURAL HISTORY SURVEY

1. "Investigations of Fungi in Freshwater Environments". The main objective of this study, which is headed by Dr. J. L. Crane, is to record the environmental factors that may determine or limit the growth of Ascomycetes and Deuteromycetes fungi, emphasizing the requirements for ascocarp formation and conidation. This study will provide taxonomic and ecological information on two groups of fungi in a specialized ecological niche that to date have not been studied intensively.

GEORGIA DEPARTMENT OF NATURAL RESOURCES

1. "Bear Population Dynamics in Southeast Georgia". Mr. Larry Niles is coordinating this project, which is being conducted within refuge boundaries and lands adjacent to Okefenokee Refuge. The objective of this study is to determine critical population parameters of southeast Georgia bears; including estimates of density, age structure, sex ratio, and reproductive rate. The methods used in this study include an intensive capture/recapture program using box traps and leg snares and an evaluation of track count and scent post index techniques. The study was initiated in 1979 and will continue for several years.

UNIVERSITY OF IDAHO

1. "Assessment of Biogenic Sulfur Emissions from Soils". This study, which was coordinated by Mr. Donald Adams, was part of a larger study being conducted in several southeastern states during 1979. Professor Adams spent several days at Okefenokee Refuge studying the relationship of soil types and environmental factors upon the types and quantities of gaseous sulfur compounds produced biogenically by soil and vegetation.

OAK RIDGE ASSOCIATED UNIVERSITIES

1. "Role of Insect Consumers in Mineral Cycling". Dr. Clayton Gist is conducting this study in cooperation with the University of Georgia to obtain data on the role of insects in Okefenokee's mineral cycle. This project was initiated in 1979 and will continue for several more years.

UNIVERSITY OF SOUTH CAROLINA

1. Dr. Arthur Cohen has been studying the geophysical properties of the peat in Okefenokee since 1970. His studies have added significant knowledge about the origin and age of the modern peat deposits in the swamp, regularity of fire occurrence, importance of fire in shaping and controlling the swamp environments, and the botanical and mineralogical composition of peat within the Okefenokee Swamp. Dr. Cohen's research during 1979 was limited to a few field trips with students.



Researchers taking peat core samples for analysis. (Staff) 52-OKE-79

B. Cooperative Programs

Okefenokee's Young Adult Conservation Corps (YACC) continued along its bumpy path as it operated under a continuing resolution during 1979. The year began with 40 enrollees and seven staffers including a senior crew leader and six crew leaders. All enrollee hiring ended in October 1978 when our enrollee ceiling was 60, and our on-board enrollee count had peaked at 57. From that time until September 7, when our last enrollee was terminated, the enrollee ranks declined due to better job opportunities, being with the program for a year, or negative terminations brought about by poor work habits or absenteeism. The four part-time crew leaders were terminated on July 13 because of the lack of funding. One of our fulltime crew leaders quit coming to work on August 10 because of transportation problems. On November 24, Tommy Thompson, our senior crew leader was transferred to Santee NWR leaving us with no YACC staff. On September 24, after 11 months, we began hiring YACC enrollees again with a ceiling of eight. These were promptly hired and the year ended with eight enrollees on board.

However, YACC did have more productive moments. There were some 99 general Form 4 projects set up for YACC with seven dream projects which never got off the ground. Of the general projects, a total of 43 were initiated. First aid training and safety orientation were basics in all that we did. Area maintenance included things such as litter patrol; assistance with equipment repair; mowing grass; canoe and walking trail brushing, banking, and grubbing; sign maintenance; toilet pumping; installation of chemical toilets in the swamp; taking sewage and water samples; rehabilitation of refuge canoe shelters; boardwalk spur construction; boardwalk rehabilitation; and completion of a 2000-foot, 2-inch diameter PVC waterline from Chesser Island Homestead to the swamp boardwalk restrooms.



Refuge work on the boardwalk spur. (December, 1978)
(Job Order No. 2821-897-T4) (TW) 53-OKE-79

YACC enrollees operated the refuge tram along the Swamp Island Drive giving the visiting public an excellent presentation on refuge responsibilities and opportunities. They also assisted in the visitor center where they gave helpful information and direction to visitors. The refuge canoe program has run smoothly with YACC help and allowed regular refuge staff extra time to work on other important projects. YACC clerical help has made office life easier by answering phones, typing and completing many other office chores that must go on. The refuge forestry program benefited greatly as YACC enrollees completed timber stand improvement work, marked timber, constructed firelines, marked boundary lines, maintained roads and ditches, installed and sandbagged culverts, assisted with road layout and construction, planted trees by hand and with machine, completed hardwood nursery work, prescribed burned, fought wildfires, and accomplished many other day-to-day forestry responsibilities. YACC enrollees also recorded data on weather, prescribed burning and timber marking activities.

On the wildlife side, YACC enrollees built, erected and maintained wood duck nesting boxes, assisted with the refuge wood duck banding program and recorded data on wildlife sightings for the University of Georgia. YACC enrollees also completed track counts and made a deer drive on Cowhouse Island which covered approximately 900 acres and required the help of all enrollees and some assistance from Ware-Tech (Waycross) students. The data gained from these counts and the deer drive were used in the refuge proposed hunt plan for Cowhouse Island. All in all, YACC enrollees and staff accomplished many worthwhile projects and were a great asset to the refuge.

Okefenokee Refuge hosted another excellent Youth Conservation Corps Camp this year with enrollees starting on July 9 and ending on August 17. Only the Camp Cornelia camp was active with 27 enrollees working six weeks instead of the customary eight. Only four staff members were hired in an effort to stretch the \$30,810 YCC budget as far as possible. The YCC staff included a camp director, an environmental awareness coordinator, and two crew leaders. The main project this year was the construction of the new Ridley's Little Island Trail. This project involved the clearing and grubbing of the 9,000-foot trail which was no easy task. The YCC'ers did an excellent job and accomplished more than expected by clearing the entire trail and marking it ready for bark and boardwalk construction. Other projects involved timber stand improvement on Soldier Camp Island; wood duck, small bird and animal nesting box construction; waterfowl trapping and banding; sign maintenance; refuge boundary maintenance; area maintenance; field trips; and first aid training. YCC'ers erected the small bird and animal nesting boxes in an University of Georgia study area set up on Chesser Island by their birdman, Joe Meyers. Safety was the highest priority and was stressed in all activities.

The highlight of the YCC field trips was a cold trip down the Ichetucknee River where environmental awareness was immediately obvious. They nearly froze their fannies off! Open house was held on August 17 with many parents and a representative from the Regional Office, Ken Butts, and from the Area Office, Ben Chio, being present.



YCC assists with annual boundary line maintenance. (TW) 54-OKE-79



YCC nesting box production in cooperation with the University of Georgia. (TW) 55-OKE-79



YCC enrollees and staff with Senior Staff Specialist (Youth Programs) Ken Butts and YACC Program Manager Ben Chio in attendance.
(TW) 56-OKE-79

Three individuals were employed during the summer for varying periods under the Comprehensive Education and Training Act (CETA). They were excellent employees.

The intern program involving students majoring in Outdoor Recreation, Biology, and similar fields was not active during 1979. No interest could be generated; hopefully, more interest will be shown in this program during 1980.

Stephen C. Foster State Park made some progress toward improvements, but it still has a way to go. Monthly refuge inspections list areas that need attention, but it seems that the same things turn up each month.

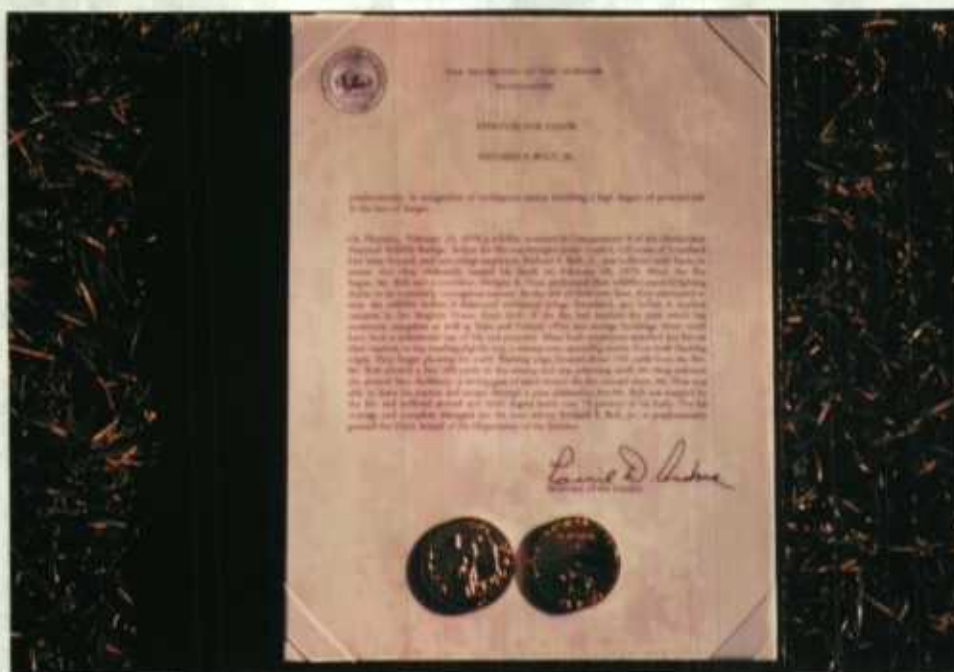
The payments under the Refuge Revenue Sharing Act (Public Law 95-469) to the counties were much higher for Fiscal Year 1979 than they were for Fiscal Year 1978. Because the payment allowed to the counties exceeds net receipts available from Service activities, the initial payment was calculated as a proportionate share of net receipts available. A supplemental appropriation pending in Congress will supply the funding necessary for a second and final payment in accordance with provisions of Public Law 95-469. The following counties received payments under the Refuge Revenue Sharing Act:

<u>County</u>	<u>Amount</u>
Baker County, Florida	\$ 1,360.00
Charlton County, Georgia	66,366.00
Clinch County, Georgia	10,704.00
Ware County, Georgia	67,935.00

C. Items of Interest

Goodbye 1979 and good riddance! You gave us your worst and we look forward to 1980 and the eighties with hope and no little concern for the things we believe to be important.

A good friend of all left us when a refuge fire claimed his life on February 28. Richard Bolt was loved and respected by many people, and he will be missed for many years to come. We will never try to replace him. We still wonder how such a terrible thing could happen. Richard and his work-partner, Doug Nuss, were presented the Department of the Interior's Valor Award during a November 13 Washington Awards Ceremony. Doug was in the fire but escaped with minor injuries. Refuge Manager Eadie accepted Richard's award.



Medals of valor and letter of commendation presented posthumously to Richard S. Bolt, Jr. (Staff) 57-OKE-79



Biological Technician Doug Nuss with valor award and letter of commendation resulting from "The Pocket Fire". (Staff) 58-OKE-79

New uniforms were ordered and are being worn. I guess they're "worse" than nothing at all. They're not comfortable or functional, but at least they look bad. Oh, can we never be satisfied!?!

Wildlife photographer Dennis Holt completed filming for a 10-minute Okefenokee orientation film. There aren't many of these type films around, and we look forward to receiving ours.

We agreed to help the Chicago Zoo capture three Okefenokee alligators for shipment to the Peking (China) Zoo. Actual capture will take place in April, 1980.

Several of us got to help John Davis guard Harris Neck Refuge. That problem was handled with the greatest of delicacy and John D. isn't known exactly for being delicate. Good job, John. Who knows? Maybe the 20-goat award is next!!

The I & R Staff held a funeral along the Swamp Island Drive in April. A tightly closed auto snuffed out the life of a lady's dog (very old dog), and the lady almost had a nervous breakdown. Our assistance helped relieve her anxiety as the old dog found a happy hunting ground on Okefenokee.

Rabid raccoons invaded Okefenokee for awhile, but the problem appears to have diminished. We hope so.

Outdoor Recreation Planner Terry Lindsay made a good move and left the Park Service for Okefenokee on April 23, ORP Tom Worthington joined us on October 9, and the first west side Assistant Manager in Okefenokee's history came on board in the person of Royce Huber on December 30. Forestry Technician Robin Vinovich departed for the Forest Service on October 7, and YACC Crew Leader Walter Thompson found a new home at Santee Refuge in November.

Lloyd Culp edited and put this annual edition together. He also wrote several sections as did Tim Wilkins, Ron Phernetton, and the I & R Staff. Dartha Pittman typed and assembled the report. Proofreading was accomplished by Cecile Davis and Anita Hadley.

Until next year at this time, take it easy and keep your mind off Okefenokee. Contrary to what you may have heard, the refuge manager ain't going nowhere right now.

D. Safety

With a continuing concern for employee safety on the job, Okefenokee Refuge resumed its efforts for an effective safety program during 1979. At each monthly safety/staff meeting, films were shown which provided basic review for such areas as defensive driving, first aid, and overall safety awareness on the job. In addition, safety inspections were made periodically at each refuge work project site.

The wildfire which claimed the life of Biological Technician Richard Bolt caused the U. S. Fish and Wildlife Service to make several revisions in its safety policy for forest fire management. All refuge personnel who are involved in forest fire management have received some basic training in forest fire control. Refuge personnel are also prohibited from wearing polyester blend clothing, such as the Service uniform, while working on forest fire control.

The following is a list of safety programs which were conducted on the refuge during 1979:

1. Fifteen YACC enrollees undertook CPR training. Instruction was provided by Ware Tech (Waycross) and Charlton County Hospital.
2. The refuge sponsored a fire behavior workshop (S-190) for YACC and refuge personnel. Twenty persons participated in this program presented by National Park Service personnel.
3. Seven refuge personnel and the YCC staff participated in Defensive Driver's training and First Aid training. Forestry Technician Robin Vinovich instructed both programs.
4. The entire refuge staff was instructed on the use of fire extinguishers by personnel from AAA Fire Protection, Inc.



Fire Behavior Class (S-190) taught by National Park Service personnel to refuge staff. (Staff) 59-OKE-79



AAA Fire Protection, Inc., instructed refuge employees on the proper use of fire extinguishers. (Staff) 60-OKE-79

During 1979, Refuge Manager John Eadie conducted a survey of project leaders in Region 4 in order to sample their ideas concerning the Service's safety program. Mr. Eadie reported on the results of the survey at the Area Conference which was held in Jacksonville Beach, Florida on September 18-20, 1979. One of the more interesting findings was that many accidents which occur at field stations are not reported. It is the policy at Okefenokee Refuge to report all known accidents, and the following is a summary of those reported accidents:

REFUGE VISITORS

1. January 21, 1979; Mary A. Griffis, an employee at the Stephen C. Foster State Park, was working outside the main office building on maintenance duties when she fell, hitting the sidewalk. She suffered a sprained left wrist and bruised right knee.
2. January 24, 1979; Mr. and Mrs. James Deweese overturned their canoe during windy conditions on Billy's Lake. They were discovered by another refuge visitor and returned to the State Park. They suffered no injuries -- but they were very wet and cold.
3. February 10, 1979; Jimmy L. Martin capsized his boat at the river narrows. He suffered no injuries.
4. March 1, 1979; James Brown, an employee of Stephen C. Foster State Park, jumped from the back of his pickup truck and turned his left ankle.
5. March 16, 1979; A. K. Callahan overturned his boat at the Suwannee Canal. He suffered a wrenched shoulder and cuts and contusions on both hands.
6. April 10, 1979; Clara Mitchell fell as she was stepping off the tram. She sustained minor bruises.
7. May 24, 1979; Ronald Prentice slipped at the Suwannee Canal Recreation Area boat basin dock and sustained a laceration of the scalp which required several stitches.
8. May 27, 1979; Ruth Walton was bitten by a poisonous snake (species unknown) and received treatment at the Clay Memorial Hospital, Green Cove Springs, Florida.
9. May 29, 1979; Nancy Carter fell while walking down the sidewalk at the Suwannee Canal Recreation Area parking lot. A bottle which she was holding broke and cut her hand. The cuts were minor.
10. June 9, 1979; Patti Rezner fell while walking down a sidewalk at the Suwannee Canal Recreation Area. She suffered some minor scrapes.
11. June 10, 1979; Cassie Chisolm, age 10, fell from a swing at Stephen C. Foster State Park and broke her left arm.

12. August 30, 1979; Mary Griffis, an employee of the Stephen C. Foster State Park, cut her hand while emptying garbage cans.
13. October 10, 1979; Bradley Dymond, an employee of a private contractor who was re-roofing refuge buildings, fell from the roof of a building at the Suwannee Canal Recreation Area. He suffered from sprains and bruises.

YCC

1. July 24, 1979; Brenda Crews sustained severe blisters on her feet while working on an interpretive trail. Medical attention was required.
2. July 30, 1979; Tracy Pickren sustained scratches and abrasions to his right forearm when he fell over a bench in the workshop at Camp Cornelia.

YACC

1. November 1, 1979; John McCollough required first aid when the hammer he was using to remove a nail slipped and scratched his eyebrow.

REFUGE PERSONNEL

1. February 15, 1979; Richard Bolt was attempting to plow a fireline in order to contain a wildfire at Compartment 8. A sudden gust of wind caused the fire to increase in intensity and swiftly overtake Mr. Bolt before he could escape. He suffered second and third degree burns over 70% of his body and died on February 28 at the Brooke Army Medical Center, Texas.
2. July 25, 1979; Donald Phillips had a heavy piece of metal from the portable pile driver fall on his foot while working on a boardwalk spur. His foot was severely bruised.
3. December 10, 1979; Douglas Nuss stepped on a rusty nail while stacking lumber and punctured his foot.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
OKEFENOKEE NATIONAL WILDLIFE REFUGE
P. O. BOX 117
WAYCROSS, GEORGIA 31501

ORIGIN OF OKEFENOKEE SWAMP

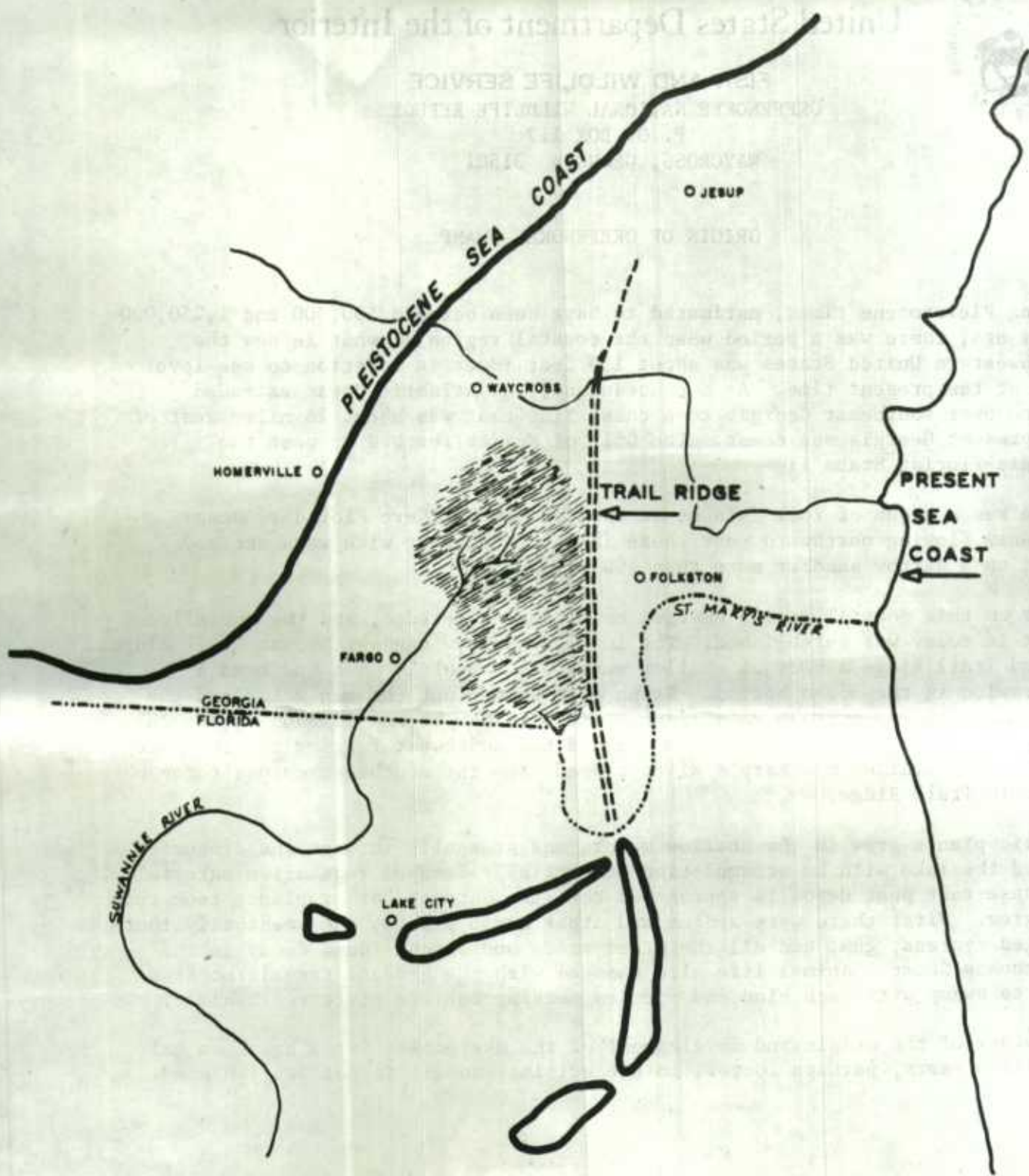
During Pleistocene times, estimated to have been between 500,000 and 1,250,000 years ago, there was a period when the coastal region of what is now the Southwestern United States was about 150 feet lower in relation to sea level than at the present time. As a consequence, the Atlantic Ocean extended inland over southeast Georgia to a coast line that was about 75 miles west of the present Georgia sea coast. The Gulf of Mexico reached up past the Georgia-Florida State line.

There was a group of four islands in what is now northern Florida. Ocean currents flowing northward past these islands, together with wave action, built up a narrow sandbar more than 100 miles long.

Later on this coastal region emerged as the ocean receded, and the shoreline as it is today was established. The long and narrow sandbar became Trail Ridge. Behind Trail Ridge a body of shallow water was caught in what had been a depression in the ocean bottom. Rains soon washed out the sea water and the depression became a fresh water lake. Sandbars now became islands in the lake. The main drainage from the lake was toward the southwest forming the Suwannee River. The smaller St. Mary's River flowed from the southeast corner through a gap in Trail Ridge.

Aquatic plants grew in the shallow waters and gradually through the centuries filled the lake with an accumulation of partially decayed vegetative material. As these vast peat deposits approached the lake surface, other plants took root and grew. First there were sedges and other marsh plants, but eventually there emerged cypress, gum, and all the other trees and shrubs found today in the Okefenokee Swamp. Animal life also changed with the gradual transition from lake to swamp with each kind and species seeking out its preferred habitat.

The story of the origin and development of the Okefenokee Swamp has been half a million years, perhaps longer, in the writing, and it is not yet finished.



THE ORIGIN OF OKEFENOKEE SWAMP

Roy Moore



United States Department of the Interior

FISH AND WILDLIFE SERVICE
OKEFENOKEE NATIONAL WILDLIFE REFUGE
FEDERAL BUILDING - ROOM 109
601 TEBEAU STREET
P. O. BOX 117
WAYCROSS, GEORGIA 31501

ADMINISTRATIVE DETAILS OF OKEFENOKEE NATIONAL WILDLIFE REFUGE

The 435,000 acre Okefenokee Swamp is situated in Ware, Clinch, and Charlton Counties, Georgia and Baker County, Florida. Okefenokee National Wildlife Refuge has direct ownership and control over 379,302 acres of this magnificent, primeval swamp. The entire refuge is administered and managed by the United States Department of the Interior, United States Fish and Wildlife Service.

There are three primary entrances and one secondary entrance into Okefenokee National Wildlife Refuge.

The Suwannee Canal Recreation Area (locally Camp Cornelia), a primary entrance 12 miles southwest of Folkston, Georgia, is controlled entirely by the U. S. Fish and Wildlife Service. This entrance is staffed by U. S. Fish and Wildlife Service personnel. A full service concession located at this entrance is operated by a private individual and his staff working under the provisions of a contract between the concessioner and the U. S. Fish and Wildlife Service.

The second primary entrance, which is located 18 miles northeast of Fargo, Georgia, is known as Stephen C. Foster State Park. This state park is located on Federally-owned refuge lands under the provisions of a long-term permit agreement between the U. S. Fish and Wildlife Service and the Georgia Department of Natural Resources, Parks and Recreation Division. State Park personnel administer the park subject to existing rules and regulations governing Okefenokee National Wildlife Refuge.

The third primary entrance into Okefenokee National Wildlife Refuge is the Okefenokee Swamp Park. This park is located 13 miles south of Waycross, Georgia and is established on lands and waters of Okefenokee National Wildlife Refuge and the Waycross State Forest. The Okefenokee Swamp Park Association, Inc., a private, non-profit organization of Waycross, Georgia, administers this entrance. Use of Federally-owned

refuge lands and boat trails by the Okefenokee Swamp Park Association is carried out under the provisions of a permit between the Okefenokee Swamp Park Association and the U. S. Fish and Wildlife Service.

The secondary entrance into Okefenokee National Wildlife Refuge is known as Kingfisher Landing and is located approximately 12 miles north of Folkston 1 mile off U. S. Highway 1. This entrance is not developed, and access is controlled by U. S. Fish and Wildlife Service personnel.

In addition to being a National Wildlife Refuge, Okefenokee also enjoys the protection provided a unit of the National Wilderness Preservation System.

The main office for Okefenokee National Wildlife Refuge is in Waycross, Georgia with the sub-headquarters office being situated at the Suwannee Canal Recreation Area near Folkston.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

REGULATIONS PERTAINING TO PUBLIC USE OF THE OKEFENOKEE NATIONAL WILDLIFE REFUGE

1. Firearms, other weapons, and hunting are not permitted on the refuge.
2. Travel within the refuge is permissible only on designated, established trails. Outboard motors in excess of 10 horsepower are not allowed. Each occupant of a boat is required by Georgia Law to have a Coast Guard approved life preserver with him.
3. The collecting or disturbing of wildlife, plants, minerals or artifacts is prohibited except as noted in the next item.
4. Sport fishing is allowed on designated areas in accordance with Georgia State Laws. The only methods allowed are fishing with pole and line or rod and reel. The use of live minnows as bait is prohibited.
5. Camping, (other than that associated with overnight canoe trips) on the refuge is allowed only in the established campground at Stephen C. Foster State Park.
6. Campfires (other than those associated with island overnight canoe trip camp sites) may be used only in the established campgrounds at Stephen C. Foster State Park. Such fires must be tended at all times and completely extinguished when left. Consult the Park Superintendent about fuel.
7. Pets must be kept in cars or on a leash. Pets are not permitted in boats or in buildings.
8. Swimming and wading are not allowed due to the danger involved from alligators and poisonous snakes.
9. Visitor use is permitted only during specific times posted at refuge entrances.
10. Littering on a national wildlife refuge is against Federal regulations. Leave no litter on the refuge except in designated litter barrels.
11. Neither the Government nor its agents are responsible for the safety of persons permitted on the refuge.
12. Intoxicated or disorderly individuals are not allowed on the refuge and are subject to immediate arrest.

KEEP OKEFENOKEE BEAUTIFUL
BRING YOUR LITTER BACK TO DOCK

FEEDING OF ANIMALS IS ABSOLUTELY PROHIBITED.



READ CAREFULLY

United States Department of the Interior

FISH AND WILDLIFE SERVICE

OKEFENOKEE NATIONAL WILDLIFE REFUGE

P. O. BOX 117

WAYCROSS, GEORGIA 31501

GENERAL TRIP CANOEING REGULATIONS

1. Overnight canoeing trips by reservation and permit only.
2. Canoeists must camp only at assigned camp sites and only on assigned dates. Canoeists must remain at camp sites between sunset and sunrise.
3. Canoeists must use only assigned trails and must travel only in assigned directions.
4. Canoeists must sign in and out of the refuge and in and out of each overnight stop.
5. All camp sites and trails must be maintained litter free. Litter may be disposed of at exits.
6. Portable toilets are still required. Chemical toilets at overnight stops must be kept clean and used according to posted instructions. Advise ranger if toilet is inoperable or out of supplies.
7. Human waste materials from portable toilets must be disposed of off the refuge. Do not use garbage cans, chemical toilets or the swamp for disposal.
8. Maximum canoe party size is 10 canoes and/or 20 people. Minimum canoe party size is 2 people.
9. Pets are not allowed under any circumstances.
10. Each canoeist must have a Coast Guard approved life saving device.
11. Each canoe must contain a compass and flashlight.
12. No swimming.
13. All launches must be prior to 10 A.M.
14. Use no nails on camping platforms and cut no vegetation. Platforms, all of which are half covered, are suitable for pop-up tents.
15. Open fires are limited to island stops and at certain locations at these stops. Gasoline stoves are recommended.
16. Vehicles parked overnight at entrances or exits are left at owner's risk and must display a parking placard issued with canoeing permit. Vehicles must be parked in designated area at each entrance or exit.
17. No motors permitted on reserved canoe trips.
18. Equipment reservations, rentals, and canoe shuttles must be made directly with concessionaires. Equipment must be picked up from and returned to concessionaires.
19. Color coded markers designate specific trails and white-topped posts provide guidance between markers.

DON'T BEGIN OR END YOUR TRIP
ON AN UNHAPPY NOTE! KNOW,
UNDERSTAND, AND FOLLOW ALL
REFUGE REGULATIONS. REGULATIONS
ARE ENFORCED STRICTLY!!

20. COMMERCIAL GUIDING IS ABSOLUTELY ILLEGAL UNLESS CARRIED OUT BY SUWANNEE CANAL RECREATION AREA, STEPHEN C. FOSTER STATE PARK, AND OKEFENOKEE SWAMP PARK PERSONNEL. REFUGE VISITORS SHOULD REQUIRE GUIDES TO DISPLAY APPROVED GUIDE LICENSES.
21. Day-use only canoeing is allowed without a permit but only to those points marked "Permit Required Beyond This Point".
22. Vehicle shuttle is not provided by refuge personnel and must be arranged by canoeists.
23. Know and understand all refuge regulations. Violators will be cited without warning.

For canoeing reservations, write or call well in advance of planned trip. Calls are recommended if at all possible. After making a reservation, a list of participants and their addresses must be mailed to the Waycross Office at least two weeks before the trip is scheduled so that a permit can be issued.

Refuge Manager
 Okefenokee National Wildlife Refuge
 P. O. Box 117
 Waycross, Georgia 31501
 Phone: 912/283-2580

Distances between overnight stops (Islands or dry land underlined - Platforms not underlined) over approved routes of travel.

1. Kingfisher Landing to Maul Hammock - 12 Miles
2. Maul Hammock to Big Water - 11 Miles
3. Big Water to Stephen Foster - 8 Miles (Fees charged to camp, dock, launch, or take-out at Stephen Foster State Park)
4. Stephen Foster Park to Floyds Island - 8 Miles
5. Floyds Island to Bluff Lake - 9 Miles
6. Bluff Lake to Kingfisher Landing - 8 Miles
7. Big Water to Floyds Island - 4 Miles
8. Stephen Foster to Cravens Hammock - 9 Miles
9. Suwannee Canal Recreation Area to Cedar Hammock - 7 Miles (Launching fee at Suwannee Canal Recreation Area)
10. Suwannee Canal Recreation Area to Canal Run Shelter - 10 Miles
11. Canal Run Shelter to Stephen Foster Park - 7 Miles
12. Cedar Hammock to Floyds Island - 9 Miles
13. Floyds Island to Suwannee Canal Recreation Area - 13 Miles

PLEASE NOTE CAREFULLY - Summer temperatures and humidity on Okefenokee National Wildlife Refuge are usually very high and oppressive. Mosquitoes are bad at night from May through September and often at other times depending upon weather conditions. Yellow (Deer) and black flies are numerous during the Summer months and can inflict painful bites. YOU SHOULD BE AWARE OF THESE DISCOMFORTS WHEN PLANNING SUMMER CANOE TRIPS THROUGH OKEFENOKEE.

OKEFENOKEE NATIONAL WILDLIFE REFUGE
STEPHEN C. FOSTER STATE PARK
ACCESS FROM FARGO, GEORGIA
October 18, 1978

Access: From Fargo, Georgia, at Junction at U.S. 441 and State Routes 89 and 94, take State Route 177 - 17 miles.

Concessioner: Department of Natural Resources, Parks and Historic Sites Division, Mr. Bill Thomas, Park Superintendent, Fargo, Georgia 31631, telephone 912/637-5274.

Miscellaneous Equipment:

1. Boat - \$6.00 per day
2. Boat & motor - $\frac{1}{2}$ day (4 hrs.) - \$10.00 (1 tank of gas)
1 day (8 hrs.) - \$16.00 (1 tank of gas)
3. \$1.00 deposit on each paddle, cushion and trash can
4. Launching fee - \$1.00 per boat or canoe
5. Canoe - \$2.00 per hour or \$6.00 for 8 hours (DAY USE ONLY)
6. Overnight dock - \$1.00 per boat
7. ALL BOATS AND CANOES ENTERING OKEFENOKEE ARE REQUIRED TO CARRY ALONG A TRASH CAN.

Sightseeing Trips (w/guide, boat, motor, life jacket):

For photography, bird watching, nature study, etc.

1. 1 hr. trip - \$3.00 person, \$1.50 child 8 through 11 (free under 8)

Additional Facilities:

Public boat launching ramp (fee charged)
Concession building -interpretive displays
Picnicking area
Public rest rooms
Campsites: Recreational Vehicle, \$4.00 per night; Tent and Pop-up Trailers, \$3.50 per night
Cottages (2 bedroom) \$24.00 per day
Pioneer camping area (no fee) - Organized youth groups, i.e., scouts, church groups, school groups
Nature trail with boardwalk

NOTE: Park hours: 6:30 a.m. to 8:30 p.m. - March 1 to September 14
7:00 a.m. to 7:00 p.m. - September 15 to February 28

STRICTLY ENFORCED HOURS CONFORM TO FEDERAL
REGULATIONS

DO NOT FEED THE ANIMALS - THEY WILL BITE

PLEASE NOTE - Stephen C. Foster State Park is located on lands of Okefenokee National Wildlife Refuge. All State and Federal rules and regulations apply. BE CERTAIN YOU KNOW WHAT THESE RULES AND REGULATIONS ARE!!

OKEFENOKEE NATIONAL WILDLIFE REFUGE
OKEFENOKEE SWAMP PARK
ACCESS FROM WAYCROSS, GEORGIA

Access: From Waycross, Georgia, south 8 miles on U. S. 1 and 23 to entrance at Vereen Bell Memorial Highway (State Road 177).

Concessioner: Okefenokee Swamp Park, Mr. Jimmy Walker, Park Manager, Okefenokee, Georgia 31501; telephone 912/283-0583.

Admission Rates:

\$4.00 per adult; \$2.50 child under 12; pre-school children free if accompanied by parent.

Group rate: \$3.00 per adult; \$2.00 per child.

Admission covers all features of park (shows, exhibits, 24-minute boat ride).

Sightseeing Trips: (w/guide, boat, motor, life jacket)

For photography, bird watching, nature study, etc.

2 hr. trip - \$3.00 person.

1 day (8 hrs.) - \$35.00 1st person, \$15 second person.

Fishing Rates: (by reservation and with guide only).

(Guide, boat, motor, life jacket furnished)

1 day (8 hrs.) - \$35.00 1st person, \$15 second person.

Additional Facilities:

Wilderness walkways

Observation tower

Serpentarium and alligator pools

Animal and bird exhibits and observatories

Museum and Ecology Center

Concession

Picnic facilities

Note: Park hours are variable depending on season of the year.
Exact hours may be determined by contacting the Park Manager.

PRICES EFFECTIVE JANUARY 1, 1978

OKEFENOKEE NATIONAL WILDLIFE REFUGE
SUWANNEE CANAL RECREATION AREA
ACCESS FROM FOLKSTON, GEORGIA
PRICES EFFECTIVE SEPTEMBER 1, 1979

ACCESS: From Folkston, Georgia, on Route 121 - 8 miles south, then 4½ miles from refuge entrance sign.

CONCESSIONER: Mr. Harry Johnson, Route 2, Box 336, Folkston, Georgia 31537; telephone 912/496-7156.

MISCELLANEOUS EQUIPMENT:

- | | | |
|---|-------------------------|-------------------------|
| 1. Canoe & paddles: | a. \$5.00 per day | d. 4 day trip - \$30.00 |
| | b. 2 day trip - \$15.00 | e. 5 day trip - \$37.50 |
| | c. 3 day trip - \$22.50 | f. 6 day trip - \$45.00 |
| 2. Boat (14 ft.) & paddles - \$5.00 per day | | |
| 3. Family boat (16 ft.) & paddles - \$6.50 per day | | |
| 4. Excursion boat (20 ft.) & paddles - \$7.50 per day | | |
| 5. Outboard motor w/gas - \$12.00 per day | | |
| 6. Life jackets (required by State Law) - \$.40 per day | | |
| 7. Launching fee - \$1.50 per boat | | |
| 8. Camping supplies for canoe trips - Prices Available | | |

SIGHTSEEING TRIPS (w/guide, boat, motor, life jacket):

For photography, bird watching, nature study, etc.

- 1 hr. trip - \$3.25 person; \$1.75 child 5-11 years; Pre-school 50¢
- 2 hr. trip - \$6.50 person; \$3.25 child 5-11 years; Pre-school \$1.25

NIGHT TOUR BOAT: Reservation basis only. (DOES NOT OPERATE ON MAJOR HOLIDAYS OR SUNDAYS)

ADDITIONAL SERVICES:

A. Single Bicycles \$1.00 per hour

B. Double Bicycles \$2.00 per hour

* Bicycle renters will be required to deposit (a) \$3.00 per single bicycle and (b) \$6.00 per double bicycle. When the bicycle is returned, the renter will be given a refund for any unused rental time or will be charged for the time that exceeded three hours.

C. Canoe Shuttling (Price is the same for 1-10 canoes.)

- | | |
|---------------------------------------|-----------------------------------|
| 1. Trips Nos. 1, 2, 3, - \$38.00 | 4. Trip No. 8 - \$60.00 |
| If shuttle is required to return | 5. Trip No. 9 - No Charge |
| customers to their cars at Kingfisher | 6. Trip No. 10 - \$11.00 |
| Landing - \$48.50 | 7. Trip Nos. 11, 12, 13 - \$22.00 |
| 2. Trip No. 4 - No Charge | |
| 3. Trips Nos. 5, 6, 7 - \$30.00 | |

ADDITIONAL FACILITIES:

Public boat launching ramp - \$1.50 per boat

Swamp's Edge Information Center

Public restrooms

Observation tower

Interpretive Tram

Canoe trails (by reservation only; made through refuge office: Okefenokee National Wildlife Refuge, P. O. Box 117, Waycross, Georgia 31501. Phone: 912/283-2580)

Concession building

Picnicking area

Nature trails

Boardwalk

Restored Swamp Homestead

All per day prices based on Posted Concession Hours unless stipulated otherwise.

NOTE: No overnight facilities at this entrance.

CONCESSION HOURS:

September 11 - February 28	---	8 AM - 6 PM
March 1 - September 10	---	7 AM - 7:30 PM

"DO NOT FEED THE ANIMALS - THEY WILL BITE"

CONSPICUOUS PLANTS OF
OKEFENOKEE NATIONAL WILDLIFE REFUGE

Open Prairies and Water Courses in Forest

White waterlily - Nymphaea odorata
Spatterdock - Nuphar advena
Neverwet - Orontium aquaticum
Pipewort - Eriocaulon compressum
Floating heart - Nymphoides aquaticum
Beakrush - Rhynchospora inundata
Wampee - Peltandra glauca
Water plaintain - Sagittaria graminea
Yellow-eyed grass - Xyris smalliana
Bladderwort - Utricularia purpurea
Spikerush - Eleocharis elongata

Prairie Edge

Herbaceous Plants

Sphagnum - Sphagnum spp.*
Chain fern - Woodwardia virginica
Gerardia - Agalinis fasciculata
Club moss - Lycopodium carolinianum
Maidencane - Panicum hemitomum
Broomsedge bluestem - Andropogon glomeratus
Pickerelweed - Pontederia cordata
Paintroot - Lachnanthus tinctoria
Swamp iris - Iris caroliniana
Grass pink - Calopogon pulchellus
Pitcherplant - Sarracenia minor
Golden trumpet - Sarracenia flava
Sundew - Drosera intermedia
Aquatic spikerush - Eleocharis baldwinii
Marsh St. Johnswort - Hypericum virginicum
Water pennywort - Hydrocotyle umbellata
Marsh marigold - Bidens coronata*
Rose Pogonia - Pogonia ophioglossoides

Woody Plants

Buttonrush - Cephalanthus occidentalis
Swamp loosestrife - Decodon verticillata
Virginia sweetspire - Itea virginica*
Red chokeberry - Pyrus arbutifolia
Hurrah bush - Lyonia lucida*
Titi - Cyrilla racemiflora*

Woody Plants (Continued)

- St. Johnswort - Hypericum fasciculatum
(only where sand is near the surface)
Poor-man's soap - Clethra alnifolia*
Swamp fetterbush - Leucothoe racemosa*
Black bamboo vine - Smilax laurifolia
Red bamboo vine - Smilax walteri*
Bullace - Vitis munsoiana*

Swamp Forest

Understory plants same as those marked with an asterisk (*) above.

Trees

- Pond cypress - Taxodium distichum nutans
Swamp blackgum - Nyssa sylvatic biflora
Red maple - Acer rubrum
White bay - Persea virginiana
Red bay - Persea borbonia
Loblolly bay - Gordonia lasianthus
Titi - Cyrilla racemiflora
Cassena - Ilex cassine

Swamp Edge

All the swamp forest and prairie edge species listed above plus:

- Ogeche lime - Nyssa ogeche
Pinckneya - Pinckneya pubens
Wax myrtle - Nyrica cerifera
Red chokeberry - Pyrus arbutifolia
Sandweed - Hypericum fasciculatum

UNITED STATES DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife

Okefenokee National Wildlife Refuge, Georgia, Bibliography

The literature relating to the Okefenokee Swamp and more recently the Okefenokee National Wildlife Refuge is extensive and covers a considerable period of time. The following titles were selected in order to present material pertinent to the protection of wildlife and the preservation of the Swamp:

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OKEFENOKEE WILDERNESS AND OKEFENOKEE NATIONAL WILDLIFE REFUGE

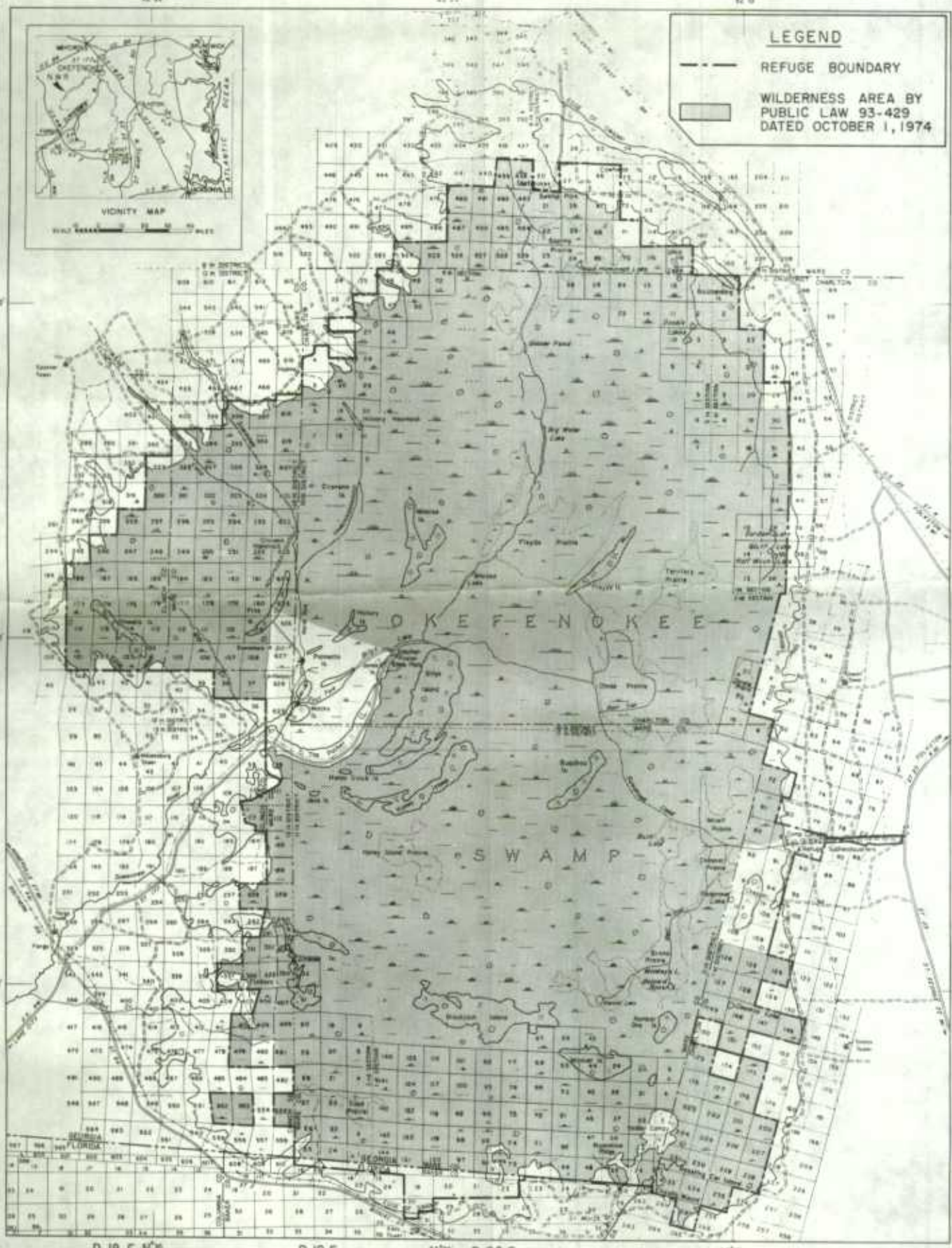
UNITED STATES
DEPARTMENT OF THE INTERIOR

CHARLTON, CLINCH, AND WARE COUNTIES, GEORGIA

UNITED STATES
FISH AND WILDLIFE SERVICE

LEGEND

- REFUGE BOUNDARY
- WILDERNESS AREA BY PUBLIC LAW 93-429 DATED OCTOBER 1, 1974

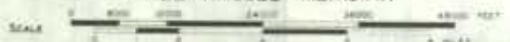


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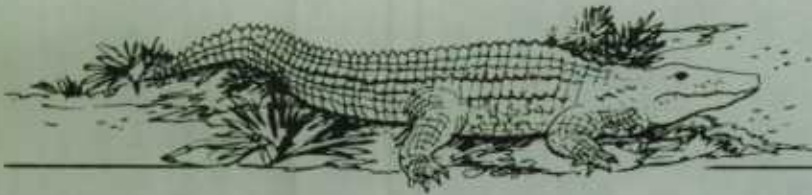
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COMPILED IN THE BRANCH OF REALTY FROM SURVEYS BY F & W S. G. L. O. AND U.S. ARMY

TALLAHASSEE MERIDIAN



MEAN DECLINATION 1962



SUWANNEE CANAL RECREATION AREA, Inc.

HARRY JOHNSON, Concessionaire

Phone 912-496-7156

Route Two

Folkston, Georgia 31537

1. The Okefenokee Swamp is world famous as the largest and one of the most primitive swamps in America. Located near Folkston in Southeast Georgia on the Florida line, the Okefenokee encompasses a total area of about 435,000 acres of which 371,000 acres are included in the Okefenokee National Wildlife Refuge. The Okefenokee derives its name from a Choctaw Indian word meaning "quivering earth."
2. The Seminole Indians made the Okefenokee their home until 1838. At that time Charles R. Floyd, with a troop of U.S. soldiers attempted to drive the Indians from the swamp, but they had already left.
3. The Okefenokee is actually a vast peat bog filling a huge saucer-shaped depression that was once part of the ocean floor when the Atlantic Ocean extended some 75 miles west of the present sea coast. It now varies in elevation from 103 feet to 128 feet above the present sea level.
4. The entire swamp, except the islands, is covered with a bed of peat which overlays a firm sand floor. This bed ranges in depth from a thin layer to more than 20 feet in places. This peat mass often surfaces and is so unstable that it can be caused to tremble by stepping on it, hence the title, "Land of the Trembling Earth."
5. Being higher than much of the surrounding area, the Okefenokee is dependent upon local rainfall for its water supply, but there are some springs. The water is in constant circulation as it drains away from a series of ridges in the center of the swamp to become the source of origin of two major rivers--the St. Marys and the Suwannee.
6. Okefenokee "prairies" are shallow expanses of dark but highly reflective water lush with colorful aquatic blooms and dotted with "hammocks" on which shrubs and trees have taken root.
7. Although there are about 60 lakes in the Okefenokee the open water ratio is relatively small. The open water area of all lakes, gator holes and water courses combined is less than 1,000 acres.
8. There are over 225 species of birds that have been identified in the swamp, over 42 species of mammals, 58 species of reptiles, 32 species of amphibians and 34 species of fishes. The steadily mounting alligator population is now past the 10,000 mark within the Okefenokee.
9. The Okefenokee is a magnificent wildlife refuge but it is also much more. It represents an attempt to hold in trust for all people--sightseers, students, artists, naturalists, photographers, fishermen--this amazing world with its beautiful mirrored lakes, covered with aquatic blooms bordered by moss-bearded trees, landscaped only by nature, producing scenic effects of haunting, mysterious beauty.
10. The Okefenokee is always beautiful, always fascinating, changing with the seasons, but always a scenic wonderland.

OKEFENOKEE SWAMP . . . THE LAND OF TREMBLING EARTH

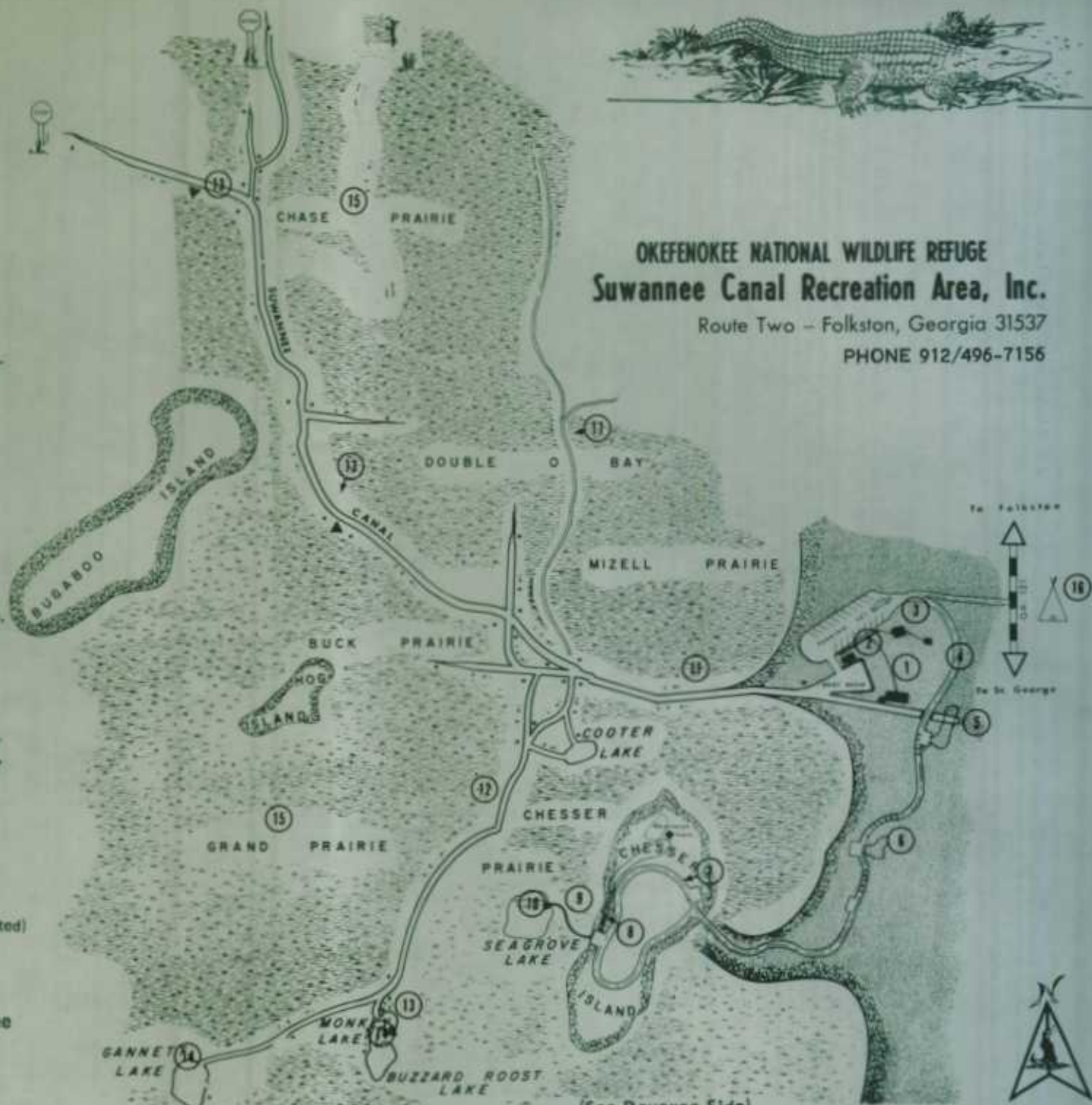
DISCOVER OKEFENOKEE

WHAT TO SEE WHAT TO DO

1. Suwannee Canal Recreation Area Information Center.
2. Fishing Concession Center (tackle shop, boat-motor, canoes, and overnight camping equipment rentals).
3. Visitor Picnic Area.
4. Four and one-half mile Scenic Nature Drive.
5. Canal Diggers Hiking Trail.
6. Peckerwood Hiking Trail.
7. Chesser Island Homestead
8. Deer Stand Hiking Trail.
9. 4,000 foot Scenic Board Walk into Okefenokee.
10. 50 foot Observation Tower Overlooking the Okefenokee.
11. Suwannee Canal - 12 miles in length - (good fishing, sightseeing, and nature photography).
12. Winding water trails into interior of Okefenokee Prairie Areas and to Lakes (good fishing, sightseeing, and nature photography).
13. Rest Area (picnic tables and toilet facilities).
14. Okefenokee Lakes (good fishing, sightseeing, and nature photography).
15. Open Water Prairie with water plants (sightseeing and nature photography).
16. KOA Campground (privately owned and operated)
17. Wilderness overnight canoe trails (travel by permit only).

Scenic Guided Boat Tours into Okefenokee

- One hour tour (4.5 mile round trip)
- Two hour tour (9-10 mile round trip)



OKEFENOKEE NATIONAL WILDLIFE REFUGE Suwannee Canal Recreation Area, Inc.

Route Two - Folkston, Georgia 31537

PHONE 912/496-7156

(See Reverse Side)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Okefenokee National Wildlife Refuge
Waycross, Georgia

SPORT FISHING REGULATIONS

Sport fishing on the Okefenokee National Wildlife Refuge, Waycross, Georgia, is permitted in the open water areas connected by established boat runs. Sport fishing shall be in accordance with all applicable State regulations subject to the following special conditions:

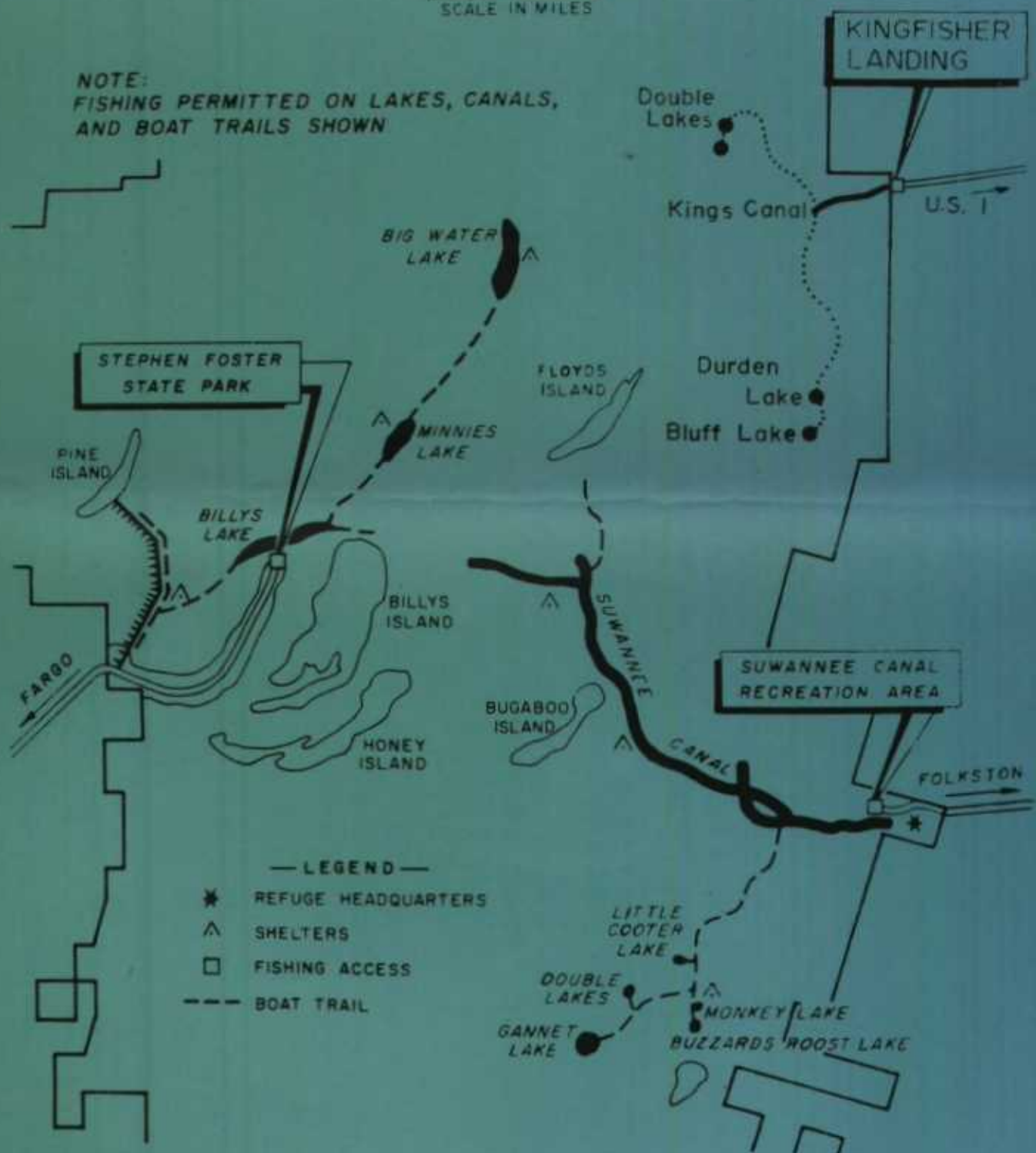
- (1) Fishing permitted during posted hours only.
- (2) Boats with motors not larger than 10 h.p., canoes and rowboats permitted.
- (3) Artificial and live bait (except live minnows) permitted.
- (4) Trotlines, limb lines, nets, or other set tackle prohibited.
- (5) Persons entering refuge from main access points must register with the respective concessioner or at a registration station.
- (6) Persons using the sill access ramp on the pocket are required to sign the register when they enter the swamp and again when they leave. Use of launching facilities is permitted as long as parking regulations are not violated. Park regulations are posted at registration station.
- (7) Persons using the Kingfisher Landing access ramp are required to sign the register when they enter the swamp and again when they leave.
- (8) All persons will comply with the regulatory signs posted in all areas.

March - 1979

OKEFENOKEE NATIONAL WILDLIFE REFUGE



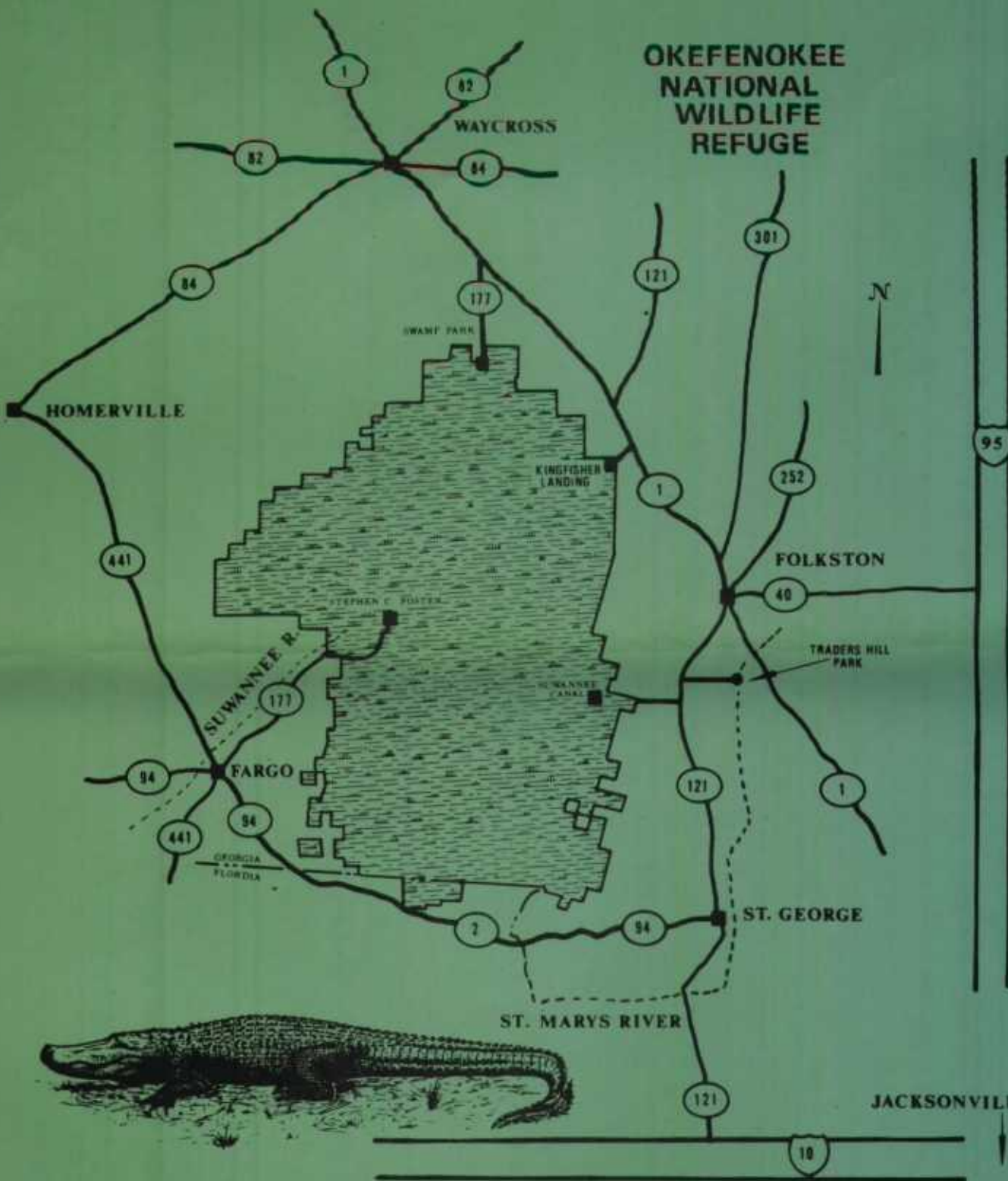
NOTE:
FISHING PERMITTED ON LAKES, CANALS,
AND BOAT TRAILS SHOWN



— LEGEND —

- ★ REFUGE HEADQUARTERS
- △ SHELTERS
- FISHING ACCESS
- BOAT TRAIL

OKEFENOKEE NATIONAL WILDLIFE REFUGE



GENERAL INFORMATION:

Telephone: (912) 637-5274
Address: Fargo, Georgia 31631
Location: 18 miles Northeast of
Fargo via Georgia 177.
Size of Park: 80 acres
Altitude: 119 feet

HOURS: Stephen C. Foster State Park operates from 6:30 a.m. to 8:30 p.m., March 1 through September 14 and from 7 a.m. to 7 p.m., September 15 through February 28. This is an exception to other Georgia State Parks which operate from 7 a.m. to 10 p.m.

NOTE: Automatic Gates at Refuge boundry are 7 miles from park entrance.

MILEAGE TO S. C. FOSTER FROM:

Albany	145	Columbus	231
Atlanta	299	Macon	213
Augusta	281	Savannah	232
Valdosta	65		

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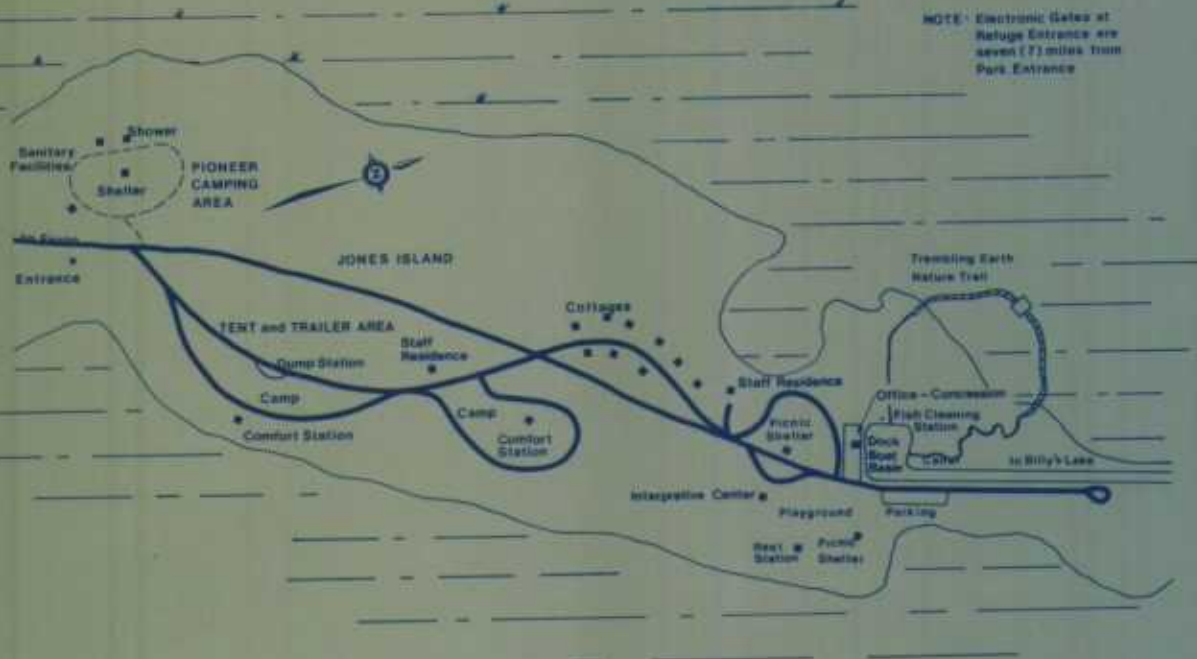
For more information about any of Georgia's State Parks and Historic Sites please contact:

Georgia Department of Natural Resources
Office of Information and Education
270 Washington Street, S.W.
Atlanta, Georgia 30334
(404) 656-3530

Stephen C. Foster State Park



Stephen C. Foster State Park



WILDLIFE: All wildlife and plant life are protected in all state parks and especially here at S.C. Foster State Park located well within a National Wildlife Refuge. Feeding of wildlife is **STRICTLY PROHIBITED** and **ENFORCED**. All speed limits within the Wildlife Refuge as well as the park are strictly enforced.

PETS: Domestic pets are allowed on State Parks only if kept on a leash not longer than 6 feet and accompanied by their owner at **all times**. Pets are not allowed in cottages or any other site buildings or swimming area. Owners are responsible for conduct of pets and must clean up after them.

MOTOR BIKES: All motorized bikes are restricted to park roads. They must comply with all state regulations governing registration and safety equipment.

RESTRICTED AREA: Foot traffic and vehicle traffic **BETWEEN S. C. Foster State Park GATE and the Okefenokee National Wildlife Refuge GATE** is permitted only during established hours of operation. (Please note hours of operations as listed in this brochure).

ALCOHOLIC BEVERAGES: Alcoholic beverages are prohibited in public use areas in all of Georgia's State Parks and Historic Sites.

WEAPONS: Firearms, bow and arrows, explosives, fireworks, slingshots, fishing spears, or any device that discharges projectiles by any means is prohibited. Federal Law at S.C. Foster State Park prohibits even the possession of firearms within the Refuge boundary.

Stephen C. Foster State Park

Stephen C. Foster State Park, situated on Jones Island well within the Okefenokee National Wildlife Refuge, offers a large cypress and black gum forest as a majestic background for one of the thickest growths of vegetation in the southeastern United States. This lush vegetation and the mirror-like black water of the swamp provide at least a part-time home for more than 225 species of birds, 41 species of mammals, 54 species of reptiles, 32 species of amphibians and 37 species of fish.

The dark water of the Okefenokee offers excellent fishing, especially in the spring. Typical catches include largemouth bass, chain pickerel, brim, and the famed warmouth perch.

While the cypress and black gum trees are the dominate form of plant life within the swamp, a stroll along the nature trail provides an ever changing view which includes such varieties as slash and loblolly pine, sweetgum, magnolia, live oak, bay, sphagnum moss, water lily, duckweed and jasmine, holly and palmetto, to name a few.

A few of the common species of animals are white-tail deer, raccons, pileated woodpeckers, American alligators, egrets, herons, ibis, anhingas, wood ducks, fox squirrels, and otters. The otters, incidentally, are not usually seen until the colder winter months after the alligators have become dormant.

Stephen C. Foster State Park beckons visitors to explore one of the most primitive wilderness areas in the United States.

FISHING: Fishing in park waters is open to legal fishing throughout the year. Persons age 16 or older must have a valid State Fishing License. Non-residents age 16 or older must have a valid non-resident license. Bank fishermen not registered as overnight visitors must be off park premises no later than park closing time. (Note: Please see Park Hours).

For your use and convenience a fishing dock and boat launching area are provided. Fishing supplies can be purchased at the Park Office — Concession Area.

No natural fishing bait is available at the park concession area.

BOATING: Private boats are permitted on park waters but motors are restricted to electric or maximum 10 h.p. A boat launching area and boat dock is provided. All boaters must check with park office on park rules concerning boating hours. All boat use must be done in conformance with the Georgia Boating Safety Law. All boaters must register at park office prior to entering waterway. A minimal registration fee is charged.

CAMPING: The camping area offers 69 combination tent and trailer sites. All sites have water and electrical hookups, picnic tables, and grills. There are 2 comfort stations providing hot showers, flush toilets, electrical outlets and automatic laundry. One dump station is provided.

NO RESERVATIONS accepted, all campsites rented on a first-come, first-served basis. Organized groups not eligible to occupy camping area. All campers must register for sites at the Park Office. Campers under age 18 must be accompanied by an adult.

Maximum stay is 14 days. Dishwashing **PROHIBITED** at all drinking faucets and comfort stations. Please be considerate of other campers. Trash and garbage receptacles are available in all camping areas, **USE THEM.**

See map for location of Camping Area.



PIONEER CAMPING: The Pioneer Camping Area is completely separate from all other activity areas in the park. This allows the group to camp and follow a program of activities without disturbance from other park visitors. Refer to map for location. The area is available at **NO CHARGE** to any organized youth groups such as Boy Scouts, Girl Scouts, etc.

Facilities provided are a cleared area for tents, water (by faucet), primitive-type sanitary facility (pit privy), and a shelter for inclement weather and to store camping equipment.

Reservations must be made by contacting the Park Office. Please make reservations so as to insure an available site.

Adult leader of organized group must register at Park Office.

PICNICKING: Picnicking permitted only in designated areas throughout the park. Tables and shelters available on a first-come, first-served basis. Trash and garbage receptacles are located in all picnicking areas, **USE THEM.**

COTTAGES: The park provides 9 two bedroom cottages fully equipped with electric stove, refrigerator, and all necessary cooking and food serving facilities. Towels and linens are provided. All cottages are heated and air conditioned.

Reservations are accepted for a 2 week maximum and a 2 day minimum. Contact Park Office for reservations, check in times and rates. One night occupancy allowed, if a cottage is available. No reservations will be accepted for one night stays. A deposit equaling a 1 day rental charge is required. Cancellations accepted and deposit refunded if Park Office is notified 48 hours in advance. Reservations for all cottages can be accepted on a 11 month maximum advance notice.

NO PETS allowed in cottages or cottage area. No kennels are provided.

Organized groups not eligible to rent cottages.

Please register at Park Office upon arrival and pay full amount of cottage rental fee.

NATURE TRAIL: The Trembling Earth Nature Trail starts near the boat basin. This boardwalk and trail offers visitors an opportunity to view many of the swamp animals & plants in their natural habitats. A printed interpretive guide is available at the park office.

PLAYGROUND: A children's playground is conveniently located in the day-use area of the park.

Playground equipment is also located in the stay-use areas of the park.



Okefenokee Swamp Park

Waycross, Georgia



Okefenokee Swamp Park

Waycross, Georgia



In a natural setting almost beyond belief, the Okefenokee Swamp is now accessible to you where, for many generations, only stout-hearted adventurers and trappers dared to go. It is a wildlife sanctuary of unbelievable beauty, a host of entertaining exhibits and tours where you can set your own pace. The park is easy to reach, located 8 miles south of Waycross, Ga. on highways U.S. 1 and 23, and you can visit the park every day of the year from 8 A.M. until sunset. Deep swamp excursions available on request.



Okefenokee Swamp Park, Waycross,
Georgia 31501. Telephone (912) 283-0583.

A memorable adventure

PLEASE READ CAREFULLY

QUALITY CONTROL: Each canoe trail will be limited to one party daily, and each party will be limited to a maximum of 10 canoes and/or 20 persons. Canoeists are responsible for keeping trails free from litter. This means that litter must be held until after you leave the swamp; litter left by previous parties should be retrieved. Motors are not permitted on canoe trips.

WILDLIFE: Wildlife abound in the Okefenokee every month of the year. Sandhill cranes, ducks and other migratory birds are most numerous from November through March. Otter are commonly seen during cold weather when alligators are relatively inactive. Alligators are active in the summer and are observed sunning on banks mostly during spring and fall.

In general, mosquitoes are no problem except after dark from April through October. They are rarely encountered during the daytime. Deerflies, although a biting menace at times during the summer, are not as bad deep in the swamp. There is no need to fear snakes or alligators as long as normal precautions are taken and animals or nests are not molested.

FISHING: Sport fishing is permitted during posted hours in accordance with Georgia State Law and refuge regulations. Live minnows are not permitted as bait in Okefenokee waters. Bass fishing is best in early spring and late fall, but a lot depends upon water levels, moon phase, weather, and the skill of the fisherman.

SUGGESTED SUPPLIES: 1) Rope for pulling canoes; 2) Drinking water; 3) Insect repellent; 4) Mosquito netting; 5) Rain gear; 6) First aid kit; 7) Snake bit kit; 8) Extra batteries; 9) Litter bags; 10) Pop tent and/or jungle hammock and sleeping bag. Canoes, other camping equipment, and services are available for rent from the concessioner, Suwannee Canal Recreation Area, Folkston, Georgia 31537. Phone 912/496-7156.

DESIGNATED CANOE TRIPS:

1. Kingfisher—Maul Hammock—Big Water—Stephen Foster—3 days (31 miles)
2. *Kingfisher—Bluff Lake—Floyd's Island—Stephen Foster (via Floyd's Prairie)—3 days (24 miles)
3. Kingfisher—Bluff Lake—Floyd's Island—Stephen Foster (via Suwannee Canal Run)—3 days (27 miles)
4. Suwannee Canal—Cedar Hammock—Suwannee Canal—2 days (12 miles)
5. Suwannee Canal—Suwannee Canal Run—Stephen Foster—2 days (17 miles)
6. *Suwannee Canal—Cedar Hammock—Floyd's Island—Stephen Foster (via Floyd's Prairie)—3 days (24 miles)
7. Suwannee Canal—Cedar Hammock—Floyd's Island—Stephen Foster (via Suwannee Canal Run)—3 days (27 miles)
8. Stephen Foster—Covens Hammock—Stephen Foster—2 days (18 miles)
9. *Suwannee Canal—Cedar Hammock—Floyd's Island—Suwannee Canal—3 days (29 miles)
10. *Suwannee Canal—Cedar Hammock—Floyd's Island—Bluff Lake—Kingfisher—4 days (32 miles)
11. *Kingfisher—Maul Hammock—Big Water—Floyd's Island—Bluff Lake—Kingfisher—5 days (43 miles)
12. Kingfisher—Bluff Lake—Kingfisher—2 days (15 miles)
13. Kingfisher—Maul Hammock—Big Water—Stephen Foster—Floyd's Island—Bluff Lake—Kingfisher—6 days (55 miles)

Note: Short portage across Floyd's Island required on all trips crossing this island.

Please note—The state charges a camping fee at Stephen Foster State Park and there are boat launching fees at Stephen Foster and the Suwannee Canal Recreation Area.

*Starting point and destination may be reversed, but only by permit.

Mileages shown are total for each trip.

PERMITS: Canoe trips into the Okefenokee wilderness may be arranged in advance or on a first-come basis. For ~~advance~~ reservations write or phone well in advance of planned trip to:

Refuge Manager
Okefenokee National Wildlife Refuge
P. O. Box 117
Waycross, Georgia 31501
Phone: 912/283-2580

The following information should be submitted with your written request for a permit:

1. Date trip is planned.
2. Choices of canoe trails.
3. Expected number of canoes in party (a maximum of 10 canoes—20 persons—is permitted).
4. Name of person in charge.
5. Names and addresses of all participants.

PHYSICAL CONDITIONS: The swamp terrain is flat; there is no fast water and very little dry land. Your paddle will be used every inch of the way as you wind through cypress forests or cross open "prairies" exposed to the sun and wind. You may have to get out of your canoe and push across peat blowups or shallow water. Water levels in the Okefenokee Swamp sometimes become too low to permit use of certain trails; when this occurs, parties holding reservations will be notified.

WEATHER: Daytime temperatures are mostly mild. However, during June, July, August and September the swamp can be hot and humid with temperatures ranging above 90°. Winter days range from below 40° to 80°, but much of the time temperatures are in the fifties and sixties. Summer nights are warm, and winter nighttime temperatures can be near or below freezing. Record lows have dipped to 18°. The rainy season is normally from June through September. Many summer afternoons are drenched with localized thundershowers. Lightning is probably the most dangerous feature of an Okefenokee experience.

SAFETY: Each traveler is required by law to have a Coast Guard approved life preserver in his possession. Each canoe must contain a compass and a flashlight. Each canoeist must register when entering and leaving the swamp. Due to danger from alligators, pets may not be taken into the swamp. For the same reason, swimming is not permitted. Minimum party size for safety is two persons. Parties will not be permitted to launch later than 10:00 a.m. to insure that the overnight stop is reached before dark.

CAMPING: Overnight camping is permitted only at designated overnight stops. You must register at each stop. Since firm land is not available at all overnight stops, a 20' x 28' wooden platform is provided. Pop tents are recommended. No nails should be used and no trees or limbs should be cut. Open fires are not permitted except at specified areas, so gasoline, bottle gas or similar types of stoves will be required if you plan to cook meals. You must remain at the designated overnight area between sunset and sunrise. You may camp only one night per rest stop. Portable toilets with disposable bags are required even though overnight camp sites are outfitted with chemical toilets.

DO NOT FEED WILD ANIMALS
THEY WILL BITE



U. S. Department of the Interior
Fish and Wildlife Service
5-10-78

Wilderness Canoeing in Okefenokee

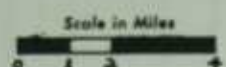
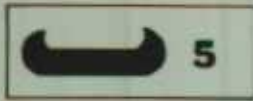


National Wildlife Refuge

Okefenokee Canoeing Trails

- Legend**
- Overnight Stop
 - Yellow Trail
 - Red Trail
 - Green Trail
 - Brown Trail
 - Blue Trail
 - Orange Trail

Markers are placed one mile apart with mileage figures shown on the sign. Numbering begins at Kingfisher Landing for the red and green trails, at the Suwannee Canal for the yellow trail and orange trail, and at Stephen Foster for the brown trail. White posts without signs are installed where additional guidance is needed. Guides are not required or needed.



Okefenokee

• National Wildlife Refuge



As you travel through this country, you may see the sign of the flying goose—emblem of the National Wildlife Refuges. Wherever you meet this sign, respect it, for it means that those lands and waters have been dedicated to preserving as much of our native wildlife as can be retained along with our modern civilization.

TO HOMERVILLE
TO WAYCROSS

TO WAYCROSS & REFUGE HEADQUARTERS
(7 miles)

Okefenokee

NATIONAL WILDLIFE REFUGE



FOLKSTON

SIWANNEE CANAL RECREATION AREA



GA. 23 & 121

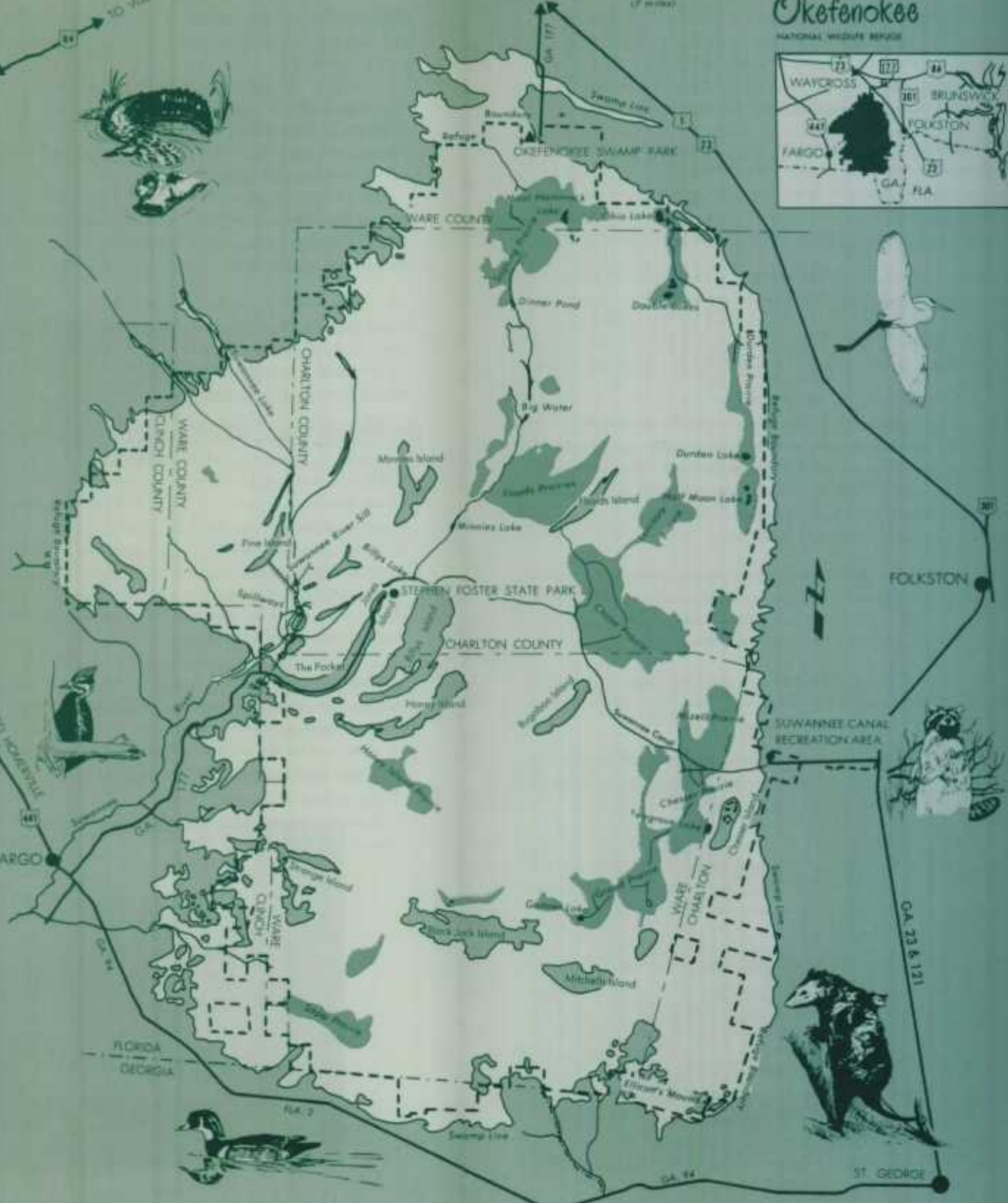
ST. GEORGE

TO HOMERVILLE
FARGO

FLORIDA
GEORGIA

FLA. 2

GA. 94





REGULATIONS

Travel on the refuge is restricted to areas designated by the officer in charge. All visitors should register with the concessionaire before leaving the boat dock to enter refuge waters.

Visitors must be accompanied by a licensed guide when going into the more remote parts of the swamp.

Visitors are allowed to be on the refuge only during posted hours, except where specified overnight accommodations are available.

Fires are prohibited on the refuge except in specially designated places.

Firearms are not allowed on the refuge.

Outboard motors larger than 10 horsepower are prohibited. Each occupant of a boat is required to have a Coast Guard approved life preserver with him.

Fishing is permitted in accordance with Georgia State fishing laws, except that no live fish may be used as bait.

Swimming is not permitted in refuge waters.

Pets must be kept in cars or on a leash not exceeding 6 feet in length. They are not permitted in boats or public use buildings.

Molestation or destruction of plants and animals on the refuge is prohibited.

OKEFENOKEE SWAMP, in southeastern Georgia near the Florida boundry, is one of the oldest and most primitive swamps in America. It extends about 38 miles from north to south and about 25 miles across at its widest part and contains some 412,000 acres. Okefenokee National Wildlife Refuge, established in 1937, occupies over nine-tenths of this fascinating region of water, woods, and wildlife.

Okefenokee is actually a vast peat bog, unique in geologic origin and history, with many unusual forms of animal and plant life. Once a part of the ocean, it is now more than a hundred feet above sea level.

The variety of life, as seen by a visitor to Okefenokee, changes throughout the day. Except during the quietness of noonday, the squealing cries of wood ducks and the discordant squawks of herons and egrets are heard repeatedly as you move along the glassy waterways. High overhead a turkey vulture may be soaring, while a flock of white ibis glides at tree top level. The persistent song of the Carolina wren and hammering of woodpeckers on shells of dead trees are most evident while you listen for rolling guttural notes of the Florida sandhill crane. In the spring the bellowing of the old bull alligators furnishes a background for amazing frog choruses.

In the tangled forest of cypress, bay, and gum—with hanging streamers of Spanish moss—are raccoons, bobcats, opossums, and otter. There are also abundant signs of bear and white-tailed deer.

The waters of Okefenokee move slowly, and as they make their lazy-way through the cypress forests, they become



stained the color of tea from the tannic acid of swamp vegetation. The principal outlet of the swamp is the Suwannee River, which starts deep in the heart of Okefenokee and flows southwest into the Gulf of Mexico. The St. Marys River empties some of the swamp water into the Atlantic Ocean.

Okefenokee's natural beauty was threatened in 1889 when attempts were made to drain the swamp to facilitate timber removal. Millions of board feet of cypress, pine, red bay, and gum were removed. Not until the best timber had been cut were the region's other values given much consideration.

Okefenokee as a wildlife refuge is an attempt to preserve an area of primitive America; to protect fragile strands of the web of life against encroachment by the sprawl of economic progress; to hold a unique region in trust for the people who need peace, beauty, and quietness sometime during their lifetime.

In its management of the swamp, the Fish and Wildlife Service plans no development that might mar inherent attractions. Nature itself is the landscaper. Already stands of young cypress have hidden the stumps left by early loggers and eventually will rear a new generation of bearded giants to replace the old.

There are three public entrances. At each entrance guided boat tours, walking trails, swamp exhibits, and picnic facilities are available. Information on tour rates and other details may be obtained from the concessionaires.

Besides guided tours, boat rentals and launching, and fishing facilities are available at Stephen Foster State Park and the Suwannee Canal Recreation Area.

Privately owned or rented outboard motors of 10 horsepower or less may be used on either private or rented boats. Travel in the swamp is permitted during posted hours.

Fishing may be done throughout the year with a Georgia State fishing license and in accordance with Georgia fishing regulations. No live fish may be used as bait. Large-mouth bass, bluegill, warmouth, catfish, and pickerel are the fish most commonly taken.

Hunting and firearms are not allowed on the refuge. Dogs are permitted only at public entrances and must be kept on a leash. Collection or molesting wildlife or plants is prohibited.

STEPHEN C. FOSTER STATE PARK—This area on Jones Island, managed by the Georgia Park and Historic Sites Division under a cooperative agreement with the U.S. Fish and Wildlife Service, is the west entrance to the swamp. It is from here that Billy's Lake, Minnie's Lake, and Big Water

are most easily accessible. A trip through the winding watercourses connecting these lakes is a never-to-be-forgotten experience.

The visitor may stop at Billy's Island, named for Chief Billy Bowlegs, a distinguished leader in the Seminole Wars. He may try his luck as a photographer, or relax and enjoy the solitude and beauty of the swamp.

This is the only entrance where overnight facilities are available. There are camp sites for tents, trailers, or campers as well as cottages for rent.

The Park may be reached by leaving U.S. Highway 441 about half a mile southeast of Fargo, Georgia, and following state road 177 northeast for about 18 miles. For information on rates and reservations, write Stephen C. Foster State Park, Fargo, Georgia 31631. (Telephone 496-7509 AC 912)

SUWANNEE CANAL RECREATION AREA— This, the east entrance, is operated cooperatively by the U.S. Fish and Wildlife Service and a concessionaire. Here the visitor may follow the Suwannee Canal for 11 miles into the heart of the swamp. From the canal he may enter Chesser, Grand, and Mizell Prairies, the swamp's most extensive open areas. The little lakes and 'gator holes that dot the prairies offer some of the Nation's finest fresh water sport fishing. The prairies are also favorite areas for bird watching and are the home of the rare Florida sandhill crane.

Wildlife-oriented facilities include a wildlife drive, a rubber-tired interpretive train, walking trails, a 4,000-foot boardwalk over the swamp, observation towers from which wildlife may be observed in the scenic wilderness of the Okefenokee, a night tour boat, and a restored homestead.



Many swamp stories are told on the boat tours and along the walks, trails, and drives.

This entrance may be reached by traveling State Highway 23 about 7 miles southwest of Folkston, Georgia, and proceeding west about 4 miles. For further information visit the Swamp's Edge Information Center located at the Recreation Area or write the U. S. Fish and Wildlife Service, P. O. Box 117, Waycross, Georgia 31501 (Telephone 283-2580 AC 912). For information dealing with guided tours, boat and canoe rentals, or fishing, contact the Concessionaire, Suwannee Canal Recreation Area, Folkston, Georgia 31537 (Telephone 496-7156 AC 912).

OKEFENOKEE SWAMP PARK — This park, the north entrance to the swamp, is managed by the Okefenokee Swamp Park Association, Inc., a nonprofit private organization. The park is distinct from the Okefenokee National Wildlife Refuge, and most of it is located outside the refuge boundary. Here the visitor can take guided tours by boat along winding watercourses through part of the swamp's most beautiful cypress forest.

There is much to see during a stroll through the park grounds. The boardwalk, museum, animal habitats, serpentarium, botanical gardens, and the observation tower, which is high in the cypress trees, put a lot of Okefenokee in a compact package for all to see.

Canoeing may also be enjoyed in Okefenokee. Six wilderness trails permit one- to six-day trips through the swamp. More canoeing information may be obtained by contacting the refuge manager.

The park is open at variable hours throughout the year and is located about 8 miles south of Waycross, Georgia, and 5 miles off U. S. Highway 1 and 23. For further information write, wire, or call Okefenokee Swamp Park, Waycross, Georgia 31501, telephone 283-0583 AC 912.



Department of the Interior
U.S. Fish and Wildlife Service

Okefenokee Swamp Park

Waycross, Georgia

Okefenokee Swamp Park

Waycross, Georgia



"Source Waters of Suwannee"

"Land of Trembling Earth"

THE OKEFENOKEE SWAMP PARK, a non-profit development operating under a long-term lease, now makes this awesome and mysterious swampland accessible to you where for many generations only stouthearted adventurers and trappers dared to go. The park is easy to reach from anywhere in the South, located 8 miles south of WAYCROSS, GEORGIA on highways U.S. #1 and U.S. #23. There are no night activities or overnight accommodations in the park, a wildlife sanctuary, but admirable facilities are available in the Waycross area, including camping facilities at nearby Laura S. Walker State Park - A nominal admission charge goes toward operating and developing the park. *Special rates* for educational groups can be made upon application. Deep swamp excursions available on request depending upon guide availability and water level. For more information write or phone: OKEFENOKEE SWAMP PARK WAYCROSS, GEORGIA 31501. Telephone (912) 283-0583.



Okefenokee provides protection for many forms of plant and animal life, some of which are bordering on extinction in a modern world. Mammals, reptiles and birds abound under a program of rigid federal protection in Okefenokee's expansive area of more than a half million acres. Alligators, otters, birds of prey, migratory birds of many species, wildcats,



bears, deer, many species of turtles and frogs, small furry animals and a wide variety of reptiles inhabit the land which the Indians called "Trembling Earth." Plant life is unbelievably abundant and Okefenokee has been appropriately called "America's greatest natural botanical garden."





Recent developments in the Park, designed to provide historical and environmental background, include: a new Serpentarium and Wildlife Observatory, which features native bears in their natural environment and an interpretive



exhibit of Okefenokee reptiles, as well as a year-round lecture auditorium; a "Swamp Creation Center" highlighting the history and pertinent information on the "Land of Trembling Earth"; "The

Living Swamp Center," spotlighting the flora and fauna of Okefenokee, with a live deer observatory, Pioneer Island with an original swamp homestead, demonstrating the self-sufficiency of pioneer swamp families and exhibiting rare artifax and relics of the Okefenokee wilderness islands.

The Wonderworld of Okefenokee is a significant part of America's heritage, a beautifully preserved segment of what was here when America began. Headwaters of the Suwannee and St. Mary's Rivers, Okefenokee is a National Wildlife Refuge and an impressive recent addition to the National Wilderness System. Okefenokee Swamp Park is a convenient point of entry and a magnificent show-window for this natural wonderland. From the park lily-decked water trails, with their miraculously reflective waters mirroring overhanging beauty, lead to all points in this vast wilderness of islands, lakes, jungles, forests and prairies.

Okefenokee Swamp Park is a rare experience for every member of the family. The swamp itself, extravagantly beautiful, carries you back into the world's prehistory. Interpretative exhibits, lectures, wildlife shows, boat tours on original Indian Waterways, wilderness walkways, observation tower, Pioneer Island, native animals in their own habitat, all combine to weave a spell of pioneer American life. You witness in real life the place where primitive man ruled the wilds, where Indians hunted and fished, where early settlers sought



HOURS:

Spring and
Summer—9-6:30 P.M.
Fall and Winter—9-5:30 P.M.

peace and communed with nature. You see, for real, how nature still controls the environment and nature's balance assure the perpetuation of the flora and fauna and the swamp itself.

Since accessibility has been provided through Okefenokee Swamp Park, providing regulated visitation, the "Land of Trembling Earth" has become one of the most acclaimed wilderness areas in the United States. It has been the locale of many Hollywood motion pictures, and has been featured on television and radio, in newspapers and magazines, the Pogo comic strip, in documentary and fictional books, in song and art. Its glory is its pristine beauty, making it a photographer's dream.

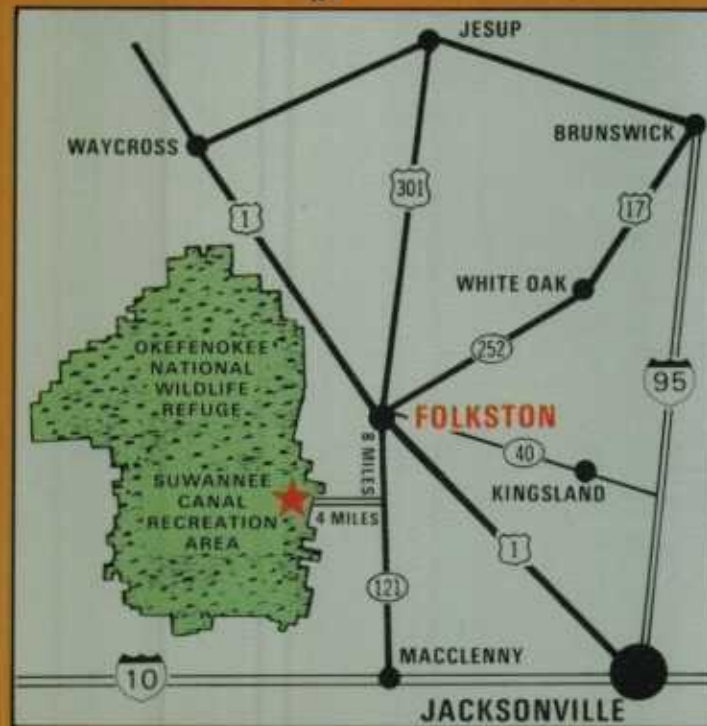


During periods of moderate to heavy visitation, a motorized tram will provide guided tours along Swamp Island Drive. The Drive will then be closed to private vehicles, though hikers and bicyclists will be welcome.

Wildlife



Okefenokee is the home of over 389 wildlife species, including the most ancient of all reptiles, the American alligator. The swamp prairies abound with egrets, herons, ibis and sandhill cranes, while the pine uplands feature deer, wild turkeys, an occasional black bear and the endangered redcockaded woodpecker.



SUWANNEE CANAL RECREATION AREA, INC.
HARRY JOHNSON, Concessioner
 Route 2 — Folkston, Ga. 31537
 (912) 496-7156

Administered by the
UNITED STATES FISH AND WILDLIFE SERVICE

(Published by Inlow Associates, 8146 Concord, Jacksonville, Fla. 32208)

OKEFENOKEE

NATIONAL WILDLIFE REFUGE



SUWANNEE CANAL RECREATION AREA
 FOLKSTON, GEORGIA



"Land of Trembling Earth"

- *Wildlife Observation*
- *Guided Tours*
- *Canoeing*
- *Fishing*
- *Boating*
- *Hiking*



Guided Boat Tours

One- and two-hour trips into the swamp leave at frequent intervals daily. Four-hour guided boat tours are available by reservation only.

Suwannee Canal Recreation Area



A Concession Center offers picnicking supplies, refreshments, souvenirs, fishing tackle and rental equipment. Boats with and without motors are available for travel on 28 miles of marked waterways, for fishing, sight-seeing and wildlife observation.



Swamp Walk

A 4,000-foot boardwalk winds through the swamp and ends at Owls Roost Tower, which provides a breathtaking view of the Okefenokee.



Visitors may also enjoy the swamp at sunset and after dark on a 2 1/2-hour guided boat tour. Advance reservations are required.

Boating



Canoes can be rented for day-use, and for overnight trips by advance reservations. For overnight trips, contact:

OKEFENOKEE NATIONAL WILDLIFE REFUGE
P. O. BOX 117 — WAYCROSS, GA. 31501
TELEPHONE (912) 283-2850

Chesser Island Homestead

At this national historic site, visitors are invited to experience "swamp livin" as it was in the 1920's.



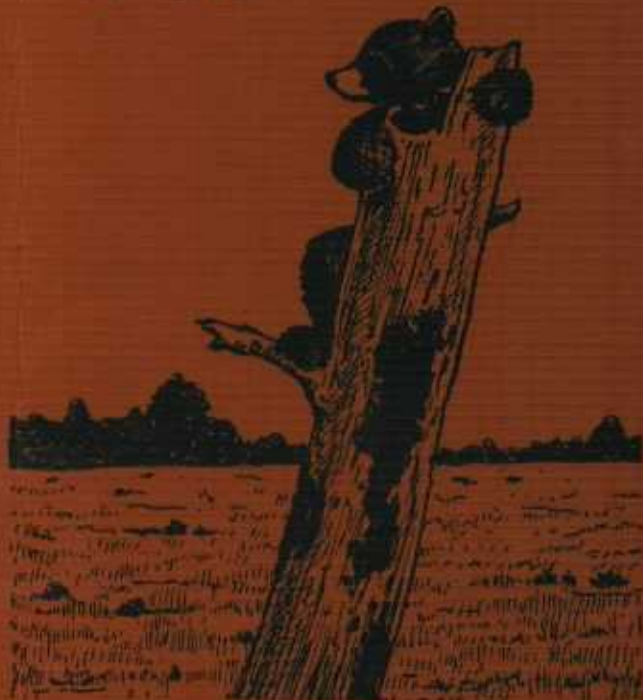
EASTERN COTTONTAIL (*Sylvilagus floridanus mollurus*). Common around clearings and in the more sparse pinewoods on the uplands surrounding the swamp and on some of the islands.

MARSH RABBIT (*Sylvilagus palustris palustris*). Fairly common on the swamp edge.

WHITE-TAILED DEER (*Odocoileus virginianus*). These deer are to be found on the upland entirely around the swamp and on the islands within the swamp. Occasionally they may be seen from the Deer Stand observation platform, and in time of low water they may be seen in the prairies.

ARMADILLO (*Dasypus novemcinctus mexicanus*). This unusual "armored" mammal was first seen on the refuge in 1963. Since then it has become more numerous and is commonly seen along roadways and trails.

MAMMALS of the



OKEFENOKEE national wildlife refuge



U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service

RF-441590-3-August, 1976

SOUTHERN FOX SQUIRREL (*Sciurus niger niger*). Uncommon in the pine forests surrounding the swamp.

FLORIDA FLYING SQUIRREL (*Glaucomys volans quereati*). This species is rarely seen but is probably fairly common. It has been collected on Floyd's and Billy's Islands and Chesser Island.

GEORGIA POCKET GOPHER (*Geomys pinetis pinetis*). Uncommon on dry, sandy sites on the east side of the swamp.

CAROLINA BEAVER (*Castor canadensis carolinensis*). The first record of beavers actually in the swamp was in 1969. Apparently they have disappeared since then, probably because of alligators.

COTTON MOUSE (*Peromyscus gossypinus gossypinus*). Common throughout the area.

SOUTHERN GOLDEN MOUSE (*Peromyscus nuttalli aureolus*). This species is probably rare. It has been found in the cypress bays and in hammocks on the islands.

SWAMP RICE RAT (*Oryzomys palustris palustris*). A fairly common mammal throughout the swamp.

HISPID COTTON RAT (*Sigmodon hispidus hispidus*). A common mammal in the pine woods and old fields on the upland around the swamp.

FLORIDA WOOD RAT (*Neotoma floridana floridana*). Fairly common throughout the swamp and in the hammocks on the upland.

ROUND-TAILED MUSKRAT (*Neofiber alle nigrescens*). Common in the prairies.

HOUSE MOUSE (*Mus musculus musculus*). Formerly common around habitations but now that few people live within the swamp, it has probably disappeared from the area. Very likely it is still common around human habitations in the vicinity of the swamp.

NORWAY RAT (*Rattus norvegicus*). Like the above species, this mammal has probably disappeared from the area with the cessation of human habitation.

BLACK RAT (*Rattus rattus rattus*). This and the following subspecies were the common barn rats when farming was practiced on some of the islands within the swamp. It probably occurs now at farmsteads in the vicinity of the swamp but not on the refuge.

ROOF RAT (*Rattus rattus alexandrinus*). See above.



The varied habitat of Okefenokee Swamp forest and prairie, of swamp edge and of moist and dry upland affords a home for most mammalian species that are known to the southeastern coastal plain.

Most mammals are night prowlers and difficult to observe. Sometimes their tracks, or other signs of activity, are all that is visible to remind us that they do exist. A few kinds such as squirrels, otters, deer, rabbits, bobcats and bears are often or sometimes seen during daytime. However, early morning and late afternoon are the best times to observe mammals.

The following list includes 42 species that now live or have recently lived in, or in the immediate vicinity of, Okefenokee Swamp. This list is based upon specimens and substantiated evidence collected by Dr. Francis Harper and refuge personnel. Most of the species listed are supported by specimens that are preserved in the Cornell University Museum and in the U.S. National Museum.

Mammals to look for in or near Okefenokee are:

FLORIDA OPOSSUM (*Didelphis marsupialis pigra*). Common on the swamp edge and on the islands within the swamp. A night prowler, "Pogo" is often seen by campers at Stephen C. Foster State Park.

STAR-NOSED MOLE (*Condylura cristata*). Apparently rare. Has been collected in the swamp near Mixon's Ferry and on Chesser Island.

FLORIDA MOLE (*Scalopus aquaticus australis*). Generally distributed on the upland adjacent to the swamp and has been found on some of the islands within the swamp.

LEAST SHREW (*Cryptotis parva parva*). Rarely seen but probably fairly common. Specimens have been collected on several of the islands, on the swamp edge and in the pine woods around the swamp.

CAROLINA SHORT-TAILED SHREW (*Blarina brevicauda carolinensis*). A specimen was collected on Floyd's Island June 12, 1921.

EVENING BAT (*Myotis humeralis*). One of the most common bats of the Okefenokee. This and other bats are seen at dusk on warm nights in search of flying insects.

GEORGIAN BAT (*Pipistrellus subflavus subflavus*). A fairly common species in the area.

BIG BROWN BAT (*Eptesicus fuscus fuscus*). An uncommon species in the area.

NORTHERN RED BAT (*Lasiurus borealis borealis*). An uncommon species in the area.

SEMINOLE RED BAT (*Lasius borealis seminolus*). A common bat of the Okefenokee.

FLORIDA YELLOW BAT (*Dasypterus floridanus*). Apparently a rare species in the area. Two specimens were collected at King's Canal.

RAFINESQUE'S BIG-EARED BAT (*Corynorhinus rafinesquii*). A rather uncommon species in the area.

FREE-TAILED BAT (*Tadarida brasiliensis cynocephala*). An uncommon species in this area although it has been collected at Camp Cornelia.

FLORIDA BLACK BEAR (*Ursus floridanus*). Bears range throughout the refuge. While they are rarely seen, their signs are found in all habitats.

FLORIDA RACCOON (*Procyon lotor alucus*). The most abundant large mammal on the refuge. It is found in all habitats but is most numerous on the swamp edge. They are commonly seen at the Stephen C. Foster State Park camping area and occasionally along boat trails.

LONG-TAILED WEASEL (*Mustela frenata olivacea*). This species is probably more common than the few observations would indicate. Specimens have been collected on Billy's Island and on Chesser Island.

FLORIDA RIVER OTTER (*Lutra canadensis vega*). Occasionally observed along the water courses, especially during the winter.

FLORIDA STRIPED SKINK (*Mephitis mephitis elongata*). This species is generally distributed on the upland surrounding the swamp and is found occasionally on the islands.

RED FOX (*Vulpes fulva fulva*). This species is rare but occurs occasionally on the upland in the vicinity of the swamp.

FLORIDA GRAY FOX (*Urocyon cinereoargenteus floridanus*). Fairly common on the upland around the swamp.

RED WOLF (*Canis niger niger*). Formerly this was the species of wolf native to this area. It is believed not to be present here now.

FLORIDA BOBCAT (*Lynx rufus floridanus*). Common throughout the swamp and on the surrounding upland. Occasionally seen along the nature drive.

FLORIDA PUMA (*Felis oncolor coryi*). Apparently this species was never more than of rare occurrence in the vicinity of the swamp.

SOUTHERN GRAY SQUIRREL (*Sciurus carolinensis carolinensis*). Abundant in the blackgum-bay forests in the swamp and in the oak woodlands on the upland.

	S	S	F	W
House Sparrow*	o	o	o	o
Babbling	r		r	
Eastern Meadowlark*	c	c	c	c
Red-winged Blackbird*	c	c	c	c
Orchard Oriole*	u	u	u	
Baltimore Oriole	r		r	r
Rusty Blackbird	u		u	u
Brewer's Blackbird	o		o	o
Boat-tailed Grackle	r		r	r
Common Grackle*	c	c	c	c
Brown-headed Cowbird	o	o	o	o
Scarlet Tanager	r	r		
Summer Tanager*	u	u	u	
Cardinal*	c	c	c	c
Rose-breasted Grosbeak	r		r	
Blue Grosbeak	r	r	r	r
Indigo Bunting	u	o	u	
Painted Bunting	o			
Purple Finch	u		u	u
Pine Siskin	r		r	r
American Goldfinch	c		c	c
Rufous-sided Towhee	c	c	c	c
Savannah Sparrow	u		u	u
Grasshopper Sparrow	u		o	o
Le Conte's Sparrow	r		r	r
Henslow's Sparrow	o		o	o
Vesper Sparrow	u		u	u
Bachman's Sparrow*	c	c	c	c
Slate-colored Junco	r		r	r
Chipping Sparrow	u		u	u
Field Sparrow	u		u	u
White-throated Sparrow	c		c	c
Fox Sparrow	u		u	u
Swamp Sparrow	c		c	c
Song Sparrow	c		c	c

These additional 23 species are of very rare or accidental occurrence:

White Pelican	Arctic Tern
Roseate Spoonbill	Barn Owl
Whistling Swan	Ivory-billed Woodpecker
Snow Goose	(formerly)
Blue Goose	Gray Kingbird
European Wigeon	Western Kingbird
Golden Eagle	Bachman's Warbler
Limkin	Lark Sparrow
Semipalmated Plover	Tree Sparrow
Whimbrel	Connecticut Warbler
Laughing Gull	Clapper Rail
Foerster's Tern	Vermilion Flycatcher

OKEFENOKEE SWAMP, a huge, shallow, peat-filled depression of flooded and semi-flooded forests and prairies, located in southeastern Georgia and a small part of adjacent Florida, is one of the most primitive wilderness areas in the Nation. This swamp covers approximately 435,000 acres. About 377,528 acres of this area with 12,000 acres of peripheral upland are included in the *Okefenokee National Wildlife Refuge*.

Most of the swamp is covered with cypress, black gum, and bay forests. About 15 percent is flooded or semi-flooded prairie, and islands make up another 6 percent. The prairies are dotted with little lakes and ponds and various sized clumps of trees and shrubs, locally called "houses." The peripheral upland and the islands within the swamp are forested with pine interspersed with hardwood hammocks.

This diversified habitat is attractive to a wide variety of birds. The following list contains 210 species recorded from the swamp and surrounding uplands by visiting ornithologists and refuge personnel. Those species denoted with an * nest in the area, or have been known to do so. Abundance symbols are coded as follows:

S—March-May
S—June-August
F—September-November
W—December-February

a—abundant
c—common
u—uncommon
o—occasional
r—rare



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

RF-4356500-2
March 1974



BIRDS OF OKEFENOKEE



A CHECK-LIST OF BIRDS LIVING IN AND AROUND
THE OKEFENOKEE SWAMP
ON THE OKEFENOKEE NATIONAL WILDLIFE REFUGE

	S	S	F	W
Common Loon	r		r	r
Horned Grebe	u		u	u
Pied-billed Grebe	c	r	c	c
Double-crested Cormorant	o	r	o	o
Anhinga*	c	c	c	c
Great Blue Heron*	c	c	c	c
Green Heron*	c	c	c	o
Little Blue Heron*	c	c	c	c
Cattle Egret*	c	c	c	c
Common Egret*	c	c	c	c
Snowy Egret*	u	u	u	o
Louisiana Heron*	o	o	o	o
Black-crowned Night Heron	c	o	c	c
Yellow-crowned Night Heron	u	u	u	u
Least Bittern*	o	o	r	
American Bittern	u	u	u	c
Wood Ibis*	o	c	c	o
Glossy Ibis	r		r	r
White Ibis*	c	o	o	c
Canada Goose	o		o	o
Mallard	c		c	c
Black Duck	c		c	c
Gadwall	o		o	o
Pintail	u		u	u
Green-winged Teal	c		c	c
Blue-winged Teal	u	u	u	u
American Widgeon	u		u	u
Shoveler	u		u	u
Wood Duck*	c	c	c	c
Redhead	o		o	o
Ring-necked Duck	c		c	c
Canvasback	r		r	r
Greater Scaup	r		r	r
Lesser Scaup	u		u	u
Common Goldeneye	r		r	r
Bufflehead	r		r	r
Ruddy Duck	o		o	o
Hooded Merganser*	c	r	c	c
Red-breasted Merganser	r		r	r
Turkey Vulture*	c	c	c	c
Black Vulture*	c	c	c	c
Swallow-tailed Kite	r	r	r	r
Sharp-shinned Hawk	r		r	r
Cooper's Hawk	o	r	o	o
Red-tailed Hawk*	u	r	u	u
Red-shouldered Hawk*	c	c	c	c
Broad-winged Hawk	o		o	o
Bald Eagle	r		r	r
Marsh Hawk	o		o	o
Osprey*	u	u	r	u
Peregrine Falcon	r		r	r
Pigeon Hawk	r		r	r
Sparrow Hawk*	c	o	c	c
Bobwhite*	c	c	c	c
Turkey*	r	r	r	r
Sandhill Crane*	c	c	c	c
King Rail*	r	r	r	r
Virginia Rail	r		r	r
Sora	r		r	r

	S	S	F	W
Purple Gallinule*	u	u	u	u
Common Gallinule*	u	u	u	u
American Coot	c		c	c
Killdeer	c		c	c
American Woodcock	u	r	u	u
Common Snipe	c		c	c
Spotted Sandpiper	u		u	u
Solitary Sandpiper	o		o	o
Willet	r		r	r
Greater Yellowlegs	u		u	u
Lesser Yellowlegs	u		u	u
Least Sandpiper	o	o	o	o
Dunlin	r		r	r
Dowitcher (species?)	o		o	o
Semipalmated Sandpiper	o	o	o	o
Western Sandpiper	r		r	r
Sanderling	o		o	o
Herring Gull	r		r	r
Black Tern	r	r	r	r
Mourning Dove*	c	c	c	c
Ground Dove*	c	c	c	c
Yellow-billed Cuckoo*	c	c	c	c
Black-billed Cuckoo	r		r	r
Screech Owl*	u	u	u	u
Great Horned Owl	u	u	u	u
Barred Owl*	c	c	c	c
Chuck-will's-widow*	c	c	c	c
Whip-poor-will	o		o	r
Common Nighthawk*	c	c	c	c
Chimney Swift	c	c	c	c
Ruby-throated Hummingbird*	u	u	u	u
Belted Kingfisher*	c	u	c	c
Yellow-shafted Flicker*	c	c	c	c
Pileated Woodpecker*	c	c	c	c
Red-bellied Woodpecker*	c	c	c	c
Red-headed Woodpecker*	c	u	c	u
Yellow-bellied Sapsucker	c		c	c
Hairy Woodpecker*	o	o	o	o
Downy Woodpecker*	c	c	c	c
Red-cockaded Woodpecker*	u	u	u	u
Eastern Kingbird*	c	c	c	c
Great Crested Flycatcher*	c	c	c	c
Eastern Phoebe	c		c	c
Acadian Flycatcher*	u	u	u	u
Eastern Wood Pewee*	c	c	c	c
Tree Swallow	c		o	c
Barn Swallow	c	c	c	c
Purple Martin*	r	u	c	o
Blue Jay*	c	c	c	c
Common Crow*	o	o	o	o
Fish Crow*	c	c	c	c
Carolina Chickadee*	u	u	u	u
Tufted Titmouse*	c	c	c	c
White-breasted Nuthatch	r	r	r	r
Red-breasted Nuthatch	r		r	r
Brown-headed Nuthatch*	c	c	c	c
Brown Creeper	o		o	o

	S	S	F	W
House Wren	u		u	u
Winter Wren	u		u	u
Bewick's Wren	r		r	r
Carolina Wren*	c	c	c	c
Long-billed Marsh Wren	o		o	o
Short-billed Marsh Wren	u		u	u
Mockingbird*	c	c	c	c
Catbird*	c	c	c	c
Brown Thrasher*	c	c	c	c
Robin	c		o	o
Wood Thrush*	u	u	u	u
Hermit Thrush	u		u	u
Swainson's Thrush	r		r	r
Gray-cheeked Thrush	r		r	r
Veery	u		u	u
Eastern Bluebird*	c	c	c	c
Blue-gray Gnatcatcher*	u	u	u	o
Golden-crowned Kinglet	u		u	o
Ruby-crowned Kinglet	c		c	c
Water Pipit	o		o	o
Cedar Waxwing	c		u	c
Loggerhead Shrike*	c	c	c	c
Starling	o	o	o	o
White-eyed Vireo*	c	c	c	u
Yellow-throated Vireo*	r	r	r	r
Solitary Vireo	o		o	o
Red-eyed Vireo*	u	u	u	u
Black-and-white Warbler	u	o	u	o
Prothonotary Warbler*	c	c	c	c
Swainson's Warbler*	r	r	r	r
Warm-eating Warbler	u		u	r
Golden-winged Warbler	o		o	o
Blue-winged Warbler	o		o	o
Orange-crowned Warbler	u		u	u
Parula Warbler*	c	c	c	o
Yellow Warbler	u		u	u
Magnolia Warbler	r		u	u
Cape May Warbler	u		u	u
Black-throated Blue Warbler	u		u	u
Myrtle Warbler	o		o	o
Black-throated Green Warbler	r		r	r
Cerulean Warbler	r		r	r
Blackburnian Warbler	u		u	u
Yellow-throated Warbler*	c	c	c	o
Chestnut-sided Warbler			r	
Blackpoll Warbler	u		u	u
Pine Warbler*	c	u	c	c
Prairie Warbler	u		u	o
Palm Warbler	c		c	c
Ovenbird	u		u	u
Northern Waterthrush	r		r	r
Louisiana Waterthrush	o	r	o	o
Kentucky Warbler	o		o	o
Connecticut Warbler	o		o	o
Yellowthroat*	c	u	c	c
Yellow-breasted Chat	r		r	r
Hooded Warbler*	u	u	u	u
Canada Warbler	r		r	r
American Redstart	c	r	c	c

NOTE

Names of reptiles and amphibians taken from: "A Field Guide to Reptiles and Amphibians of Eastern North America" by Roger Conant (Houghton Mifflin Company, Boston 1958). Names of fishes taken from "A List of Common and Scientific Names of Fishes from the United States and Canada" (American Fisheries Society, Box 483, McLean, Virginia, 1960).

Okefenokee Swamp, a 412,000-acre peat-filled bog in Ware, Charlton, and Clinch Counties, Georgia, and Baker County, Florida, is one of the nation's great unspoiled areas. Although a considerable amount of timber has been harvested here in past years, most of this great swamp is still little different from what it was when first seen by white men. About four-fifths of the swamp is included in the Okefenokee National Wildlife Refuge, which is administered by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, in the Department of the Interior.

Except for some fifty islands which total about 25,000 acres, Okefenokee Swamp is usually shallowly flooded. Most of the flooded area is more or less densely forested with cypress, blackgum, bay, and maple, with an understory and interspersal of a variety of heaths, smilax, iris, and casena. About 60,000 acres is flooded marshland or "prairie," which is covered principally with waterlilies, neverwet, pipewort, ferns, maidencane, and a variety of sedges and grasses.

Open water areas are the water courses, the prairie lakes, smaller prairie ponds known as "gator holes," the twelve-mile-long Suwannee Canal which was dug in 1891-2, and the borrow pit of the Suwannee River Sill, which was constructed in 1958.

The islands and the adjacent upland on the periphery of the swamp are usually covered by pine forests.

This variety of wooded swamp, prairies, lakes, water courses, islands, and pine barrens supports a varied fauna. The following list of reptiles, amphibians, and fishes is based on specimens collected or reliably reported.

Most of the species listed are supported by specimens which are now in the United States National Museum or in the museums at Cornell University and the University of Michigan.

For further information write Refuge Manager, Okefenokee National Wildlife Refuge, Box 117, Waycross, Georgia 31501.



NOTES



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

RF-441590-5-August, 1976

REPTILES AMPHIBIANS AND FISHES OF OKEFENOKEE



A CHECK LIST OF ANIMALS LIVING
IN AND AROUND THE OKEFENOKEE
SWAMP ON THE OKEFENOKEE
NATIONAL WILDLIFE REFUGE

REPTILES

Crocodylians
American Alligator

Alligator mississippiensis

Turtles

Snapping Turtles
Alligator Snapping Turtle
Loggerhead Musk Turtle
Striped Mud Turtle
Eastern Mud Turtle
Spotted Turtle
Eastern Box Turtle
Gulf Coast Box Turtle
Yellow-bellied Turtle
Florida Cooter
Eastern Chicken Turtle
Gopher Tortoise
Florida Softshell Turtle

Chelydra serpentina serpentina
Macrochelys temminckii
Sternotherus minor minor
Kinosternon bauri palmarum
Kinosternon subrubrum subrubrum
Clemmys guttata
Terrapene carolina carolina
Terrapene carolina major
Pseudemys scripta scripta
Pseudemys floridana floridana
Dierochelys reticularis reticularis
Gopherus polyphemus
Trionyx ferox

Lizards

Green Anole
Southern Fence Lizard
Six-lined Racerunner
Ground Skink
Five-lined Skink
Broad-headed Skink
Southeastern Five-lined Skink
Georgia Red-tailed Skink
Eastern Glass Snake
Island Glass Snake

Anolis carolinensis carolinensis
Sceloporus undulatus undulatus
Cnemidophorus sexlineatus
Lygosoma laterale
Eumeces fasciatus
Eumeces laticeps
Eumeces inexpectatus
Eumeces egregius similis
Ophisaurus ventralis
Ophisaurus compressus

Snakes

Florida Green Water Snake
Brown Water Snake
Red-bellied Water Snake
Banded Water Snake
Florida Water Snake
Glossy Water Snake
North Florida Swamp Snake
Florida Brown Snake
Florida Red-bellied Snake
Eastern Garter Snake
Southern Ribbon Snake
Rough Earth Snake
Eastern Earth Snake
Striped Swamp Snake
Eastern Hognose Snake
Southern Ringneck Snake
Rainbow Snake
Mud Snake
Southern Black Racer
Eastern Coathwhip
Rough Green Snake
Eastern Indigo Snake
Corn Snake
Yellow Rat Snake
Gray Rat Snake
Florida Pine Snake
Eastern Kingsnake
Scarlet Kingsnake
Scarlet Snake

Natrix cyelopaga floridana
Natrix taxipilota
Natrix erythrogaster erythrogaster
Natrix sipedon fasciata
Natrix sipedon pictiventris
Natrix rigida
Seminatrix pygaea pygaea
Storeria dekayi vicia
Storeria occipitomaculata obscura
Thamnophis sirtalis sirtalis
Thamnophis sauritus sackeni
Haliae striolata
*Haliae valeriei valeriei***
Liodytes alleni
Heterodon platyrhinos
Diadophis punctatus punctatus
*Abaster erythrogrammus***
Froncicia obtorta
Coluber constrictor fragilis
Masticophis flagellum flagellum
Ophedryx aestivus
Drymarchon corais cooperi
Elaphe guttata guttata
Elaphe obsoleta quadrivittata
Elaphe obsoleta spiloides
Rhizophis melanoleucus mugilis
Lampropeltis getulus getulus
Lampropeltis dolata dolata
Cemphora coccinea

Eastern Coral Snake
Eastern Cottonmouth
Dusky Pigmy Rattlesnake
Canebrake Rattlesnake
Eastern Diamondback Rattlesnake

Micrurus fulvius fulvius
Agkistrodon piscivorus piscivorus
Sistrurus miliaris barbouri
Crotalus horridus atricaudatus
Crotalus adamanteus

AMPHIBIANS

Salamanders

Greater Siren
Eastern Lesser Siren
Broad-striped Dwarf Siren
Two-toed Amphiuma
Frosted Flatwoods Salamander
Central Newt
Striped Newt
Southern Dusky Salamander
Slimy Salamander
Rusty Mud Salamander
Dwarf Salamander

Siren lacertina
Siren intermedia intermedia
Pseudobranchius striatus striatus
Amphiuma means means
Ambystoma cingulatum cingulatum
Diemictylus viridescens louisianensis
Diemictylus perstriatus
Desmognathus fuscus auriculatus
Plethodon glutinosus glutinosus
Pseudotriton montanus floridanus
Maniculus quadridigitatus

Frogs and Toads

Eastern Spadefoot Toad
Southern Toad
Oak Toad
Southern Cricket Frog
Southern Spring Peeper
Green Treefrog
Pine Woods Treefrog
Squirrel Treefrog
Eastern Gray Treefrog
Barking Treefrog
Little Grass Frog
Southern Chorus Frog
Ornate Chorus Frog
Eastern Narrow-mouthed Frog
Bullfrog
River Frog
Pig Frog
Carpenter Frog
Bronze Frog
Southern Leopard Frog
Florida Gopher Frog

Scaphiopus holbrookii
Bufo terrestris
Bufo quercicus
Acris gryllus gryllus
Hyla crucifer barttramiana
Hyla cinerea cinerea
Hyla femoralis
Hyla squirella
*Hyla versicolor versicolor***
Hyla exarata
Hyla ocellata
Pseudacris nigrita nigrita
*Pseudacris ornata***
Gastrophryne carolinensis
*Rana catesbeiana***
Rana heckscheri
Rana gryllis
Rana virgatipes
Rana clamitans clamitans
Rana pipiens sphenoccephala
Rana areolata oestropus



FISHES

Florida Gar
Bowfin
Eastern Mudminnow
Redfin Pickerel
Chain Pickerel
Lake Chub
Spotted Sucker
Yellow Bullhead
Brown Bullhead
Tadpole Madtom
American Eel
Golden Topminnow
Banded Topminnow
Starhead Topminnow
Mosquitofish
Pygmy Killifish
Pirate Perch
Mud Sunfish
Flier
Warmouth
Everglades Pygmy Sunfish
Okefenokee Pygmy Sunfish
Blackbanded Sunfish
Bluespotted Sunfish
Banded Sunfish
Redbreast Sunfish
Bluegill
Dall's Sunfish
Spotted Sunfish
Largemouth Bass
Black Crappie
Scalyhead Darter
Swamp Darter
Brook Silverside

Lepisosteus platyrhincus
Amia calva
Umbra pygmaea
Esox americanus americanus
Esox niger
Erismyza suetta
Minyretus melanops
Ictalurus natalis
Ictalurus nebulosus
Naturus gyrinus
Anguilla rostrata
Fundulus chrysotus
Fundulus cingulatus
Fundulus notii
Gambusia affinis
Leptocottia armata
Aphredoderus sayanus
Acentrarchus pomotis
Centrarchus macropterus
Chaenobryttus gulosus
Elassoma okefenokee
Enneacanthus chaetodon
Enneacanthus gloriosus
Enneacanthus obesus
Lepomis auritus
Lepomis macrochirus
Lepomis marginatus
Lepomis punctatus
Micropterus salmoides
Pomoxis nigromaculatus
Etheostoma bartoni
Etheostoma fulviforme
Labidesthes sicculus

CHESSER ISLAND HOMESTEAD

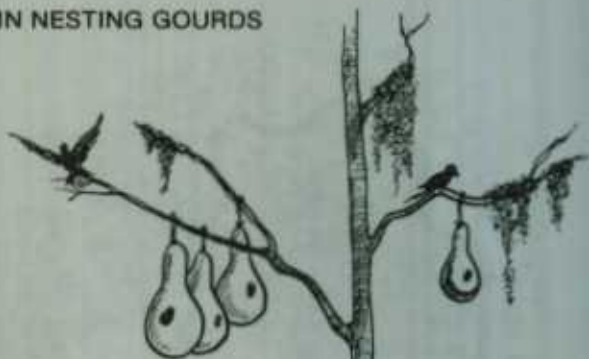
A PIONEER FAMILY'S PRODUCTIVE WAY OF LIVING



OKEFENOKEE NATIONAL WILDLIFE REFUGE

FOLKSTON, GEORGIA

1 PURPLE MARTIN NESTING GOURDS



Few people who visited this homestead have escaped without being bitten by a mosquito. These numerous insects were a continual discomfort to the early swamp settlers. In an effort to reduce the population of this pest, the pioneer "swampers" erected bird nesting structures to attract the mosquito devouring purple martin, the largest member of the swallow family. These nesting structures were made from dried gourds, a cucumber type plant and were hung in clusters from a tall pole. Not only do the adult purple martins consume large numbers of mosquitoes, they also feed them to their young, making the purple martin an excellent natural control for mosquitoes.



2 MAIN HOUSE

During the years that have passed since the Chesser family first settled the island in 1858, several houses were built at various locations. The existing main house was built by the family in the late 1920's. Heart pine and cypress lumber were the basic building materials. Additions to the house were made at various times as the family grew in size. Five bedrooms are included in the house attesting to the large size of many families that were raised around the edge of the Okefenokee.



Before the days of window screens, mosquitoes often were controlled in some swamp homes by smoking the rooms with a small fire using oak bark ignited in a bucket. The bucket was carried from room to room, and the smoke would drive the mosquitoes away. Sometimes the process had to be repeated several times during the night.

3 CLEAN YARD

You will note as you tour the homestead that there is no grass or lawn around the house. There was a time when a well kept yard was one that was completely bare of vegetation and swept clean. The yard was often "scraped" with a hoe to remove any grass or weeds which might sprout. With several children playing in the yard and chickens pecking at the blades, grass would have had very little chance of growing anyway.



4 HOLLOW LOG WELL



Cypress, because of its durability, was used liberally by swampers in construction projects. Its use in a well was imperative since the wood is continuously wet. Without the hollowed log, freshly dug wells were apt to immediately cave in and refill with the sandy soil that is so common in uplands adjacent the swamp.

A rope and pulley, as you see here, was one common way of drawing water from the well. Sometimes a long weighted lever or sweep was used to lift the heavy bucket of water.

5 SMOKEHOUSE AND STORAGE SHED

The wonderfully odorous smokehouse was usually located close to the main house since the family's meat supply was stored there. Fresh meat, usually pork hams, bacon, sausage and venison, was first cured with salt. Next it was hung from wooden ceiling beams or poles. Fires made of green oak smoldered and smoked to further preserve and flavor the meat.

Once cured and smoked, the meat was usually cut into portion-sized chunks and packed in cans of lard. The lard sealed the meat from moisture which could have caused it to mold in the very humid climate.



This shed could have contained dried beans, peas, apples, figs, peaches, or huckleberries. The floor may have been covered with red potatoes. Onions and dried peppers may have hung from the ceiling. By the end of the growing season, this shed would have contained enough food to last until the next spring.



Two people are required to operate this implement and often it was the children who turned the stone while their father sharpened his axe, knife, hoe, or other tool. Dripping water kept the pores of the sandstone open for faster sharpening.



The Okfenokee area is well-known for its fine quality gall-berry honey. Swamp families, dependent upon honey as a sweetener, frequently established homemade beehives in hollow cypress logs. A hole was notched near the base for access by the bees. Nectar gathered from swamp flowers made honey production excellent and the supply quite plentiful. One drawback to beekeeping in this region was the occasional robbing of the hives by a hungry black bear. Bears, of course, are more than fond of honey.

As the mule pulled the sweep around the grinding mill, an operator would feed two stalks of sugar cane through the rollers in order to squeeze the juice from the cane. The juice was strained through clean burlap or other similar coarse material as it was being collected in a tub or wooden barrel. The juice was then carried in buckets to the syrup-making shed for boiling. Sometimes the children would push the sweep by hand just to squeeze some juice to drink.



Evaporating the water and concentrating the sugar content of the cane juice was and still is the principal involved in making sugar cane syrup. The 60-gallon boiler in this shed was filled with raw sugar cane juice, and a roaring fire of fat lighter pine was built beneath the boiler. The juice was boiled and continually strained, skimmed and clarified for 3 or 4 hours, and finally yielded only 7 or 8 gallons of finished syrup.

In addition to providing food for the home, some of the syrup was sold to provide an income. Cane syrup from Chesser Island was prized highly in South Georgia for its fine flavor.



In some cases, the early settlers made their own sugar from the cane juice. To do this, the juice had to be boiled longer to further concentrate the sugar. A big wooden barrel was filled with the very thick syrup and was inverted on a table which was grooved to fit the barrel rim tightly. One small notch was provided to drain off the molasses leaving the raw sugar crystals in the drain.

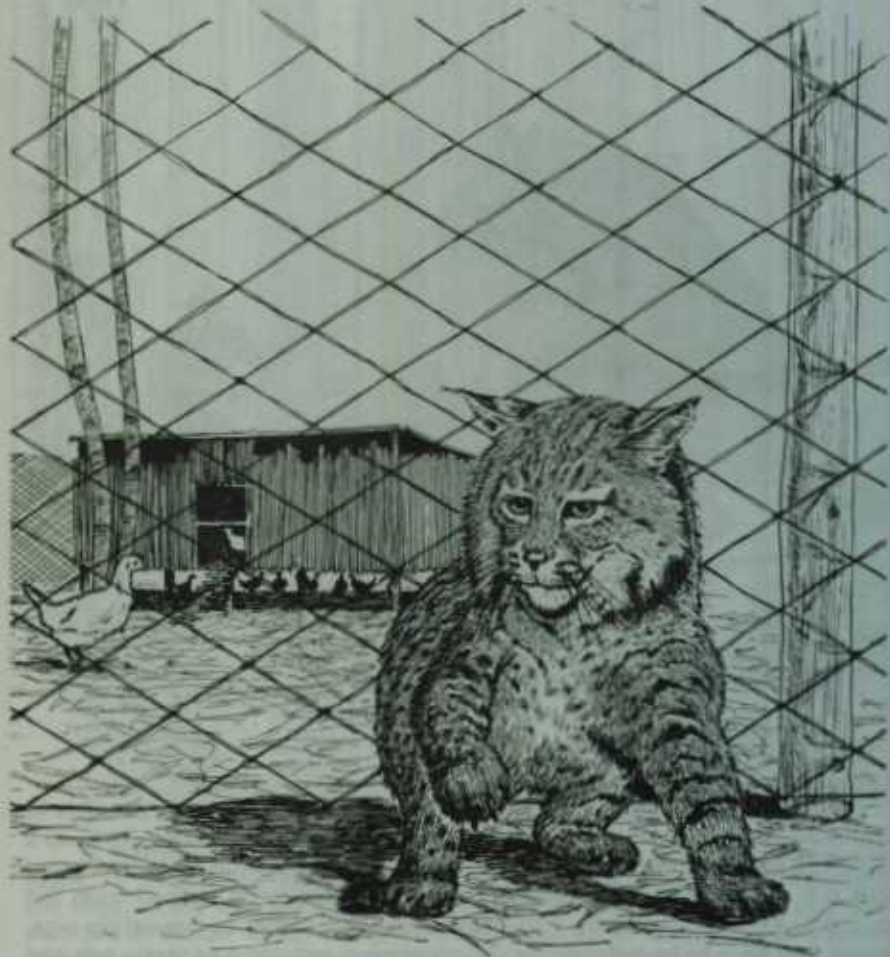


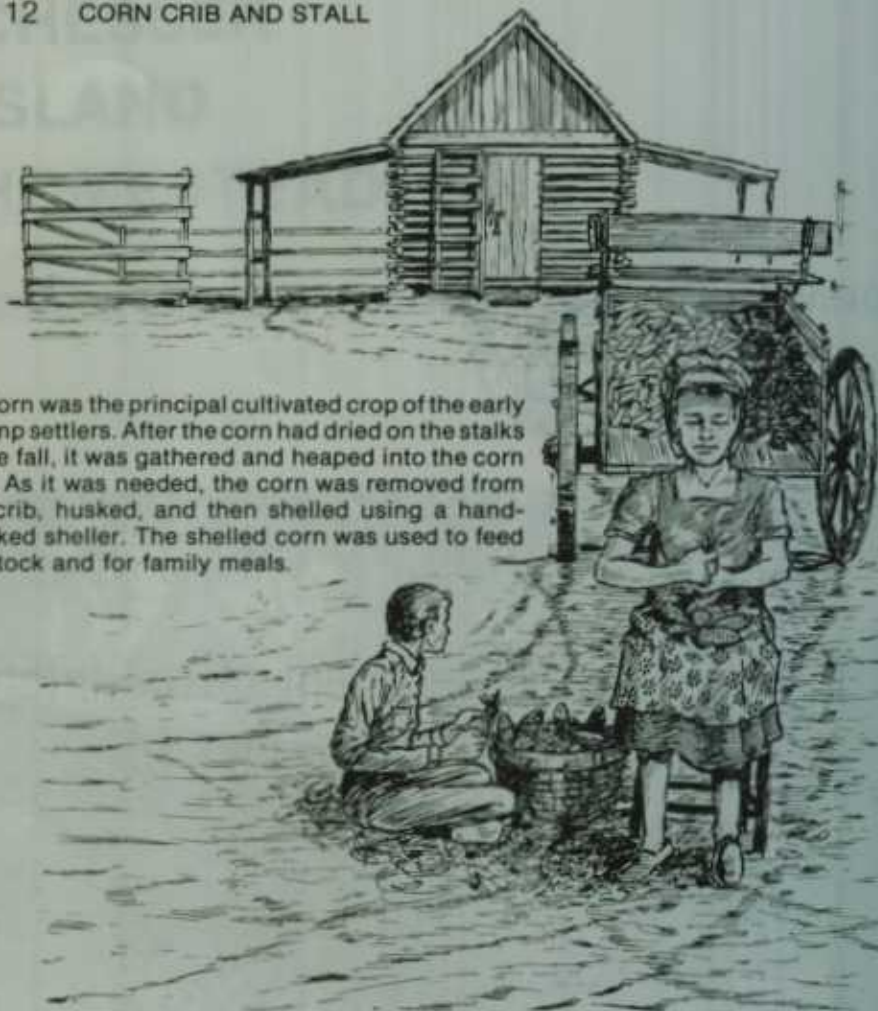
The hog pen was located as far away from the main house as possible to avoid the anticipated odor and was yet close enough for the family to keep a watchful eye out for predators. Black bears, which sometimes made unwanted but not unexpected appearances at the hog pen, were chased from the property by swampers who had been awakened earlier by squealing pigs. Hogs that were to be fattened for slaughter were put into a separate pen and generously fed selected grain.

11 CHICKEN YARD AND COOP

... "When the Chickens Come Home to Roost"

Despite their wandering nature, chickens and other fowl almost always returned at night to the same area to roost. The spread of corn and an echoing man-created chicken call summoned browsing chickens to the yard and to the coop where they spent the night relatively safe from predators such as foxes and bobcats. The small coop was for the old hen and her biddies.





Corn was the principal cultivated crop of the early swamp settlers. After the corn had dried on the stalks in the fall, it was gathered and heaped into the corn crib. As it was needed, the corn was removed from the crib, husked, and then shelled using a hand-cranked sheller. The shelled corn was used to feed livestock and for family meals.

White corn was grown abundantly in the Okefenokee Swamp and was utilized in making grits and corn meal. More often than not, the corn was ground at home with a hand-cranked mill.

The remainder of this building served as stalls in which to store the wagon and the buggy. The homestead mule also enjoyed the comfort of the stalls. The loft was used as a storehouse for fodder and hay which was needed to feed the mule and other livestock that may have been present.



United States Department of the Interior Fish and Wildlife Service

