

REVIEW AND APPROVALS

OKEFENOKEE NATIONAL WILDLIFE REFUGE

FOLKSTON, GEORGIA

ANNUAL NARRATIVE REPORT

Calendar Year 2003


Refuge Manager

3-1-04
Date


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3-8-04
Date


Chief of Refuges

3-9-04
Date

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INTRODUCTION

The Okefenokee National Wildlife Refuge is situated in the southeastern Georgia counties of Ware, Charlton and Clinch and northeastern Baker County in Florida. The refuge was established by Executive Order in 1937 and consists presently of 395,080 acres. The primary purpose of the refuge is to protect the ecological system of the 438,000-acre Okefenokee Swamp. Approximately 371,000 acres of the Okefenokee Swamp wetlands are incorporated into the refuge including 353,981 acres designated as wilderness by the Okefenokee Wilderness Act of 1974. In 1986, the Okefenokee National Wildlife Refuge received the designation as a Wetland of International Importance by the Wetlands Convention.

Okefenokee's natural beauty was first threatened in the 1890's, when attempts were made to drain the swamp to facilitate logging operations. The Suwannee Canal was dug 11.5 miles into the swamp from Camp Cornelia. After the failure of this project, known as "Jackson's Folly" other interests acquired the swamp and began removing timber in 1909, using a network of tram roads extending deep into the major timbered areas. When logging operations were halted in 1927, more than 423 million board feet of timber, mostly cypress, had been removed from the swamp.

The establishment of Okefenokee National Wildlife Refuge on March 30, 1937, marked the culmination of a movement that had been initiated at least 25 years earlier by a group of scientists from Cornell University who recognized the education, scientific and recreational values of this unique area. The Okefenokee Preservation Society was formed in 1918 to promote nationwide interest in the swamp. With the support of state and local interests and numerous conservation and scientific organizations, the Federal Government acquired most of the swamp for refuge purposes in 1936.

The Okefenokee Swamp is a vast peat bog filling a huge saucer-shaped sandy depression that was perhaps once part of the ocean floor. The upper margin of the swamp, or the "swamp line," ranges in elevation from 128 feet above sea level on the northeast side to 103 feet on the southwest side. The shallow, dark-stained waters of Okefenokee flow slowly but continuously across the swamp toward the two outlets, the famed Suwannee River on the west side and the historic St. Marys River on the southeast. The eight predominant habitat types on the refuge include prairies (freshwater marsh), scrub-shrub, mixed cypress forests, blackgum forests, bay forests, pure cypress forests and managed upland pine forests.

Three primary entrances and two secondary entrances exist on the refuge. The Suwannee Canal, located 11 miles southwest of Folkston, GA serves as the primary access on the east side and is the location of the refuge headquarters managed solely by the US Fish and Wildlife Service. The Stephen C. Foster State Park is located at the refuge's west entrance 18 miles northeast of Fargo, GA. This state park is operated on refuge lands under the provisions of a long-term agreement with the Georgia Department of Natural Resources. The Okefenokee Swamp Park, located about 13 miles south of Waycross, GA serves as the refuges north entrance. This park is administered by a nonprofit organization on refuge and state forest lands. Kingfisher Landing located between Folkston and Waycross and the Suwannee River Sill area on the west side are considered secondary entrances into the refuge.

HIGHLIGHTS

- A comprehensive survey of cavity trees was conducted to assess red-cockaded woodpecker (RCW) activity on interior island after the Blackjack Bay Complex Fire in 2002. (Section 1.a.)
- Timber harvesting was completed in upland forest Compartment 15, Wiregrass Road. (Section 3.e.)
- Cooperative friends organization, Okefenokee Wildlife League (OWL) sponsored a bluebird house fund-raiser to support the Okefenokee NWR environmental education program. (Section 5.e.)
- The U.S. Fish and Wildlife Service, in conjunction with The Conservation Fund, accepted a donation from E.I. du Pont de Nemours & Company of approximately 5,000 acres of important habitat along the eastern border of the refuge. (Section 6.h.)
- Okefenokee NWR staff and volunteers converged on the birthplace of the National Wildlife Refuge System during the centennial celebration. (Section 8.a.)
- Five AmeriCorps teams were selected this year to assist Okefenokee NWR with various projects. (Section 8.g.)

CLIMATIC CONDITIONS

Climatic conditions are recorded at several locations surrounding the swamp and also within its interior. The records of longest duration dating back to 1945 are from a manual National Weather Service station located at Camp Cornelia at the East Entrance to the refuge. Since 1999, the data from a Forestry Technology System (FTS) fire weather station has replaced the manual station readings. The refuge also uses weather data from an FTS weather station located on Jones Island. Additional FTS weather stations are located at Eddy Fire Tower and Waycross airport.

The following eight FTS water monitoring stations are currently being used:

Suwannee Canal	Water level and water quality
Jones Island	Water level (addition to Fire Weather Station)
Suwannee Creek	Water level and precipitation
Kingfisher Landing	Water level and precipitation
Gannet Lake	Water level, precipitation, water quality, and fire weather/fuel moisture
Durbin Prairie	Water level and water quality
North Fork (Sill)	Water level
Cypress Creek	Water level and precipitation

Precipitation during 2003 resulted in a total of 53.66 inches falling at Camp Cornelia on the east side of the refuge (Table 1). These result for rainfall in 2003 where slightly higher than the 58-year average of 52.33 inches. This is the first time in four years rainfall has been above the average amount with increases reported in all months except January, July, September, November and December. The most significant rain fell in February, March, June and August. During November and December rainfall amounts were at the lowest level for the year while April and May, when the demand for water is the greatest, reported significant increases surpassing the 58-year average. Water levels reported at Suwannee Canal Recreation Areas and Stephen Foster State Park reached their highest level in March coinciding with increased rainfall in February and fell to their lowest level in December coinciding with the decrease in rainfall during November (Section 3.a.).

We primarily gauge the condition of the swamp by the historical records from the east side, however, rain distribution varies over the swamp. Jones Island located on the west side of the swamp received approximately 44 inches of rain through the year. On the northwest side at Suwannee Creek, total rainfall was 52 inches.

Temperatures ranged from 16°F to a high of 97°F (Table 2). Spring and fall temperatures tended to be slightly lower on the average.

Table 1. Monthly precipitation (inches) for 2003 compared with the 58-year monthly average at Camp Cornelia.

Month	2003	Average 1945-2002
January	1.27	3.50
February	6.67	3.39
March	7.30	4.25
April	3.49	3.25
May	4.94	3.64
June	6.21	5.82
July	5.32	7.47
August	9.47	7.23
September	3.18	5.41
October	3.65	3.21
November	1.03	2.20
December	1.13	2.90
TOTAL	53.66	52.33

Table 2. Mean and absolute minimum and maximum monthly temperatures (°F) recorded at Camp Cornelia.

Year	Average Minimum		Average Maximum		Absolute Minimum		Absolute Maximum	
	2003	90-02	2003	90-02	2003	90-02	2003	90-02
January	36	42	62	67	16	18	75	84
February	44	46	69	71	31	13	80	88
March	56	49	77	76	37	21	89	90
April	55	55	81	82	34	35	88	95
May	66	62	89	89	58	38	94	103
June	70	68	91	92	62	54	96	104
July	72	71	92	95	68	63	97	106
August	72	70	91	93	68	61	95	104
September	67	68	88	89	58	50	92	98
October	56	58	81	82	49	36	87	95
November	53	49	79	75	27	24	89	88
December	39	44	66	67	24	19	77	83

1.

MONITORING AND STUDIES

1.a. SURVEYS AND CENSUSES

Biologist Dean Easton began working at Okefenokee in March and assumed the responsibility of red-cockaded woodpecker (RCW) monitoring and aerial surveys for osprey nests, colonial waterbirds, and sandhill cranes. Biologist Sara Aicher continued her responsibilities as the coordinator for the Comprehensive Conservation Plan (CCP).

As refuge staff work on the CCP, surveys and techniques continued to be evaluated for compatibility with Wilderness, feasibility using new protocols, reliability and the usefulness of the data, and the need for other information. The minimum tools for these surveys are being considered.

Threatened and Endangered Species

Bald Eagles

In Georgia, midwinter bald eagle surveys are not used in the overall bald eagle population trend analysis. Bald eagles have not historically been seen on Okefenokee surveys at the beginning of January. The refuge has discontinued this formal survey, but incidental sightings will continue to be reported if they fall within the surveys target dates. If sightings increase, the survey can be reinitiated.

One adult bald eagle was seen over Floyds Prairie during the October sandhill crane survey. On November 1, two adults were also seen southwest of Compartment 4.

Red-cockaded Woodpeckers

Population Status

In 2003, a comprehensive survey of cavity trees was conducted to assess red-cockaded woodpecker (RCW) activity on interior islands and upland forestry compartments. The survey suggested the number of RCW clusters decreased from 90 to 86 with 38 active and 48 inactive (Figure 1). The upland forest compartments contained 14 active and 27 inactive clusters (Table 3) and the interior islands contained 24 active and 21 inactive clusters (Table 4). Although long-term viability of RCW populations spread across the fragmented landscape are being analyzed, the greatest regional value of the interior island clusters is their natural state. The suitability of the habitat is critical in determining the limiting factors within these populations. Fire is an essential management tool to maintain understory plant species and improve habitat suitability.

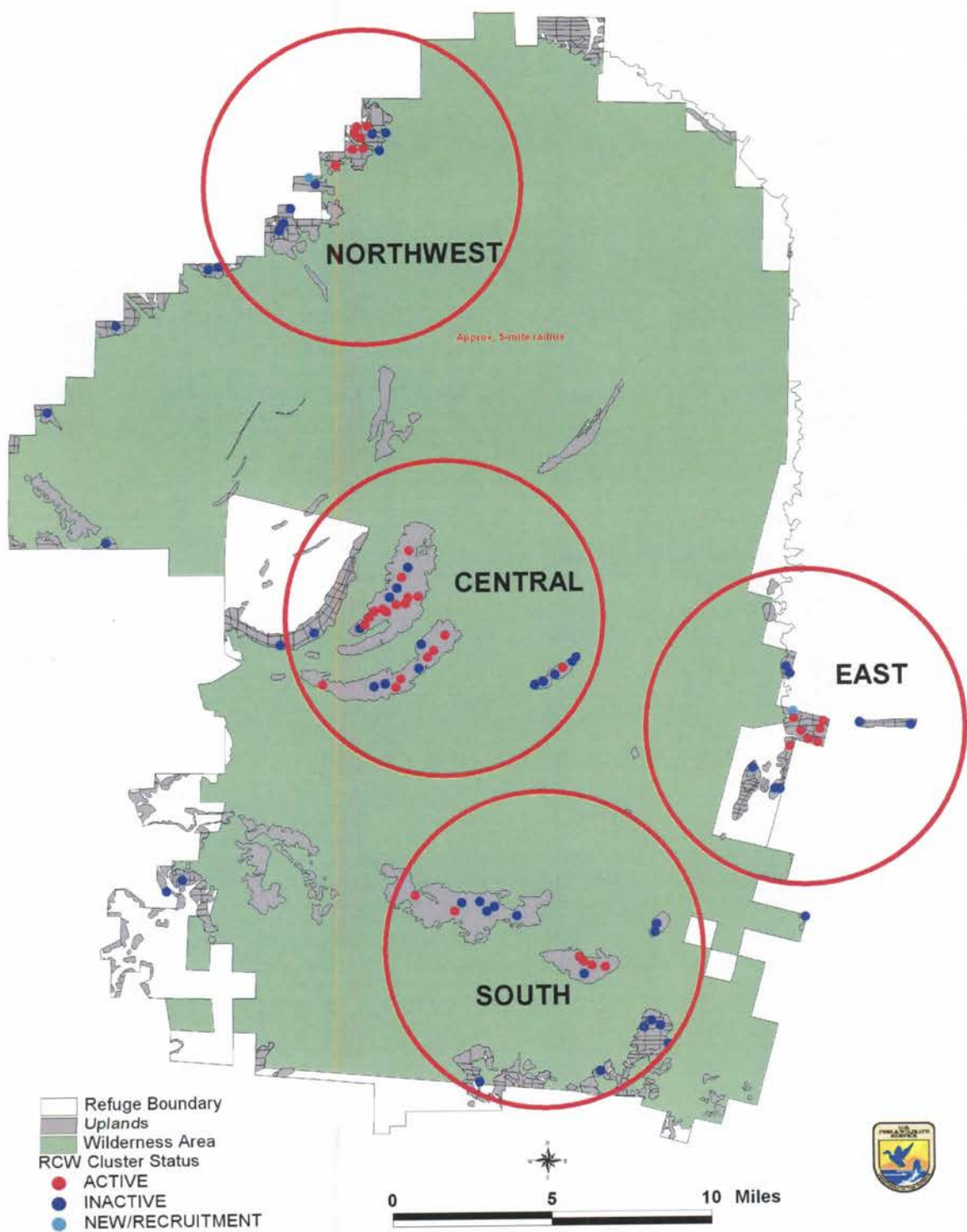


Figure 1. RCW cluster status within the four refuge subpopulations in 2003.

Table 3. RCW clusters in upland forest compartments on Okefenokee NWR in 2003.

Compartment	All Clusters		Artificial Clusters	Artificial Clusters Occupied This Year	Inserts Installed This Year	Total Clusters
	Active	Inactive				
2	0	A, B	B	0	2	2
3	C, E, F, G, H, I, J	A, B, D, K, L	J, K, L	J	6 1 replaced	12
4	0	A, B	B	0	3	2
5	0	A, B, C, D, E	E	0	0	5
6	0	A	A	0	0	1
7	0	A, C	0	0	0	2
8	0	B	B	0	0	1
11	0	A	A	0	0	1
12	0	A, B	0	0	0	2
13	0	B, C	C	0	0	2
14	0	A, B	A, B	0	4 1 replaced	2
15	A, B, C, E, D, J, I	F, G, H	E, F, G, H, I	E, I	5 replaced	10
Totals	14	28	17	3	15 new 7 replaced	45

Table 4. RCW clusters on interior islands of Okefenokee NWR in 2003.

Interior Island	Active	Inactive	Total Clusters
Billys Island	A, D, G, H, I, J, K, L, P, Q, S	B, E, F, R	15
Blackjack	E, F	A, B, C, D, G	7
Bugaboo	C	A, B, D, E, F	6
Honey	A, B, C, F, G, J	D, E, H, I	10
Mitchell	B, C, D, E	A	5
Number One	0	A, B	2
Totals	24	21	43

Population Monitoring and Translocations

Northwest Population

No translocations were conducted in the area this year. Five nests were initiated in Compartment 15; clutch sizes ranged from 1-3 eggs (Table 5). A survey of nest cavities revealed three nests were initiated but failed to fledge young. Predation was considered the cause, however, one nest had hatched young and two had eggs. Cluster I was a recruitment site established in 1999 that now has a pair of RCW's using the artificial cavities. No other recruitment stands have shown signs of activity.

Three RCW's translocated from Fort Stewart in 1999 and 2000 are breeding females in clusters 15B, 15C, and 15J. The status of the other seven birds translocated from Fort Stewart and four birds translocated from Apalachicola National Forest in 1998 is unknown. Two adult RCW's (one male, one female) that were originally banded in 1998 and 1999 were recaptured and color bands were replaced. Two other unbanded adult females were captured and banded in 15C and 15I.

East Population

The clusters in this population were highly successful during the nesting season (Table 5). Competition for nest cavities from red-bellied woodpeckers was extremely high in Clusters 3C, 3E, 3F, 3G and 3I. Red-bellied woodpeckers produced young in two different cavity trees in clusters 3C and 3G. Cluster 3C, which has been productive in the past, failed to produce a nest this year, while an adult male was found dead in one of the cavity trees. In October, one unbanded adult and one banded adult were observed.

Biological staff banded or replaced color bands on most of the juvenile and adult RCW's in Compartment 3 during October and November (Figure 2). Adult and juvenile RCW's appear to move freely between clusters in Compartment 3. Birds recaptured in 3G, 3C, 3J and 3E were originally banded as nestlings in 3I. Two adult males, originally banded as adults, are predicted to be seven years old. Eight unbanded adult RCW's (6 males, 2 females) from 3C, 3E, 3G, 3H and 3J were captured and fitted with numbered aluminum bands and color bands. Five other adult RCW's were recaptured and color bands were replaced.

One insert cavity was replaced in 3E because pileated or red-bellied woodpeckers had excavated a large hole in the side. Additionally, two new inserts were established in 3I to provide a sufficient number of cavities and replace two insert trees killed by lightning.

Table 5. Nesting and reproduction in perimeter clusters during 2003.

Cluster	Clutch size	No. Banded	No. Fledged	Sex	Adults
3C	No nesting; adult male found dead, 2 adult females in cluster				2
3E	2	1	2	1 female	2
3F	3	1	3	1 female	3
3G	3	0	3	1 female	3
3H	3	2	2	1 female, 1 male	3
3I	2	2	2	1 female, 1 male	2
3J	2	1	1	1 male	3
15A	No nesting				
15B	2	1	0		2
15C	2	0	2	2 females	2
15D	1	0	0		2
15E	Recruitment site - one active cavity but no nest				
15F	Recruitment site - no activity				
15G	Recruitment site - no activity				
15H	Recruitment site - no activity				
15I	2	0	0		2
15J	3	2	2	1 female, 1 male	3

Central and South Populations

These clusters are located primarily on interior islands and were part of a comprehensive survey to assess the impact of the Blackjack Bay Complex wildfire of 2002. All islands with RCW cavities burned during these wildfires. To accomplish the comprehensive survey in the most efficient manner, four RCW biologists from Ft. Stewart (Larry Carlile, Lee Mitchell, Ryan Adamson, and Paul Phillips) and from Georgia DNR (Jim Ozier) assisted the biologists at Okefenokee with cavity inventories on interior islands (Figure 3). Billys Island was affected the most, in terms of cavity tree mortality, from the intensity of wildfire (Figure 4). One-tenth acre forestry plot surveys were conducted at the center of each cluster site on interior islands by forestry technicians Howard McCullough and Reggie Forcine and firefighters Dan Laber and Cory Bryant. These plot surveys were designed to assess the impact of wildfire on trees and understory vegetation within clusters and in randomly selected sites surrounding clusters. Billys Island had the greatest number of trees killed by fire, both within clusters and outside (Figure 5a and 5b).



Figure 2. Male RCW captured in Compartment 3, cluster J, 15 October 2003.



Figure 3. (L-R) Paul Philips (Ft. Stewart), Dean Easton, Ryan Adamson (Ft. Stewart) and Sara Aicher traveling between RCW clusters on Blackjack Island.

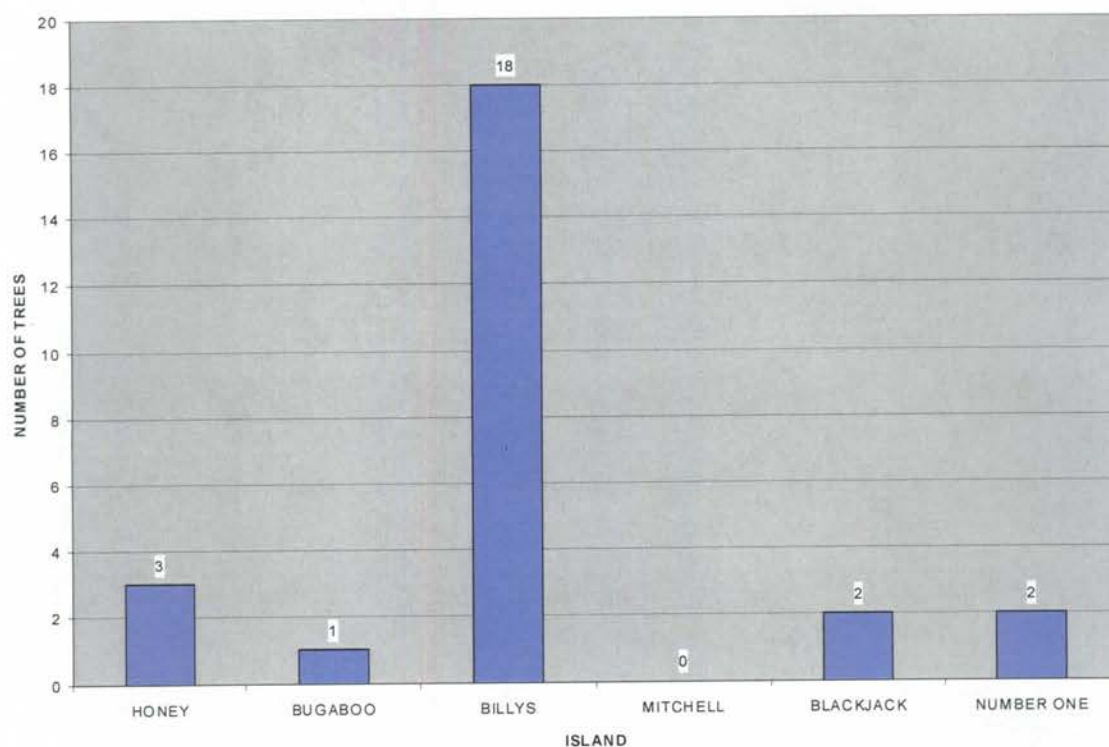


Figure 4. Number of RCW trees killed on interior islands by 2002 wildfires.

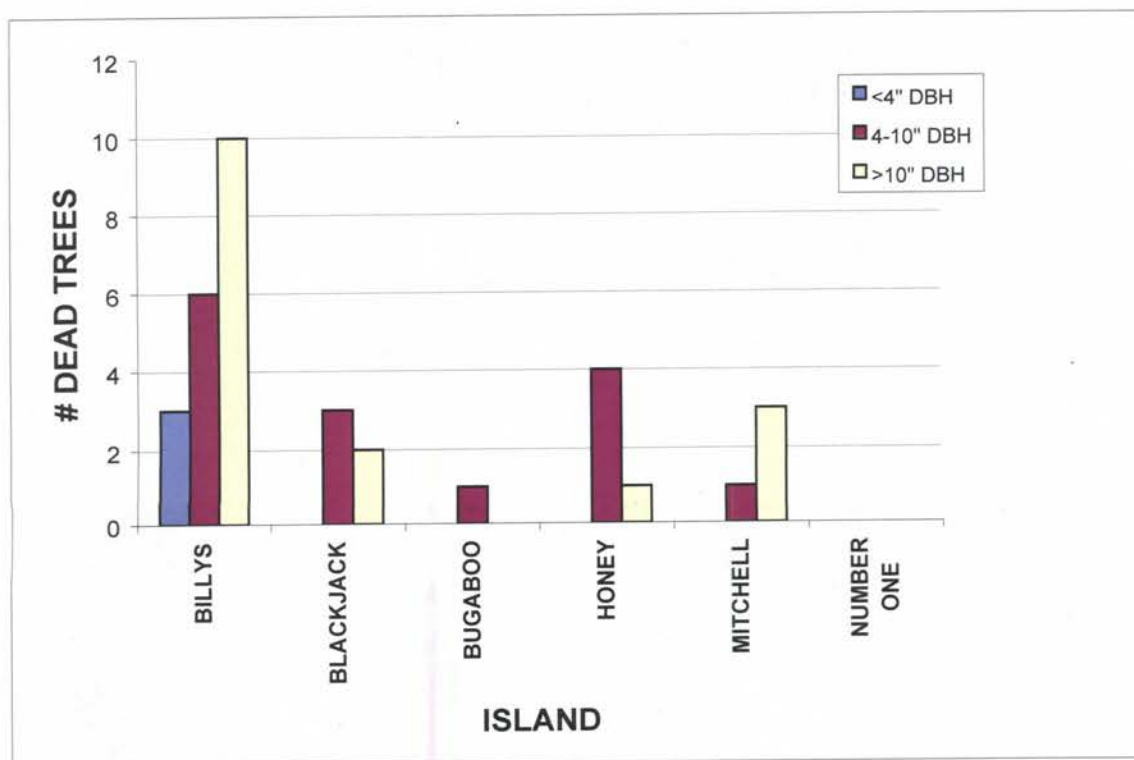


Figure 5a. Number of trees in forestry plots within RCW clusters killed during 2002 wildfires.

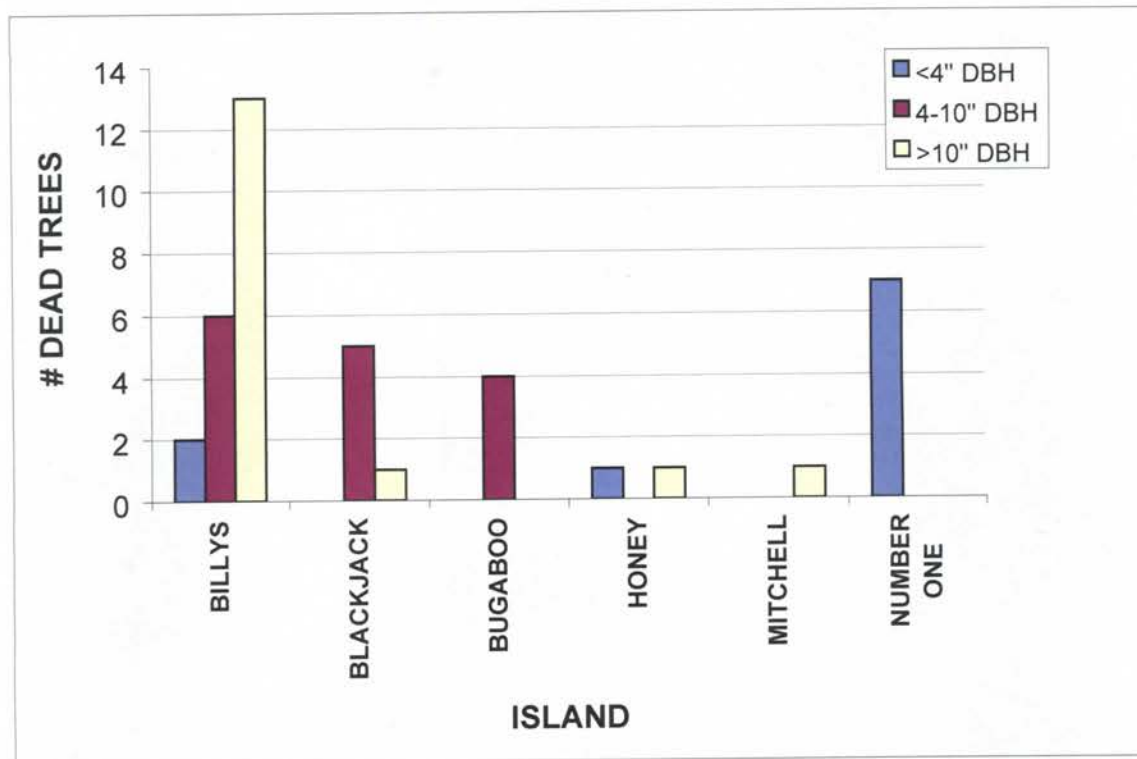


Figure 5b. Number of trees in forestry plots outside RCW clusters killed during 2002 wildfires.

Habitat Management

Drought conditions subsided in 2003 bringing increased opportunities to burn RCW habitat. Growing season burns took place around several active clusters in Compartment 3 (Table 6). Most of the prescribed burning was conducted in recruitment and inactive clusters during the dormant season. None of the island clusters were subjected to prescribed fire. Thinning of mature longleaf pine stands was completed in Compartment 15 reducing the stand to ~50-60 trees per acre. Timber salvage on a 50-acre section of Compartment 11 was undertaken in April after staff discovered recent damage from a tornado.

Wildfires

No wildfires occurred in RCW habitat this year.

Table 6. Prescribed burns in RCW areas in 2003, (See Section 3.f. prescribed burn area maps).

Burn Category	Active Clusters	Inactive Clusters	Recruitment Stands
growing season	C3-3a (100 acres) C3-3b (85 acres)		
dormant season		C12-1 (160 acres) C5-1 (379 acres) C5-2 (438 acres) C7-4 (379 acres) C7-6 (241 acres)	C8-4 (327 acres) C13-2 (580 acres) C5-3 (248 acres)

Recruitment Stands and Artificial Clusters

Two new recruitment sites were created this year in Compartment 3 and 14. Each site has four new insert cavities per cluster. In addition, three new insert cavities were installed in Cluster 4A and two were installed in 2B. Mud dauber wasp nests were removed from two insert cavities in 3K and the boxes were refurbished. One insert was replaced in 15F, two in 15G and two in 15E due to water rotting the wood on the front of the boxes.

American Alligator

No alligator surveys were conducted in 2003 due to low water levels and lack of staff time. The low water levels limited accessibility by visitors; therefore, there were no nuisance alligator complaints this year.

Other Wildlife

Waterfowl

The mid-winter waterfowl count will no longer be conducted due to the small numbers generally seen during the aerial survey and contributing an insignificant amount of data to the national survey. Information on resident and wintering waterfowl populations in the swamp has been collected during monthly bird surveys. Airboats were used in the past to conduct this survey, but will be re-evaluated through the CCP to determine the compatibility of this tool with wilderness guideline.

Marsh and Water Birds

Information on the distribution of marsh and water birds is important and may be correlated with other factors. Past monthly wildlife surveys by airboat tracked wading birds, including the migratory greater sandhill cranes and the resident Florida sandhill cranes. Airboat use is being evaluated in relation to the wilderness guidelines through the CCP. Most of the survey routes are not accessible by motorboat throughout the year due to low water levels. To correlate water levels and food availability with the distribution of the birds, the survey is ideally conducted in a short time frame. Through the CCP, other survey methods are being evaluated.

The colonial waterbird survey was conducted, in conjunction with the osprey nest survey, on May 21. One nesting colony, primarily white ibis, was found north of Stephen C. Foster State Park. Locations of previous colony sites were visited, but no activity was found.

An aerial survey for sandhill cranes was conducted on October 31. Only 15 cranes were observed within Chesser, Grand, Mizell, Christie, Floyds and Chase Prairies. This national survey generally is too early to catch large flocks of the greater sandhill cranes. The birds counted are likely to be residents since most of the migrant population arrive in November.

Raptors

A helicopter was used to conduct the annual osprey nesting survey on May 21. Eight nests were located east of the Sill including five in good condition and three in poor condition. The five in good condition were viable structures and could have been used in 2003. Five other nests seen in 2001 were not found and are believed to have deteriorated. One adult osprey was seen perched near a nest.

Swallowtail kite sightings were common during March and April in upland forest compartments and interior islands. They are commonly seen south of Folkston, GA near Traders Hill recreation area and St George, GA. Single individuals were seen flying above trees near RCW clusters on Billys, Blackjack and Honey Islands and forestry compartments 3, 5 and 15. An aerial nest survey was not conducted in 2003.

Other Birds

Breeding bird point counts were conducted in June at previously established upland habitat sites on Chesser Island and Compartment 3 and 5. Counts along the wilderness canoe trails were conducted in Grand, Chesser, Durdin, and Carter Prairies. The species recorded this year were similar to those from previous years. A total of thirty different species were identified this year compared to 41, 36, and 33 identified in 1999, 2000, and 2001, respectively. Carolina wrens were the most abundant birds recorded at 17 of the 19 survey points.

The annual Christmas Bird Count was held on December 27 with ten participants. Seventy-three species were observed with the robin being the most abundant. The swamp was not covered adequately, due to mechanical problems with boats, reducing the numbers of waterfowl and wading bird species surveyed.

Mammals

The east entrance deer hunt in Compartments 3 and 4 was conducted on October 24 and 25. Check stations were not set up during the hunt to collect weight or age data due to low harvest numbers. Chesser Island is for wheelchair-use only, with a quota of 10 hunters and 30 hunters in the remaining area. Seventy-seven people applied and 34 hunters were selected, four of which were wheel-chair hunters. The total number of hunters was 32 on the October 24 and 26 hunters on October 25, including two wheel-chair hunters each day. Twelve deer (eight females and four males) were harvested.

Refuge land on Cowhouse Island was open to deer hunting for the fourth year and administered by Georgia Department of Natural Resources in conjunction with hunts conducted on Dixon Memorial State Forest (DMSF). Refuge hunters were required to follow the 2003/2004 Georgia state regulation for the DMSF. The hunt was held on October 1-4 with one female and three males harvested. Small game hunting was opened on Cowhouse in accordance with state seasons and regulations. There is no information currently available on small game harvest in 2003.

The Pocket was opened for archery season for the third year from September 13 to October 18. Refuge hunters were required to follow the 2003/2004 Georgia state regulations. There were a total of 324 hunter visits, down from 502 in 2002. Four females and seven males, making up a total of 11 deer, were harvested in 2003.

Bear hunting is not allowed on refuge lands; however, during the 2003 season, 73 bears were taken in the five Georgia counties surrounding the swamp. Fifty-four were males, 19 were females. Seven of the total 73 bears, including two females and five males, were harvested on DMSF. The increase of bears harvested may be partially attributed to a new check station in Fargo. Previously, hunters would have to travel to Homerville to check-in. Law Enforcement Officers have noticed an increase in baiting during bear season.

Bear Bait Stations

Surveys of black bears visiting sardine bait stations were conducted July 16-25. Bears visited seven of the 34 sites for a total of 21 percent. The visits occurred once on Moonshine Ridge and Fiddlers Island and five times on Soldier Camp Island. Two bears were seen the previous week by state park staff on the Pocket, but bait stations in the area were not visited. A total of 194 stations, including the transects set out by Georgia Department of Natural Resources, were set up around the swamp comes to 194 with 37.6 percent visitation ratio observed.

Fisheries

The Okefenokee Swamp is the headwaters of the Suwannee and St. Marys Rivers. The swamp contributes to the fisheries in these two rivers.

The Georgia Department of Natural Resources (DNR) and Panama City Fisheries Assistance Office did not survey the fisheries in the winter of 2002/2003. Sampling for the winter of 2003/2004 was completed in January 2004 (Table 7). On the east side of the refuge, sport fisheries appear to be limited to fliers and warmouth. On the west side of the refuge warmouth were the most frequently sampled fish species.

Over the past 30 years, fliers have become more abundant while warmouth populations have declined based historic records. Chain pickerel and bullhead appear to be stable. Bowfin are the most abundant predator in the system, while largemouth bass have become almost non-existent. The acidity of the water is a concern for survival and reproduction. Other factors may be contributing to the decline in the Okefenokee fisheries as well.

Table 7. Electrofishing results through January 2004 compared to previous years.

Species	East Side										West Side									
	Jan04	Jan02	Dec00	Dec99	Dec98	Jan98	Dec96	Dec95	Dec94	Jan94	Jan04	Jan02	Dec00	Dec99	Dec98	Jan98	Dec96	Dec95	Jan95	Dec93
Pedal Time	0	2.5	3+	4	6	6	6	4	6	6	6	3	3	4	6	6	6	2	6	6
Warmouth	No Sampling	38	26	28	17	4	5	6	21	7	27	66	84	99	65	27	15	9	5	20
Pickerel		18	28	27	34	8	15	43	57	19	87	27	28	34	31	12	25	47	15	37
Lake Chubsucker		35	41	14	16	9	1	1	0	0	0	2	1	0	1	0	0	2	0	0
Sunfish		20	0	0	0	0	0	0	1	2	25	12	3	0	0	0	1	0	0	3
Flier		90	113	171	178	60	98	387	634	427	87	14	10	67	133	35	77	137	29	157
Bowfin		317	719	725	258	123	85	67	169	308	97	1	4	24	181	68	142	41	66	135
Bullhead		3	17	5	15	2	1	0	3	4	16	24	35	25	41	10	52	0	9	39
Other		36	9	14	13	2	2	12	2	0	7	4	80	47	37	1	16	12	0	0
Total		557	953	984	531	208	207	516	887	767	346	150	245	296	489	153	328	248	124	391

In May, a biologist from Georgia Department of Natural Resources, using a backpack electrofishing shocker unit, sampled Double Lakes in the northeast portion of the swamp after reports indicated the presence of large mouth bass. The sample produced three bluegill and one large mouth bass, 13 inches long.

During the summer of 2002, a fish thought to be a mollie was collected from Stephen C. Foster State Park. In 2003, the black and white mottled fish was identified as an eastern mosquitofish *Gambusia holbrooki*.

1.b. STUDIES & INVESTIGATIONS

Ecological

Streamflow Characteristics Associated with Suwannee River Sill Alterations - Gary Mahon, USGS, Tallahassee, FL

Refer to Section 3.a. for the status of this study.

Wildlife

Amphibian Research and Monitoring Initiative in the Southeastern U.S. and U.S. Caribbean - Dr. Steve Johnson, USGS Florida Caribbean Science Center, Gainesville, FL
Staff from the United States Geological Survey (USGS) Florida Integrated Science Center in

Gainesville, Florida removed sampling equipment from sampling sites in early November. Lora Smith is writing a summary of the findings.

Dr. Lora Smith initiated this study at Okefenokee NWR in 2000. The initial approach to the amphibian inventory and monitoring initiative included:

- Extensive sampling to determine species presence and distribution on the refuge.
- Intensive sampling at 16 permanent monitoring sites within the refuge.
- Development of a protocol for monitoring aquatic salamander populations.

Monitoring at Okefenokee was scaled back during 2002 due to logistical difficulties related to sites and the re-prioritizing of study needs.

University of Florida student Kristina Sorensen completed her thesis on sampling techniques for aquatic salamanders.

Evolutionary and Ecological Processes within Dystrophic Blackwater Habitats: Speciation and Historic Biogeography in Enneacanthini Sunfishes and Potential Factors Influencing Their Local Distributions - Tanya Peterson Dardin, University of Southern Mississippi

No collection was done this year related to this study. The genetic data is currently being processed and expected to be completed Spring 2004.

Contaminants

Air Quality Monitoring - USFWS Air Quality Division, Denver, CO

Okefenokee NWR is the site for monitoring air quality conditions through the following programs:

- Interagency Monitoring of Protected Visual Environments (IMPROVE)
- National Atmospheric Deposition Program (NADP)
- Mercury Deposition Program (MDP)

Contractor Ron Phernetton operates the air quality station.

Other Researchers

The following researchers obtained special use permits from the refuge to collect data for various studies:

E. Michael Perdue from Georgia Tech collected 100 grams of aquatic humic acid through the filtering of 19,000 liters of water to replenish the standard Suwannee River Humic Acid. Scientists commonly use this acid. This operation took a month to complete. They used one of the residences at the west side entrance.

Tony Page with the Georgia Forestry Commission supervised the crew that conducted and evaluated the Forestry Inventory Analysis plots within the swamp. This was the fifth year of a five-year rotation. The plots that could not be reached will be eliminated from the survey.

Steven Ellis, NANFA Georgia Regional Representative, used dip nets and seines to sample accessible areas from the east entrance for shiners, pygmy sunfish, and killifishes.

Stacie Greco from the University of Florida, working under M.W. Clark, K.R. Reddy, and K. Portier, collected soil, water, leaf litter, and common vegetation samples to validate Wetland Biogeochemical Indicators for Establishment of Numeric Nutrient criteria.

David Small from Athol, Massachusetts netted, identified and photographed dragonflies encountered on the refuge.

Bert Deener from the Fisheries Management Division of Georgia Department of Natural Resources electrofished the Double Lakes region of the swamp to survey the bass population. One bass was surveyed.

Dr. Arthur Cohen's student Stacia Russo collected three floating wetland mats to investigate methods to create floating wetlands and to evaluate the ability of these wetlands to reduce waterborne nutrients.

Jackie Clay, Interpretive Ranger at Stephen C. Foster State Park, caught, examined, and photographed dragonflies and damselflies for identification and information for future visitor programs.

Charles Lagoueyte with Natural Resources Conservation Service in Waycross, Georgia again attempted to document the Dasher soil series in the prairie system of the eastern part of the swamp.

There has been no on-refuge activity related to the following studies during 2003. The refuge is waiting for final reports.

Emissions of air pollutants from biomass fuels in the United States and Fuel loading and fire behavior photo series for major natural fuel types of the United States - USFS, Intermountain and Pacific Northwest Research Stations - Darold Ward and Roger Ottmar - 1996

Fire-adapted vegetation of the Southeastern Coastal Plain: A Template for restoration of the longleaf pine ecosystem. - University of North Carolina - Robert Peet

2.

HABITAT RESTORATION

2.a. WETLAND RESTORATION: ON-REFUGE

An environmental assessment was completed in 1998 on the future management of the Suwannee River Sill. The preferred alternative involves a phased approach to remove the concrete water control structures and breach the Sill in selected locations. This approach will restore the hydrologic link between the Okefenokee Swamp and the Suwannee River and in turn re-establish the ecological processes that are vital to the continued health of the Okefenokee ecosystem. The four-year study ended in October 2002. United States Geological Survey (USGS) continued to monitor flows at the sill and downstream. With personnel changes at USGS, the final report has not been received. Jerry Giese, who originally worked on the project and since has retired, was brought back under contract to write the final report. It is currently in the USGS review process. Barring documented impacts to public use and private landowners, which cannot be mitigated through management actions, the two concrete water control structures would eventually be removed and four additional breaches would be made through the earthen dam. Funding for partial removal of the Suwannee River Sill will depend on Congressional action.

2.b. UPLAND RESTORATION: ON-REFUGE

See Section 3.e.

2.c. WETLAND RESTORATION: OFF-REFUGE

Nothing to Report.

2.d. UPLAND RESTORATION: OFF-REFUGE

Nothing to Report.

3.

HABITAT MANAGEMENT

Okefenokee National Wildlife Refuge (395,080 acres) includes most of the 438,000 acre Okefenokee Swamp.

The refuge objectives pertaining to habitat management are:

- To provide protection to the unique environmental qualities of the Okefenokee Swamp by perpetuating the health and integrity of the ecosystem through the natural processes of fire and hydrology.
- To provide optimum habitat and protection for endangered and threatened species, including the American alligator, red-cockaded woodpecker and indigo snake.
- To provide optimum habitat for a wide diversity of birds, mammals, fish, reptiles and amphibians.

To meet these objectives, habitat management techniques include prescribed burning, wildfire, timber stand thinning, commercial timber harvest, planting, herbicide application and trail cutting, are utilized. The vastness, inaccessibility to most of the swamp, and wilderness designation places additional restraints on management practices.

The most intensive management occurs on our 33,602 acres of upland pine stands. These upland pine forests are managed primarily for the re-establishment of the native long-leaf pine/wiregrass community and the red-cockaded woodpecker. In 2001, retired forester Ron Phernetton re-wrote the Habitat Management Plan to encompass all habitats and management. This document has become an integral part of the CCP and will be incorporated into the Habitat and Wildlife Management Step-Down Plan. The draft plan will serve as a reference for the refuge since it contains details not covered by the CCP.

3.a. WETLAND MANAGEMENT

Water Monitoring

The Okefenokee NWR classifies 371,000 acres as wetlands. These naturally fluctuating wetlands are critical to the management of the refuge. Water levels influence prescribed burning on interior islands, travel and access into certain areas and the distribution of wildlife species. A Forestry Technology System (FTS) water monitoring station was installed bringing the total to nine. The stations are currently located at Suwannee Canal, Jones Island, Suwannee Creek, Kingfisher Landing, Durdin Prairie, Gannet Lake, North Fork Suwannee River, Cypress Creek, and Chase Prairie. In 2003, the recorder located at Chase Prairie was experiencing data transfer problems. Water levels are recorded at all sites. A precipitation tipping bucket is located at all

stations except Suwannee Canal, Durdin Prairie and North Fork Suwannee River. Water quality samples at Suwannee Canal, Durdin Prairie and Gannet Lake determine pH, conductivity and dissolved oxygen.

Water levels throughout the swamp were above average for most of the year (Table 8, Figure 6, 7). Lowest water levels were seen at the end of the year as they approached average levels.

Table 8. Water levels (msl) at Suwannee Canal Recreation Area (SCRA) and Stephen Foster State Park (SFSP) for 2003.

	SCRA		SFSP	
	2003	Avg 90-02	2003	Avg 90-02
Jan 1	120.67	119.83	115.03	114.49 ₁₁
15	120.58	119.98	114.82	114.71 ₁₁
Feb 1	120.43	120.23	114.56	115.10 ₁₂
15	120.46	120.23	114.69	115.24 ₁₂
Mar 1	120.97	120.21	115.53	115.31 ₁₁
15	121.25	120.30	116.16	115.32 ₁₂
Apr 1	120.93	120.32	115.49	115.15 ₁₂
15	120.82	120.19	115.12	114.78 ₁₂
May 1	120.64	120.03	114.86	114.41
15	120.35	119.77	114.45	113.99
Jun 1	120.42	119.50	114.78	113.79
15	120.57	119.55	115.11	113.93
Jul 1	120.32	119.71	114.73	114.05
15	120.14	119.73	114.38	114.14
Aug 1	120.17	119.79	114.29	114.31
15	120.53	119.89	114.73	114.39
Sep 1	120.41	119.87	115.06	114.29
15	120.26	119.82	114.79	114.39 ₁₂
Oct 1	120.10	119.92	114.32	114.28
15	120.10	120.11	114.44	114.57 ₁₂
Nov 1	120.11	120.01	114.74	114.42 ₁₂
15	119.95	119.96	114.43	114.38
Dec 1	119.84	119.86	114.35	114.33
15	119.84	119.86	114.37	114.39

Subscripts indicate number of years included in the average due to missing data.

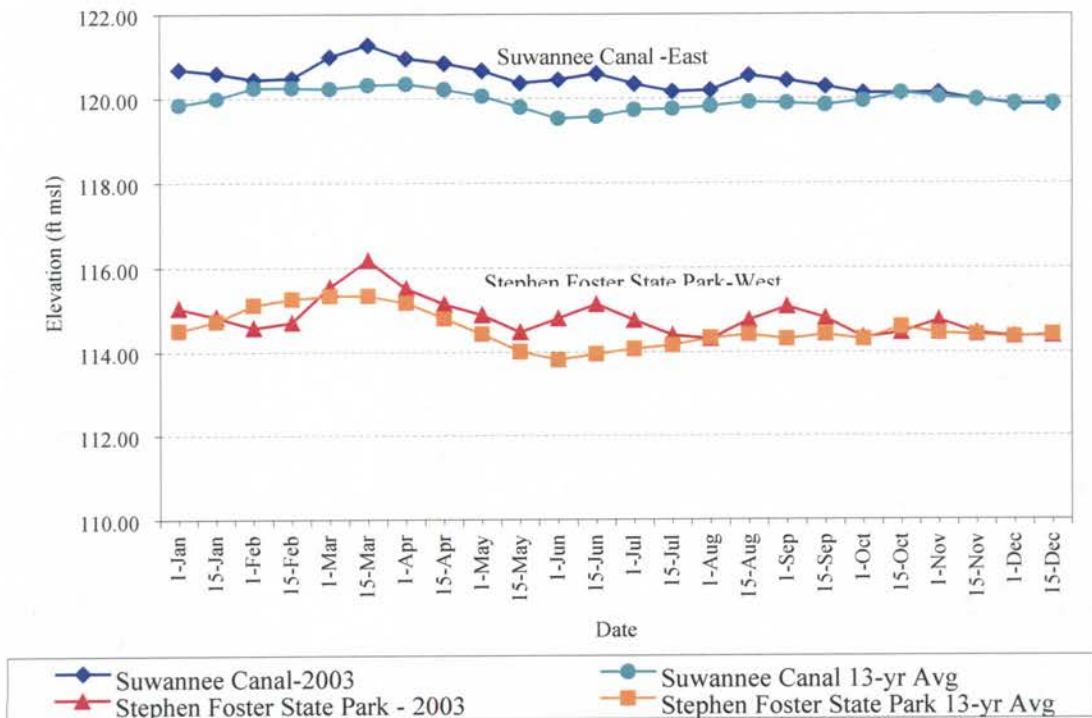


Figure 6. Water levels at Suwannee Canal Recreation Area (SCRA) and Stephen Foster State Park (SFSP) during 2003 compared to the 13-year averages.

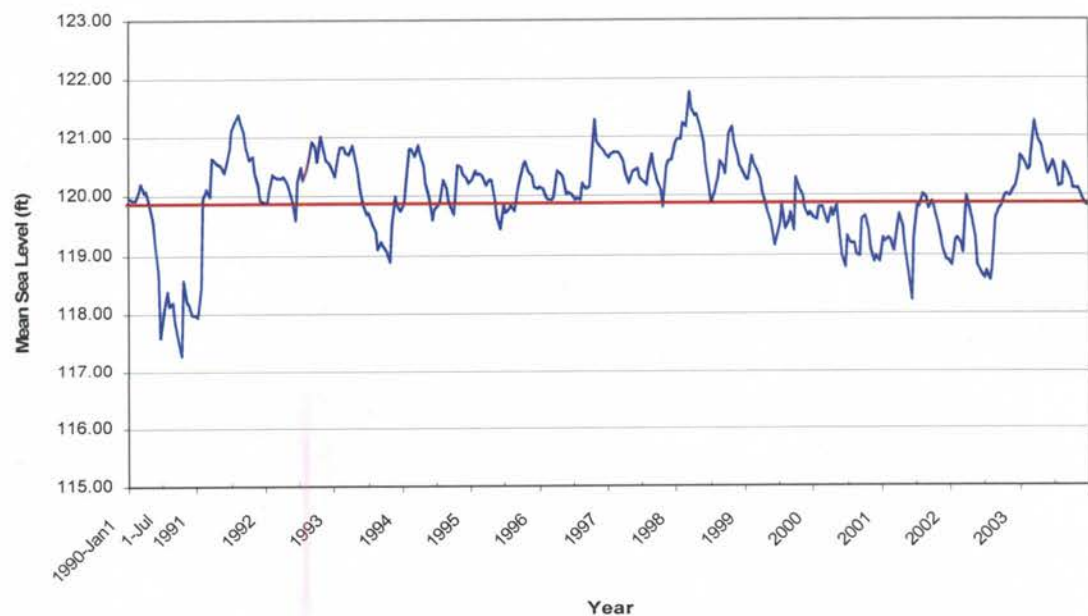


Figure 7. Water levels at Suwannee Canal from 1990-2003.

Water Control Structures

The Suwannee River Sill contains two water control structures which remained open this year according to recommendations set forth in the 1998 Environmental Assessment. For more details see Section 2.a.

3.b. MOIST SOIL MANAGEMENT

Nothing to Report.

3.c. GRAZE/MOW/HAY

Nothing to Report.

3.d. FARMING

Nothing to Report.

3.e. FOREST MANAGEMENT

Okefenokee NWR contains 347,131 acres of forested land, including 313,529 acres of wetland hardwoods, cypress and brush lands. The remaining 33,602 acres are upland forest stands of longleaf, slash, loblolly, pond pine and scattered upland hardwoods. The uplands also contain many bog-filled ponds containing mixed stands of pine, cypress, and hardwoods. Approximately half of the upland forest area, 17,444 acres, is located on islands within the Wilderness Area. The remaining 16,158 acres of upland forest are in areas designated as habitat management compartments. Commercial harvesting is permitted in the compartments as a tool to accomplish habitat management goals.

Upland Forests

Goals for upland forests on the Okefenokee NWR include the restoration of the longleaf pine communities once covering most of the refuge uplands, and maintenance of these habitats through replication of the natural processes that shaped these communities. These habitats deteriorated throughout the Southeast due to turn of the century logging practices and disruption of the natural, frequent fire regime. These open stands hosted a diverse understory of warm season grasses, many low shrubs, and forbs maintained by frequent, low intensity fire. The old growth longleaf pine communities were replaced by dense stands of more prolific, less fire dependent overstory and understory species normally restricted to wetter areas. Only remnant stands of longleaf pine remain, representing less than five percent of its former range. Many wildlife species associated with longleaf communities, including the red-cockaded woodpecker, are either endangered or threatened.

In 1936, by the time Okefenokee NWR was established, longleaf pine communities consisted of a few pure stands of longleaf pine on sandy ridges, a few predominately longleaf stands, and many mixed pine stands with a few relict longleaf stems left after logging in the 1920's. Because of the difficulty of re-establishing longleaf pine, and continued exclusion of fire, refuge longleaf pine communities continued to decline in quality and quantity for many years. Understory conditions depreciated during this period, allowing dense hardwood shrubs to replace grasses, herbs, and low shrubs common to longleaf pine communities. Table 9 lists the present distribution of longleaf pine and other species throughout the refuge uplands. Figure 8 shows the locations of the 16 habitat management compartments and the wilderness islands.

Habitat management tools utilized to restore native longleaf pine communities include:

- Maintenance of multi-aged pine stands.
- Selective thinning on a 10-year cycle to favor longleaf pine.
- Removal of undesired mid-story stems.
- Dormant and growing season fire.
- Several methods of stand conversion include patch regeneration, shelterwood regeneration, direct seeding, planting of containerized seedlings and mounding.

Restoration activities for the community understory component have been limited to dormant and growing season fire.

Existing hardwood stands, openings and wetland areas within or adjacent to the longleaf pine community are included in the burn areas and allowed to seek a more natural condition under the influence of fire. These areas provide a variety of habitats to meet the needs of native wildlife and to provide an aesthetically pleasing variety of forest lands. Only areas of special interest are excluded from fire.

Fire is the most effective tool available for management of longleaf pine communities on wilderness uplands. Fire may be used to thin young forest stands, remove midstory pines and hardwoods, kill invading hardwood understory species, prepare seed beds for regeneration, and kill slash and other unwanted pine seedlings. If used skillfully, fire can accomplish most of these tasks without damage to the fire resistant longleaf seedlings. All distinguishable islands inside refuge boundaries receive periodic dormant or growing season burns. Other management activities conducted on the upland wilderness islands include RCW status surveys.

Table 9. Upland forest stands on Okefenokee NWR.

Species Class	ACRES		Total
	Habitat Management Compartments	Wilderness Islands	
Mature Pine (> 9 " DBH)			
☐ Pure Longleaf Pine (>70%)	1,731	1,429	3,160
☐ Longleaf Dominant (>40%)	1,303	1,305	2,608
☐ Scattered Longleaf (<40%)	2,085	2,522	4,607
☐ Other Pine Species	3,471	8,976	12,447
Young Pine (< 9 " DBH)			
☐ Pure Longleaf Pine (>70%)	1,016	0*	1,016
☐ Longleaf Dominant (>40%)	182	0*	182
☐ Scattered Longleaf (<40%)	410	70*	480
☐ Other Pine Species	3,431	1,730	5,161
Upland Hardwoods	248	509	757
Bottomland Hardwoods	335	22	357
Bog Filled, Forested Ponds	1,894	820	2,714
Open and Administrative Areas	52	61	113
TOTALS	16,158	17,444	33,602

**While there are very few young longleaf pine stands on the wilderness islands, small patches of longleaf regeneration, not constituting a stand, are scattered on some wilderness islands and some compartments. As more of these patches accumulate, they will form multi-aged stands.*

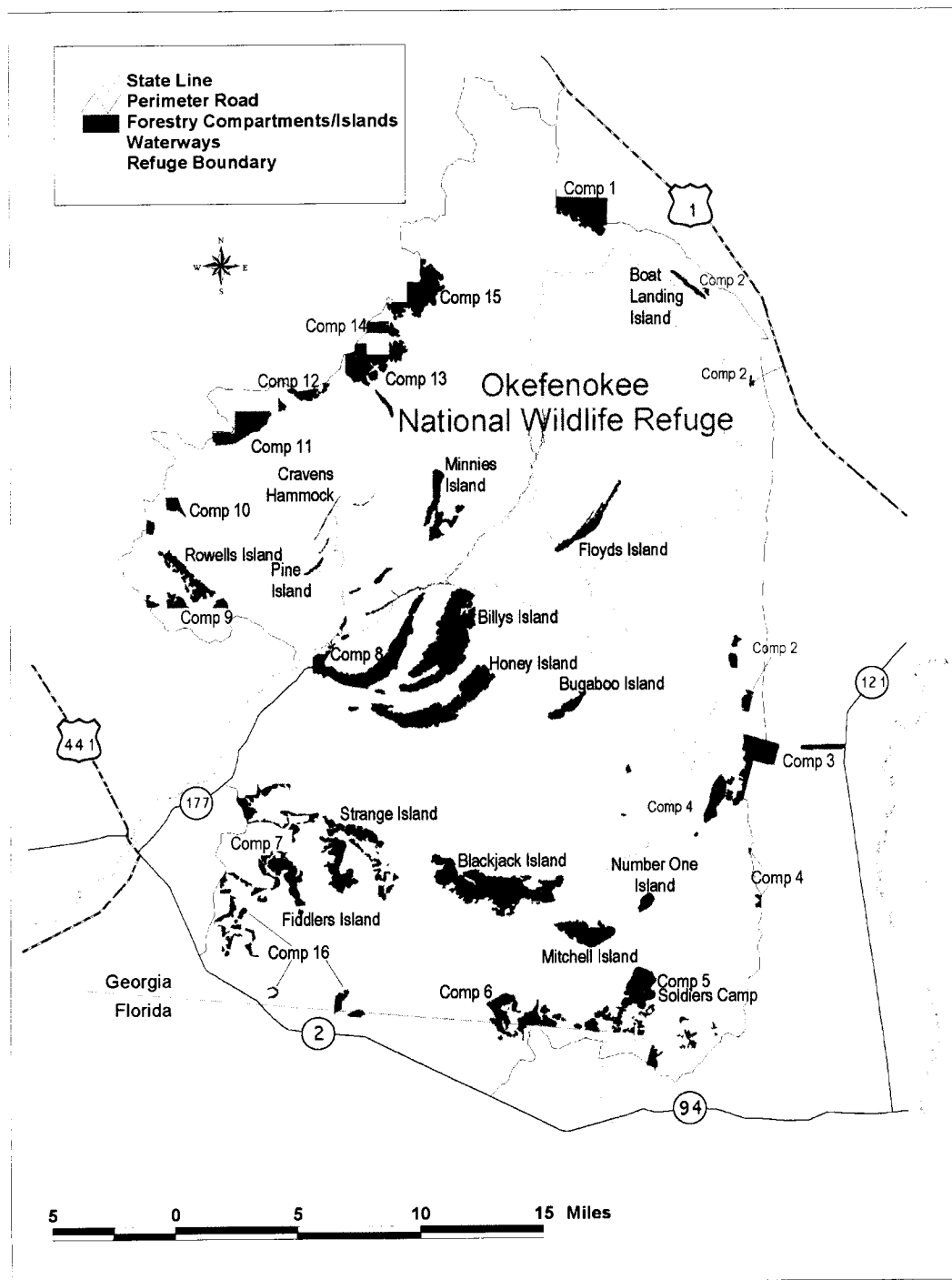


Figure 8. Habitat Management Compartments and Interior Islands.

Habitat Management Planning

In 2002, a habitat and population management plan was drafted, combining management of uplands, wetlands, hydrology, wildlife and other disciplines into one comprehensive plan. The fire unit is being revised to include Wildland Fire Use as a management option.

Forest Management Prescriptions

Field work was initiated in upland forestry Compartment 1 and timber marking in the west half is complete. The prescription for Compartment 4 is in draft form and is scheduled to be complete in 2003.

Timber Marking

Compartment 1 was divided into two sections and preparations were made for timber marking. In 2003, timber marking began in Compartment West and is scheduled to be complete by January 2004. Compartment 1 East will then be marked and sale preparations will be made. Other timber marking throughout the year was limited to intermittent marking ahead of the producers harvesting right-of-way trees in Compartment 1, thinning in Compartment 15 and salvage of wind damaged trees in Compartment 11 (Table 10, 11).

Table 10. Forest products receipts for CY 2003.

Special Use Permit #	Permittee	Area	Product	*Value/ton	**2003 Volume Harvested	2003 Receipts
01-059	M&G Logging	Compartment 15 Wiregrass Rd. COMPLETED	Pine Timber	\$3.64 (pw) \$14.55 (cs) \$25.45 (po)	844 tons (326 cords)	\$11,970.24
02-041	M&G Logging	Compartment 1 right-of-way COMPLETED	Pine Timber	\$3.64 (all)	1500 tons (546 cords)	\$5,460.69
03-017	Axson Timber	Compartment 15 Break Rd.	Pine Timber	\$11.70 (all)	2100 tons (764 cords)	\$24,564.38
03-029	M&G Logging	Compartment 11 Flint Rd. (wind damage)	Pine Timber	\$2.18 (all)	2427 tons (882 cords)	\$5,290.12
TOTALS ALL PERMITS					6,871 tons (2,499 cords)	\$47,285.44

*pw = pulpwood, cs = chip-n-saw, po = poles

** Sale actually sold on weight basis by ton. Converted to cords for reference (2.75 tons = 1cd.).

Table 11. Ten-year forest products removal summary.

CY	ALL TIMBER CATEGORIES (CDS)	POSTS (EA)	TOTAL VALUE DOLLARS
1994	66	--	\$ 3,199
1995	1,486	--	\$ 77,559
1996	448	--	\$ 23,489
1997	283	--	\$2,778
1998	1,356	--	\$43,438
1999	2,937	--	\$94,619
2000	7,603	--	\$290,028
2001	5,001	--	\$147,693
2002	3,690	--	\$88,049
2003	2,499		\$47,285

Timber Harvesting

Timber harvesting was conducted in Compartments 1, 11 and 15. The timber producer completed the road right-of-way sale in Compartment 1 and completed the Wiregrass Road sale in Compartment 15. Harvesting began on the Break Road timber sale in Compartment 15 and was near completion in 2003 when wet weather delayed the operation. In Compartment 11, a significant wind event damaged a mature slash pine plantation and a part of a natural mixed stand of longleaf, slash and pond pine. Harvesting of this wind damaged timber is scheduled to be complete in early 2004. Timber harvests play a significant part in restoring the historical longleaf pine ecosystem. More importantly, these harvests help restore and maintain habitat for the threatened and endangered species associated with this ecosystem.

Reforestation

Twelve thousand containerized long-leaf pine seedlings were obtained from Meeks Farms in Kite, GA. The fire crew and AmeriCorps from Charleston, SC planted seedlings in fifteen sites throughout upland forestry compartments. Site locations are recorded on compartment atlases to evaluate the success of these restorations. Table 12 summarizes the refuges tree planting activities for 2003.

Table 12. Longleaf pine planting sites for CY 2003.

COMPARTMENT OR ISLAND	MGT UNIT	NUMBER OF SEEDLINGS	AREA (Acres)	REMARKS
Compartment 8	5	1,715	3.0	Trees were planted in several open areas around hunting sites, dipsites, helibases and barpits.
Compartment 8	5	1,318	2.3	Trees were planted in several open areas around hunting sites, dipsites, helibases and barpits.
	5	1268	2.1	
	5	984	2.0	
Compartment 15	1	793	1.3	Trees were planted in logging decks and in patch regeneration sites.
	1	1004	1.4	
	1	2712	2.7	
	1	334	0.5	
	2	145	0.3	
	2	334	0.5	
	2	303	0.8	
	2	240	0.3	
	2	334	0.4	
	2	334	0.5	
	2	190	0.4	

Status of Longleaf Pine Community Restoration

During the past 28 years, nearly 1,100 acres of longleaf pine have been planted. The majority of this planting was on poorly drained, difficult to plant sites. The forestry staff has experimented with several methods of planting including direct seeding, bare root seedlings and containerized seedlings. Site preparation has varied from clearing and harrowing to planting on suitable natural rises and individually mounded micro sites. Local seed stock from refuge stands has been collected to compare seedling growth with those supplied by vendors. Refuge goals are best accomplished by establishing natural regeneration. When this is not possible, survival is obtained by hand planting containerized seedlings. New direct seeding techniques, using genetically preferable native stock, may hold some promise. Minimal site preparation is used in order to save remnant fire dependent plant species from the understory communities. Open sites receive prescribed fire prior to planting. Shrub understories are chopped and burned. Heavy shrub sites may require several burns before they are strip harrowed or mounded to provide planting beds. Prescribed fire is used within two years after planting to reduce understory competition, stimulate native ground cover and volunteer slash pine.

Significant results from dormant and growing season fire and longleaf pine management are beginning to show. Patches of natural longleaf pine regeneration are appearing throughout the upland forest management compartments. Many components of the native longleaf pine community are beginning to appear where growing season fire has occurred. It is apparent

through the use of selective thinning and prescribed fire, longleaf pine communities can be restored on Okefenokee's upland forest management compartments without extreme clear cutting and planting operations.

Timber Stand Improvement

No timber stand improvement (TSI) was accomplished in 2003. Most of the TSI work completed in forest stands, particularly mid-story hardwood removal in RCW foraging stands, is achieved through the use of growing and dormant season prescribed fire.

Wetland Forest

Swamp forest areas include all refuge wetland forest inside the swamp edge and outside the perimeter of the interior islands (Table 13). The basic goal of wetland management is to maintain the mosaic of wetland habitat types including wetland forest. Because most of the wetland area is located within national wilderness boundaries, habitat management activities are limited to natural and prescribed fire, habitat monitoring and wildlife surveys.

Table 13. Forest types within the wetland forest community.

Forest Type	Acres
Broad Leaved Hardwoods	15,424
Cypress	11,831
Scrub Pine	728
Mixed (Bay, Cypress, Pine)	55,359
Scrub Shrub	230,187
Total Wetland Forest	313,529

3.f. FIRE MANAGEMENT

Traditional upland fire dependent communities are valuable to many species of native wildlife. This habitat has been drastically altered by changes in the fire regime. Understory fuel loads vary from moderate to extremely heavy and always recover rapidly after fuel reduction fires. Although upland habitats are fire dependent, fire must be carefully managed to prevent destruction of valuable habitat while reducing unnatural rough fuels. Until upland fuel types are restored to presettlement conditions, mismanaged fire or wildland fire may destroy valuable habitat.

Within the swamp interior, fire management has a greater complexity. Intense fire is desirable and beneficial under proper conditions, but the probability of fire leaving the swamp and negatively impacting adjacent property is likely to occur. Growing involvement of adjacent

landowners in the Greater Okefenokee Association of Landowners (GOAL) resulted in the success of the 124,110 acre Blackjack Bay Complex Fire in 2002/2003 and the continued cooperative ventures, such as relocation and maintenance of the Swamps Edge Break (SEB) and the establishment of 80 helicopter dip sites. These enhancements, along with the cooperative spirit of GOAL members, allow greater flexibility in the use of prescribed and wildland fire for natural resource benefit (Fire Use) in the maintenance of upland and wetland habitats with less negative impact on private property.

Prescribed Burning

During the past 32 years, dormant season fire has been used to reduce existing fuels (Figure 9). As understory woody shrub fuels are reduced, growing season fire has been applied to alter the fuel types from woody shrubs to warm season grasses and other ground cover associated with longleaf pine communities. As more acres in upland forest management compartments and wilderness islands are converted to growing season prescribed fire, natural wildland fires will benefit rather than harm the habitat.



Figure 9. Prescribed burning on upland forest management compartment.

In 2003, hazardous fuel reduction and resource objectives were accomplished with 16 burns for a total of 5,305 acres (Figure 10, Table 14). The small number of acres burned was due to increased precipitation, related to the recurrence of El Nino, ending a four-year drought cycle. In January, more rain fell than was needed and burning was delayed. Twelve burns, half the normal number, were accomplished between January and February. The 2002 wildfires burned all of the interior islands eliminating a large portion of growing season burns for 2003. A backlog of proposed dormant season prescribed fires remained on the schedule at the end of 2003.

Benefits of prescribed fire when properly applied include:

- Reduction of understory fuels.
- Conversion of fuel types from southern rough to a more manageable grass/low shrub.
- Restoration and maintenance of fire dependent understory communities.
- Control of diseases, insects and parasites.
- Increase of available wildlife habitat.
- Seed bed preparation for natural forest regeneration.
- Access improvement for forest and wildlife management.
- Enhancement of aesthetic qualities.

Wildland Fire

After four years of drought and the largest wildland fires in 50 years, water found its way back to the system. It was not enough to really break the drought, but did rain out the Blackjack Bay Complex Fire and all possibility of an active spring and summer fire season. One new wildland fire, Fowls Roost (AZB2), was recorded in 2003 (Figure 10, Table 15).

Off-Refuge Fire / Interagency Assignments

Assignments, Section 9.b.

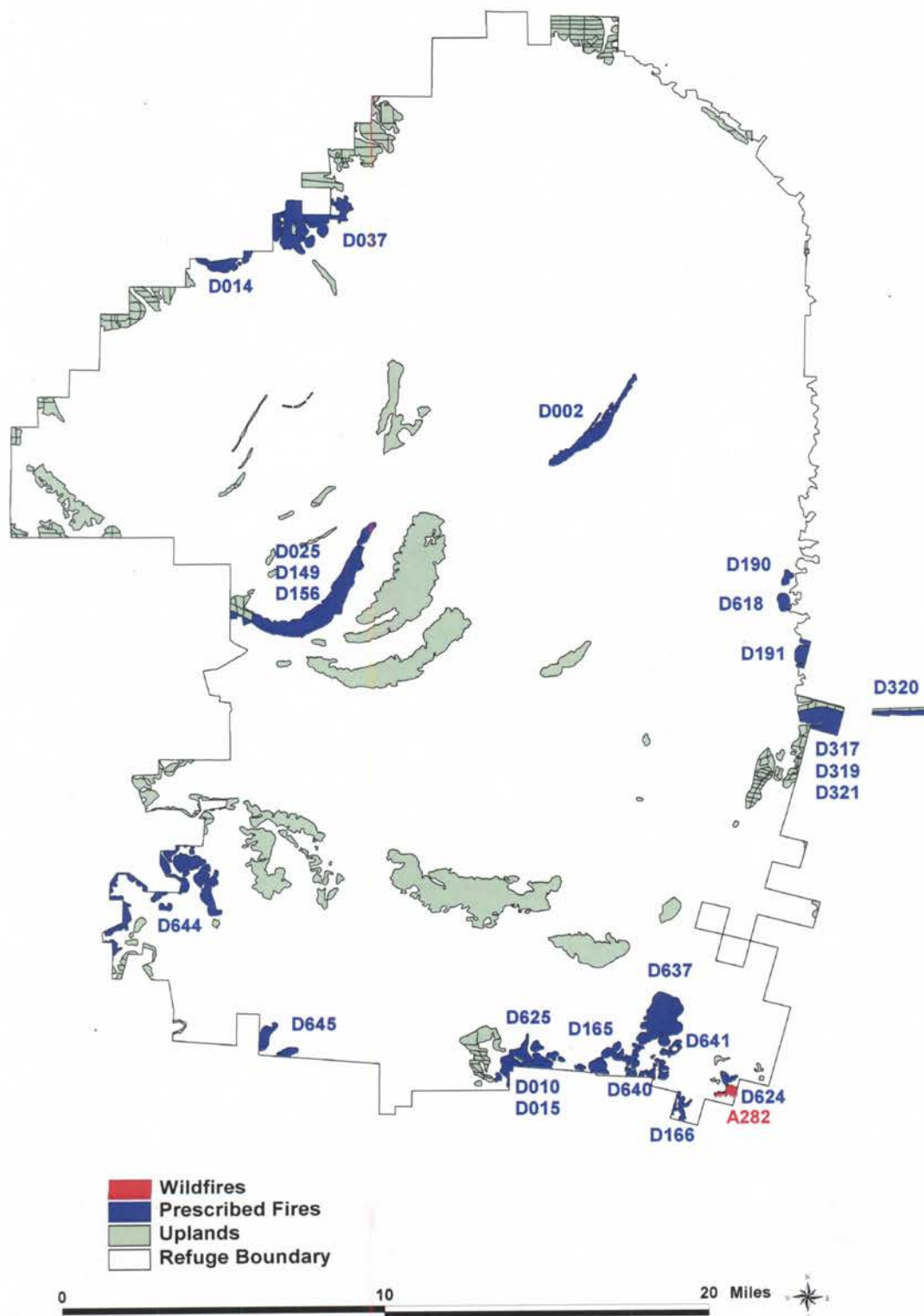


Figure 10. Wildfires and prescribed burns for CY 2003.

Table 14. CY 2003 Summary and evaluation burning activities.

Area Burn Unit	Fire No. (DI 1202)	Acres Planned	Acres Burned	Date Burned	Ignition Method	Burn Eval.	Total Cost	Cost/ Acre	Remarks
C1-1	-	650	0	-	-	-	-	-	Unable to schedule.
C1-2	-	600	0	-	-	-	-	-	Unable to schedule.
C2-1	D191	154	0	02/25/03	-	-	-	-	No burn.
C2-2	D618	114	114	12/07/03	G	3B	2276.00	19.96	Good burn.
C2-3	D190	70	0	02/25/03	-	-	-	-	No burn.
C2-4	-	20	0	-	-	-	-	-	Unable to schedule.
C2-5	-	24	0	-	-	-	-	-	Unable to schedule.
C3-1	-	209	0	-	-	-	-	-	Unable to schedule.
C3-2	D317	110	88	04/30/03	G	3B	710.00	8.06	Overall good burn.
C3-3a	D319	100	100	04/16/03	G	3B	1684.00	16.84	Overall good burn.
C3-3b	D321	85	85	04/18/03	G	3B	1085.00	12.76	Overall good burn.
C3-7	D320	130	130	04/17/03	G	3B	920.00	7.08	Great burn.
C5-1,2,3	D637	1065	1065	12/16/03	G and A	3B	4818.00	4.52	Overall good burn.
C5-4	D165	188	188	02/15/03	G and A	3B	2880.00	15.31	Overall good burn.
C5-5	D166	114	114	02/15/03	G and A	3C	4500.00	39.47	Some scorch.
C6-2	D015	285	285	01/05/03	G	3B	1991.00	9.95	Good burn.
C6-3	D625	430	430	12/09/03	G and A	3B	5282.00	12.28	Good burn.
C7-1	-	240	0	-	-	-	-	-	Unable to schedule.
C7-2	-	179	0	-	-	-	-	-	Unable to schedule.
C7-4,5,6,7	D644	1470	1470	12/18/03	G and A	3B	6570.00	5.60	Great burn.
C8-1	-	328	0	-	-	-	-	-	Unable to schedule.
C8-2,3,4	D156	1,016	1,016	02/14/03	A	3B	4240.00	4.17	Overall good burn.
C8-5	D149	460	460	02/13/03	G	3B	6677.00	16.37	Overall good burn.
C8-6	D025	60	60	01/07/03	G	3B	2250.00	37.50	Good burn.

Area Burn Unit	Fire No. (DI 1202)	Acres Planned	Acres Burned	Date Burned	Ignition Method	Burn Eval.	Total Cost	Cost/ Acre	Remarks
C9-1	-	74	0	-	-	-	-	-	Unable to schedule.
C9-2	-	195	0	-	-	-	-	-	Unable to schedule.
C9-3	-	120	0	-	-	-	-	-	Unable to schedule.
C10-1	-	214	0	-	-	-	-	-	Unable to schedule.
C10-2	-	102	0	-	-	-	-	-	Unable to schedule.
C11-1	-	295	0	-	-	-	-	-	Unable to schedule.
C11-2	-	265	0	-	-	-	-	-	Unable to schedule.
C11-3	-	242	0	-	-	-	-	-	Unable to schedule.
C11-4	-	122	0	-	-	-	-	-	Unable to schedule.
C12-1	D014	291	160	01/04/03	G	3B	2783.00	17.39	Overall good burn.
C13-1,2,3,4	D037	1360	1360	01/11/03	A	3B	7000.00	5.15	Great burn.
C14-1	-	230	0	-	-	-	-	-	Unable to schedule.
C15-1	-	197	0	-	-	-	-	-	Unable to schedule.
C15-2	-	300	0	-	-	-	-	-	Unable to schedule.
C15-3	-	471	0	-	-	-	-	-	Unable to schedule.
C15-4	-	455	0	-	-	-	-	-	Unable to schedule.
C16-1	D645	305	295	12/18/03	G and A	3B	1743.00	5.90	Great burn.
C16-2	-	211	0	-	-	-	-	-	Unable to schedule.
C16-3	-	55	0	-	-	-	-	-	Unable to schedule.
C16-4	D167	260	260	02/15/03	G	3B	3230.00	12.42	Good burn.

Area Burn Unit	Fire No. (DI 1202)	Acres Planned	Acres Burned	Date Burned	Ignition Method	Burn Eval.	Total Cost	Cost/ Acre	Remarks
Boatlanding Island	-	175	0	-	-	-	-	-	Unable to schedule.
Dog Fennel Group	D639	152	152	12/16/03	A	3B	1000.00	6.58	Great burn.
Ellicots Group	D640	176	176	12/16/03	A	3B	1000.00	5.68	Great burn.
Floyds Island	D002	628	625	02/14/03	A	2A	1863.00	3.00	Cool burn.
Fowls Roost Island	D624	296	215	12/09/03	A	3B	1845.00	13.09	Overall good burn.
Hickory Island	-	171	0	-	-	-	-	-	Unable to schedule.
Minnies Island	-	882	0	-	-	-	-	-	Unable to schedule.
Roasting Ear Group	D641	141	141	12/16/03	A	3B	1000.00	7.09	Great burn.
Rowells Island	-	500	0	-	-	-	-	-	Unable to schedule.
TOTALS		16,986	8,989				64,347.00	7.50	

IGNITION METHOD	BURN EVALUATION	
G - Ignition by ground crews A - Aerial ignition	<u>Fire and Resource Management Objectives</u> 1 - Prescribed fire failed to accomplish objectives. 2 - Prescribed fire accomplished objectives not within prescription limits. 3 - Prescribed fire accomplished objectives within prescription limits. 4 - Prescribed fire accomplished objectives beyond prescription limits.	<u>Allowable Resource Damage Objectives (Crown Scorch, Mortality)</u> A - Little or no crown scorch. B - Crown scorch within prescription limits. C - Crown scorch exceeds prescription limits. D - Excessive crown scorch - some mortality probable.

Table 15. Wildfires responded to by refuge staff in 2003.

Fire Number	Name	Start Date	Declared Out	Total Acres	Landowner	Location Lat/Long	Cause
AZB2	Fowls Roost 03	12-03-2003	12-31-2003	81.0	Okefenokee NWR	30 33.57 082 10.63	Arson

Swamps Edge Break

The Okefenokee Swamp and surrounding upland forest depend on fire to preserve the conditions and habitats supporting wildlife species native to the Okefenokee NWR. The difficulty of keeping prescribed and wildland fires within the swamp and refuge boundaries, to accomplish desired objectives, presents a difficult and sometimes costly fire management challenge.

The SEB was completed during 1993 to support a fuels management zone around the swamp. This zone allows indirect suppression actions during wildfires and greater use of prescribed fire to accomplish management objectives. The construction and maintenance of the fuels management zone is a cooperative venture between the Georgia Forestry Commission, the Florida Division of Forestry, the Fish and Wildlife Service and private landowners.

Helicopter Dip Sites

Helicopter dip sites are essential to support the fire suppression operations around the boundary of the refuge and the Osceola National Forest. In 1999, GOAL planned to build and rehabilitate 37 dip sites in and around the Okefenokee NWR. Through understanding and cooperation, 80 dip sites were completed by 2003. This one project reflects the dedication of GOAL members working together on projects mutually beneficial to ecosystem management.

Fire Management Planning

The Fire Management Plan has been incorporated into the Okefenokee NWR CCP, Step Down Plan. The plan is being to include the management option Fire Use.

3.g. CONTROL PEST PLANTS

After four years of extremely low water, the trail cutter cleared all accessible trails between December 2002 and January 2004. A portion of the red trail from Kingfisher Landing to Maul Hammock was cut twice, once in February and once in December.

Growth of shrubs, greenbrier, and swamp loosestrife along boat and canoe trails is a continuous problem. AmeriCorps and volunteers performed maintenance on all canoe trails. The large mat of grasses that blocked the head between Durdin Prairie and Territory Prairie was cleared. Protocols for clearing the trail system is under revision in relation to wilderness guidelines addressed in the CCP.

Pesticide Use Proposals (PUP) were submitted for Rodeo, Garlon 3A, Amdro Granular Insecticide, Garlic Barrier, D-Con, Malathion, Recruit II Termite Bait, Orthene and Hydramethlynon Gel. Rodeo is used on mats of maidencane, emergent vegetation and shrub species adjacent to canoe and boat trails. In 2003, Rodeo was only used around refuge and public facilities to eliminate weeds around buildings. Garlon 3A is only used when it is desirable to kill larger trees to create snags and reduce competition for the establishment of more desirable trees. Garlon 3A was not applied on the refuge in 2003. Malathion was not approved for interior use. The remaining pesticides are insecticides used around public facilities and within refuge buildings.

4.

FISH AND WILDLIFE MANAGEMENT

4.a. BIRD BANDING

RCW Banding Information, Section 1.a.

4.b. DISEASE MONITORING AND TREATMENT

Concerns about West Nile Virus continue. Charlton County has continued a mosquito control program by spraying road sides and housing developments. No mosquito spraying is done on the refuge.

4.c. REINTRODUCTIONS

Nothing to Report.

4.d. NEST STRUCTURES

No maintenance or installation of wood duck boxes was performed in 2003. Section 1.a. contains information related to RCW insert installation.

4.e. PEST, PREDATOR AND EXOTIC ANIMAL CONTROL

Feral hogs continue to be taken whenever opportunities arise. Fourteen were dispatched on the east side of the refuge in Compartment 3 and one in Compartment 15. Pigeons periodically roost around the refuge shop area and attempts to discourage this behavior continue. Eighteen pigeons were dispatched during the year on the east side.

5.

COORDINATION ACTIVITIES

5.a. INTERAGENCY COORDINATION

The Suwannee Basin Interagency Alliance continues to meet annually to discuss topics related to the watershed. This forum was initiated to promote communication and coordination among representatives of the Natural Resources Conservation Service, U. S. Fish and Wildlife Service, U. S. Geological Survey, Suwannee River Water Management District, Department of Environmental Protection, Game and Fresh Water Fish Commission, Department of Agriculture and Consumer Services, Division of Forestry, and Environmental Protection Division, Division of Wildlife Resources, Department of Agriculture and Forestry Commission. Utilizing the planning process adopted by the State of Georgia, these federal and state agencies for Georgia and Florida, are working together to develop a comprehensive natural resource management plan for the basin.

5.b. TRIBAL COORDINATION

Nothing to Report.

5.c. PRIVATE LAND ACTIVITIES

Nothing to Report.

5.d. OIL AND GAS ACTIVITIES

Nothing to Report.

5.e. COOPERATIVE/FRIENDS ORGANIZATIONS

The Okefenokee Wildlife League (OWL) is a 501(c)(3) nonprofit organization that supports education and research projects at Okefenokee NWR. OWL provides a part time manager to operate the bookstore, funds special events, and supports the refuge with volunteer assistance.

Russell Barber and Patti Sandow, OWL board members, attended the Friends Group Conference held in Washington, D.C. Patti and Russell briefed our representatives on issues of concern at Okefenokee NWR. The trip proved to be a success and a return trip is scheduled for 2004.

OWL sponsored a bluebird house fund-raiser to support the Okefenokee NWR environmental education program. OWL members approached local businesses to donate materials for building

the bluebird houses and received enough materials to build over 500 houses. Through the support of OWL, with help from local school children, 300 birdhouses were built, 250 of which have been decorated. The birdhouses are for sale in the bookstore outlet for \$10 per house and will be available at local fairs and festivals. Table 16 provides a breakdown of OWL's monthly profits over the last three years.

Table 16. Profits for OWL Over the Past Three Years.

	2003	2002	2001
January	\$ 2,809	\$ 1,674	\$ 2,051**
February	\$ 2,288	\$ 3,546	\$ 4,915**
March	\$ 5,487	\$ 4,889	\$ 8,052
April	\$ 4,892	\$ 8,982	\$ 7,433
May	\$ 3,953	\$ 5,942	\$ 3,219
June	\$ 2,030	\$ 3,193	\$ 2,625
July	\$ 2,842	\$ 3,347	\$ 3,217
August	\$ 2,347	\$ 1,726	\$ 2,075
September	\$ 1,548	\$ 2,021	\$ 2,092
October	\$ 3,247	\$ 4,514	\$ 3,523
November	\$ 3,048	\$ 3,874	\$ 3,134
December	\$ 2,686	\$ 2,191	\$ 2,544
Total	\$37,179	\$45,899	\$44,880

** Swamp Island Drive closed for re-paving project.

6.

RESOURCE PROTECTION

6.a. LAW ENFORCEMENT

At the end of 2003, the refuge law enforcement staff included one full time Refuge Officer, James Shelton and two dual-function Refuge Officers, Shaw Davis and Stacey Welch. One dual-function law enforcement position was lost when Greg Blanks accepted the full time Refuge Officer position at Harris Neck NWR in October. Law enforcement officials reported 43 federal cases and three state/county cases this year (Table 17 and 18).

Table 17. Federal cases for CY2003.

Refuge Violations	Number of Cases
Fishing on a NWR without a State License	10
Possession of a Firearm on a NWR	8
Operating a Motor Vehicle in Excess of Speed Limit	6
Trespassing on a NWR	4
Use of an Outboard Motor Greater than 10hp	4
Violation of State Vehicle Laws	3
Operation of a Motorboat with Invalid Registration	2
Possession of a Controlled Substance on a NWR	2
Feeding Wildlife on a NWR	1
Operation of a Motorboat without PFD Aboard	1
Violation of a Refuge Special Use Permit	1
Harassing Wildlife	1
Total	43

Table 18. Violations written by Georgia Department of Natural Resource Officers and County Sheriff Departments for CY2003.

Violations	Number of Cases
Possession of a Controlled Substance on a NWR	2
Use of a Spotlight to Locate Game	1
Total	3

In 2003, refuge officers wrote 67 incident reports. In November, Refuge Officer Shelton investigated an arson fire on Fowls Roost Island in a remote section of the refuge. Vehicle tracks were located, but no other evidence was found. It is believed the fire was set to gain easier access for hunting or possibly to prepare the area for growing cannabis. The area is still under surveillance. Refuge officers investigated a break-in at the refuge fee booth. It was determined that a crowbar or similar device was used to pry open a window. It was reported that \$200.00 was missing, but no one has been apprehended for the theft. A Stephen Foster State Park camper was hiking illegally from the park onto Billys Island. In his possession, officers discovered refuge maps and satellite photos he had downloaded from the Internet. The violator stated to refuge officers that the maps were to help him on his hike and he was in the unauthorized area because he wanted a “little action”. He was cited and later pled guilty to trespassing in a closed area. The Okefenokee Adventures concession building was added to the refuge alarm system. Officers responded to numerous false alarms as the system was fine tuned.

Refuge officers attended off station law enforcement details in 2003. Officers Shelton and Welch provided security during the centennial celebration at Pelican Island NWR in Sebastian, FL. Officer Blanks provided law enforcement assistance during space shuttle recovery operations in Hemphill, TX. Officers Blanks and Davis performed law enforcement operations during a manatee detail in Port Canaveral, FL. In August, Officer Davis attended a law enforcement detail at the Denali NWR in Kenai, AK.

6.b. WILDFIRE PREPAREDNESS

Refer to Section 3.f.

6.c. PERMITS AND ECONOMIC USE MANAGEMENT

Refer to Section 1.b, 3.e.

6.d. CONTAMINANT CLEANUP

Nothing to Report.

6.e. MANAGE WATER RIGHTS

Nothing to Report.

6.f. MANAGE CULTURAL RESOURCES

Nothing to Report.

6.g. FEDERAL FACILITY COMPLIANCE ACT

Nothing to Report.

6.h. LAND ACQUISITION

The U.S. Fish and Wildlife Service, in conjunction with The Conservation Fund, accepted a donation from E.I. du Pont de Nemours & Company (DuPont) of approximately 5,000 acres of important habitat along the eastern border of the refuge. The donated land, which is located inside the Okefenokee NWR acquisition boundary, is part of approximately 16,000 acres donated by DuPont to The Conservation Fund precluding development of a proposed titanium mine along the refuge boundary. In commemoration of the National Wildlife Refuge System Centennial, The Conservation Fund transferred 5,000 acres to the Service. The Fund will work with the State of Georgia and local community to determine the most appropriate long-term steward of the remaining lands.

As part of the land-transfer agreement, International Paper (IP) will retain timber and recreational rights on the donated acreage through 2081. The refuge and IP have longstanding agreements established to protect wildlife resources and will continue to work together in the future.

6.i. WILDERNESS AND NATURAL AREAS

Discussions on minimum tools used within the Okefenokee Wilderness Area continued throughout the year. A flow chart has been developed to facilitate the decision making process regarding trail maintenance tools. The refuge's management actions within the Wilderness are being evaluated through the Minimum Requirement Decision Guide during the Comprehensive Conservation Planning process.

6.j. THREATS AND CONFLICTS

The proposed E.I. du Pont de Nemours & Company titanium mining project was resolved in 2003 through the donation of 16,000 acres to the Conservation Fund. Refer to Section 6.h. for details on the land donation. Refer to past narratives for detailed information on the titanium mining project.

7.

ALASKA ONLY

8.

PUBLIC EDUCATION AND RECREATION

8.a. PROVIDE VISITOR SERVICES

Visitor Service Highlights

The public use staff spent a large portion of the year celebrating, improving public use services, and working on the public use section of the Comprehensive Conservation Plan. From January through June, refuge staff and volunteers planned and participated in various in-reach and outreach Centennial activities of the National Wildlife Refuge System.

When not working with centennial related activities, the public use staff was improving and adding a splash of creativity to our educational programs, festivals and other refuge services. A new Junior Ranger Summer Camp program was developed, which turned out to be a big hit for the local community. The visitor center storyteller was resuscitated and enhanced by the Sally Corporation in Jacksonville, FL. By the end of 2003, the re-paving project had begun at the East Entrance parking lot area.

In 2003 visitation was noticeably higher. Water levels, in the swamp, were higher than past years allowing visitors to utilize a greater number of canoe trails.

Visitor Use Statistics

Visitors to Okefenokee NWR came from all 50 states and over 35 countries. Taking advantage of the best water conditions in five years, visitation increased 12%. (Table 19, 20, 21).

Table 19. Visitation by entrance.

Entrance	2003	2002	2001	2000	1999
East	116,107	111,439	113,463	84,471	102,950
West	193,205	147,312	164,430	93,177	96,296
North	60,347	61,019	71,543	64,724	74,173
Total	369,659	319,770	349,436	242,372	273,419

Table 20. Day-use.

Trail	Number of Visits
Homestead Trail	1,241
Deerstand Trail	3,304
Boardwalk ("Swamp Walk")	24,771
Upland Discovery Trail	4,129
Canal Diggers Trail	3,304
Swamp Island Drive (auto tour)	82,652

Table 21. Visits to Interpretive Exhibits.

	2003	2002
Richard S. Bolt Visitor Center	49,675	41,916
Chesser Island Homestead	24,771	20,803

Public Use Facility Improvements

- AmeriCorps and volunteers completed working on the discontinued airboat trail. This trail gives canoeists an opportunity to travel the main canal run separate from motorboats.
- Refuge volunteers and AmeriCorps continue to help trim boat, canoe and hiking trails.
- Canal Run overnight shelter, Monkey Lake and Coffee Bay day-use shelters were re-built.
- New trailers were added at volunteer village and improvements of facilities continue.
- Kingfisher Landing boathouse roof was replaced due to termite infestation.
- Sections of the Chesser Homestead were rehabilitated.
- Diaper changing stations were added to restrooms and motion sensor light switches were installed.
- Re-paving work began on the East Entrance visitor center parking lot as part of the overall renovation plan. The new layout provides better traffic flow and safer access for bus loading and unloading.
- Facility improvements were added to Okefenokee Adventures using Fee Demo Entrance dollars.

Policy Changes

Entrance Fees

Entrance fees were collected at the West Entrance (Stephen Foster State Park) and the East Entrance concessions (Okefenokee Adventures). Entrance fees are also required to access the refuge from the Suwannee River Sill and Kingfisher Landing. At both unstaffed areas, visitors

are required to pay at a staffed location or purchase their entrance document by mail. The remoteness of these areas and limited security make a self-service fee station impractical.

Fee booth operation at the East Entrance is staggered to meet projected demand throughout the year. The program is being evaluated and adjusted to meet the needs of both the refuge and Okefenokee Adventures.

Accountable passes continue being distributed to daily visitors and placed on vehicle dashboards. In the past, other passes were distributed for administrative purposes, school groups, bikers, etc. These passes were condensed into one single pass in order to reduce paper and confusion. This pass can be issued to visitors who own traditional credit card-sized passes such as the, Golden Eagle Passport, Golden Access Passport and Golden Age Passport to prevent their official pass from falling into the dash.

Guiding

Nothing to Report.

Wilderness Canoe Program

A computer software package was purchased to provide the public with the ability to check the availability of overnight platforms on the Internet. We anticipate fewer phone calls, for general information about canoe trips, at the administrative office and visitor center.

Interpretation

In 2003 refuge staff provided several programs and orientations for Elderhostel groups, Boy Scouts, 4-H Clubs, Cub Scouts, day cares, Jacksonville Naval Air Station, YMCA, church groups, primary and secondary school groups, college classes and Florida and Connecticut Audubon Societies. Refuge staff and volunteers spent time roving on hiking trails and providing interpretation at the Chesser Island Homestead, Coffee Bay and Monkey Lake Day-Use Canoe Shelters and Billys Island.

Evening Owl Prowls were presented to visitors by refuge staff, volunteers and AmeriCorps. Owl Prowls are currently held the second Saturday of each month beginning in November and ending in May.

Volunteer Sally Webb led a Pinestraw Picture Frame workshop in the Visitor Center during January. Eleven people participated in learning this age-old craft.

Environmental Education

Refuge Ranger Sallie Gentry, Biologist Sara Aicher and volunteers developed several Environmental Education programs meeting Georgia's Quality Core Curriculum. Many school groups took advantage of these opportunities (Table 22). Public Use staff continues to work closely with Okefenokee Adventures in planning, developing and implementing quality

educational programs. Ranger Gentry hosted two teacher workshops at the visitor center for Armstrong Atlantic University educators, with topics covering the swamp habitats and associated flora and fauna plus environmental education opportunities.

Table 22. Environmental Education conducted by refuge staff CY 2003.

Visitors	Number of Visits	Activity Hours
Students	1,012	4,048
Teacher	95	380

Junior Ranger Summer Day Camp

Eighteen children participated in the Junior Ranger Summer Camp program held June 16 – 18. Developed by intern Roopa Kamesh as part of her graduate study, activities centered on the themes of wetland ecology, cultural history, and refuge management issues. A graduation ceremony was held during lunch on the last day, with a special visit and congratulations from Refuge Manager Skippy Reeves. Several staff and volunteers assisted during the programs (Figure 11).



Figure 11. Ranger Gracie Gooch demonstrates how to mix the plaster for animal track casting.

Coordination with the Georgia Wildlife Federation, Okefenokee Education and Research Center (OERC), was stepped up this year as a result of construction and renovation of the old school buildings in Folkston, GA. The building will house the OERC visitor and administrative facilities. Renovation of the first building is scheduled for completion in early 2004.

On-site Special Events

Wings Over the Swamp

Visitation was low for Wings Over the Swamp due to unfavorable weather conditions. Visitor center records showed 180 visits for the event. Activities included games, crafts, exhibits, early morning bird walk, evening Owl Prowl and music by the Shadetree Pickers. Georgia Southern Raptor Center and Bethune Elementary Choir were unavailable this year. AmeriCorps Red 1 team, volunteers and staff provided support (Figure 12).



Figure 12. AmeriCorps member helps young visitors create woodpeckers to take home.

National Wildlife Refuge System Centennial Celebration

Refuge staff and volunteers converged on the birthplace of the National Wildlife Refuge System during the centennial celebration. They performed a multitude of tasks, including media support, interpretation along the new boardwalk and tower overlooking Pelican Island and hosting a

booth with exhibits, handouts, and activities. Tens of thousands of visitors attended the weeklong event which included numerous activities and booths by refuges from all over the country. Secretary of Interior, Gale Norton was on hand for the dedication of the new boardwalk and tower.

On March 15, Refuge Ranger Gracie Gooch and volunteers operated a booth in cooperation with the Folkston Postal Service next to the post office in Folkston, GA. The event featured a Temporary Philatelic Station offering a pictorial cancellation commemorating the Centennial of the National Wildlife Refuge System. About 25 visitors took advantage of the offer. Activities, exhibits and a cake honoring the occasion were available at the refuge visitor center. Over 500 visits were recorded.

Refuge Ranger Gisella Burgos and intern Roopa Kamesh traveled to Piedmont NWR to assist with Centennial events on March 15. Activities included bird walks, herpetology and eagle program, kids activities, time capsule burial, plant walks and a RCW program. About 250 visitors came and learned about our Centennial.

Refuge Ranger Gisella Burgos, intern Roopa Kamesh, and Refuge Operations Specialist Daniel Laber assisted the Regional Office in celebrating the Centennial for the staff in Atlanta, GA on April 24. The refuge hosted a booth with exhibits and handouts.

Book Signing

Noted children's book author, Jim Arnosky presented a book signing and artistic presentation on March 27 in the visitor center auditorium. A sketching demonstration, guitar playing and short literary introduction completed the program. Local school children and community members attended the event. Signed original artwork created during the program was presented to the refuge by the author.

National Wildlife Week/Earth Day

The refuge celebrated National Wildlife Week by participating in the Georgia DOT Adopt-a-Highway litter pickup. Refuge Ranger Gracie Gooch and seven volunteers collected 107 bags of trash along a two mile stretch of Highway 121/23.

A refuge sponsored art contest had 127 entries from St. George Elementary, Bethune Elementary, Ware County Middle School and home schools. Judges included Refuge Ranger Sallie Gentry, intern Roopa Kamesh, volunteer and local photographer Pam Sikes, McDonald's Store Manager Melissa Lawrence and Charlton County Library Assistant Manager Dorinda Montgomery. Ribbons were given for selected artwork, along with coupons for free food at McDonald's and discounted merchandise from the Visitor Center bookstore. OWL, Folkston Kiwanis Club, McDonald's of Folkston, GA. and the Charlton County Public Library supported the event. The theme was "Wild and Swampy". Entries were posted in the Charlton County Library prior to judging. Winners were posted in McDonald's for the week preceding Earth Day.

The refuge hosted the first annual bicycle tour on wildlife drive. Refuge staff and volunteers hosted seven booths at varying intervals along the drive, with each booth highlighting different management strategies including biology, forestry/fire, public use, cultural resources and animal/plant diversity. Each booth had exhibits and hands-on activities for the public. There were about 200 visitors on the drive but most were in vehicles. Six staff and twenty-two volunteers helped make the event a success. (Figure 13).



Figure 13. Volunteer Pam Sikes looks on as two visitors learn about refuge wildlife.

International Migratory Bird Day

This event is an annual celebration highlighting awareness of migratory bird conservation. Activities included a morning bird walk, exhibits, woodpecker program at the Upland Discovery Trail and an evening Owl Prowl. About 97 visitors enjoyed the celebration.

National Fishing Week

In 2003 National Fishing Week events were held at Banks Lake NWR. Refer to the annual narrative for Banks Lake for more information about the event.

National Public Lands Day/Fee Free Day

Volunteers worked most of the day restoring and cleaning up the historic Chesser Island Homestead in honor of the Tenth Annual National Public Lands Day held on September 20. This is the largest annual single-day volunteer restoration effort for public lands. Volunteers did everything from splitting wood for the picket fence to raking the sandy yard.

National Wildlife Refuge Week/Okefenokee Festival

In spite of the drizzling rain, about 600 visitors enjoyed activities at the Chesser Island Homestead. Two 20'x20' tents were rented from Kings Bay and several exhibitors were placed underneath. The Shadetree Pickers provided musical entertainment, along with 4-note singing from the Roddenberry sisters. Almost one hundred volunteers and numerous staff made sure that the event went smoothly. Volunteers also hosted a booth in Folkston during the Okefenokee Festival. The float, designed and created by refuge staff and volunteers with the theme "Children Are Our Future", won first place.

Special Assistant Clint Riley Visits Refuge

On March 8-9, OWL, the cooperating association for the refuge, sponsored a visit by Clint Riley, Special Assistant to Director Steve Williams. Refuge Rangers Gisella Burgos and Sallie Gentry, along with Environmental Services Biologist John Kasbohm, guided the guest on an overnight wilderness canoe trip to Cedar Hammock shelter.

Starry Night at Chesser Island (aka Chesser Island Christmas)

The name of the event has changed for the second year in a row to encompass non-holiday activities such as star viewing. About 200 visitors came out to enjoy the holiday festivities. Volunteer Dory Stauff on keyboard, Gene Stauff on trumpet and Noah Wetzel on fiddle provided music. The Roddenberry sisters performed 4-note singing of traditional carols and led singing with visitors. A Christmas skit to the poem, "Twas the Night Before Christmas" was created by AmeriCorps members and narrated by Chip Campbell. Volunteers provided theatric antics enhancing the creative poem. Visitors enjoyed cookies, pie, hot apple cider and hot chocolate as they gathered around the bonfire provided by the refuge staff. Traditional holiday decorations adorned the homestead, while luminaries lined the pathways. Visitors enjoyed a hayride around the Chesser Island loop of wildlife drive. The astrology program was cancelled due to predicted cloudy weather conditions. Staff and volunteers all pitched in to make the evening special.

Hunting

Georgia DNR Ranger Mike Brooks presented a Hunter Education course to students on September 13 at Okefenokee NWR.

The annual quota hunt at Suwannee Canal Recreation Area was held on October 24 and 25. The first day of the hunt reported 32 participants and 26 on the second day. A total of eight does and four bucks were harvested.

The Cowhouse Unit was open in conjunction with the adjacent Dixon Memorial Wildlife Management Area. Deer, turkey and small game including rabbit, bobwhite quail and squirrel were hunted in compliance with state regulations and season.

The Pocket Unit was opened this year to archery only hunting from September 13 through October 16. Hunters were required to register daily. There were 324 hunters signed this year, down from the previous years total of 502. There were 11 deer harvested this season down from 19 deer harvested in 2002. Four does and seven bucks including one spike, one 7-point, three 8-point, one 9-point one 10-point, were reported.

Fishing

Due to high water levels fishing opportunities increased in the swamp during 2003 (Table 23).

Table 23. On-refuge anglers.

Refuge Access	2003	2002	2001
East Entrance	1,277	96	1,259
West Entrance	2,996	2,871	3,179
Kingfisher Landing	996	367	579
Suwannee River Sill	1,373	274	699
TOTAL	6,642	3,608	5,716

Camping

Tent, RV, and cabin camping are available at the West Entrance in Stephen C. Foster State Park. Visitation increased in 2003 by 52% with 13,135 compared to last years 6,882 visits spending 55,056 (Table 24). Based on an 8 hour day, park visitors accumulated 105,080 activity hours in 2003.

Table 24. Campers at Stephen C. Foster State Park.

Camp Site	Number of Visits		
	2003	2002	2001
Tent/RV Campers	9,557	4,875	9,045
Cabin Users	3,578	2,007	7,137
Total	13,135	6,882	16,182

Concessions

The North Entrance, Okefenokee Swamp Park, contract was renewed in 1999 and is valid through 2008. Okefenokee Swamp Park offers visitors boat and canoe rentals, boat tours, food services and visitor services.

The West Entrance, Stephen C. Foster State Park, is operated by the Georgia Department of Natural Resources. The state park offers camping, boat and canoe rentals and visitor services.

The East Entrance, Okefenokee Adventures, celebrated their third year of operation in September. Refuge staff conduct monthly inspections and continue to meet with the owners regularly. Tour audits were conducted and most guides work well with the public. Most major issues have been resolved and communication remains good. Okefenokee Adventures has been able to employ and retain several high-quality employees. Focus in 2004 will be planning for a new concession building.

8.b. OUTREACH

Partnerships

International Paper Company

The refuge reviewed and updated a Memorandum of Understanding (MOU) to provide an interpretive trail and appropriate habitat buffer along the East Entrance access road. The trail, which linked the existing Canal Diggers trail with the Phernetton Longleaf trail, incorporates use of refuge and The Conservation Fund, formally International Paper Company, property. International Paper has also contracted through OWL the provision of interpretive kiosks and trailhead signing. The trail has already been marked and is now open for daily use. A Grand Opening ceremony is anticipated in the near future.

Banrock Station Winery

As a result of a fall 2002 visit and tour set up by OWL, this Australian winery has expressed a desire to fund a wetland-related refuge project. Pac-Wines who administers the funding has had difficulties setting up procedures for awarding the funds through an international conservation organization during CY2003. Funding is anticipated during CY 2004.

Georgia Wildlife Federation

The refuge entered into a MOU to provide environmental education program coordination and funding to assist with exhibits for the newly renovated Okefenokee Education and Research Center (OERC). The OERC is expected to open in 2004.

Local Community Outreach

Refuge staff participated in several community organizations, including the Okefenokee Chamber of Commerce, Better Hometown Program, Kiwanis Club and others. Staff also attended meetings on the Better Hometown initiative and participated in the "Keep Charlton Beautiful" campaign. Refuge staff and volunteers participated in the annual American Cancer Society Relay for Life, Okefenokee Festival and Mizell House Gala.

Fire Outreach

Nothing to Report.

North Florida Ecosystem Outreach

Volunteers Jack and Sally Webb staffed a booth promoting the refuge system at the Florida State Fair.

Other Outreach Initiatives

As part of a statewide Service Centennial initiative, refuges across Georgia staffed exhibits along major interstates in eight separate locations on January 15. Supervisory Refuge Ranger Jim Burkhart and volunteers staffed refuge exhibits at Kingsland and Valdosta Visitor Centers on I-95 and I-75.

Refuge staff and volunteers also setup and staffed exhibits at the Buck-A-Rama and Fish-A-Rama events in Atlanta and Perry, GA., Coast Fest in Brunswick, and Pine Woods Birding Festival in Thomasville.

Volunteers helped to provide refreshments during the Special Olympics Georgia (SOGA). SOGA was selected as the participant charity in 2003.

Volunteers continue to be active in the local elementary school, Read-A-Loud program.

Volunteer Sally Webb provided a program for Bank of America in Jacksonville, FL on November 18.

Georgia Nature-Based Tourism Association

Supervisory Refuge Ranger Jim Burkhart continues to be active with the Georgia Nature-Based Tourism Association, an organization consisting of outfitters, campground owners and other stakeholders. This group was initiated in response to the DuPont strip mining threat to convince small rural communities that nature-based tourism was a viable economic growth incentive that was just as valuable as large and small industry. After two years of sub-par funding and local membership the organization will be expanding state wide in CY 2004.

One of the major projects taken on by this group has been the development of a waterway trail from the Atlantic Ocean, up the St. Marys River, through the Okefenokee NWR and down the Suwannee River to the Gulf of Mexico. This planning group is hoping to enlist the cooperation, financial, and political support of both Georgia and Florida in completion of this trail.

Okefenokee Trail

Supervisory Refuge Ranger Jim Burkhart has met with representatives of local counties surrounding the refuge and members of Georgia Department of Industry, Trade and Tourism interested in developing an Okefenokee Trail designated and officially signed by the Georgia Department of Transportation. The Okefenokee Trail will promote all of the opportunities available to tourists that visit this area. The area to be popularized by the trail includes the county assets east and west of the Okefenokee between Interstates I-95 and I-75. This planning group will still be in the developmental stage during CY 2004.

Media Contacts/Events

Media contact continues to be important for refuge events and issues. Staff was interviewed for several films, documentaries and other media outlets throughout the year. Several news stories on topics ranging from fire to volunteers were completed. Supervisory Refuge Ranger Jim Burkhart developed the "Blue Goose Corner" feature for the Georgia Wildlife Federation Quarterly newsletter. Authors from various refuges in Georgia wrote articles on their field stations for this publication to help with the Centennial Celebration.

The refuge purchased two tabletop displays through the National Conservation and Training Center that verbally and pictorially illustrate all the National Wildlife Refuges in Georgia. These displays were used at numerous fairs, trade shows and other Centennial Outreach events during the year.

Web Page

Gracie Gooch and Sallie Gentry attended Web Page Development training this summer. They are currently updating the web page for the refuge. OWL maintains a separate web site and now has an email account for public access and to accept orders for bookstore items.

Off-refuge Special Events/Community Events

Okefenokee Regional Fair

The Okefenokee NWR and Okefenokee Swamp Park combined resources to represent the three main refuge entrances at the Okefenokee Regional Fair in Waycross, GA. The booth incorporated information about the Christmas light show along the train ride available at the Okefenokee Swamp Park as well as information and giveaways related to the National Wildlife Refuge System's Centennial Celebration. The booth took second place honors.

Relay for Life

Refuge Ranger Gracie Gooch once again captained the Okefenokee Relay for Life team, a community effort to raise money for the American Cancer Society. The event requires teams to field at least nine people to walk for 14 hours, beginning at 7:00 p.m. One person from the team must be on the track at all times. Over 50 refuge staff members, volunteers, and AmeriCorps participated in the event, which also included a cookout.

Woodbine Elementary School Community Awareness Fair

In May, the refuge participated for the first time, in this event. The event was created by the school system to introduce children to opportunities in their neighborhood and create awareness and appreciation of their community organizations. Seven AmeriCorps team members operated a booth for Kindergarten through Second grade children. Incorporating a frog theme, the team presented a Read-a-loud program, played recordings of various frog calls and created a display table with the life cycle of frogs and differences between frogs and toads. Three members of the team dressed up as an Owl, Raccoon and Alligator. We reached approximately 250 people.

Kids Day America

This is an annual event held in May presented by Drs. Lesa and David Amato at the Mariners Village Business Park in Kingsland, GA. Their sponsor this year was D.A.R.E. Many community organizations participated, including Kingsland Police and Fire Department, Blockbuster Video, K-Bay Radio Station, 911 Center Kingsland, GA Department of Natural Resources (DNR), Environmental Protection Agency and Elks Club. Activities included fingerprinting by the Department of Defense, video ID by Blockbuster, handouts on safety and environmental awareness and appearances by “McGruff” the Crime Dog and “Sparky” the Fire Dog. One temporary staff member, Deborah Strock, and two AmeriCorps members operated the refuge booth. About 250 people visited the event.

Pine Woods Birding Festival

Refuge Ranger Sallie Gentry, Forestry Technician Raymond Beacom and volunteer Russell Barber hosted a booth at Pebble Hill Plantation in Thomasville, GA on April 5. The event features the birds, butterflies and beauty of southern longleaf pine forests. Their goal is to use the popularity of bird watching to educate people about conservation of longleaf pine ecosystems in the Red Hills region in southern Georgia. David Brownlie, US Fish and Wildlife Service (FWS) Fire Ecologist at Tall Timbers Research Station and Shari Brewer, regional office Migratory Birds Division, combined exhibits with the refuge. Games, handouts about birds, Red-cockaded Woodpecker and Longleaf Pine habitats, Refuge Centennial information and other giveaways were available. Over 400 visitors attended this annual event. Other participating organizations included Georgia DNR, Georgia Ornithological Society, Tall Timbers Research Station and many other organizations. Georgia Southern Raptor Rehabilitation Center presented a raptor program. A children’s activity tent was provided.

Colonial Coast Birding Festival

The refuge provided volunteer assistance for booths at the Colonial Coast Birding Festival headquarters on Jekyll Island, GA. Numerous field trips, seminars and workshops were available for participants, including field trips to the Okefenokee NWR. Savannah NWR supported the event, along with other partners.

Earth Day (Kings Bay Naval Station)

Refuge Ranger Gracie Gooch and AmeriCorps team members provided information about the refuges conservation efforts for Earth Day celebrations held at Kings Bay Naval Station on April 10.

9.

PLANNING AND ADMINISTRATION

9.a. COMPREHENSIVE MANAGEMENT PLANNING

The primary emphasis of the Comprehensive Conservation Planning effort in 2001 was to scope public opinion. In 2002, the core planning team that include representatives from the refuge management staff, Georgia Wildlife Federation, Georgia Department of Natural Resources, Georgia State Parks and Historic Sites, Osceola National Forest and a private consultant met once to finalize the alternatives and move toward goals and objectives. In 2003, the refuge staff re-focused on the plan and met weekly. Objectives and strategies were completed. The refuge staff also had discussions with Service Wilderness coordinators. The core team met in December to finalize the goals, objectives and strategies and the environmental consequences. By years end, the majority of the draft was complete, The Environmental Assessment draft and the plan should be sent to the Regional Office early in 2004. The step-down plans are also being written in order to be ready for public review along with the final draft of the CCP.

9.b. GENERAL ADMINISTRATION

The Okefenokee NWR maintained a staff of 32 personnel. The majority of staff is full time with a small number of career seasonal and temporary positions (Table 25). Table 26 lists refuge employees and current positions. Staff photos are included in Figure 14, 15, 16 and 17.

Table 25. A five-year comparison of Okefenokee's current staffing pattern.

Year	Full-time	Career-Seasonal Firefighters	Temporary	Firefighters
FY 2003	26	5 (3.55 FTE)	1	0
FY 2002	26	5 (3.55 FTE)	0	0
FY 2001	27	5 (3.55 FTE)	0	0
FY 2000	28	5 (3.55 FTE)	1	0
FY 1999	28	5 (3.55 FTE)	1	0

Table 26. Okefenokee Refuge Staff for 2003.

Name	Title
M. Skippy Reeves (EOD 02/21/93)	Refuge Manager (GS 14, PFT)
W. Shaw Davis (EOD 04/10/97)	Deputy Refuge Manager (GS 13, PFT)
Dartha P. Campbell (EOD 12/06/76)	Administrative Officer (GS 9, PFT)
Beverly A. Derouin (EOD 03/05/95)	Office Assistant (GS 6, PFT)
Judy L. Drury (EOD 04/11/88)	Office Assistant (GS 6, PFT)
Sara Brown Aicher (EOD 03/10/91)	Biologist (GS 12, PFT)
Dean E. Easton (EOD 03/09/03)	Wildlife Biologist (GS 9, PFT)
James N. Shelton (EOD 07/05/87)	Park Ranger (Refuge) (LE) (GS 9, PFT)
James A. Burkhart (EOD 06/11/78)	Sup. Park Ranger (Refuge) (GS 12, PFT)
Gisella Burgos (EOD 01/26/03)	Park Ranger (Refuge) (GS 11, PFT)
Gracie A. Gooch (EOD 05/29/84)	Park Ranger (Refuge) (GS 7, PFT)
Blaine D. Eckberg (EOD 10/19/03)	Park Ranger (Refuge) (GS 5, PFT)
Sallie D. Gentry (EOD 07/15/01)	Park Ranger (Refuge) (GS 7, PFT)
Everette Sikes (EOD 03/15/87)	Maintenance Worker (WG 7, PFT)
Stiner Jones (EOD 09/19/83)	Maintenance Worker (WG 6, PFT)
Frederick E. Wetzel (EOD 05/03/92)	Forester/FMO (GS 12, PFT)
James R. Langford (EOD 04/06/03)	Forester/AFMO (GS 11, PFT)
Howard McCullough (EOD 01/05/87)	Forestry Technician (GS 8, PFT)
Reggie Forcine (EOD 07/23/95)	Forestry Technician (GS 7, PFT)
Richard B. Boatright (EOD 01/05/97)	Fire Program Assistant (GS 5, PFT)
Douglas E. Nuss (EOD 01/16/77)	Sup. Engineering Equip. Oper. (WS 10, PFT)
Tony R. Gooch (EOD 08/18/80)	Automotive Worker (WG 8, PFT)
* Gregory S. Blanks (EOD 04/02/95)	Engineering Equip. Oper. (WG 8, PFT)
Rockwell M. Chesser (EOD 06/23/96)	Engineering Equip. Oper. (WG 8, PFT)
Stacey A. Welch (EOD 07/23/95)	Engineering Equip. Oper. (WG 8, PFT)
William E. Sikes (EOD 05/24/98)	Lead Forestry Technician (GS 6, PPT)
Raymond E. Beacom (EOD 06/03/01)	Forestry Technician (GS 5, PPT)
Cory R. Bryant (EOD 06/03/01)	Forestry Technician (GS 5, PPT)
Danny Jack Willis (EOD 07/16/00)	Forestry Technician (GS 5, PPT)
Daniel J. Laber (EOD 07/22/01)	Refuge Operations Specialist (GS 5, PPT)
Jared R. Allsbrooks (EOD 06/01/03)	Student Trainee (GS 3, SCEP)
James R. Barber (EOD 07/13/03)	Park Ranger (Refuge) (GS 4, 1040 APT)

* Transferred to Savannah Coastal Refuges, Savannah, GA



Figure 14. Front Row (L-R): J. Drury, S. Reeves, D. Campbell
Back Row (L-R): J. Shelton, J. Kasbohm, S. Davis



Figure 15. Front Row (L-R): S. Aicher, D. Easton, T. Gooch, B. Boatright
Middle Row (L-R): R. Chesser, G. Blanks, C. Bryant
Back Row (L-R): H. McCullough, R. Forcine, R. Langford, S. Welch,
F. Wetzel, W. Sikes, D. Nuss, D. Laber, R. Beacom



Figure 16. Front Row (L-R): S. Gentry, J. Burkhart, G. Burgos
Back Row (L-R): S. Jones, G. Gooch, R. Barber



Figure 17. Front Row (L-R): D. Willis, E. Sikes, B. Eckberg, B Derouin

Judy Drury was promoted from Office Automation Clerk, GS-0326-4 to Office Assistant, GS-0303-5 effective January 12, 2003.

Effective January 12, 2003, Beverly Derouin was promoted from Office Automation Assistant, GS-0326-5 to Office Assistant, GS-0303-6.

On February 9, 2003, Crystal Rose, Student Career Experience Program (SCEP) student was terminated from Okefenokee NWR

On May 18, 2003, Jared Allsbrooks was reassigned to Okefenokee NWR under SCEP. He also worked under the Student Temporary Employment Program (STEP) at Tennessee and Cross Creeks National Wildlife Refuges.

June 1, 2003, Daniel J. Laber was reassigned from his Forestry Technician position to a Refuge Operations Specialist to allow him to develop his skills in the managerial series working toward his long-term goals based on his individual development plan.

Chad Jones was brought on board July 9, 2003 as a 30-day emergency hire Maintenance Worker/Adult YCC Leader.

James R. Barber came on board as a Park Ranger (1040 appointment) effective July 13, 2003.

Effective July 27, 2003, Gracie Gooch was promoted from Park Guide, GS-0090-5, to Park Ranger (Refuge) GS-0025-7.

On August 7, 2003, Chad Jones appointment was extended 30 days.

Effective September 7, 2003, Richard B. Boatright was reassigned from Office Automation Assistant, GS-0326-05, to Fire Program Assistant (OA), GS-0303-05.

9.c. TRAINING AND TRAVEL

Summaries of training and other travel are listed on Table 27 and 28.

Table 27. Training attended by permanent personnel in 2003.

Brantley Boatright	ROSS Training	Tallahassee, FL	Jan 6-10
Jim Shelton	Armors Glock Training	Smyrna, GA	Jan 20
Dartha Campbell Beverly Derouin	IDEASPD Training	Atlanta, GA	Jan 22-24
Jim Shelton	Field Officer Training Course	St. Simons Island, GA	Feb 10-14
Sara Aicher Howard McCullough	GPS for ICS Training	Tallahassee, FL	Feb 24-28
Jim Shelton Shaw Davis	Annual LE Refresher Training	Quincy, FL	Feb 24-28
Greg Blanks Stacey Welch	Annual LE Refresher Training	Quincy, FL	Mar 1-7
Dan Laber Cory Bryant	S-211 Engine Academy Training	Starke, FL	Mar 8-14
Shaw Davis Howard McCullough Fred Wetzel	S-580 Advanced Fire Use Training	Tucson, AZ	Mar 10-14
Fred Wetzel	M-580 Fire in Ecosystem Management	Tucson, AZ	Mar 30-Apr 3
Sara Aicher Dean Easton	ARC GIS Training	Atlanta, GA	Apr 27-May 1
Jim Burkhart	Retirement Seminar	Atlanta, GA	Apr 20-23
Beverly Derouin	S-360 Finance Administration Unit Leader Training	Tallahassee, FL	May 19-23
Skippy Reeves Jared Allsbrooks	SCEP Orientation	Savannah, GA	Jun 9-12
Judy Drury	Casual Pay Specialist Training	Boise, ID	Jun 16-19

Russ Langford Reggie Forcine	R4 Fire/Fuels Monitoring Workshop	Deland, FL	Jun 16-19
Jared Allsbrooks	Franklin Planner Training	Orlando, FL	Jun 18
Brantley Boatright Gracie Gooch Sallie Gentry	TEC 7154 Internet Home-Page for Fish and Wildlife Information	Shepherdstown, West VA	Jun 22-26
Russ Langford	B-3 Basic Aviation Training M-3 Aviation Management for Supervisors	Manteo, NC	Jun 23-27
Jared Allsbrooks	Bird Banding Workshop	St Marks, FL	Jun 25-27
Everette Sikes Stiner Jones	Pre-Retirement Seminar	Edenton, NC	Aug 11-14
Everette Sikes	GA Rural Water Conference	Helen, GA	Oct 26-28
Tony Gooch	Mercury Marine Training	Orlando, FL	Oct 26-29
Gisella Burgos	Basics of Working With the News Media	Bloomington, MN	Oct 29-31
Dan Laber	Prescribed Fire Planning Implementation	Savannah, GA	Nov 3-7
Beverly Derouin	I-Suite Training	Welaka, FL	Nov 3-6
Sallie Gentry	National Interpretive Association Workshop	Reno, NV	Nov 10-16
Dan Laber Cory Bryant Raymond Beacom	S 212 Chainsaw Safety Course	Brooksville, FL	Nov 17-20
Fred Wetzel	ACE Training	Orlando, FL	Dec 1-5

Table 28. Travel by permanent personnel in 2003

Skippy Reeves	National Fire Plan Meeting	New Orleans, LA	Jan 14-15
Jim Burkhart	Hunt Meeting	Madison, GA	Jan 16-17
Sara Aicher Howard McCullough	RCW Symposium	Savannah, GA	Jan 27-31
Reggie Forcine Raymond Beacom Fred Wetzel	Assist Eufaula NWR with Prescribed Burn	Eufaula, AL	Jan 26-30
Skippy Reeves Shaw Davis	Banks Lake Meeting	Lakeland, GA	Jan 28-29
Gracie Gooch	Centennial Refuge Friends Conference	Washington, DC	Jan 31-Feb 4
Fred Wetzel Brantley Boatright	Annual FMO Meeting	Atlanta, GA	Feb 3-7
Jim Burkhart	Fish-A-Rama	Perry, GA	Feb 7-8
Howard McCullough Will Sikes Danny Jack Willis Rocky Chesser	Assist Eufaula with Prescribed Burn	Eufaula, AL	Feb 12-14
Jim Shelton	Instructor for Annual Le Refresher Training	Quincy, FL	Mar 1-7
Fred Wetzel	Florida Interagency Cooperators Meeting	Gulf Breeze, FL	Mar 6-7
Skippy Reeves	Project Leaders Meeting	Melbourne, FL	Mar 10-15
Jim Burkhart	Assist With Pelican Island Centennial Celebration	Sebastian, FL	Mar 11-17
Jim Shelton Stacey Welch	LE Detail Pelican Island Centennial Celebration	Sebastian, FL	Mar 11-15
Dartha Campbell	Assist With Pelican Island Centennial Celebration	Sebastian, FL	Mar 12-17

Judy Drury Sallie Gentry	Assist With Pelican Island Centennial Celebration	Sebastian, FL	Mar 13-17
Gisella Burgos	Assist With Piedmont NWR Centennial Events	Forsyth, GA	Mar 14-15
Beverly Derouin	Cost Unit Leader – Shuttle Recovery	Hemphill, TX	Mar 19-Apr 4
Skippy Reeves Shaw Davis	Assist Merritt Island With Scrub Jay Survey	Titusville, FL	Mar 24-25
Greg Blanks	LE Assist – Shuttle Recovery	Hemphill, TX	Mar 28-Apr 12
Rocky Chesser	Heavy Equipment Meeting	Grenada, TN	Mar 31-Apr 4
Raymond Beacom Sallie Gentry	Assist With Pinewoods Birding Festival	Thomasville, GA	Apr 4-5
Gisella Burgos	Assist Regional Office With Centennial Celebration Festivities	Atlanta, GA	Apr 21-25
Skippy Reeves	Southeastern Regional Comprehensive Wildlife Conservation Plan Workshop	Atlanta, GA	Apr 21-23
Dan Laber	Assist Regional Office With Centennial Celebration Festivities	Atlanta, GA	Apr 23-25
Sara Aicher	GIS Meeting	Atlanta, GA	Apr 27-May 1
Fred Wetzel	Fire Use Review Noxubee NWR	Starkville, MS	May 5-9
Dan Laber Cory Bryant Stacey Welch	Assist Mississippi Sandhill Crane NWR With Prescribed Burn	Gautier, MS	May 11-24
Dean Easton	RCW Banding Cert.	Ft Stewart, GA	May 12-15
Greg Blanks	LE Manatee Detail	Port Canaveral, FL	May 23-27
Greg Blanks	LE Detail	Savannah, GA	Jun 17-20
Stacey Welch	LE Detail for NPS	St. Louis, MO	Jul 1-6

Shaw Davis	LE Manatee Detail	Port Canaveral, FL	Jul 3-6
Will Sikes Raymond Beacom	Assist Florida Panther NWR With Prescribed Burn	Naples, FL	Jul 7-11
Reggie Forcine	Western Wildland Fire Assist	Wellpinit, WA	Jul 8-22
Skippy Reeves	Regional Office Meeting	Atlanta, GA	Jul 9-10
Fred Wetzel	Silvicultural Hazardous Fuel Reduction Review	Macon, GA	Jul 15-16
Brantley Boatright	Dispatch Assist at SACC	Atlanta, GA	Jul 20-Aug 4
Dan Laber Danny Jack Willis Cory Bryant	Western Wildland Fire Assist	Salt Lake City, UT	Jul 21-Aug 4
Stacey Welch	Assist Merritt Island With Prescribed Burn	Titusville, FL	Jul 21-24
Greg Blanks	Western Wildland Fire Assist	Kalispell, MT	Jul 26-Aug 9
Stacey Welch	Western Wildland Fire Assist	Hamilton, MT	July 30-Aug 14
Reggie Forcine	Western Wildland Fire Assist	Elk City, ID	Aug 2-16
Shaw Davis	LE Detail	Kenai, AK	Aug 8-Sep 7
Judy Drury	Western Wildland Fire Assist	Missoula, MT	Aug 18-Sep 2
Russ Langford	Western Wildland Fire Assist	Klamath Falls, OR	Aug 20-Sep 4
Rocky Chesser	Western Wildland Fire Assist	Idaho Falls, ID	Aug 21-26
Fred Wetzel	Western Wildland Fire Assist	Jackson Hole, WY	Aug 21-Sep 3
Reggie Forcine Danny Jack Willis Raymond Beacom	Western Wildland Fire Assist	Missoula, MT	Aug 24-Sep 8
Will Sikes	Western Wildland Fire Assist	Seattle, WA	Aug 27-Sep 11

Beverly Derouin	Western Wildland Fire Assist	Missoula, MT	Sep 5-20
Danny Jack Willis Raymond Beacom	Florida Panther NWR to have Engine Bed installed	Naples, FL	Sep 11-12
Reggie Forcine Russ Langford Danny Jack Willis Cory Bryant Will Sikes	Hurricane Assist Alligator River NWR	Manteo, NC	Sep 20-Oct 4
Brantley Boatright	Hurricane Assist SACC	Atlanta, GA	Sep 25-Oct 4
Dan Laber Rocky Chesser	Transport Fish and Wildlife Exhibit Trailer to Hot Air Balloon Festival	Albuquerque, NM	Sep 28-Oct 4
Fred Wetzel Skippy Reeves	Fire Retreat – Briefing on Fire Use Management	Slidell, LA	Dec 12-13

9. d. ENERGY

Fuel and electrical usage decreased during CY 2003 (Table 29).

Table 29. Energy usage in CY 2003.

	CY 2003	CY 2002	CY 2001
Electricity (kwh)	286,407	338,451	277,653
Gasoline (gal)	14,270	17,195	13,756
Diesel (gal)	12,038	14,248	11,399

9.e. FUNDING

A decrease in refuge funds allocated for 2003 was consistent with trends observed over the past 5 years (Table 30).

Table 30. Refuge fund allocations from 1999-2003.

ACTIVITY	2003	2002	2001	2000	1999
1260	1270.4	1131.9	1213.7	1211.3	1544.2
6860	60.0	60.0	60.0	60.0	60.0
9251	741.9	875.0	1081.2	785.0	682.6
9263	180.0	99.3	99.3	66.2	54.5
9264	105.0	21.0	0.0	0.0	0.0
1100	0.0	8.0	0.0	0.0	10.0
2111	0.0	0.0	274.9	0.0	0.0
2810/2821	0.0	67.1	190.80	991.5	1000.0
2960	0.0	0.0	5.4	279.4	537.0
8555	1.2	0.0	0.0	0.0	0.0
Federal Highway	0.0	435.0	70.0	0.0	0.0
TOTAL ALLOCATION	2358.5	2697.3	2995.3	3393.4	3888.3

2003 Includes MMS (140.0), YCC (19.2), signs (1.2), helicopter contract (25.0)

2002 Includes MMS (219.5), YCC (19.2), visitor center and restrooms renovations (67.1), helicopter contract (25.0), locker/shower facilities (28.0) and urban interface (Stephen C. Foster State Park (21.0).

2001 Includes contaminant (8.0), LE visitor/resource protection (79.0), trailcutter/dozer/trailer replacement (400.0), MMS (98.0), carryover funds from VC renovation (122.8), helicopter contract (50.0), locker/shower facilities (178.6), Federal Highway/VC restroom renovation (143.4).

2000 Includes MMS (184.0), contaminant (11.0), special road projects (279.40), carryover funds from VC (991.5), and helicopter contract (64.0).

1999 Includes MMS (648.0), contaminant (11.0), VC renovation (1000.0).

9.f. SAFETY

Safety meetings were held every month. Work hazard forms were completed and tailgate sessions were held before the beginning of each work project. Numerous topics including ethics, diet and exercise, exercise equipment use and chainsaw safety were discussed.

Permanent Employees Accidents

James N. Shelton – January 4, 2003

While patrolling a remote area of the refuge boundary, Officer Shelton stepped out of his truck onto a roofing tack puncturing his boot and left foot causing pain and bleeding. Officer Shelton went to Clinch Memorial Hospital for a Tetanus Immunization.

Raymond E. Beacom – January 29, 2003

Beacom and a fellow employee were working on a controlled burn in Eufaula, AL. While Beacom was spraying water on hot spots and the other employee was raking, a log was dislodged and pinched his leg. The leg, which was pinned, was already injured due to a previous non-work related accident. Beacom went back to his physician who was currently treating the pre-existing injury. He was put on light duty until further notice.

Raymond E. Beacom – July 29, 2003

Beacom received a scorpion sting on his upper right thigh. No loss of time or medical expense was incurred.

James N. Shelton – September 23, 2003

While patrolling the refuge on a Rokon, for upcoming bear season, Shelton attempted to cross over a log when the machine started to tip over. Shelton put his leg out to prevent the Rokon from tipping and in doing so twisted his right knee. Shelton went to Dr. Curt Starling at Hughston Clinic where he was diagnosed with a ligament sprain. He was referred for physical therapy. He was able to return to work but could not walk on uneven terrain.

Stiner Jones – December 8, 2003

Jones was working on the main gate controller when the cover of the box fell on his hand pushing the palm onto a sharp corner of the box. Jones sustained a deep gash to the palm of his right hand and was taken to Dr. Roger Huelsnitz of Homerville GA where his hand was examined, x-rayed and stitched. He was put on light duty until the stitches were removed.

James R. Barber – December 9, 2003

Barber and AmeriCorps Student Emily Boyarski were involved in a slow speed head on collision with another boat. On impact, Barber's neck snapped back and immediately started feeling pain in his shoulder. He went home that afternoon thinking he had pulled a muscle. When he was unable to come back to work, he was told to see a doctor. He went to Camden County Medical Center in Kingsland, GA where he was immediately rushed by ambulance to Shands Hospital in Jacksonville FL. He was diagnosed with several injuries to the vertebrae in his neck. The doctor put him in a halo to stabilize his neck. He will be in this halo for at least three months. He is currently on disability and will not return to work until he has been given doctor approval.

Raymond Beacom - December 23, 2003

While working on the refuge near Sweetwater Creek off Council Road, Beacom was stung numerous times by yellow jackets. Beacom developed an allergic reaction later on in the day and went to the Charlton Memorial Hospital Emergency Room. He was given several prescriptions to have filled at the local pharmacy and released.

Firefighter Accidents

Nothing to report.

Intern Accidents

Nothing to report.

Volunteer Accidents

Donald Ewing – March 22, 2003

Ewing twisted his left ankle getting into a boat. He was taken to Charlton County Memorial Hospital Emergency Room. He was diagnosed with an acute sprained ankle. He was given crutches and medication for the pain. He would be re-evaluated at a follow up visit with his regular doctor.

AmeriCorps Accidents

Rachel Kessous – February 27, 2003

Kessous stepped on a nail while rebuilding a shelter. The nail had punctured the left foot. She went to the Charlton Memorial Hospital Emergency Room for a tetanus immunization.

Youth Conservation Corp Accidents

Nothing to report.

9. g. VOLUNTEERS

The volunteer program continues to grow at Okefenokee NWR. As the full-time volunteer coordinator, Gracie Gooch devoted even more time to recruit volunteers and guide them on various refuge projects. In FY2003, over 150 volunteers contributed 18,211 hours; equivalent to more than eight full time employees. With declining staff and reduced budgets volunteers have become integral to maintaining the refuge, greeting visitors, assisting biologists and foresters and performing various other duties. They are especially important to the public use program. Without volunteers, visitors may have a less than pleasant experience on the refuge.

Volunteers accomplished many tasks this year. They performed lawn maintenance and landscaping, painted the exterior of buildings, maintained signs, trimmed canoe and walking trails, surveyed wildlife, planted longleaf pine seedlings, administered the recycling program, staffed the refuge visitor center, served as hosts for the Chesser Island Homestead, constructed and renovated overnight canoe shelters and represented the refuge at off-site events. In addition, many interpretive and environmental education programs were presented to educational groups and visitors that would not have been otherwise offered.

Volunteers had the opportunity to participate in several of the National Wildlife Refuge System Centennial events. Members devoted countless hours preparing and hosting exhibits at locations such as Georgia National Fair, Pelican Island NWR, Fish-a-rama's and Buck-a-rama's, Florida State Fair, Georgia Visitor Centers and Okefenokee NWR's Centennial Focus event. Through these efforts over 500,000 people were contacted and educated. They supported Congressional Staff Day, helping with funds, food and volunteer support.

On June 7, the annual volunteer awards ceremony was held. The volunteers enjoyed dinner followed by the awards ceremony. Several volunteers received certificates and hour pins.

Interns

Roopa Kamesh from Miami University in Oxford, OH was an intern from January 5 through July 3, 2003. Her duties focused primarily around the public use program but had the opportunity to learn about the biological and forestry programs as well. Roopa was an exceptional intern.

Projects consisted of the following:

- Developed a section of Okefenokee NWR's Environmental Education Guide Booklet.
- Combining trail guides into one publication.
- Developed, planned and prepared a one week, half-day, summer camp.
- Assisted with three annual events which included Wings Over The Swamp, National Wildlife Week and National Fishing Day.
- Daily visitor center operations.
- Interpretation at Chesser Island homestead.

AmeriCorps

Five AmeriCorps teams were selected this year to assist Okefenokee NWR with various projects. Projects included cutting more than 50 miles of motorboat and canoe trails, rebuilding Canal Run overnight shelter, Monkey Lake and Coffee Bay day-use shelters, building two shelters over the trailers at Volunteer Village, putting a new roof on Kingfisher boat house, planting several thousand longleaf pine seedlings, assisting forestry staff with prescribed burning and assisting with environmental education and interpretive programs (Figure 18). AmeriCorps spent three days with Osceola National Forest, a tri-agency partnership with Okefenokee NWR, assisting with the reenactment of the Olostee Battlefield.



Figure 18. Russell Barber instructs AmeriCorp in proper use of tools.

Youth Conservation Corps (YCC)

Okefenokee National Wildlife Refuge had a total of fifty applications. Three male (two minority) and two female (one minority) students were selected for the east side and three males and two females (one minority) for the west side YCC summer program. Two YCC leaders were hired to oversee the students. After the fifth week, the east side youth leader was fired due to misconduct.

The YCC kept trails and roads free of litter, maintained yards and lawns, maintained facilities, washed vehicles, trimmed walking and canoe trails and performed office work during inclement weather. Duties included work at both the East and West Entrances to Okefenokee NWR as well as Banks Lake NWR.

The YCC had the opportunity to learn about the purpose of the refuge by visiting the various refuge entrances. Field trips included the North, West, and East Entrance's to Okefenokee NWR as well as Banks Lake NWR. Okefenokee NWR and Cumberland Island National Seashore had an exchange field trip. The YCC youth leaders and enrollees from each station gave a tour of their facility and talked about different management techniques with a group of students from Cumberland Island. Through this program students learned a great deal about their work site and about Cumberland Island, off the coast of St. Mary's, GA.

The YCC attended monthly staff/safety meetings and interacted with refuge personnel in work related activities. The learning and work experience these students receive is invaluable.

9.h. COMPUTERS AND COMMUNICATION

All employees, interns, and volunteers either have a computer at their desk, or have easy access to one. The refuge's computer team reviews all employee concerns and requests before purchases of new equipment is made. These reviews ensure that: purchases are in compliance with FWS hardware and software specifications; orders are not duplicated; that the most cost effective software packages are purchased; and computers are purchased to meet employee's need in their particular field of work. During these reviews, priorities for purchasing are determined by the team.

The administrative office staff utilizes a Compaq Proliant DL Pentium III server.

The administrative office accesses SWAN through a 64-K relay line and CISCO router installed in September of 2000. The rest of the refuge's locations (shop, visitor center, and west side shop) still have to dial up the modem pool.

REVIEW AND APPROVALS

BANKS LAKE NATIONAL WILDLIFE REFUGE

LAKELAND, GEORGIA

ANNUAL NARRATIVE REPORT

Calendar Year 2003




Refuge Manager

3-1-04
Date



Refuge Supervisor, Area III

3-8-04
Date



Chief of Refuges

3-9-04
Date

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INTRODUCTION

Banks Lake National Wildlife Refuge (3,559 acres) is located in Lanier County near Lakeland, GA. The refuge contains a variety of habitat types including 1,459 acres of cypress swamp, 1200 acres of marsh and 900 acres of open water. Scattered through these habitat types are hardwood swamp, pine forest and other upland areas. The refuge was established for the protection and conservation of a unique environment as well as migratory and resident wildlife.

On April 16, 1980, the U.S. Fish and Wildlife Service entered a lease agreement with The Nature Conservancy to manage approximately 3,559 acres of the Banks Lake/Grand Bay Wetlands complex, located in Lanier and Lowndes Counties in southeastern Georgia. The original intent of the lease was to establish a National Wildlife Refuge. Changes in the emphasis of the land acquisition program resulted in a lack of the necessary funds to acquire this land. This area remained in a state of limbo during 1982 and 1983 with the U.S. Fish and Wildlife Service maintaining a caretaker position over Banks Lake. In 1984, funds were added to the FY 1985 budget for the purchase of this area at a land value of \$356,000. The refuge designation was authorized under the Fish and Wildlife Act of 1956 and funded through provisions of the Land and Water Conservation Fund Act of 1955 with strong local support from the Lakeland community and the congressional delegation. The area became Banks Lake National Wildlife Refuge on February 22, 1985.

HIGHLIGHTS

- Water hyacinth is observed around the Banks Lake boat basin. (Section 3.g.)
- Banks Lake support group is disbanded. (Section 5.e.)
- Officers wrote 12 incident reports involving trash dumping and late night parties. (Section 6.a.)
- A letter is submitted from the Regional Solicitor's Office to the United States Attorney's Office requesting an ejectment order against five landowners for structures encroaching upon Federal lands. (Section 6.d.)
- National Fishing Week is celebrated with the Second Annual Banks Lake NWR Youth Fishing Derby. (Section 8.a.)

1.

MONITORING AND STUDIES

1.a. SURVEYS AND CENSUSES

Banks Lake National Wildlife Refuge (NWR) is one of the largest freshwater swamp systems in the coastal plains of Georgia. Its unique habitat provides for a diversity of wildlife species that migrate through the area as well as a number of resident species. Incidental sightings from staff and volunteers working in the area add to our knowledge of this satellite refuge.

Endangered and Threatened Species

Nothing to Report.

Other Wildlife

Waterfowl

Wood ducks are the most common waterfowl species at Banks Lake. Nest boxes, installed by the State of Georgia in Grand Bay and by the Okefenokee National Wildlife Refuge (NWR) in Old Field, have increased the number of nest cavities available. In 2003 the refuge maintained the 40 wood duck boxes located at Banks Lake.

Fisheries

A shoreline survey of non-game fishes was conducted at Banks Lake in 2003 (Section 1.b.).

1.b. STUDIES AND INVESTIGATIONS

Wetland Biogeochemical Indicators for Establishment of Numeric Nutrient Criteria – Stacie Greco, University of Florida

Stacie collected water, soil, vegetation, and leaf litter from Banks Lake and Okefenokee NWR. This data will be incorporated into a report for the Environmental Protection Agency.

Survey of Non-Game Fishes – Steve Vives, Georgia Southern University

The Nature Conservancy contracted Steve to survey the non-game fish species along shoreline of Banks Lake using dip nets, seines, minnow traps and backpack electroshocking equipment.

Vegetation Sampling of Natural Communities – Alison McGee, The Nature Conservancy

The survey was conducted to classify the natural communities of Banks Lake NWR.

Contaminants Assessment of Banks Lake National Wildlife Refuge - ES, Brunswick, GA

In March of 1997, contaminants Specialist Gregg Masson, Ecologist John Kasbohm, and Assistant Contaminants Specialist Diane Bateman began one year of quarterly sampling to determine base line contaminant conditions. A final report is not expected as everyone has moved on to other positions. The Okefenokee NWR will hold the raw data for future reference.

2.

HABITAT RESTORATION

2.a. WETLAND RESTORATION: ON-REFUGE

Nothing to Report.

2.b. UPLAND RESTORATION: ON-REFUGE

Nothing to Report.

2.c. WETLAND RESTORATION: OFF-REFUGE

Nothing to Report.

2.d. UPLAND RESTORATION: OFF-REFUGE

Nothing to Report.

3.

HABITAT MANAGEMENT

The refuge, which contains 3,559 acres, is composed of several wetland types. Approximately 900 acres are classified as open water, 1,200 acres as marsh and 1,459 acres as cypress swamp. A water control structure constructed in the early 1940's was replaced in 2001.

3.a. WATER LEVEL MANAGEMENT

Water levels at Banks Lake were near normal levels in 2003.

3.b. MOIST SOIL MANAGEMENT

Nothing to Report.

3.c. GRAZE/MOW/HAY

Nothing to Report.

3.d. FARMING

Nothing to Report.

3.e. FOREST MANAGEMENT

Nothing to Report.

3.f. FIRE MANAGEMENT

Nothing to Report.

3.g. PEST PLANT CONTROL

To control aquatic vegetation, the water level needs to be lowered every three years. The last draw down was accomplished in 2001. In 2002, water levels remained low due to the lack of rainfall but reached normal levels for the majority of 2003. Water hyacinth was observed near the boat basin in 2003.

4.

FISH AND WILDLIFE MANAGEMENT

4.a. BIRD BANDING

Nothing to Report.

4.b. DISEASE MONITORING AND TREATMENT

Nothing to Report.

4.c. REINTRODUCTIONS

Nothing to Report.

4.d. NEST STRUCTURES

Nothing to Report.

4.e. PEST, PREDATOR AND EXOTIC ANIMAL CONTROL

Nothing to Report.

5.

COORDINATION ACTIVITIES

5.a. INTERAGENCY COORDINATION

Periodic meetings of the inter-agency Grand Bay-Banks Lake Ecosystem (GBBLE) team continued throughout the year.

5.b. TRIBAL COORDINATION

Nothing to Report.

5.c. PRIVATE LAND ACTIVITIES

Nothing to Report.

5.d. OIL AND GAS ACTIVITIES

Nothing to Report.

5.e. COOPERATIVE/FRIENDS ORGANIZATIONS

In 2002, a group of local residents from Lakeland, GA started a support group to address concerns related to Banks Lake. Despite the efforts of a few dedicated volunteers, the support group was disbanded in 2003.

6.

RESOURCE PROTECTION

6.a. LAW ENFORCEMENT

Refuge officers from the Okefenokee NWR are responsible for law enforcement at Banks Lake. A kiosk is located at the boat ramp and provides information to visitors concerning refuge regulations. In 2003, refuge officers issued two federal violations and state officers issued two state cases and ten warnings on the lake. Officers wrote 12 incident reports this year involving violations such as trash dumping and late night parties involving alcohol. Refuge visitors reported an increased number of complaints concerning possible gator poaching on the lake. At this time, no evidence has been found confirming the reports.

6.b. WILDFIRE PREPAREDNESS

Nothing to Report.

6.c. PERMITS AND ECONOMIC MANAGEMENT

See Section 1.b.

6.d. CONTAMINANT INVESTIGATION AND CLEANUP

The 2001 draw down of Banks Lake exposed numerous septic systems (Figure 3). County officials were advised and given photographic evidence of these violations. In 2002, a court order required refuge staff to raise the lake to full pool, inundating the septic systems. In 2003, a letter was submitted to the United States Attorney's Office from the Regional Solicitor's Office requesting an ejectment order against five landowners whose structures are encroaching upon Federal lands. The Fish and Wildlife Service has not been notified on the current status of the order.

6.e. WATER RIGHTS MANAGEMENT

Nothing to Report.

6.f. CULTURAL RESOURCE MANAGEMENT

Nothing to Report.



Figure 1. Exposed septic system at Banks Lake.

6.g. FEDERAL FACILITY COMPLIANCE ACT

Nothing to Report.

6.h. LAND ACQUISITION

Nothing to Report.

6.i. WILDERNESS AND NATURAL AREAS

Nothing to Report.

6.j. THREATS AND CONFLICTS

The United States District Court, in the ruling issued in May of 2000, set the legal boundary along the north shore. Prior to the final ruling, property owners continued construction of homes, fishing shacks, boathouses, docks and various other structures along the boundary. The new structures were consequently built on federal property. Several owners have removed the encroaching structures but a few still remain. The Fish and Wildlife Service Regional Solicitor's Office has requested assistance from the United States Attorney's Office on the removal of these structures. These structures are not connected to the city sewer service and appear to have inadequate sewage and gray water treatment facilities. The land base on which these structures are built does not provide the adequate space needed for a septic tank and drain field. The service has contacted Lanier County, Government Health Department, Environmental Protection Agency and Georgia Environmental Protection Division, requesting verification on wastewater treatment systems in compliance with all applicable county and state regulation or a response that includes the date by which a written plan would be developed and implemented to bring wastewater treatment systems into compliance. The issue has not been addressed by any of the organizations notified.

7.

ALASKA ONLY

8.

PUBLIC EDUCATION AND RECREATION

8.a. PROVIDE VISITOR SERVICES

This is an un-staffed station. Facilities provided include a kiosk, parking lot, fishing pier and doublewide boat ramp. Information pertaining to visitation is currently unavailable.

On-Site Special Events

National Fishing Week was celebrated at the refuge with the Second Annual Banks Lake NWR Youth Fishing Derby (Figure 2). Eighty children ages 3 - 15 registered for the fishing derby held at Flatlanders Lake in Lakeland. City of Lakeland stocked the pond with over 3,500 catfish for the event. The refuge hosted a Kids Casting Clinic and Competition, sponsored by Valdosta Bassmasters and Valdosta Bassbusters. Other activities included a worm grunting demonstration, knot tying, raffle, boat and motor show, fish art t-shirts, food, drinks and awards ceremony. Four staff and eleven volunteers from the Okefenokee NWR assisted with the event. The bass clubs provided prizes and certificates and assisted with the derby. The City of Lakeland provided police support at both venues, as well as extra garbage cans and pickup. The community support for this event was outstanding.

8.b. Outreach

In June of 2003, volunteers from the Okefenokee NWR helped provide refreshments during the Bicycle Ride Across Georgia (BRAG). BRAG is a family-oriented tour that promotes educational, recreational and social opportunities. This year, the tour began in Bainbridge and ended in St. Marys, with several stops including Banks Lake.

9.

PLANNING AND ADMINISTRATION

9.a. COMPREHENSIVE CONSERVATION PLANNING

Banks Lake NWR and Okefenokee NWR will submit separate Comprehensive Conservation Plans.

9.b. GENERAL ADMINISTRATION

Banks Lake NWR is administered by the staff of Okefenokee NWR. Refuge staff provides some visitor services and upkeep of public facilities. An estimated 20,000 visitors use the refuge mainly for freshwater fishing, wildlife observation and photography.

9.c. TRAINING AND TRAVEL

Nothing to Report.

9.d. ENERGY

Nothing to Report.

9.e. FUNDING

Nothing to Report.

9.f. SAFETY

Nothing to Report.

9.g. VOLUNTEERS

Volunteers continue to participate in litter pickups and lawn maintenance. On February 4, 2003, the Red 1 AmeriCorps team and 15 volunteers participated in the annual Banks Lake NWR cleanup (Figure 3).



Figure 3. Russell Barber ready for litter pickup at Banks Lake.