

**ACE Basin National Wildlife Refuge
Annual Narrative
Hollywood, South Carolina
2001**



Alligator at Grove Plantation, Edisto Unit, ACE Basin NWR

Staff Photo

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Table of Contents

Introduction
Highlights
Climate Data

Monitoring and Studies.....	5
1a. Surveys and Censuses.....	5
1b. Studies and Investigations.....	7
Habitat Restoration.....	8
2a. Wetland Restoration: On-refuge.....	8
2b. Upland restoration: On-refuge.....	NTR
2c. Wetland restoration: Off-refuge.....	NTR
2d. Upland restoration: Off-refuge.....	NTR
Habitat Management.....	10
3a. Water Level Management.....	11
3b. Moist Soil Management.....	12
3c. Graze/Mow/Hay.....	NTR
3d. Farming.....	13
3e. Forest Management.....	NTR
3f. Fire Management.....	13
3g. Pest Plant Control.....	18
3h. Early Successional Management.....	18
Fish and Wildlife Management.....	19
4a. Bird Banding.....	NTR
4b. Disease Monitoring and Treatment.....	NTR
4c. Reintroductions.....	NTR
4d. Nest Structures.....	19
4e. Pest, Predator and Exotic Animal Control.....	20
4f. Fisheries Resources.....	21
Coordination Activities.....	21
5a. Interagency Coordination.....	21
5b. Tribal Coordination.....	NTR
5c. Private Lands Activities.....	NTR
5d. Savannah/Santee/Pee Dee Ecosystem Activities.....	22
5e. Ace Basin Task Force Activities.....	22

Resource Protection.....	23
6a. Law Enforcement.....	23
6b. Permits and Economic Use Management.....	24
6c. Contaminant Investigation.....	25
6d. Contaminant Cleanup.....	NTR
6e. Water Rights Management.....	NTR
6f. Cultural Resources Management.....	25
6g. Land Acquisition.....	25
Public Education and Recreation.....	26
7a. Provide Visitor Services.....	26
7b. Outreach.....	28
Planning and Administration.....	32
8a. Comprehensive Management Planning.....	NTR
8b. General Administration.....	32
8c. Employee Training and Details.....	36
8d. Volunteers.....	37
8e. Safety.....	38
Equipment and Facilities.....	38
9a. Facilities.....	38
9b. Equipment.....	41



Turtle at Grove Plantation

Staff Photo

INTRODUCTION

The ACE Basin, watershed of the Ashepoo, Combahee, and Edisto Rivers, represents one of the largest undeveloped wetland ecosystems remaining on the Atlantic Coast.

The ACE Basin National Wildlife Refuge was established on September 20, 1990, and is part of an overall ACE Basin Project Habitat Protection and Enhancement Plan implemented by a coalition consisting of the US Fish and Wildlife Service, South Carolina Department of Natural Resources, Ducks Unlimited, The Nature Conservancy, The Low Country Open Land Trust, Westvaco and private landowners of the ACE Basin. The Refuge has two separate units, one along the Edisto River and the other along the Combahee River. The units are further broken down into sub-units with the Edisto unit containing Jehossee Island and the Grove Plantation tract and the Combahee unit containing the Bonny Hall, Combahee Fields and Westvaco sub-units. Presently at 11,062 acres, the Refuge may encompass 18,000 acres upon completion of additional purchases.

From the early 1700's to mid-1800's, much of the ACE Basin was home to large plantations owned by a small number of individuals who managed their wetlands primarily to grow rice. After the rice culture declined in the late 1800's, wealthy sportsmen purchased the plantations as hunting retreats. The new owners successfully managed the former rice fields and adjacent upland estates for a wide range of wildlife. The enormous natural values found on the Refuge today are still here mainly because past private landowners tended the area so wisely. Undeveloped and unpolluted, the habitat remains diverse and extremely productive. Much of the historical values of the ACE Basin have also been protected. The Refuge office, a former rice plantation house built in 1828, is one of only three antebellum mansions that survived the Civil War in the ACE Basin area. Former owners ensured it would be preserved by placing it on the National Register of Historic Places.

The Refuge is managed to provide a complex of habitats for a diversity of wildlife. Habitats are maintained and managed for endangered species, wintering waterfowl, other migratory and resident birds, mammals, reptiles, amphibians and plants.



**Blue Grosbeak on Paspalum
Grass** *Staff Photo*



White Ibis using managed impoundment. *Staff Photo*



1828 Grove Plantation House - Refuge Headquarters

Staff Photo



1828 Grove Plantation House - Refuge Headquarters

Staff Photo

HIGHLIGHTS

A 150' barge was rented in November to move heavy equipment on and off Jehossee Island. The effort took two days (primarily due to tide changes) but it was well worth the effort.

Steadfast Marine completed construction of the Jehossee Island Boat Dock. This dock was badly needed and will provide Service staff with all-tide access to the island.

Three small greentree reservoirs were created on the Edisto Unit of the Refuge with the removal of old existing pipes and the replacement of these pipes with drop log structures.

The Ace Basin NWR annual Mobility Impaired deer hunt was held November 17 and 18. There were more applicants this year (30) for the 15 slots than in any previous year. Hunters harvested 11 deer and 3 hogs during the two day hunt. More than 166 hours were donated by volunteers assisting with this hunt.

Two bird observation platforms, funded by the Fish and Wildlife Foundation and Charleston Natural History Society were dedicated on International Migratory Bird Day on May 12.

Bryan Woodward was awarded the Regional Directors Award for Excellence.

Temporary repair work (sandbagging) was conducted on the river dike at Combahee Fields. These sandbags hopefully will hold until more permanent repairs can be made. In July, full scale construction got underway on the new cross dike at Combahee Fields.

A new rice field trunk was installed in the old catfish pond at Bonny Hall providing the Refuge the ability to finally be able to manage this 40 acre impoundment. Prior to the installation of this trunk the entire dike around this impoundment was retopped and cleaned.

The Refuge worked cooperatively with the Charleston County Highway Department to up-grade the entrance road into the Refuge. Working under an MOA the Service was able to provide the materials and the County was able to provide the necessary equipment and personnel to greatly improve two miles of road. Construction of the Refuge entrance road was completed by the Highway Department in August.

RM Griess worked a two-week detail in the Regional Office as Acting Deputy Chief of Refuges.

The ACE Basin NWR was selected as a *Globally Important Area* by the American Bird Conservancy.

CLIMATE DATA

The ACE Basin NWR area is characterized by generally pleasant weather. The southerly latitude, proximity of the ocean, and sea level elevation are the determining climatic factors which produce warm, humid summers and relatively mild, temperate winters. Nearly 240 frost-free days are reported annually. Roughly 15% of the area's rainfall is associated with tropical storms. The Coastal area of South Carolina is a moderately high risk zone with respect to hurricane occurrences and destruction. Table 1 provides information on normal climatic conditions in the Beaufort, SC area. These data also apply for the general area that the Refuge falls in.

Table 1. SE Regional Climate Center, Climatological Normals 1961 - 90, Beaufort, SC

	MinTemp(F)	MaxTemp(F)	AvgTemp(F)	AvgPrep(in)
Jan	38.6	58.7	48.6	3.71
Feb	40.8	62.2	51.5	3.27
Mar	47.9	69.6	58.8	4.12
Apr	54.8	76.9	65.8	2.83
May	63.0	83.2	73.1	3.95
Jun	69.5	87.8	78.6	6.25
Jul	72.6	90.1	81.3	6.38
Aug	72.2	88.9	80.5	7.88
Sep	67.9	84.7	76.3	4.98
Oct	57.9	77.5	67.7	2.59
Nov	49.1	69.6	59.3	2.06
Dec	42.0	61.8	51.9	3.13
Ann	56.4	75.9	66.1	51.15

The year 2001 proved to be an exceptionally dry year as seen in the Weather Data Table. Average precipitation was almost 12 inches below normal. One factor contributing to the lack of rainfall was the fact that no tropical storm threatened the South Carolina coast line the entire year. Ordinarily, large amounts of rainfall are associated with these storms. This year also proved to be one of the hottest on record.

Table 2. ACE Basin NWR Weatehr Data, FY2001

	MinTemp(F)	MaxTemp(F)	Total Precip.
October	45	85	0.30
November	24	79	2.45
December	20	68	2.81
January	18	79	1.37
February	32	83	1.56
March	28	80	3.25
April	36	95	0.40
May	54	95	1.80
June	68	96	4.29
July	64	98	7.70
August	80	100	6.20
September	54	90	7.17
TOTAL	43.6	87.3	39.30

I. MONITORING AND STUDIES

1A. Surveys and Censuses

Christmas Bird Count

The annual Christmas Bird Count was conducted on the Edisto Unit of the Refuge on December 31. Four observers recorded 70 species of birds on the Refuge.

Mid-Winter Bald Eagle Survey:

Volunteer birders Mike Aldenderfer and Sharon Brown conducted the mid-winter bald eagle survey on the Refuge on January 13. Results were lower than expected with only two adult bald eagles observed. However, another interesting raptor was observed. An adult male prairie falcon was observed flying over the Refuge office at approximately 100 feet in elevation.

Overall, bald eagle numbers were up across the state, and especially in the ACE Basin. During the breeding season (which starts in January) the State recorded 162 nesting pairs of eagles, which ultimately fledged 211 eaglets. Unfortunately, the Grove and Bonny Hall territories were not successful this year. It is estimated that there are currently more eagles in South Carolina than any time since the 1800's.

Mid-Winter Waterfowl Survey:

A mid-winter survey was conducted by Refuge staff Woodward and Hartis on January 5. The total count for the Refuge was 9,088 ducks and 295 coots (Table 3). Ducks by species, number, and locations on this mid-winter survey are shown in the table below:

Table 3. 2001 Mid-Winter Waterfowl Survey Results

	Grove	Combahee Fields	Bonny Hall	Jehossee Island	Total
Mallards	----	153	77	----	230
Black Ducks	----	44	----	8	52
Mottled	----	2	----	----	2
GWT	----	200	1,153	325	1,678
BWT	----	1,793	30	----	1,823
Wood Ducks	----	30	635	----	665
Ring-neck	----	1	4,315	----	4,316
Gadwall	----	----	----	275	275
Canvasbacks	----	----	1	----	1
Mergansers	----	6	----	45	51
Coots	----	45	----	----	45
Total	----	2,274	6,211	653	9,138

Spring North American Migration Count

On International Migratory Bird Day, Saturday May 12, volunteer birder Mike Aldenderfer and husband Paul conducted the spring migration bird count strictly on Refuge property. Results of total bird species and total numbers included 84 total species and 1033 total birds.

Kites

Both Mississippi and swallow-tailed sightings were down this summer on the Refuge and immediate vicinity compared to the previous 3-4 years, possibly early summer drought related. Total sighting for July were 15 Mississippi and 3 swallow-tailed kites.

Seaside Sparrow Monitoring

During late April, fifteen seaside sparrows were counted in and adjacent to wetland management unit J2 on Jehossee Island, where a nesting colony has been located during the past several years. Casual observations later in the summer indicated that the colony appeared to be actively nesting at this site as in past summers.

1B. Studies and Investigations

Annual Survival in the Southeastern Coastal Breeding Population of the Painted Bunting

Paul Sykes, researcher with the USGS at the University of Georgia, continued with the third year of his six-year study on painted buntings in the southeastern United States. The objectives of this study are to determine annual survival by age and sex using trapping/retrapping and sightings of uniquely color-banded painting buntings. A total of 40 sites across FL, GA, SC, and NC are included in this study.



Male Painted Bunting

Photo by George Smith

New bird feeders for the Painted Bunting Research Project were installed in March this year and were baited for the first time on April 9. The first painted bunting arrivals appeared to be singing males, heard on April 16. The two previous years the first painted buntings were heard on April 18.

Paul Sykes and an assistant completed a one-day observation session at each of the two painted bunting feeding stations on the Refuge. The intent was to observe and document any previously banded birds returning to the feeders. Four separate banded buntings were observed at each of the two feeder sites.

Painted buntings were netted and banded at the two Refuge sites on August 17 and 18. Each painted bunting was banded with three color plastic bands and a numbered metal band, two bands on each leg. The Goose Pond site produced four new buntings and one recapture. The silo site yielded five new buntings. Sykes indicated that low numbers of birds coming to the feeders may be the result of an abundance of highly available and preferred natural foods in surrounding areas.

II. HABITAT RESTORATION

Combahee Fields Dike Project

Early in 2001 it became evident that unless something was done quickly a very large, critical impoundment would be lost. Severe erosion has been eating away on the river (outside) dike at Combahee Fields Unit of the Refuge. The Combahee Fields river dike had eroded so much that there was no longer any material to repair/retop the dike. If this dike eventually breaks it will be too cost prohibitive to repair.

The process of obtaining permits was initiated with the U.S. Army Corps of Engineers and the South Carolina Department of Health and Environmental Control (DHEC) (both Coastal Resources and Water Quality Certification). Throughout March, Refuge staff worked closely with the DHEC office in Columbia in an attempt to acquire the necessary permits for the construction of this new interior dike. Numerous letters were drafted and sent to DHEC with requested information. On February 9, Refuge staff met with a representative from DHEC/OCRM to conduct a site visit to evaluate the proposed new interior dike. After much review, DHEC/OCRM gave approval for the project.

An Urgent and Compelling Statement was prepared and submitted to Contracting and General Services in an effort to expedite the construction of this interior dike at Combahee Fields. Three potential contractors were provided site visits so that they could bid on the project. Bryan Woodward flew with Special Agent John Rayfield and was able to identify the exact area where the dike needed to connect to the tie-in on the river dike. EO Sanders was on the ground to mark the area.

During April, the full moon tides topped the dike in many places. Efforts were initiated to place sandbags in the areas that were having the most problems with over topping. Savannah Coastal Refuges sent up a fire crew to assist Refuge staff with filling and placing sandbags. Assistance was also provided by Cape Romain staff. More than 2000 sandbags were filled and placed in strategic locations along portions of the dike. On the section of dike that had the worst erosion, a filter cloth

was laid down and covered with sandbags to hopefully prevent further erosion.

Billy Edwards (RO Engineering) and Gil Salmons (Cape Romain Engineering) visited the Refuge to initiate planning for this project. Plans called for a new 3100' interior dike at Combahee Fields and the installation of a wooden rice field trunk. With the addition of this structure we will have much better water management within this and adjoining impoundments.

Early in July, construction of a new cross dike at Combahee Fields was initiated by Aquatic Construction Inc. By the end of September approximately 75% of the project was completed. It is anticipated that this project will be completed by the end of December.



New Combahee Fields Dike

Staff Photo

Bonny Hall 40-acre Impoundment Renovation

Equipment Operator Sanders and Maintenance Worker McLaurin initiated renovation of the old catfish pond (40 acre impoundment) at Bonny Hall. This included clearing the brush off the dike, and shooting and staking the correct grade for retopping the dike. After several weeks of clearing and retopping, a new rice field trunk was installed in the pond to replace the old structure. Sanders, Woodward, and Hartis spent several hot days getting the trunk in and installing the bulkhead. With the renovation of this pond we will finally have control of the water within this impoundment.



Dike and New Structure at Bonny Hall

Staff Photo

III. HABITAT MANAGEMENT

The major vegetative communities on the Refuge include: natural marsh (3841 acres), Wetland Management Units (2715 acres), Spoil Sites (128 acres), Forested Wetlands (967 acres), Upland Forests (2338 acres), and Administrative Areas (91030 acres) including roads, dikes, creeks, canals, open water, parking, maintenance areas, etc. (Table 4) These habitats, although different in composition, are interacting components of a dynamic system through which organisms and materials move and, as a result, are not readily delineated by artificially drawn lines.

The Refuge is drained by two significant river systems: the Combahee-Salkahatchee rivers combine and flow through the Combahee Unit, and the South Edisto and Dawhoo rivers flow through the Edisto Unit. Many broad, low-gradient interior drains are present as either extensions of tidal streams and rivers or flooded bays. The Refuge's mean tidal amplitude ranges from < 1 foot on the upper reaches of the Combahee to 6 - 7 feet on the lower areas of the Refuge along the South Edisto. Salinities range from fresh water in the upper reaches to 20 ppt on the lower reaches with seasonal deviations depending on precipitation amounts. The majority of management activities are directly related to this tidal fluctuation and salinity content.

Table 4. ACE Basin National Wildlife Refuge, Cover Type Inventory Summary

TYPE	ACRES					TOTAL
	Edisto Unit 6455		Combahee Unit 4564			
	Grove	Jehossee	Combahee Fields	Bonny Hall	Westvaco	
LFP	195	-	-	-	-	195
LYP	-	-	-	22	336	358
BLH	172	-	-	-	795	967
MHP	541	480	20	220	-	1261
WMU	297	245	1359	814	-	2715
EFP	250	58	5	55	-	368
ECC	38	-	-	-	100	138
MAR	321	3330	190	-	-	3841
SSR	-	128	-	-	-	128
ULH	-	-	-	-	18	18
ADM	141	259	245	310	75	1030
TOTAL	1955	4500	1819	1421	1324	11019

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>Edisto Unit</u>
LFP	Longleaf Pine	G=Grove Plantation
LYP	Loblolly Pine	J=Jehossee Island
BLH	Bottomland Hardwood	W=Westvaco
MHP	Mixed Hardwood/Pine	
WMU	Wetland Management Unit	<u>Combahee Unit</u>
EFP	Early successional Field/Pasture	C=Combahee Fields
ECC	Early successional Clear Cut	B=Bonny Hall
MAR	Marsh	(Club = 833 acres;
SSR	Spoil Site on Refuge	Plantation = 58.8 acres)
ULH	Upland Hardwood	
ADM	Administrative Area (roads, dikes, creeks, canals, open water, parking, maintenance area, etc.)	

3A. Water Level Management

During FY01, three new greentree reservoirs were created with the replacing of old culverts with new pipes and risers. These structures replaced existing pipes: one under the railroad grade, one under the road going to the upper field on the Edisto Unit, and one at the upper end of Goose Pond. The area near the railroad grade is adjacent to an old heron and egret rookery and it is hoped that this GTR will encourage the continued use of this area, and possibly serve as a woodstork nesting area.

The structure at the upper end of Goose Pond was badly needed. By installing this structure it has allowed us to flood the timber above Goose Pond for wood ducks. Prior to the installation of this pipe, water levels above the existing pond were controlled only by what occurred in Goose Pond. By September, large numbers of wood ducks were observed/heard using these GTRs.

A fourth structure was purchased and used to replace a poorly functioning pipe in the cross dike on impoundment G9. Equipment Operator Sanders repaired a low place in the crossdike between wetland unit G9A and G9B, and removed the old pipe and riser. The new drop log structure was installed on the cross dike to replace the one he removed. This WCS will provide Refuge staff with better management capabilities.

3B. Moist Soil Management

Dwayne Sanders began clearing dikes on the Grove Unit with the new Timber Tamer piece of equipment. This equipment clears trees and woody debris off the sides of dikes making them easier to maintain.



Clearing dikes with new Timber Tamer and Trackhoe.

Staff Photo

In early November staff initiated mowing one half of the 200 acre impoundment near the Grove in preparation for flooding. Large portions of the impoundment were mowed or knocked down with the Rolligon. The portion of the impoundment adjacent to the railroad grade was flooded beginning November 9. This is the earliest this impoundment has been flooded. We wanted the impoundment ready when the ducks arrived. The other half of the impoundment was prepared for burning which occurred on November 21.

While Alexander pond was dry it was mowed, and the vegetation allowed to cure. This pond was flooded in early December.

Woodward and Sanders worked very closely with Regional Engineering Office to gather necessary information to be used in the design of the rice field trunk and bulkhead at Bonny Hall near the Pecan grove. On several occasions they had to shoot grades for the new trunk installation.

Woodward disced several acres in G-9 impoundment in an effort to prepare the site for planting Japanese millet.

3C. Graze/Mow/Hay

Nothing to Report.

3D. Farming

Approximately 10 acres of chufa were planted in seven fields at the Grove. This chufa was planted in hope that the turkeys and deer would feed on it, however, even before it began growing approximately 15 - 25 % of the chufa in each field was lost to hogs, turkeys, crows and raccoons. Eventually the hogs destroyed 75 % of the chufa.

3E. Forest Management

Nothing to Report.

3F. Fire Management

An updated Fire Management Handbook, applicable to the Fish and Wildlife Service, appeared in March 1995. That document required that all Refuges with vegetation that can sustain fire must have a Fire Management Plan. The Refuge's plan was submitted in September 1997, and was finally approved in September, 1998. The ACE Basin NWR fire management objectives contained in that plan are as follows:

1. To protect life, property, and other resources from fires that are deemed to be destructive.
 - a. Protection from fire includes visitors, employees, adjacent landowners, and all Refuge constructed, natural, and historical resources.
 - b. Reduce fuels that pose a threat to all above values being protected.
2. Restore and maintain fire as a natural part of the ecosystem.
 - a. Incorporate the use of fire to create and maintain a diversity of habitats in the ecosystem.

- b. Coordinate with ecosystem partners in the use of fire to maximize diversity and availability in a manner most efficient to all.
3. Utilize fire to accomplish resource management objectives.
 - a. Employ fire in the manipulation of habitat for migratory birds.
 - b. Utilize fire where beneficial to habitat for threatened and endangered species.
 - c. Use fire for habitat improvement for native, resident, and other wildlife species.
 - d. Utilize fire where it may directly or indirectly enhance opportunity for outdoor recreation, interpretation, and education.
 - e. Utilize Refuge fire program as a demonstration area for the public.
4. Document the Refuge's fire experience.
 - a. Documentation will provide information for future management decisions.
 - b. Documentation will provide continuity with changes in personnel.

Prescribed burning - Unit G9-B - 100 acres were prescribe burned on November 21 by the ACE Basin staff with assistance of a fire crew of three and a brush truck from Savannah NWR. The prescribed fire of the impoundment went very well with a fairly complete burn.

Combahee Fields Units C4 (62 ac.), C5 (40 ac.), and C6 (79 ac.) were prescribe burned on December 5, 6, and 7 for waterfowl habitat improvement and hazardous fuel reduction. The ACE Basin staff of five firefighters with two engines conducted the burn with the assistance of four firefighters and two engines from Savannah NWR.

Longleaf Pine habitat type is represented on only one location on the Refuge in a remnant 195 acre stand in units G1 and G4 on the Grove tract near headquarters. It contains a substantial amount of loblolly pine and an encroaching component of hardwood in the mid and understory. Dormant season prescribed burns have not significantly removed hardwoods as desired. Starting in May 1998 the first growing season burn was conducted with cycles planned for every two to three years. Three portions of the area were burned on three different days totaling 67 acres until conditions became too dry to continue burning until we get rain. EO Sanders put in several miles of fire breaks prior to burning the long leaf pines on the Edisto Unit.



Prescribed burning of Longleaf Pine stands

Staff Photo

An additional day was spent burning the fields also located in G-4. These burns included:

G-4 Fields - 45 acres
G-4 Long Leaf Pine - 42 acres
G-1 Long Leaf Pine - 25 acres

Wildfires

One wildfire was reported on the Grove Unit on May 28. Approximately 2 acres burned before going out on its own. Lightning is suspected as the cause of this fire. Although it was a small fire it did destroy one of the mobility impaired hunting blinds.

Fire Management Planning

Biologist Hartis spent a substantial amount of time on the prescribed burning program. Firebase submissions for FY 2002 were submitted prior to the October 29 deadline in spite of the vacancy in our servicing FMO position at Savannah NWR and the lack of expedient access to the **Firebase** program. Thanks to FCO Penrose at Savannah NWR who helped pull us through that. **Firebase** submissions this year for the first time included equipment needs as well as the usual prescribed fire projects. Submissions for the last two years only contained prescribed fire projects, as we were never made aware that this program, which we don't have at this Refuge, is the route where equipment and facility needs are requested.

Additional time was spent on beginning the revisions of annual prescribed burn prescriptions for the up-coming burning season subject to recent policy changes from the Directorate. FMO Ken McLaughlin at Okefenokee NWR agreed to function as our interim servicing FMO to review and approve prescriptions.

McLaurin, Woodward, Sanders, Hartis, and Brown all took the arduous duty pack test for fire fighters during February. Charleston County EMS was on site to provide medical monitoring.

Fire prescriptions were prepared and approved for Bonny Hall Club impoundments, upper fields on the Edisto Unit, and the upland pine/hardwood tract at the Grove.

A prescribed fire was conducted on March 28 at the Bonny Hall Impoundment. Efforts were made to burn the 40 acre catfish pond. Due to low winds and too much water in the impoundment, this fire did not do well. However, several peat fires continued to burn that required special attention. Prior to the burn, Sanders smoothed the outside dikes with the dozer in an effort to make it smooth enough to get a 4-wheeler on.

A small fire was reported on the Combahee Unit of the Refuge on April 17. This fire was started by a downed powerline and blown transformer. McLaurin and Sanders extinguished the fire and worked with the power company for access to repair the line.

Biologist Hartis completed a Wildland Urban Interface project submission in May for possible funding involving establishment of permanent fire breaks around pine types on the Combahee and Edisto Units. Submission went in through our servicing FMO at Savannah as a number two priority.

Hartis submitted 26 prescribed burn projects on July 25 through our servicing FMO Jenkins at Savannah NWR to be entered as 2003 **FIREBASE** projects. Even later in the month a request for proposals came in for 9264 Wildland Urban Interface Projects under \$25,000. Some ground work was done checking existing and potential firebreaks that may qualify at two, possibly three locations. Two Wildland Urban Interface Projects under \$25,000 were submitted through our Servicing FMO Jenkins for funding. One project was for the Upper Combahee Unit near Yemassee, and the other project was for the Edisto Unit near Adams Run.

Several days during July were spent on updates and amendments to the Station Fire Plan due to policy revisions in the new Fire Management Handbook. More updating will be done to achieve compliance before the end of the year deadline. Recent changes and requirements in fire policy and fire plan outline prompted a review of ACE Basin's Fire Management Plan that was approved back in 1998. Three amendments to the plan were written and submitted on September 19 through servicing FMO Jenkins for review and further submission to Regional Office for final approval.

On July 20, ACE Basin sponsored a fire refresher training. All fire trained personnel from ACE, Cape Romain, and Santee attended. Rick Owens (Forestry Tech) served as the facilitator and led discussions about what was covered in the video tapes. As part of this training lunch was provided (hamburgers and hotdogs) thanks in large part to Mark Purcell.

For fire planning, management, and general information purposes, the following documents relative to ACE Basin NWR were also made available in July to FMO Jenkins: Fire Management Plan of 1998, 2001 Amendments to Fire Management Plan including a new Appendix I, Forestry/Fire Review of 1997 and later Forestry Recommendations, and the Jehossee Island Management Plan of 1998.

Biologist Hartis met with the new servicing FMO Jenkins and FCO Penrose on July 9 at the Refuge and completed a tour and overview of most of the Refuge from a fire perspective.

An acquisition request was completed for an amphibious marsh vehicle and sent to Contracting. The request called for a fire worthy, low ground pressure, high ground clearance tracked vehicle that would float with good stability. The fire program covered a large portion of the cost of this machine.

On July 10 Jeff Denham of Coastal Machinery, Inc. delivered a Marsh Master II amphibious vehicle to the refuge. The most notable new feature is that of being fire ready as an engine unit with self contained water tanks in the pontoons and a hydraulically powered water pump.



New Marsh Master amphibious vehicle.

Staff Photo

3G. Pest Plant Control

Small patches of *Phragmites* were discovered in several Refuge impoundments. Woodward sprayed an area of *Phragmites* in G-11B during July, and again in August, in an effort to control this weed. This plot measured approximately 1/8 acre. He also tested a few areas of white marsh, needle rush, cat tails and sesbania in an effort to determine how effective the chemical Aqua Neat (generic brand of Rodeo) worked on these weeds.

Other areas of *Phragmites* that were identified but not sprayed this year included areas at Bonny Hall (B-1, five plots 1/8 - 1/4 acre each), and at Combahee Fields (C-2, 1 plot approximately 1/16 - 1/8 acre). These areas will be mapped and monitored. With the addition of the Marsh Master we can now survey all impoundments and readily access areas with *Phragmites* for control purposes.

3H. Early Successional Management

Most tracts of the Refuge contain at least some acreage of abandoned upland agricultural fields, cattle pastures, hay fields, or in the case of the Westvaco tract, former cutover areas. Since acquisition as refuge, these areas were maintained either by mowing or prescribed burning or simply left unmaintained. Those that were regularly mowed or burned essentially remained in more or less an open monoculture of native grasses and weeds or if they had been hayed in the past, they tended to remain in a monoculture of commercial bahia grass. Those that were left unmaintained were rapidly progressing toward a mixed woody growth of pine and hardwood.

From our field experience and observations on the Refuge since 1994, we noticed that some priority bird species (painted buntings, indigo buntings, blue grosbeaks, henslow sparrows) and other neotropical and temperate migrants, seemed to utilize certain portions and stages of these maintained areas and early successional areas quite readily. This bird use continued until woody growth, usually in the form of loblolly pine but to some extent hardwoods and wax myrtle, progressed to the stage that desired bird usage began to decline. In order to regain bird usage, provide for diversity, and possibly conserve on maintenance costs of these areas, we began in 1995 to experiment with various methods to perpetuate these beneficial early stages of succession. Some of those methods or combinations of methods included prescribed burning, mowing, and mechanically chopping the areas as was needed on a site specific basis. Treatment of areas were of two types. Some areas were treated in their entirety as solid early succession. Others were stripped with approximately 50 - 60 foot wide alternating rows of early successional hedgerows and bahia grass strips mowed once annually. When early successional sites were allowed to go untreated for too long, pine in particular tended to become difficult to control by fire or by mowing in almost all cases. Mechanically chopping with a "roller chopper" device proved more expedient and successful at least for the short term. In addition it seemed to disturb or scarify the soil on sites adequately enough to create more diversity in vegetative growth than did mowing or burning. All sites were subsequently put on a loose rotation schedule for chopper treatment to ensure that some beneficial stage of regrowth was available on the Refuge any given year. Loose rotation means that not all sites have the same vegetative components,

soil types, or regrowth rate, therefore may need to be treated slightly sooner or slightly later than scheduled. In 1998, thirteen of these early successional areas on the Edisto Unit (11 on the Grove and 2 on Jehossee Island) were listed on what will be an estimated three to five year rotation (see refuge cover type maps). Seven of the thirteen areas identified, received initial chopper treatment in early 1998 to begin their rotation cycle.

Grove (G12D) - One half of the early successional hedge rows in this field were roller chopped back in April 2000, and the remaining rows were left pending completion of painted bunting banding. Those remaining hedgerows were mechanically treated over a two-week period ending January 12, 2001. As a test, instead of treatment with a roller chopper, this time we tried a new piece of equipment called a timber tamer. This equipment attaches to a long-armed excavator and performs the work of a heavy duty bush hog .

During February the upper fields not on rotation for early succession on the Edisto Unit, were roller chopped in an effort to keep them open. All long-leaf pines were avoided, however, all other woody vegetation was eliminated.

During April the early successional fields on the Grove that were on a scheduled rotation to be roller chopped again this spring 2001, were postponed until next year. Most of them had not grown to the stage requiring treatment this year, possibly due to the drought.

IV. FISH AND WILDLIFE MANAGEMENT

4A. Bird Banding

Nothing to Report.

4B. Disease Monitoring and Treatment

Nothing to Report.

4C. Reintroductions

Nothing to Report.

4D. Nest Structures

The fifteen woodstork nesting platforms were maintained during the year in Goose Pond. No nesting activity was observed on any of these platforms.

Ten bluebird nest boxes were repaired/replaced during the summer. Volunteer Dave Kennedy completed the much needed repairs and produced a map indicating the location for all nest boxes.

4E. Pest, Predator and Exotic Animal Control

Feral hogs continued to be a nuisance across the Refuge, causing habitat damage and eating important foods utilized by native wildlife species. Eradication efforts used by Refuge staff included shooting and trapping. Hunters were also allowed to remove any and all hogs they encountered during the regularly scheduled (archery and muzzleloader) deer hunts. Special efforts were made to remove as many hogs as possible off Jehossee Island. Table 5 summarizes the number of hogs removed (dead) off Refuge lands during FY01.



A few of the hogs trapped on the refuge this year.

Staff Photo

Table 5. Summary of hogs removed off ACE Basin NWR during FY01.

Unit	Trapped	Staff Harvest	Hunter Harvest	Total
Grove	18	9	4	29
Jehossee Island	4	37	-	41
Bonny Hall	-	1	-	1
Upper Combahee	-	-	2	2
TOTAL	22	26	6	73

Feral hogs weren't the only animal causing problems on the Refuge during the year. One resourceful beaver moved in to one of the newly created greentree reservoirs and proceeded to plug the drop log

structure. We have had to clean out debris from in front of the water control structure on several occasions. Efforts were made to trap the beaver, but it continued to prove resourceful and is still on the loose.

4F. Fisheries Resources

More than one million bluegill were stocked on the Bonny Hall/Combahee Unit for wood stork and other wading birds by Refuge and Orangeburg Fish Hatchery personnel.

COORDINATION ACTIVITIES

5A. Interagency Coordination

Throughout the year the ACE Basin Refuge staff assisted many other refuges with a variety of tasks. This assistance was given willingly and enthusiastically. Some of the assistance provided included law enforcement assistance at all Refuges within the South Carolina Coastal Complex. Law enforcement assistance included archery, muzzleloader, and gun deer hunts, shrimp baiting season, and waterfowl hunters, twelve months of budget and administrative assistance was provided to Santee NWR, heavy equipment operations for 18 days at Santee NWR building 2 dikes and cleaning out several other ditches and water control structures, computer set-up and maintenance, wood duck banding, mowing, disking and seeding operations at Santee. Woodward assisted Cape Romain with shrimp baiting law enforcement on September 21 and 22. Staff at ACE worked with Santee NWR to assist them with the construction of a new water canal and associated dikes on the Refuge.

During August the Refuge worked cooperatively with Savannah NWR, Harris Neck, and Santee NWR to loan them needed equipment. ACE's transport truck was used by Savannah to pick up a front end loader at Okefenokee, by Harris Neck to pick up a 20 ton dump truck in Massachusetts, and by Santee to pick up a front end loader in Florida. Savannah NWR also borrowed our Mack truck and trailer in September so they could transport their excavator to Summerville.

The South Carolina Interagency Fire Coordination team contacted our office on October 26 requesting an engine and two engine crew. Sanders and McLaurin responded and worked on initial attack on three fires over the weekend on the Francis Marion National Forest.

Brown went on a severity fire detail at Mississippi Sandhill Crane Refuge. The detail was for 16 days.

Brown and Owens were sent on a two-week fire detail to Washinton State. Both Owens and Brown were on a 20-man hand crew that ended up fighting fire in Washington State.

Biologist Hartis met with S.C. DNR biologists, University Professors, and staff from Nemours Plantation on January 12 at Refuge headquarters for a brief scoping meeting dealing with the potential of the ACE Basin as a possible new release site for black bears. The consensus afterward was that

there may be more suitable sites to the south of the ACE Basin.

The Refuge worked closely with the County of Charleston to rebuild the entrance road in to the Refuge office. Acquisitions were submitted to CGS for over 5000 tons of gravel and 6000 cy of fill material needed to accomplish this road work.

RM Griess met with Michael Dotson from the Federal Highway Department on May 3. Mr. Dotson and his crew are mapping all Refuge roads and parking lots and entering them into a national database. A tour of all roads and parking areas was provided to Mr. Dotson.

5B. Tribal Coordination

Nothing to Report.

5C. Private Lands Activities

Nothing to Report.

5D. Savannah/Santee/Pee Dee Ecosystem Team Activities

Both Woodward and Hartis participated in the SSPD Migratory Bird Committee this past year. Woodward and Hartis attended the SSPD Ecosystem Migratory Bird Committee meetings on January 11, April 19, and July 19. These meetings were held at Santee and Cape Romain NWRS. The main topics of discussion were the scheduling and reporting of coordinated waterfowl and shorebird counts in support of the integrated management concept initially among refuges and eventually encompassing state, and private lands.

RM Griess participated in the SSPD Ecosystem Team meetings throughout the year. Meetings were held at Pee Dee NWR, Charleston, Savannah, and Santee. At each of these meetings a number of ecosystem team project proposals were discussed. At the Savannah meeting a retirement party was given for Savannah Coastal Refuges Manager Sam Drake.

Sanders made a site visit to Bears Bluff fish hatchery to evaluate the next phase of the ecosystem team project. This phase includes the installation of a rice field trunk. Work can not start until the overhead power line has been moved and all permits are in order.

5E. ACE Basin Task Force Activities

The US Fish and Wildlife Service is part of the ACE Basin Project, a cooperative effort among private landowners and public conservation agencies to protect important habitats in the watershed of the Ashepoo, Combahee and Edisto (ACE) rivers including the St. Helena estuary and sound. The project area, once identified as one of the highest priority regions for protection under the North American Waterfowl Management Plan, encompasses 350,000 acres of marsh, swamp and upland

in Beaufort, Charleston, Colleton and Hampton counties. Members of the ACE Basin Task Force include private landowners, Ducks Unlimited, SC Department of Natural Resources, The Nature Conservancy, Low Country Open Land Trust, Nemours Wildlife Foundation, US Fish and Wildlife Service, and WESTVACO, a timber company that has title to over 17,000 acres of land within the designated boundaries.

RM Griess attended all bi-monthly ACE Basin Task Force Meetings during the year. This years meetings were held at Ft. Johnson (DNR host), Nemours Wildlife Foundation, ACE Basin NWR, Caw Caw Nature Center, and the Bank of South Carolina.

As part of the ACE Basin Task Force RM Griess also served on an ad hoc education committee. This committee has been tasked with developing ways to utilize funding from the "Keeping the ACE Basin Natural" Natural Light campaign from Anheuser Busch.

RM Griess attended a meeting at the Charleston ES office to discuss planning for an up-coming NCTC Ecosystem Training Course. This course was conducted in the Winyah Bay area and looked at the success of partnerships in the ACE Basin Project Area as well as in the Winyah Bay area.

Griess, Woodward, and Hartis attended a wetlands workshop on April 26 at Bear Island Wildlife management Area sponsored by Nemours Plantation and SC Department of Natural Resources.

VI. RESOURCE PROTECTION

6A. Law Enforcement

Law Enforcement continued to be a priority at the Refuge, particularly during hunting seasons. Refuge Officers Hartis and Woodward conducted a variety of law enforcement related activities and wrote several warnings and citations.

<u>Violation Type</u>	<u>Number Issues</u>
Take of doe deer without a tag	1
Take of undersize deer (buck)	1
<u>Warnings Issued</u>	
Hunting waterfowl without a refuge permit	5
Fishing without a State fishing License	2
Surface collecting of artifacts (minors)	2
Trimming limbs around tree stand	2
Unleashed dogs on refuge	3

On two occasions, free roaming dogs were captured and turned over to animal control.

Woodward continued to conduct law enforcement activities at all refuges in the complex. He has worked deer hunts at Santee, Waccamaw and ACE, and has worked shrimp baiters at Cape Romain.

Waterfowl season opened in the ACE Basin on November 22. Woodward worked law enforcement opening day and checked a number of hunters. All were in compliance with federal and Refuge regulations. He continued to work waterfowl hunters throughout the entire duck season.

A small amount of illegal excavation was documented at an archaeological site on Jehossee Island on November 28. A dozen shovel-size and smaller holes were noticed at the plantation house ruins during a tour for Drayton Hall historians. The holes appeared to have been less than a week old. Numerous beer cans were also collected at several locations on the island

Woodward and Hartis both requalified with their weapons and on pressure point tactics in Manning SC on August 14.

In mid-September, Woodward and Hartis posted boundary signs and re-marked most of the Refuge boundary area around the upper Combahee tract on the Hampton County side of Highway 17A.

Throughout September, Woodward conducted routine law enforcement on the Refuge. He also worked shrimp baiting law enforcement at Cape Romain on September 21 and 22.

Woodward spent several days preparing the Refuge for the scheduled deer hunts. This included painting the boundaries of the "Closed Areas" with red paint and installing "No Hunting" area signs. Several miles of Refuge boundary were walked and reposted where necessary.

6B. Permits and Economic Use Management

Special Use Permits

Issued to the Charleston County Mosquito Abatement Program for aerial spraying to control mosquitos larvae on U.S. Army Corps of Engineer spoil sites on Jehossee Island effective from January 1, 2000 - December 31, 2002.

Issued to George Smith for calling in and photographing painted buntings. Effective April 1, 2001 - July 31, 2001.

Construction Permits

Permit Number 2000-1E-299 Jehossee Island Boat Dock.

Permit Number 99-1P-227 was obtained from the US Army Corps of Engineers for the construction/replacement of a concrete boat ramp on the Grove Unit.

Permit Number 2000-1A-617 was obtained from the US Army Corps of Engineers for the construction of a 3100' new interior dike. This permit was later amended to include the installation of a water control structure.

6C. Contaminant Investigations

The Refuge requested and received funding from the Regional Office Safety Office to accomplish drinking water testing per FWS standards. All water samples were collected per the labs instructions and sent to the labs in Indiana and Colorado. Results of this extensive testing indicated that the well water at the Grove did not have any significant contaminants of any kind and should be fine for drinking. This testing will close out an open finding from the Environmental Audit conducted earlier this year.

6D. Contaminant Cleanup

Nothing to Report.

6E. Water Rights Management

Nothing to Report.

6F. Cultural Resource Management

Regional Archaeologist Rick Kanaski came to the Refuge and cleared the site of the proposed boat ramp. Clearance included digging and sifting 5 test pits to determine if any artifacts were present.

Work began on securing an archaeological firm to conduct a complete archeological survey at Jehossee Island, which at one time was a large rice plantation owned by Governor Aiken. Regional archeologist Kanaski provided a Scope of Work, Evaluation Form, and Acquisition form for the selecting a firm. The work will include research design, background and literature review, creation of a base map, photo documentation of extant structures and architectural ruins, limited archaeological testing, and a final report. This work is currently slated to start in early January, 2002.

6G. Land Acquisition

All necessary planning documents were completed for the proposed Refuge expansion. This proposed Refuge expansion encompasses 420 acres across the Intercoastal Waterway from Jehossee Island. Although it looked promising that the Service would be able to acquire this land during Fiscal Year 2001, it did not happen. The current landowner was able to pull out of a foreclosure/bankruptcy and secure new and sufficient funds to begin operating the old shrimp farm. However, in the event that this property becomes available in the future, all necessary planning will have been completed and the Service will be able to proceed with acquisition.

VII. PUBLIC EDUCATION AND RECREATION

7A. Provide Visitor Services

Six deer hunts were held on the Refuge during October: 4 archery and 2 muzzleloader hunts. Deer harvest was down this year compared with the past several years, although we had good hunter participation and the same number of days hunted (16) as in recent years. There are a number of theories as to why harvest numbers are down including the drought, moon phase, and lack of deer movement.



Feral hog killed during refuge hunt.

Staff Photo

The annual Mobility Impaired Deer Hunt was conducted on the Edisto Unit of the Refuge on November 17 and 18. This year we received 30 applicants for the 15 blinds. The hunt went very smoothly with 7 volunteers and the entire staff working. A catered lunch was donated for Saturday afternoon. The hunters felt like this was one of the best hunts ever at the Refuge with 11 deer and 3 hogs being harvested by the hunters.

Total deer harvest numbers for the year can be found in the table below.

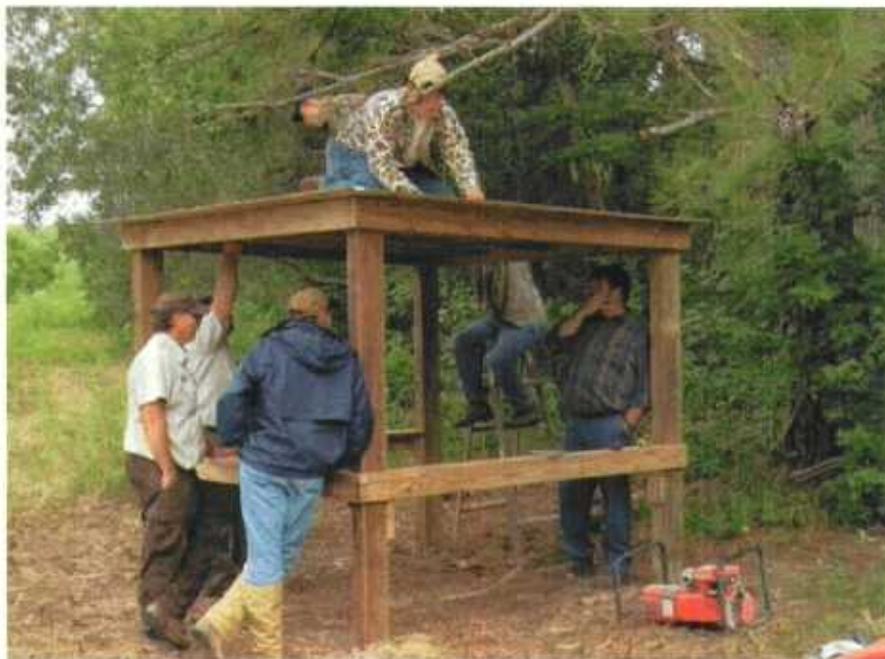
	EDISTO				COMBAHEE				TOTAL			
	2000	1999	1998	1997	2000	1999	1998	1997	2000	1999	1998	1997
Archery	2	6	1	14	11	6	3	6	13	12	4	20
Muzzle	2	9	8	12	3	15	3	5	5	24	11	17
Mob. Imp.	11	2	11	10	---	---	---	---	11	2	11	10
TOTAL	15	17	20	36	13	21	6	11	29	38	26	47



Mobility Impaired hunter Bobby Harrell with deer he killed on the refuge.. *Staff Photo*

The decision was made this year to make a number of the mobility impaired deer hunting blinds permanent. Until now we have used "portable" blinds with the idea that they could be moved around

to “good” hunting areas. After surveying all blinds it was decided to make 7 of the 15 permanent. McLaurin was able to acquire most of the necessary lumber from the Bears Bluff Fish Hatchery. With the assistance of three students from Country Day High School, and several volunteers and staff members, five of the seven blinds were constructed one weekend in September. These new blinds are much larger and have a roof, as well as an expanded metal floor which facilitates smoother movement of wheelchairs. When not being used by mobility impaired hunters they will serve as excellent wildlife observation/photography blinds. Some of the materials were donated to the Refuge by the Handicapped Sportsmens Association. The remainder of the blinds will be completed in October, 2002.



Volunteers helping staff members to build permanent mobility impaired hunting blinds.

Staff Photo

On August 27, the Refuge receive notice that it had been selected by the American Bird Conservancy (ABC) as a *Globally Important Bird Area* (IBA). The ABC's IBA program aims to identify and protect a network of key sites in the U.S. to further national and global bird conservation. As an IBA, the Refuge will be included in a book soon to be published entitled "*The Bird Conservation Handbook, Globally Important Areas of the U.S.*". This book will include detailed site descriptions and species information for the top 500 global IBAs.

7B. Outreach

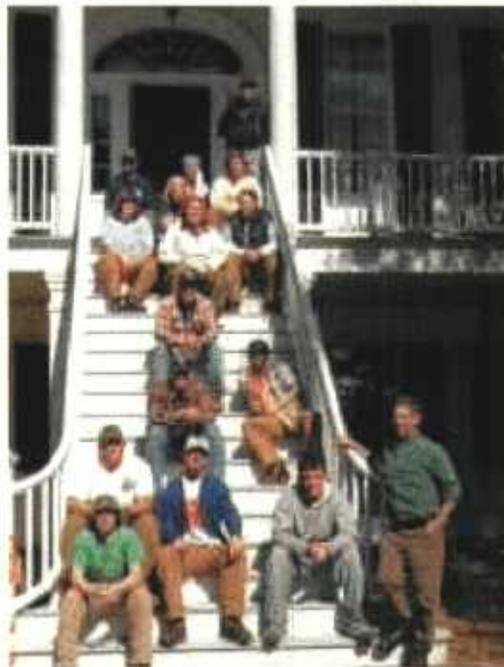
On October 17 the Refuge hosted a group from the South Carolina Visitors Bureau and Welcome Centers. This group was made up of people who staff the Welcome Centers around the State. The purpose of this visit was to learn about the ACE Basin and particularly about the Refuge. They receive many questions about where visitors can go to view wildlife and birds. This group was very enthusiastic about the Refuge and we provided them reference materials to use at their perspective

Welcome Centers.

Dorothea Frank (the author of Sullivan's Island) called to say that she is publishing a new book entitled "Plantations". This book is set in the ACE Basin and she wanted to include something on the last page of the book of how people could learn more about the ACE Basin area and donate to its protection. Information was provided on how and where readers could get information and also on how they could donate to the ACE Basin Project fund. The first printing of this book was 750,000 copies. According to the author this will be a best seller!

The Refuge hosted an ecotourism group of 25 from the Piedmont Environmental Center. Hartis and Griess presented information on the ACE Basin Project and Task Force, as well as Refuge management.

On November 28, Hartis and Griess accompanied a group of 20 tour guides and interpreters from Drayton Hall Plantation to Jehossee Island. Billy Judd, a local archeologist who has done extensive work on Jehossee Island, provided a tour of the major archaeological landmarks on the island. The



University of Tennessee group at refuge headquarters.

Staff photo

Drayton Hall guides were very interested in the Jehossee Island since the Drayton family had owned a portion of it back in the 1800s.

On Tuesday February 6, Refuge staff hosted a group of 15 University of Tennessee wildlife students and provided them with a tour and ½ day program on wildlife and water management issues, and partnerships within the ACE Basin. Other topics covered included quality deer management and

nuisance wildlife control (feral hogs). As part of the program four feral hogs were trapped and removed. Additionally, as part of this trip the class toured Bear Island WMA, Donnelly WMA, and Nemours Plantation.

On February 9 Refuge staff provided a birding tour on the Combahee Unit. Forty-two members of the Fripp Island Audubon participated in this tour.

RM Griess and OA Pope worked at the Fish and Wildlife Service booth at the 19th Southeastern Wildlife Exposition in Charleston. More than 45,000 people attended the entire Expo this year.

Refuge staff worked with a reporter from the New York Times newspaper on a travel article about the ACE Basin and the Refuge. After this article appeared in the paper, visitation to the Refuge increased considerably as did requests for information about the ACE Basin.

RM Griess attended the local chapter of the Audubon meeting on February 13. One of the topics of discussion was the recently released report *Refuges in Crisis*. Cape Romain NWR was listed as one of the 10 due to shrimp baiting issues.

On February 27, RM Griess judged a science fair at Colleton Preparatory school in Walterboro. One hundred and twenty-nine science projects were judged during the fair.

RM Griess attended the Audubon Refuge Keepers workshop at Cape Romain on March 3. Issues discussed at this meeting included the Audubon report "Refuges in Crisis" and shrimp baiting issues. A total of 110 people attended this meeting.

A press release was prepared and submitted to the Post and Courier about the Refuge System's 98th birthday. On March 14 an article appeared in the paper telling readers about the birthday and encouraging readers to visit one of the refuges located in South Carolina.

RM Griess provided a program for the Edisto Interpretive Center Volunteers at the Grove on March 10 (29 volunteers attending). This program was designed to teach the interpreters about the Refuge and about the National Wildlife Refuge System. The Edisto Interpretive Center is scheduled to open soon and the volunteers want to know what other things there are to do and see in the vicinity.

Also on March 10, RM Griess provided a program and tour for a group of 42 people from Smith College Alumni. After the tour, participants enjoyed a picnic lunch on the Refuge grounds.

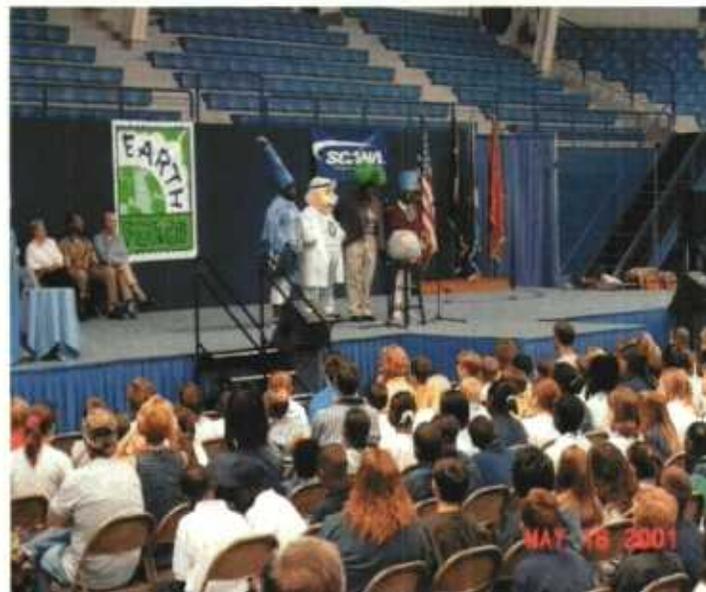
Construction of a handicapped-accessible trail to a bird observation platform was initiated in April. This trail was built using funds from the Fee Demonstration Program. A new material called Polypavement was used for the first time. This material binds with the soil and provides a hard surface. The trail was completed in time for International Migratory Bird Day on May 12. MW McLaurin installed new bird identification signs at each of the platforms.

RM Griess provided a slide presentation and talk to the 2001 Refuge Academy class in Virginia Beach. The presentation was about the successful partnerships in the ACE Basin Project. Twenty-eight students were present at the discussion.

As part of the International Migratory Bird day, two birding field trips (May 8 and 10) were conducted on the Refuge prior to Migratory Bird Day. These tours were led by volunteers Jennifer Koches, Mike Aldendorfer, and Dr. Harrison. Both field trips had 6 - 8 participants.

On Saturday May 12 - International Migratory Bird Day - the Refuge and Charleston Natural History Society (Audubon affiliate) conducted a dedication of the two bird observation platforms. These platforms were constructed using money from a \$5000.00 National Fish and Wildlife Foundation Grant that the Charleston Natural History Society obtained. Platforms were constructed by Refuge staff and Americorp students. A total of 20 people attended the dedication.

RM Griess participated in an Earth Force Youth Environmental Summit on May 16. The summit is an annual day of recognition, education, and celebration for Earth Force youth and educators who have spent the past year working to make lasting changes in the Low Country environment. More than 600 students participated in the event. Information on ACE Basin NWR, National Wildlife Refuge System, Careers in the Fish and Wildlife Service, and Endangered Species was provided to most of the students.



Earth Force Youth Environmental Summit.

Staff Photo

On June 9, RM Griess and Range Tech Woodward participated in the dedication for the new Moore's Landing pier and boat ramp. This event was attended by Fritz Hollings, Arthur Ravenel and many others from the Awendaw and Charleston communities.

Biologist Hartis provided a talk about the Refuge and the ACE Basin project, and provided a walking tour of the Grove to a group of 20 Sierra Club Lobbyist on June 9. This was a national meeting of Sierra Club lobbyist meeting at Edisto Beach.

The regional Public Use/Outreach Workshop was held in Charleston July 16 - 18. As part of this workshop the Refuge hosted a tour of the ACE Basin NWR and provided discussion about the ACE Basin project. Twenty-two people participated in this tour to the Refuge.

On July 5, RM Griess attended a teacher workshop to learn more about the Service's Earth Steward program. ACE Basin will be working cooperatively with the SEWEE Association to attempt to establish an Earth Stewards Program at ACE Basin in the near future.

VIII. PLANNING AND ADMINISTRATION

8A. Comprehensive Conservation Planning

Nothing to Report.

8B. General Administration

Personnel

The following is a list of employees who were members of the ACE Basin National Wildlife Refuge staff during FY 2001.

<u>Permanent Full Time</u>	<u>Grade</u>	<u>EOD</u>
Jane Griess, Refuge Manager	GS-13	04/23/00
Larry Hartis, Wildlife Biologist	GS-11	03/06/94
Bryan Woodward, Range Technician	GS-07	07/28/91
Melissa Pope, Office Assistant	GS-07	05/11/98
Alan McLaurin, Maintenance Worker	WG-08	09/03/95
Dwayne Sanders, Equipment Operator*	WG-09	08/03/97

<u>Temporary</u>	<u>Grade</u>	<u>EOD</u>
Isaac Brown, Maintenance Worker	WG-05	04/23/00
Court DeVane, Laborer	WG-04	06/05/00
Rick Owens, Fire Fighter	GS-04	06/06/01

*Dwayne Sanders was finally notified that he had been selected to fill the WG-09 Crane Operator job at ACE. Once notified he was required to have a physical and drug test before he was permanently hired.

Rick Owens started work as a seasonal forestry technician (fire) on June 18. Rick worked four months at ACE before returning to Savannah NWR where he works as a member of their fire crew.



Revenue Sharing Payments - Under the Refuge Revenue Sharing Act counties receive annual Refuge Revenue Sharing Payments as a result of lands acquired in fee by the U.S. Fish and Wildlife Service which are removed off the tax rolls. These payments are based on the number of fee-owned acres, their value and the amount of funds available in the refuge fund. During FY 2001 the checks for FY 2000 were distributed to Charleston, Beaufort, Hampton and Colleton Counties. Payments each year are for the previous year. Payments made in FY2001 for FY2000 were approximately 51% of the total entitlement.

On June 8, FY 2000 Revenue Sharing checks were distributed to Colleton and Hampton Counties. Refuge payments for Charleston and Beaufort Counties were included with Cape Romain and Savannah Refuge payments. The following table lists revenue sharing payments made the past three years.

	Charleston	Beaufort	Colleton	Hampton	Totals
FY1998	\$23,112	\$10,157	\$7,284	\$1,245	\$41,978
FY1999	\$9,456	\$21,518	\$6,783	\$1,159	\$38,915
FY2000	\$8,295	\$18,958	\$5,949	\$1,017	\$34,219

A Centennial Legacy Plan was prepared for the ACE Basin NWR in anticipation of Centennial funding. This document addresses minimum staffing needs as well as mission critical refuge projects.

A letter was written and mailed to Mrs. Alexander Moore thanking her for her donation of \$2000.00 to the Refuge.

Worked on many personnel actions for both ACE Basin and Cape Romain. Interviews were conducted for the Cape Romain NWR assistant manager's position. Additionally, paperwork for hiring two temporary maintenance workers was returned and successful candidates notified.

Efforts were made to hire two temporary maintenance workers during the month. Eight applications were received (two veterans on the list). Jobs were offered to the two vets. One declined due to his current situation and the other accepted. Unfortunately he never showed up for work. Efforts were made to contact him but he did not return calls. A certified letter was sent to both applicants, but only the person in Florida returned his. Efforts to hire from the remaining 6 failed as they already had positions or no longer were interested in the position.

RM Griess conducted interviews for the assistant manager's job at Cape Romain. Mr. Mark Purcell was selected as the successful candidate.

RM Griess conducted interviews for the permanent park ranger job at Cape Romain.

The certification of eligibles was received for a career-seasonal forestry technician for ACE Basin. After review of the four applicants a selection was made and submitted to the RO.



Southern Wood Nymph at Refuge

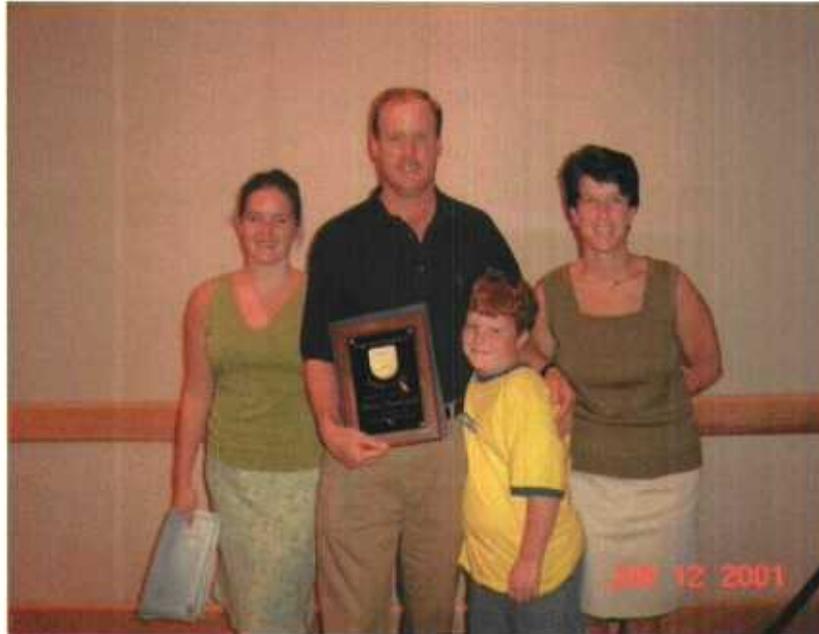
Staff Photo

A Scope of Work for an archaeological survey on Jehossee Island was prepared and submitted to the RO. This work will provide a complete inventory of archaeological resources on the Island.

All station MMS projects were entered in to the new Internet system. This included reworking some old projects, and entering new projects for FY2002. The Refuge MMS list was updated to include hours and mileage of all equipment listed in the MMS database.

A temporary maintenance worker, Court Devane, reported for work on May 30. Court is on a 1040-type appointment and will work through the summer.

On June 12, Bryan Woodward and Craig Sasser (Cape Romain NWR) were awarded the Regional Director's Award. RM Griess traveled to Atlanta to see both of these men receive their much deserved awards.



Bryan Woodward and family at Director's Award Ceremony. JMG

Requests for Engineering Services were submitted for a new water control structure at Bonny Hall, replacement of boat ramp at the Grove, and construction of a new interior dike to by-pass a severely eroded portion of an exterior dike at Combahee Fields.

During July Refuge staff reviewed and commented on the set of drawings for the proposed boat ramp at the Grove. A list of potential local contractors was compiled and submitted to the RO CGS office.

RM Griess submitted all new Real Property Inventory information to the Regional Office. This included property work sheets and digital photos of 7 new RPI items.

Hartis completed the FY99 and FY00 Annual Narratives and they were submitted to the RO for signatures.

Much time was spent on attempting to get a barge rented so that staff could move equipment on and off of Jehossee Island. An Urgent and Compelling Statement was prepared in order for Contracting to go ahead and get a barge hired. A lot of preparation went in to the moving of equipment on and off of Jehossee Island. The actual move occurred on November 13 and 14. A barge was rented from Salmon's Dredging and it arrived at approximately 8:00 am on the 13th. Equipment to go to the

island was loaded at the Grove and then taken to Jehossee on a high tide. Once the equipment (including two large storage containers) was taken off, other equipment including an old drag line, a chevy pickup, backhoe, 4-wheeler, fire pump, tractor, bushhog, and miscellaneous other junk was taken off the island. We had to wait until the following morning to off load the barge due to the tide dropping out. The staff performed exceptional and all the equipment moving was completed without incident.



Barging equipment to Jehossee Island

Staff Photo

At long last GSA put four of the Refuge's surplus vehicles up for auction. For two weeks in October people came to view these vehicles (Chevy S-10, Small utility truck, 12 passenger van, and an International Harvester Semi-tractor trailer rig) and we answered numerous phone calls about them. These vehicles were all removed from the Refuge by the middle of November.

8C. Employee Training

Jane Griess:

- ★Aviation Training for Supervisors - Via computer/netmeeting - January 19.
- ★Law Enforcement Training for Supervisors from September 9 - 14 at FLETC.
- ★MMS and Compatibility Workshop held in Jacksonville Florida - April 11-13.

Melissa Pope:

★BTS training in Savannah from October 23 - 27. This training was an advanced BTS training course for learning the next steps in the budget tracking process.

★FFS refresher training at Manteo NC the week of February 20 - 24.

Bryan Woodward:

★Law Enforcement Refresher at Tallahassee Florida the week of February 26 - March 2.

★Fire Boss Fire Training from March 19 - 23.

Larry Hartis:

★Law Enforcement Refresher at Tallahassee Florida the week of March 5 - March 9.

★MOCC boat training at Savannah Coastal Refuge on April 10 - 12

Alan McLaurin:

★MOCC boat training at Savannah Coastal Refuge - April 10 - 12

★SC Department of Transportation heavy equipment hauling workshop at Savannah - May 31.

★Heavy equipment training sponsored by John Deere June 4 - 8 in Iowa.

★Two-day workshop in Atlanta on Drinking Water Testing. This training was designed for stations that are responsible for maintaining their own drinking water source.

Dwayne Sanders:

★SC Department of Transportation heavy equipment hauling workshop at Savannah - May 31.

8D. Volunteers

During Fiscal Year 2001 more than 1000 hours of volunteer time was donated by a small group of very dedicated volunteers. Volunteers assisted with a variety of jobs including assisting with the mobility impaired deer hunt, conducting Refuge bird counts, building nesting structures, removal of fences, constructing hunting blinds, grounds and office maintenance, and birding tours for the public. On March 14 the staff held a volunteer recognition/Refuge birthday cook out. Four Refuge volunteers who have donated volunteer hours were presented with small gifts and volunteer pins in appreciation of their efforts at the Refuge. All staff participated in this cookout.



Volunteer Birder, "Mike" Aldenderfer JMG

8E. Safety

During FY 2001 no accidents occurred at the Refuge.

A safety meeting was held in conjunction with the bi-weekly staff meetings to discuss a variety of safety issues and to discuss potential safety problems. Additionally, staff viewed a safety film at each safety meeting and identified any safety equipment that was needed at the Refuge.

The following safety films were viewed by Refuge staff during the FY.

October- *Operation Wildfire*

November - *Transport Trailer Safety*

December - *Tractor Accidents - Its Not Going To Happen To Me.*

January - *Safe Vehicle Mounted Winch Operations*

February - *Safe Use of Chain Saws*

March - *First Aid for Burns and Fractures*

April - *Wildland Essentials II - Fireline Safety*

May - *Leaflets Three Let It Be*

June - *Power Lawn Mower Safety*

July - *Falling (Felling and Bucking Trees)*

August - *Personal Protective Equipment*

September - *Backhoe/Loader Operations*



As a result of a deadly accident at Alligator River NWR, all heavy equipment hauling/transport was stopped for a period of time. Before hauling could begin a safety training was provided to all staff, and all transport chains and tie downs inspected. At ACE Basin all chains were discarded and new chains purchased. Additionally, labels were made for all the chains.

IX. EQUIPMENT AND FACILITIES

9A. Facilities

The Grove

The large cracks in the walls of three rooms at the Grove were repaired in early January. All three rooms were re-plastered and allowed to cure for a minimum of 30 days. Once cured, these three rooms were primed and painted.

Two new vent grates were installed in the front of the Grove. The old grates had deteriorated and one had broken, making it unsafe for children to walk around the front of the house. These vents had to be special made from an ironworks facility.

Maintenance checks were conducted monthly on the Grove fire sprinkler and water pump to insure that they are working satisfactorily.

McLaurin, Owens and Brown spent the better part of a day cleaning the outside of The Grove. This included removal of all wasps/mud dauber nests, pressure washing and bleaching the outside walls, and cleaning the side walk.

RM Griess met with Dale Bailey and Rick Kanaski on January 9 to discuss the removal of the outbuildings at the Grove. Inspections were made on all the buildings and it was determined that these buildings were extremely dangerous and unsafe.

McLaurin removed the old ladders off the silos and installed locks on the side door. Additionally, he installed signs around the shop area and silos indicating that these areas are closed to the public.

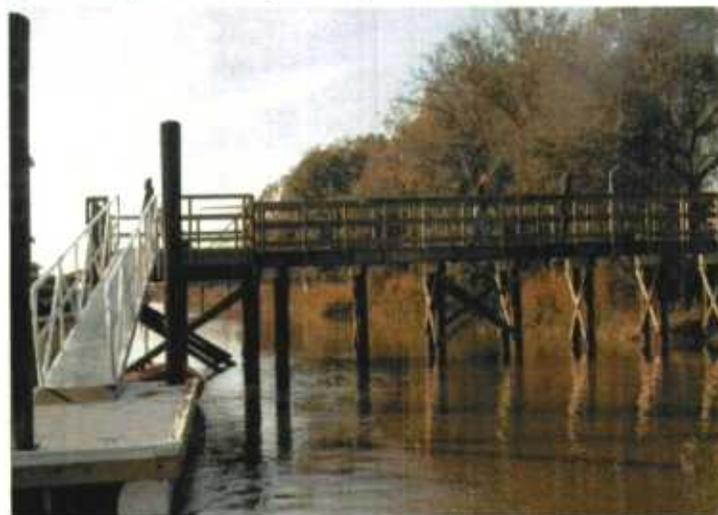
A major cleanup of the shop area was accomplished. Numerous pieces of broken equipment were destroyed and cut up, and old plastic containers were taken to the dump. As much scrap as possible was taken to the recycle facility. As part of the Refuge-wide clean up effort two old, dilapidated road graders were disposed of after they were removed from our property rolls.

McLaurin and Brown pruned all the live oaks lining the drive into the office, and mulched around the base of each tree. All of the oak trees along the road at the Grove were fertilized and watered.

With the assistance of the County Highway Department, Refuge staff were able to spread CR-14 gravel on the entrance road from the gate to the Grove. Woodward disced the entire area to facilitate gravel spreading and 8 truck loads of gravel were put down.

Jehossee Island

Construction of a boat dock at Jehossee Island was initiated in December by Steadfast Marine. This dock was badly needed to allow Service staff access to the island during all tides. Work was completed by December 27. During the 2 week construction period staff visited the island daily to inspect the work progress. The final inspection of the Jehossee Island Dock was conducted on January 8 by the Refuge manager and project engineer.



New refuge dock on Jehossee Island

Staff Photo

The metal oil/gas shed on Jehossee was moved from the Avenue up to near the storage container near the Overseers House.

The bridge on Jehossee Island was inspected by Range Engineering (FWS contractor) on April 9. All areas on Jehossee Island were mowed, and a fire break disced around the overseer's house. Woodward spent considerable time throughout the summer keeping Jehossee Island mowed. Additional time was spent repairing the bushhog prior to mowing the island.

During September the Refuge experienced some unusually high tides that caused some erosion on several dikes. Approximately 300 feet of dike on Jehossee Island experienced some erosion damage.

Combahee Unit

Sand bags and two truckloads of sand were delivered to the pole shed at Combahee Fields for use in sandbagging eroded portions of the Combahee dike.

Several loads of gravel were delivered at Bonny Hall, Combahee Fields and at the Grove. Both the



Sandbags in place on eroded portion of Combahee Dike.

Staff Photo

road to the Bonny Hall shop area and the entrance road at the Grove were rocked and repaired.

McLaurin built and installed a new brochure box for the Bonny Hall Unit. MW McLaurin built a

couple of redwood brochure boxes for Cape Romain NWR to use at Moores Landing.

Renovations were made on the old Bonny Hall Office so that it can be used as a living area when needed. The old appliances were discarded, the building scrubbed, new lights and molding installed, the toilet and vanity replaced, and all cracks sealed up. Excess furniture was acquired from DRMO. This building will be used by seasonals, coop ed, and interns. During the deer hunts on the Combahee Unit it will provide a place for staff to spend the night.

A rice field trunk was constructed and delivered for installation at the old catfish pond at Bonny Hall. This trunk will replace the old water control structure that had been at that site previously.

9B. Equipment



Catfish Pond Ricefield Trunk at Bonny Hall.

Staff Photo

During Fiscal Year 2001 several new equipment purchases were made. Additionally, some old equipment was either disposed of or transferred to another station. New purchases included a photocopier, a new multi-passenger vehicle, Lo-Boy trailer, Marsh Master 2, 6-wheeled JD Trail Gator, and a new maintenance pick-up truck.

Other equipment acquired from surplus sources included a large disk harrow from Ft. Stewart, three practically new disk harrows and several other pieces of equipment were obtained (two of the disks were given to Santee NWR), and a used Yazoo riding mower, in good condition was transferred from the U.S. Forest Service.



New Trail-Gator ATV

Staff Photo

Numerous property items were removed off the station property list either by transferring them to another station, or disposal as Unserviceable Property. The big Hein-Warner trackhoe (that has been down at Bonny Hall), originally obtained from Savannah NWR, was transferred to Mattamuskeet NWR. Property disposed of included three 4-wheelers, four mowers (riding and push), four outboard motors, and a pressure washer.



Heron sitting on Wood Stork Decoy

Staff Photo