

YAZOO NATIONAL WILDLIFE REFUGE
Hollandale, Mississippi

ANNUAL NARRATIVE REPORT
Calendar Year 1983

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR



3
5 6 4 2 1

PERSONNEL

Timothy M. Wilkins (1)	Refuge Manager	GS-11 PFT
John T. Fulton (2)	Asst. Refuge Manager	GS-07 PFT
Hubert W. Clegg (3)	Eng. Equip. Operator	WG-10 PFT
Clous Z. Guster (4)	Maintenanceman (Retired 1/84)	WG-08 PFT
Charla I. Yelverton (5)	Secretary	GS-03 PFT
William E. Parker (6)	Maintenanceman	WG-08 INT
James C. Branning, Jr.	Laborer (not pictured)	WG-02 INT
Rickie L. Green	Laborer EOD 5/10/83	WG-02 INT

Review and Approvals

Tim Wilkins 2/24/84
Submitted by Date

YAZOO NATIONAL WILDLIFE REFUGE
Refuge

Sam O. Drake, Jr. 3/18/84
Regional Office Date



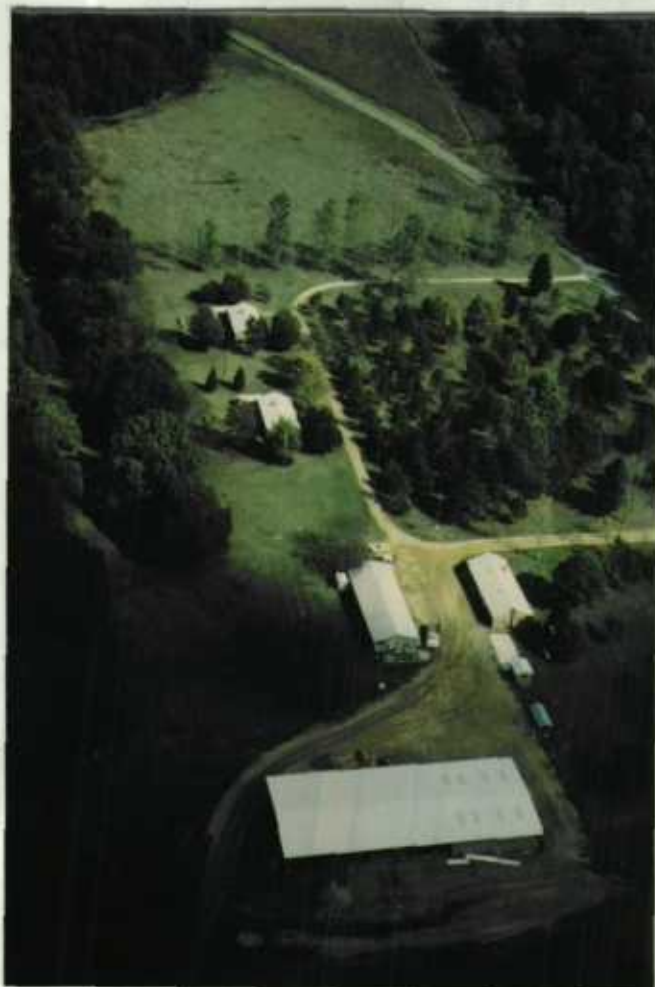
YOUTH CONSERVATION CORPS

Back row L. to R. - Cicero Hall (Camp Director), Lamar Dorris, Jr., Joseph Sims, Kervin Evans, Robert Scott, Kathy A. Lee (Crew Leader), & Shannon Estes. Front row L. to R. - Lisa A. Thomas, Mary A. Erwin, Diane Randle, & Bernita McClure.



CETA/WISCAA Workers

Ronald Riggins & Walter Atkins



Refuge Headquarters

10/83 TMW



Refuge Interior and Deer Lake

11/83 TMW

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
A. HIGHLIGHTS	2
B. CLIMATIC CONDITIONS	2
C. LAND ACQUISITIONS	
1. Fee Title	Nothing to Report
2. Easements	4
3. Other	Nothing to Report
D. PLANNING	
1. Master Plan	Nothing to Report
2. Management Plan	Nothing to Report
3. Public Participation	Nothing to Report
4. Compliance with Environmental Mandates	Nothing to Report
5. Research and Investigation.	5
E. ADMINISTRATION	
1. Personnel	9
2. Youth Programs	10
3. Other Manpower Programs	11
4. Volunteers Program	Nothing to Report
5. Funding	11
6. Safety	12
7. Technical Assistance	Nothing to Report
F. HABITAT MANAGEMENT	
1. General	13
2. Wetlands	14
3. Forest	16
4. Cropland	17
5. Grassland	18
6. Other Habitats	Nothing to Report
7. Grazing	Nothing to Report
8. Haying	18
9. Fire Management	18
10. Pest Control	18
11. Water Rights	Nothing to Report
12. Wilderness and Special Areas	Nothing to Report
13. WPA Easement Monitoring	Nothing to Report
G. WILDLIFE	
1. Wildlife Diversity	19
2. Endangered and/or Threatened Species	19
3. Waterfowl	21
4. Marsh and Water Birds	23
5. Shorebirds, Gulls, Terns, and Allied Species	24
6. Raptors	24
7. Other Migratory Birds	24
8. Game Mammals	25
9. Marine Mammals	Nothing to Report

G.	WILDLIFE (Continued)	
10.	Other Resident Wildlife	26
11.	Fisheries Resources	27
12.	Wildlife Propagation and Stocking	Nothing to Report
13.	Surplus Animal Disposal	Nothing to Report
14.	Scientific Collections	27
15.	Animal Control	27
16.	Marking and Banding	27
17.	Disease Prevention and Control	Nothing to Report
H.	PUBLIC USE	
1.	General	31
2.	Outdoor Classrooms - Students	Nothing to Report
3.	Outdoor Classrooms - Teachers	Nothing to Report
4.	Interpretive Foot Trails	Nothing to Report
5.	Interpretive Tour Routes	Nothing to Report
6.	Interpretive Exhibits/Demonstrations	Nothing to Report
7.	Other Interpretive Programs	Nothing to Report
8.	Hunting	32
9.	Fishing	Nothing to Report
10.	Trapping	Nothing to Report
11.	Wildlife Observation	35
12.	Other Wildlife Oriented Recreation	Nothing to Report
13.	Camping	Nothing to Report
14.	Picnicking	Nothing to Report
15.	Off-Road Vehicling	Nothing to Report
16.	Other Non-Wildlife Oriented Recreation	Nothing to Report
17.	Law Enforcement	37
18.	Youth Programs	Nothing to Report
19.	Cooperating Associations	Nothing to Report
20.	Concessions	Nothing to Report
21.	Volunteers Program	Nothing to Report
I.	EQUIPMENT AND FACILITIES	
1.	New Construction	37
2.	Rehabilitation	39
3.	Major Maintenance	Nothing to Report
4.	Equipment Utilization and Replacement	43
5.	Communications Systems	Nothing to Report
6.	Energy Conservation	43
J.	OTHER ITEMS	
1.	Cooperative Programs	44
2.	Items of Interest	Nothing to Report
3.	Credits	44
K.	FEEDBACK	44

INTRODUCTION

Yazoo National Wildlife Refuge is located in the heart of Mississippi's delta land about 30 miles south of Greenville, MS, and about five air miles east of the Mississippi River in Washington County. Land acquisition began under authority of the Migratory Bird Treaty Act and Migratory Hunting Stamp Act in 1936 with the initial purchase of 2,166 acres. In March 1937, an additional 639 acres were purchased, with plans to purchase some 20,000 acres. Drainage district problems resulted in a delay of official activation and assignment of a Manager until late in 1956. Acquisition continued from October 1960, when the U.S. Fish and Wildlife Service was given permission to purchase additional land under the provision of Section 5928 of the Mississippi Code of 1942, recompiled, by Governor Ross R. Barnett, until 1969. Varied acreages were purchased from individuals and/or clubs until a total of 12,471 acres was acquired with the purchase of 138.2 acres on July 30, 1969, from Mrs. Susie B. Law.

In the early 1900's and until as late as the 1940's, the natural habitat supplemented by agricultural crops, in and around the area currently comprising the refuge, provided excellent waterfowl hunting with people coming from as far away as New England to partake of the sport. It was reported that the area abounded in ducks, geese, and swans throughout the wintering season.

Initially, Yazoo was established as a link in the chain of refuges throughout the Mississippi flyway and the over-all National Wildlife Refuge System with special emphasis on wintering habitat for ducks and geese. Through the years that followed and as land acquisition progressed, emphasis was added to include similar benefits for other migratory species, reproduction of Mourning Doves, Wood Ducks, Giant Canada Geese, and colonial birds and the management of all resident species including white-tailed deer, squirrel, rabbit, beaver, bobcat, fox, mink, muskrat, skunk, raccoon, and o'possum. Turkey management began in 1970 with the introduction of a nucleus flock. The first turkey hunt was held in April 1983. The quail population, rendered almost extinct by pesticides may never reach huntable numbers. The North American alligator is the only resident endangered species. Other endangered species that visit the refuge are Bald and Golden Eagles, Peregrine Falcons, and there are records of mountain lions using the refuge.

Yazoo's 12,471 acres of undulating delta soils range from heavy gumbo (clay) to silt loam and limited sand ridges (hot spots). All open acreage is prime agricultural land being located only a short distance from the Mississippi River and near mid-way of the length of the great Mississippi Delta commonly known as the breadbasket of the state. In general, the elements of phosphate and potassium are readily available in sufficient quantities to promote high yields of soybeans. The addition of nitrogen produces good yields of grain sorghum, small grains (rice & wheat), corn, millet, and buckwheat.

Mean sea levels range from 90' in the main drainage facilities to 113' in the agricultural areas.

Area temperatures range from 92°F. normal maximum to 40°F. normal minimum. Extremes for a 10 year period 1961-1970 are high 106°F. and low -3°F.

Average annual rainfall measures 52.55 inches.

Refuge acreage classification (est. *)

Cropland	-	4305
Water (includes part of Swan Lake)	-	1460*
Reforested farmland	-	500*
Field ecotone, archeological sites, etc.	-	625*
GTR's	-	131
Bottomland hardwood (areas not subject to flooding)	-	900*
Bottomland hardwoods - shrub swamp (Seasonally flooded)	-	<u>4550*</u>
	Total	12,471 acres

A. HIGHLIGHTS

The first ever turkey hunt and rabbit hunt with dogs took place. (Sect: H-8)

Twelve eagles sighted in December. (Sect: G-2 & G-6)

A pesticide study was expanded to cover not only fish, but Wood Duck and Hooded Mergansers, their eggs, and Mallards. (Sect: D-5)

Sam Drake visited the refuge to complete the annual refuge inspection on March 21-23rd and October 11-12th.

Jim Lankford and Sam Drake visited the refuge on December 19 & 20th for an administrative inspection. (Sect: I-1)

Quarters-22 was renovated. (Sect: I-2)

A Little Blue Heron and Anhinga rookery was located in Alligator Pond. (Sect: G-4)

Wood Duck dump nests hit record highs. (Sect: G-3)

Broad-winged Hawks migrated through in large numbers again this year. (Sect: G-6)

Deer bow hunters were the most ever, as well as deer taken during bow season. (Sect: H-8)

Mallards reached an all time peak. (Sect: G-16)

Our new shop/storage equipment building was completed. (Sect: I-1)

B. CLIMATIC CONDITIONS

Weather always seems to be extreme. We are always hearing that it is unusually dry or wet, windy or calm, or it is so hot or so cold. Dramatic weather changes from one extreme to the other, continuously test our adaptive capacities. Calendar year 1983 was a good test.

U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 MIDSOUTH AGRICULTURAL WEATHER SERVICE CENTER
 STONEVILLE, MISSISSIPPI

Weather Summary 1983

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Air Temperature													
Average Maximum	47.8	54.1	60.9	65.8	78.5	84.6	92.3	93.2	84.8	77.7	64.0	42.3	70.5
Average Minimum	32.6	37.8	42.0	47.7	59.8	67.0	72.2	72.6	61.8	52.9	43.5	29.6	51.6
Departure of Mean from Normal	-2.30	-0.3	-2.6	-7.5	-3.1	-3.5	+0.4	2.40	-1.6	1.2	0.4	-9.8	-2.2
Highest	67	70	76	80	88	92	97	99	96	86	81	71	99
Lowest	25	29	29	33	47	56	59	68	42	39	30	4	4
Soil Temperature Average													
2-inch Maximum	50.6	58.0	65.8	70.5	85.6	93.0	104.3	105.9	94.8	83.1	66.7	46.8	77.1
2-inch Minimum	39.5	42.6	46.7	51.4	64.4	72.1	80.1	82.1	71.6	63.0	50.0	38.2	58.5
4-inch Maximum	47.9	54.0	60.6	65.3	79.5	86.4	96.5	98.8	88.6	77.9	63.1	45.7	72.0
4-inch Minimum	41.1	44.8	48.9	53.3	66.6	74.0	82.3	84.4	74.8	65.7	52.6	40.7	60.8
8-inch Maximum	44.0	48.9	55.3	59.9	73.2	80.1	89.0	91.6	83.3	72.7	59.1	44.0	66.8
8-inch Minimum	40.7	44.8	49.6	53.9	67.5	74.7	83.5	86.1	77.2	67.6	54.0	40.9	61.7
20-inch Observation	47.3	48.8	53.9	57.0	68.2	75.1	82.9	86.3	81.3	72.4	61.3	48.9	65.3
Precipitation Stoneville '83													
Departure from 1951-80 Normal	-2.64	1.89	-1.40	-0.11	4.88	3.38	-3.58	0.13	-0.57	-1.81	1.79	5.74	7.70
Snow (inches)	Trace	Trace	Trace	Trace								1.5	1.5
Evaporation (inches)	0.57	2.01	3.54	4.49	7.21	7.43	7.95	7.41	5.90	4.71	3.38	0.97	55.62
Departure from Average	-	-	-	-1.55	-1.45	-0.95	-0.33	+0.66	+0.23	+0.24	-	-	-2.15
Precipitation Avg. 1951-80													
Precipitation at Yazoo NWR '83	2.99	7.59	5.07	8.89	9.41	3.05	1.70	.23	1.88	3.17	10.63	11.32	65.93
Precipitation Stoneville '83													
Precipitation at Yazoo NWR '83	2.99	7.59	5.07	8.89	9.41	3.05	1.70	.23	1.88	3.17	10.63	11.32	65.93
Solar Radiation (langley's)													
Departure from Average	-22	-18	-1	-69	-22	-31	27	27	56	-4	-1	-30	-10
Wind at Evaporation Pan													
Departure from Normal	-311	-358	-55	369	786	273	19	-237	24	-202	410	375	91

Last Spring Freeze March 25

First Fall Freeze November 12

Growing Season 231 days, Norm 225

Extreme followed extreme. In that sense, and only that sense, 1983 was average. Records were set all year. The mildest winter in 50 years was followed by the coldest April on record and spring tied 1960 as the coldest ever. After two cool wet months, July and August were both exceptionally dry and hot. The dry weather went unslaked for over four months. From 6/29 to 11/3 we received only 8.58 inches of rain at the refuge. That is about half of normal for a period of 141 days. From 6/29 to 10/10 our 3.9 inches was 30% of normal. November was an enigmatic normal. December set six records for daily minimum temperatures and 4°F. on Christmas Day set a low temperature record for the month of December. The year as a whole, tied 1979 as the coldest year on record; 1983 was the 15th wettest year on record.

C. LAND ACQUISITIONS

2. Easements

The Corps of Engineers did no work on the refuge during 1983. All clearing for the Steele Bayou project was completed during 1982. The Corps has done considerable dredging just south of the refuge. The contractors will probably be working on the refuge sometime during the summer of 1984.



Steele Bayou - upper end of C.O.E. project after tree clearing stage. 11/83 TMW

D. PLANNING5. Research and Investigation

MVP Study: The refuge continued its cooperation with the University of Wisconsin Cooperative Wildlife Research Unit in a five year study of the Mississippi Valley Population of Canada Geese (MVP). The study which will end in 1983, is designed to increase our understanding of the winter distribution of MVP geese and increase the population of Canada Geese south of the 36th parallel at least 15 percent per year from 1979 through 1983. Hopefully we will accomplish these goals. In February we reached a peak of 2,000 Canada Geese, 4,500 less than the February 1, 1981 peak. The last two weeks of CY-83 our Canada Geese averaged 3,600 geese with a peak of 4,000 on December 31. The MVP study calls for us to make a weekly census of Canada Geese utilizing the refuge, to mark a yearly quota of geese with standard bands and plastic neck collars, and to report collared goose observations on the refuge. The three collared geese observed during the year were sent to Patuxent. Two of the geese had orange collars (TC-44 & PF-15) with white numbers while the other had a blue collar (20-UJ) with white numbers.

didn't we kill them?

In an effort to determine what effect, if any, chemicals are having on refuge wildlife, Patuxent requested that we collect Hooded Merganser and Wood Duck eggs and a sample of adult male Wood Ducks. Ten eggs from each species were collected and mailed to Dr. Jim Fleming at the Patuxent Wildlife Research Center. The results of the egg analysis follow. Results from the adult Wood Ducks were not available at report time. The results indicated high concentration of DDT. In an effort to further determine the extent and potential impacts of DDT contamination of wildlife on the refuge, Don White with the Patuxent Wildlife Research Center, Southeast Field Station, Athens, GA, proposed to collect 20 Mallards and 20 Wood Ducks during January 1984. These samples will be collected and analysed under a research study plan approved by the research center.

Another aspect of the pesticide problem on Yazoo was the collection of fish samples. On May 16, Don Shultz (RCA Chemist, RO), Pete Douglas (RCA Coordinator, Jackson Technical Services), John Forrester (Natchitoches NFH), and Lloyd Wright (biologist, Vicksburg ES Office) visited the refuge to collect the samples. Collecting was easier said than done. Sample sites were Long Dump, Alligator Pond, Upper Swan Lake, GTR-1, Black Bayou, and Silver Lake Bayou. (See attached map.) Shad were taken at all sites except Alligator Pond where no fish were taken. Only one site (Upper Swan) produced enough fish for a composite of five fish each from two species (predator & non-predator) needed at each station. The two species collected after rotenone was added to the water were bullhead catfish and a few crappie. No bass and only two bream were caught. Due to the poor collection another date was set for another attempt. On August 15th, Fishery Biologists, John Forrester and Karen Kilpatrick helped Pete Douglas collect gizzard shad, channel catfish, and yellow bullhead at the sites mentioned above. We had better success collecting fish with a total of 16 species of fish observed during the sampling. These numbers were still way down with shad having the highest numbers.

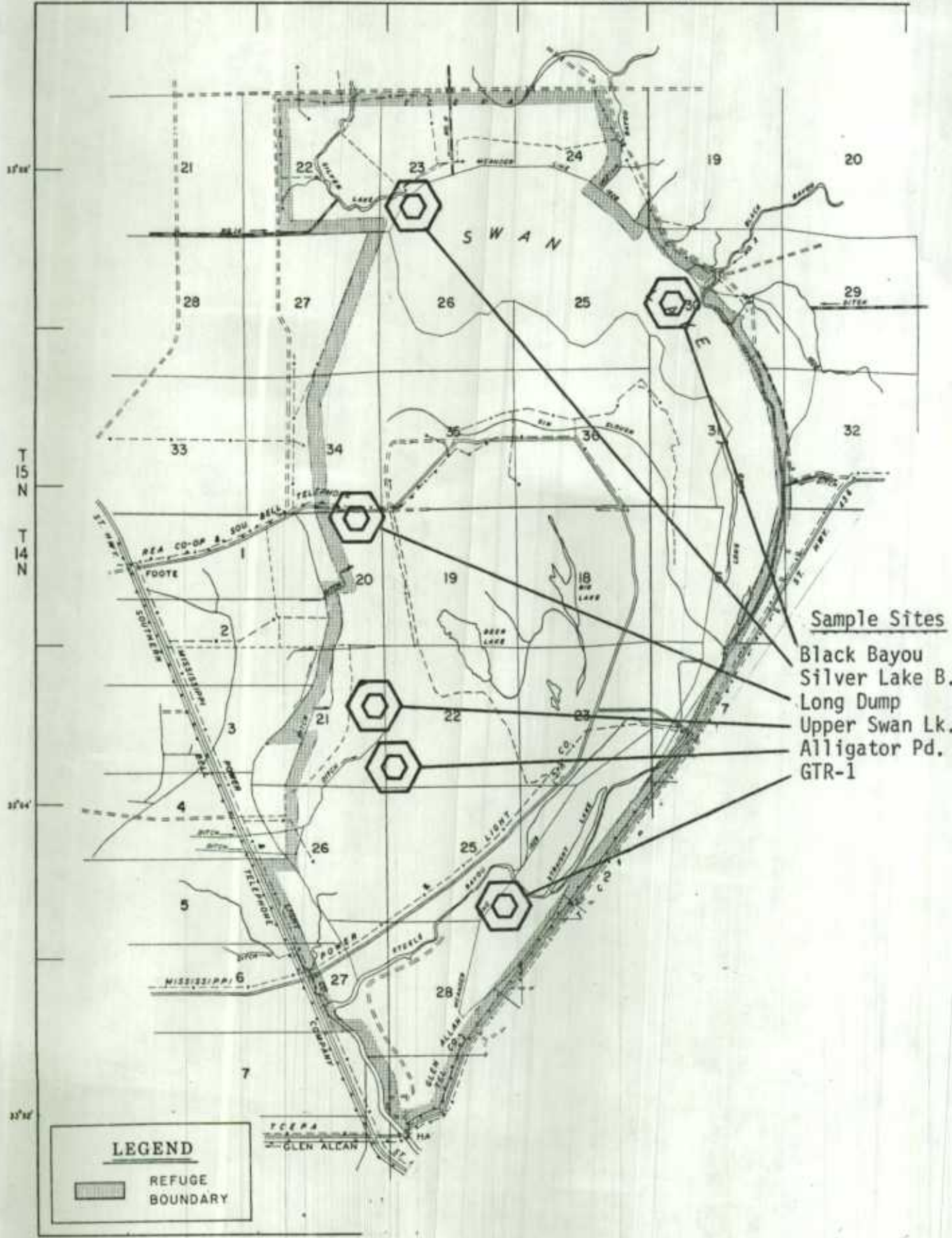
FISH PESTICIDE STUDY

YAZOO NATIONAL WILDLIFE REFUGE

WASHINGTON COUNTY, MISSISSIPPI

UNITED STATES
DEPARTMENT OF THE INTERIOR

R8W R7W



- Sample Sites**
- Black Bayou
 - Silver Lake B.
 - Long Dump
 - Upper Swan Lk.
 - Alligator Pd.
 - GTR-1

LEGEND

REFUGE BOUNDARY

COMPILED IN THE BRANCH OF ENGINEERING
FROM SURVEYS OF B.L.M., WAR DEPT., F.A.W.S., AND
AERIAL PHOTOGRAPHS

Some preliminary results for the 5/83 and 8/83 fish samples have been received. Gizzard shad, Yellow bullhead, and Channel catfish were collected for analysis. The mean parts per million for each pesticide vary at each location among replicates and between species and dates. Some maximum levels are of interest. They include Chlordane = .62; Heptachlor Epoxide = .018; Dieldrin = .18; Toxaphene = 53.2; Endrin = .12; PCB = .61; o,p DDT = 1.5; p,p DDE = 9.14; p,p DDD = 5.54; p,p DDT = 5.4. Each figure represents the highest level for any replicate tested. The strange fact is that they are all from the same replicate: The Gizzard shad longer than 220mm from Silver Lake Bayou. Silver Lake Bayou brings agricultural runoff to the refuge.

PATUXENT WILDLIFE RESEARCH CENTER - ANALYTICAL REPORT - PR-2735

Submitter: W. James Fleming, Research Biologist, FWRC, Laurel, Maryland.

Specimen Data: Ten wood duck and ten hooded merganser eggs collected at Yazoo National Wildlife Refuge, Mississippi in 1983.

Results: ppm corrected wet weight; organochlorine compounds. Lower limit of reportable residues before correction for dehydration = 0.1 ppm for all pesticides and 0.5 ppm for PCBs. Residues in sample numbers 83-867, 83-871 and 83-875 were confirmed by GC/MS.

<u>Sample No.</u>	<u>Submitter's No.</u>	<u>Wet Wgt.,g</u>	<u>g Lipid/cm³</u>
83-863	YR-1	10.00	0.145
83-864	YR-2	10.00	0.127
83-865	YR-3	10.00	0.133
83-866	YR-4	10.00	0.150
83-867	YR-5	10.00	0.130
83-868	YR-6	10.00	0.138
83-869	YR-7	10.00	0.136
83-870	YR-8	10.00	0.118
83-871	YR-9	10.00	0.173
83-872	YR-10	10.00	0.127
83-873	YR-11	10.00	0.095
83-874	YR-12	10.00	0.127
83-875	YR-13	10.00	0.130
83-876	YR-14	10.00	0.148
83-877	YR-15	10.00	0.155
83-878	YR-16	10.00	0.121
83-879	YR-17	10.00	0.136
83-880	YR-18	10.00	0.129
83-881	YR-19	10.00	0.156
83-882	YR-20	10.00	0.136

PATUXENT WILDLIFE RESEARCH CENTER - ANALYTICAL REPORT - PR-2735

Compound	83-863	83-864	83-865	83-866	83-867	83-868	83-869	83-870	83-871	83-872
p,p'-DDE	1.2	0.98	2.1	1.4	4.0	2.5	1.1	1.0	2.4	1.3
p,p'-DDD	-	-	-	-	0.22	-	-	-	-	-
p,p'-DDT	0.12	0.18	0.22	0.22	0.85	0.25	0.19	0.14	0.33	0.15
Dieldrin	-	-	-	-	0.22	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-
Oxychlorane	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	-	-	-	-	-	-	-	-	-	-
trans-Nonachlor	-	-	-	-	-	-	-	-	-	-
cis-Nonachlor	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-
Est. Toxaphene	-	-	-	-	0.21	-	-	-	-	-
Est. PCB	-	-	-	-	-	-	-	-	-	-

- = none detected

Note: The above samples are wood duck eggs.

PATUXENT WILDLIFE RESEARCH CENTER - ANALYTICAL REPORT - PR-2735

<u>Compound</u>	<u>83-873</u>	<u>83-874</u>	<u>83-875</u>	<u>83-876</u>	<u>83-877</u>	<u>83-878</u>	<u>83-879</u>	<u>83-880</u>	<u>83-881</u>	<u>83-882</u>
p,p'-DDE	2.8	3.8	8.5	5.0	2.0	6.3	2.8	1.5	3.0	1.4
p,p'-DDD	-	0.11	0.11	-	-	-	-	-	-	-
p,p'-DDT	0.93	2.1	1.1	0.73	0.33	0.78	0.45	0.19	0.50	0.13
Dieldrin	-	-	0.24	0.13	-	0.10	-	-	-	0.10
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-
Oxychlorane	-	-	-	-	-	-	-	-	-	-
<u>cis</u> -Chlordane	-	-	-	-	-	-	-	-	-	-
<u>trans</u> -Nonachlor	-	-	-	-	-	-	-	-	-	-
<u>cis</u> -Nonachlor	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-
Est. Toxaphene	-	0.14	0.50	0.16	-	0.20	-	-	-	-
Est. PCB	-	-	0.50	-	-	-	-	-	-	-

- = none detected

Note: All of above samples are hooded merganser eggs.

Bernard M. Mulhern

Bernard M. Mulhern, Acting Section Leader
Chemistry Section



John, Karen, & Pete gathering data.

8/83 JTF

The Corps of Engineers contract with LSU continued during 1983. The study involves the characteristics associated with the transition of upland to wetland. This is an effort to determine what is wetland. The difficulty of finding any uncleared habitat in the Delta to meet the study requirements came to light when searching for a suitable study site.

E. ADMINISTRATION

1. Personnel

The transfer of Assistant Manager, B.H. Powell, 2/22/83 to Washington Office, Wildlife Resources left some big shoes unfilled. The new Assistant Manager, John T. Fulton, did not arrive from Chattahoochee Forest National Fish Hatchery, Georgia, until 7/28/83. His size 10½ foot may never grow but he can wear B.H.'s size 12 boots.

Bill Parker was on board as a temporary WG-8 for 5/2/83 until he was hired as a PFT by Felsenthal National Wildlife Refuge on 11/28/83. We can understand Bill wanting a permanent job and are happy for him. We just wish we could find another person with all his abilities.

About the same time Bill Parker transferred to Arkansas, Clous Guster retired. Clous, age 60 gave 19½ years to Federal Service. He will long be fondly remembered for his cheerful attitude even while doing all the tedious lawn mowing. Recruiting efforts to replace Clous and Bill have not borne fruit yet.



Clous receiving fishing rod at retirement party.
12/83 JTF

We hired Chip Branning as a temporary laboror on 10/16/83. He is on a one year appointment.

Authorized Staffing

CY	Permanent Full Time on Hand & Vacancies	Part Time	Man Years - Temporary on Hand			
			CETA WISCCA	YCC	YACC	Other
79	3	0	0	4.6	0	0
80	5	0	0	1.8	2	0
81	4+1v	0	.3	2.3	1.75	0
82	5	0	.4	0	.5	0
83	4+1v	0	.2	1.7	0	.2

2. Youth Programs

The YCC program continues to be an important part of refuge operations. This year 10 enrollees under the able leadership of Cicero Hall, our experienced camp director, performed landscaping, roadside maintenance, and habitat improvement duties from 6/13 to 8/5/83. The refuge thus became a nicer place for wildlife and people.



YCC clearing woody vegetation from Indain mound. 7/83 TMW

YACC is no more. One good result of the YACC programs is still with us though. Charla Yelverton a YACC enrollee in 1981 is now our PFT secretary. She is a very valuable employee. The youth programs are a valuable development tool to find future Service employees like Charla.

3. Other Manpower Programs

We also hired two CETA/WISCCA workers 6/14. With us for most of the summer, Walter Atkins assisted Bill Parker during construction of the new shop. The other WISCCA worker proved to be hazardous to his own health and to others. He was terminated after reckless driving, causing \$734.00 damage to one vehicle.

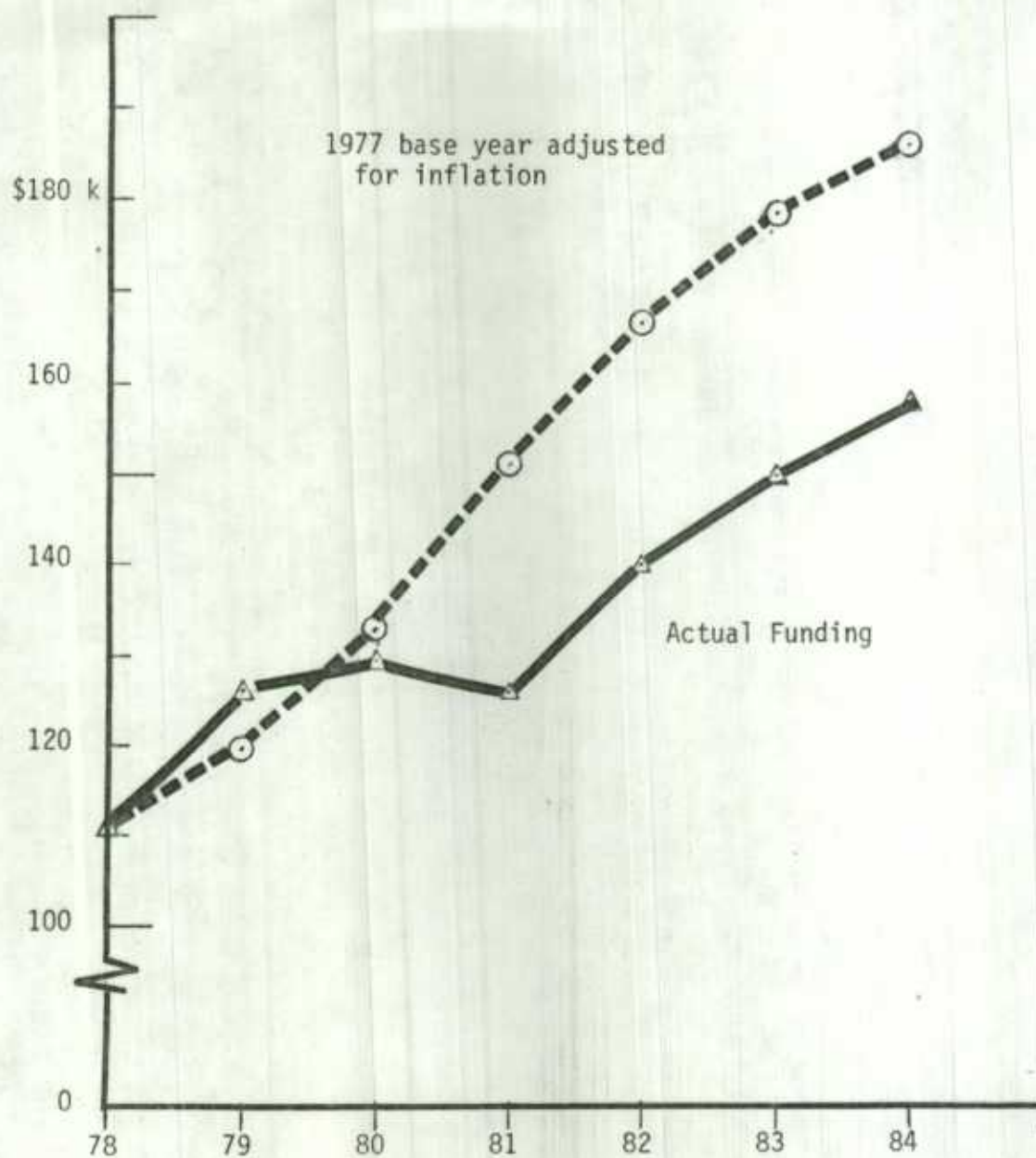
5. Funding

A \$1,300 decrease from the 1982 funding level is an artifact from the demise of BLHP. The Steele Bayou Project of the Army C.O.E. is picking up the slack as the BLHP winds down.

The total of our 1210, 1220, and 1240 funds reveal our base funding has been lagging behind the inflation rate. Of course, we appreciate the budget increasing whenever, but dream of a day when funding increases cover the full amount of inflation.

Funding data for the past six years is shown below:

YEAR	TOTAL	2821 BLHP	1210 MB	1220 MNB	1240 I&R	1994	1921 REFORESTATION	OTHER
1978	215.9	94.5	97.0	---	14.0	---	---	6.5
1979	146.0	5.0	107.0	4.0	15.0	---	---	14.0
1980	129.5	---	109.5	5.0	15.0	---	---	---
1981	169.2	33.2	116.0	.50	15.0	---	---	---
1982	207.6	25.0	115.0	8.0	17.0	1.5	31.1	---
1983	206.3	---	120.0	15.0	15.0	8.2	36.0	12.1



6. Safety

Defensive driving and CPR were taken by the crew in 1983.

There were no lost time injuries during 1983. One accident did cause \$734.00 damage to the Service pick-up truck involved. Excessive speed and negligence were causative factors. The temporary employee was terminated to protect his and co-workers' lives.

Two items checked during the year, electrical outlets and domestic water, showed reasons for concern. During construction of the new shop three prong electric outlets were installed. Upon examination they proved to be ungrounded with only two wires attached. They are now grounded by a third wire that connects the third terminal to the conduit. That should bring the wiring up to code.

The domestic water system is still being scrutinized. Preliminary tests show petroleum contamination in our (non) potable water. The first estimate of 1+ ounce in a gallon is about 8,000 ppm. A new well into a different aquifer is the likely solution. The present well is probably taking water from a low quality lignite seam. That would account for the color, taste, odor, and oily feel of the domestic water. Hopefully a new well will be either all oil or all water. An oil well may pay for bottled water.

The station held monthly safety meetings. Topics discussed reflected the seasonal shifts in activities. Each employee took a turn presenting some safety information from his/her area of expertise. As part of the monthly safety meeting the crew would see one or more safety films.

Safety films seen:

"Highways of Agony"	5/02/83	
"Drive and Survive"	6/06/83	
"Grim Statistics"	7/05/83	
"Eye Emergency"	8/01/83	
"Hand Tools for Wildfire"	9/05/83	
"Let George Do It"	9/05/83	
"On Every Hand"	10/03/83	
"Play It Safe"	10/03/83	
"Reach for the Lightning"	11/07/83	
"Before You Hunt"	11/19/83	Shown to the youth gun hunter:
"The Sportsman"	11/19/83	Shown to the youth gun hunter:
"Mechanized Death"	12/05/83	

F. HABITAT MANAGEMENT

1. General

Habitat conditions for the year could easily be placed in the extremes category. The year began with the refuge in flood condition. Conditions remained that way until June. Fields remained wet well into

June and temperatures remained mild until July when things heated up and high temperatures hovered around the 100^oF. mark. Fields and woods dried out in July and remained dry until November. The dry weather caused many soybean fields to die. Even cotton planted near the refuge had a rough go.



Soybeans almost dead due to lack of rain.

8/83 TMW

The cool to cold spring and wet conditions caused root systems to develop poorly thus the disaster when things got dry. Only 6.98 inches of rain fell from June 28th through November 3rd. Then came November and 10.63 inches of rain and December with 11.23 inches of rain --- another flood!

Mast production was poor but better than the zero we had last year. Field crops were good to poor. Corn crops were good to poor depending on planting date. One week between plantings made the difference between good and poor.

Flooding put stress on wildlife populations again this year. With 85% of the refuge's wooded habitat under water, wildlife had to take to ecotone strips, crops, and open fields.

2. Wetlands

Wetland conditions ranged from wet to dry to wet. The year started out with refuge water levels at an all time high. Water levels remained high until July. From July through October little to no rainfall resulted in a dry swamp and almost dry bayous. Rainfall returned in November and flooding returned in December. Heavy rainfall in November and December caused water levels to come within 18 inches of the 1982 all time high since establishment of the refuge.



Most of the swamp (Swan Lake) was dry enough to walk on
without getting feet wet or muddy. 12/83 TMW



Then came the rain!

12/83 TMW

3. Forest

Reforestation efforts as part of the Steele Bayou mitigation continued during 1983 with the planting of 21,000 seedlings on 700 acres and approximately 40 acres of acorns. A total of 33,200 seedlings (11,000 willow oak, 5,600 water oak, 14,800 cherrybark oak, and 1,800 nuttall oak) were planted during the 1982/83 season. This number was down considerably from the 90,000+ seedlings we were supposed to receive from Pinson Tennessee State Nursery. Pinson and personnel higher up the chain of command had signed an agreement to furnish Yazoo Refuge with 90,000+ seedlings each year for six years. A change in nursery personnel almost caused the refuge to go without any seedlings this year. Clyde Stewart at Hatchie NWR called in August checking as to the status of trees being purchased from Pinson. He had talked to the nursery and was told they had just over 60,000 seedlings to sale. With the past history of the few seedlings, Pinson was called. To make a long story short, we finally were approved 70,000 trees for the 1983/84 planting season after a signed copy of the agreement was mailed to the nursery. After excuses such as your seedlings froze or the deer ate your 50,000 seedlings we could have expected anything. Except for the assistance of the new nursery manager, we probably would not have received a single tree!

In an effort to make up for some of the lost seedlings of the 1982/83 planting season, we planted 40 acres of water and willow oak acorns on Swan Island. Many of the acorns sprouted and survived the hot dry summer. Hopefully we will get a stand. Should enough trees survive by using direct seeding, we plan to try more this spring. The acorns were kept in a cooler until planted in April and May.



Planting in muddy conditions is a challenge.

2/83 TMW

Weather and ground conditions play a big part in our ability to plant seedlings. Soil types range from pure sand to pure clay (black gumbo or buckshot). Some fields are made up of several soil types making planter depth settings, etc. very difficult. Areas easiest to plant are usually covered with grass from letting it lay idle for a year. This grass cover usually prevents mud from building up on the planter and tractor.

Several practices were tried this year to control vegetation in reforested areas. These included mowing, disking, and the use of chemicals such as round-up and poast. Mowing and disking are just temporary setback methods which require repeating at least once a month. Chemicals kill back vegetation usually with one treatment. We will know next spring if chemicals have a permanent effect on undesired vegetation.

4. Cropland

The year began with eight (8) cooperative farmers farming 3,891 acres of soybeans, corn, milo, wheat, and rice. All cooperative farmers operate under the 75-25% sharecropping system. All seed, fertilizer, and chemicals are furnished by the cooperative farmer. Crop acreages broke down as follows:

Corn - 457; Milo - 146; Millet - 35; Rice - 180; and Soybeans - 3093. All wheat planted during the fall of 1982 was disked under. Approximately 460 acres of wheat was planted during the fall of 1983.

Corn planting was delayed until April due to heavy rains. Normally planting begins in March. Early planted corn did fair to good with late plantings doing rather poorly due to dry weather conditions. All corn was left in the fields except 660 bushels of corn given to White River NWR, Hatchie NWR, and Miss. State Game and Fish for trapping. Another 200 bushels of milo was given to D'Arbonne NWR and the Miss. State Game and Fish for duck trapping.

All milo planting was completed by the end of July. One area, approximately 35 acres failed to make a stand and was replanted to millet. To receive full utilization of milo on Yazoo, we have found that it has to be flooded. Otherwise blackbirds get more benefit than our waterfowl.

Rice made a bumper crop this year with a yield of 110 bushels per acre. Rice fields are the first to be used by ducks arriving in late October and early November. These fields also produce an abundance of invertebrate food which seems to be playing a larger role in the duck diet than previously thought.

Soybean yields ranged from zero bushels per acre on sandy soils to 48 bushels on our best soybean soils (heavy clay).

Some fields literally burned under drought conditions and hot sun. Soybean prices were up this year with some farmers receiving almost \$9.00 per bushel. The average soybean yield for the entire refuge was estimated at 21 bushels per acre.

Due to weather conditions, hard rains and wet ground conditions, wheat failed to make any progress during the spring. All 500 acres planted in the fall of 1982 were plowed under and planted to soybeans. Wheat planted during the fall of 1983 will hopefully fair better.

In an effort to stabilize some of the archeological sites, they were disc and planted. The field around the Indian mounds (approx. 25 acres) was planted to bahia grass. Another field (approx. 15 acres) was planted to rye grass and yuchi clover. These fields are to be maintained in a grass state, thus haying operations will be in order.

5. Grasslands

There is no habitat on Yazoo classified as grassland. However grasses are used to control erosion as mentioned above. There are three grassed archeological sites on the refuge that total 104 acres. The Regional Office has requested that we keep these sites in a grass state. Approximately 45 acres of the sites were planted during 1983 to grasses suitable for haying. If these areas respond favorably, we plan to plant the remaining areas.

8. Haying

Haying was permitted on approximately 65 acres of the archeological sites in an effort to maintain them in a grass state. There is very little interest in haying as almost all pastureland has been converted to farmland. We found one person who will keep the sites mowed for the hay. Without this outside interest, maintaining these sites would add another task to our full schedule as well as the additional expense.

9. Fire Management

There has been little need for fire management on Yazoo. Almost all refuge lands are bottomland hardwoods, swamp, or cultivated fields. Areas with a grass fire potential are ecotone strips and reforestation sites. Because these areas are located where a grass fire potential exists, primarily from a careless smoker, we will disk the outer edges of the reforested area.

There were no fires on the refuge this year.

The refuge received approval not to develop a fire management plan.

10. Pest Control

Animal pest control is discussed under animal control.

The primary pest control on Yazoo pertains to the refuge farm program. Many different pesticides are used to control weed and grass problems. These pesticides are approved by the Regional Office and must be applied by manufacturer's directions and refuge restrictions. As most know, the Delta is plagued with Johnson-grass. The grass has got to be the cause of many a farmer's failure. You can deal this grass a blow with chemicals but it always comes back. If we could find a good use for

it, we could eradicate it! Most other weed problems are solvable -- cocklebur, morning glory, redbone, tea weed, etc.

Other farm pests are army worms, corn ear worms, etc. that can destroy a crop - pronto! New chemicals now being developed offer much better safeguards to wildlife and the environment. Hopefully this trend will continue.

G. WILDLIFE

1. Wildlife Diversity

An ecotone strip is now being left between agricultural land and timber land. Large tracts of agricultural land are being subdivided by planting wildlife corridors along drainages and dry ridges. These steps should help increase wildlife diversity by creating brushy "old field" habitat and wildlife travel lanes. As of yet, these areas are still not old enough to show results. When they are a couple years older, they may provide enough suitable habitat to support a viable Bobwhite population. At present there may be only one or two coveys left on the refuge.

Two other steps are also being taken to create a better balance of habitat types. Low, poorly drained, marginal agricultural lands are being evaluated for conversion to moist soil management. Other refuge areas are being reforested with mast producing species of trees.

2. Endangered and/or Threatened Species



One way to endanger a 'gator is to cut it in half. 10/83 TMW

The American alligator is the only resident species either endangered or threatened. The refuge population is, at best, stable. One 'gator nest was found in August but was destroyed by raccoons before the approximately four dozen eggs could hatch. No other nests were found this year. A few small 'gators were observed although no organized search was conducted. We do not believe 'gator poaching is common enough to be a limiting factor. Only one confirmed instance was reported during 1983. An adult 'gator was found stabbed through the brain with the tail severed, deboned, and the flesh removed from the area by the time refuge personnel found the carcass. There are still no suspects in the case.



Unusal 'gator nest.

7/83 TMW

The other endangered species using the refuge are wintering eagles, up to 60 transient Wood Storks in August, and maybe an occasional Peregrine Falcon passing through in the fall.



Wood Storks in favorite cypress. 8/83 JTF

3. Waterfowl

The winter of 1982/83 was very mild which probably accounts for our extremely low peak for January of 25,000 Mallards. Our average waterfowl population for January '83 was 10,000 Mallards, 6,892 other ducks, 2,500 Snow Geese, and 700 Canada Geese. These figures were down from the January '82 waterfowl peak of 90,090 birds with an average of 56,650 birds broke down as 30,000 Mallards, 18,150 other ducks, 500 White-fronts, 2,000 Snows, and 2,400 Canada Geese. During February '83, geese populations increased with Canada Geese peaking at 2,000, Snows at 4,500 and White-fronts at 1,200. By the first of February, Mallards were estimated at 3,000 on the first and averaged only 300 for the month. A cold spell the first of March brought our Mallard peak up to 5,000 while geese populations continued to decline.

The winter of 1983, brought record lows for December. These cold temperatures coupled with poor food supplies to the north helped push a record number of ducks to the refuge. Our November peak was 30,000 Mallards, 200 Canadas, and 100 Snows. December brought low temperatures of 8°F. and a peak of 200,000+ Mallards, an all time high, 4,000 Canadas, 250 White-fronts, 90 Snow Geese, and 10,367 other ducks.



A cold December day!

12/83 JTF

Wood duck populations remained high throughout the summer. Nesting results follow and banding information is in C. 15.

<u>1983</u>		<u>1982</u>
511	- Total boxes available	- 418
380	- Total boxes used	- 295
630	- Total number of nesting attempts	
380	- # boxes used one time	- 295
188	- # boxes used a second time	- 76
54	- # boxes used a third time	- 7
8	- # boxes used a fourth time	
11,519	- Total eggs laid	- 5652
3,208	- Total eggs hatched	- 3642
708	- Total eggs unhatched	- 1356
1,162	- Eggs remaining in nest after final check	
83	- Young found dead in nest	- 40
5,118	- # eggs removed (rotten or dump nests)	- 614
1,340	- # eggs destroyed (raccoon, birds, & snakes)	

Our resident flock of Canada Geese peaked at 145 birds during June. Raccoon predation continues to limit reproduction. An estimated 55 goslings were alive at the end of June. The first brood was seen on April 15, and the last new brood of a week old goslings was seen on May 25. Goose hatching success has increased each year for the past three years with 30 hatching in 1981 and 37 in 1982. One of our local

catfish farmers, Sam Harris, had two broods with 13 surviving to flight stage. We observed some broods with eight (8) and nine (9) young. In past observation, broods had no more than six (6).

A few Mallards nested on the refuge with some success. Three (3) nests were found in Deer Lake while checking Wood Duck boxes. Only one (1) brood of five (5) was observed in Deer Lake. Several Mallards used the old Swan Lake Bed throughout the summer.

4. Marsh and Water Birds

The highlight among marsh and water bird activity for 1983 was discovering a nesting colony of Little Blue Herons and Anhingas. After the large Cattle Egret colony disappeared from the Lizard Lake area several years ago no other heron rookery was known on the refuge. At its peak the old Cattle Egret colony included 10,000 birds. This new Little Blue Heron colony is tiny by comparison; it produced less than 200 birds. It produced them late, too. Young were still in the nest in August. It makes one wonder if the spring floods disrupted a first nesting effort elsewhere. We will be watching Alligator Pond this next spring and summer to see if and when Little Blue Herons nest again at Yazoo NWR.

Other nesters at Yazoo NWR include Green-backed Herons, Least Bitterns, Common Moorhens, and Purple Gallinules. Sora Rails may, or may not, nest. We suspect they may be here year round but during January and July they are very scarce.

Post breeding wanderings usually bring us White Ibis, Glossy Ibis, and the declining Wood Stork, which is being considered for listing/status review. By late September 2,000 Cattle Egrets, Great Egrets, and three heron species joined the wanderers. Every night for several weeks they would roost with the Little Blues in the heron rookery.



Cattle Egrets

8/83 JTF

5. Shorebirds, Gulls, Terns, and Allied Species

Gulls are rare on the refuge. Occasionally a few Herring, Ring-billed, or Franklin's Gulls drift over from Lake Washington one mile west of the refuge.

Killdeer are residents. They nest and winter on the refuge. Snipe and Woodcock are with us October to March at least. Peeps, Dowitchers, and Yellowlegs are migrants and are listed on the refuge bird list.

6. Raptors

The endangered Southern Bald Eagle occasionally is seen on Yazoo NWR from December to February. It has been rumored that historically, there were two Bald Eagle nests on Big Lake. There was no nesting activity and eagles were seen twice in early 1983. On December 14th eagles were seen again on the refuge. They were not carrying nest material.



On September 26th over 2,000 Broad-winged Hawks flew over.
9/83 TW

Other raptors seen during 1983 include Merlin (10 use days), Peregrine Falcon (1 use day), Red-shouldered Hawks, American Kestrel, Red-tailed Hawk, Northern Harrier, and Golden Eagles. Barn, Barred, Screech, and Great-horned Owl round out the raptor roster. Wood Duck boxes benefit Screech Owls. Boxes are used all year by the owls.

7. Other Migratory Birds

Our fine bird list was last updated in 1976. It listed 179 species of birds on the refuge. From 6/83 to 12/83 enough new species for the refuge were seen to push the total over 200 species. Migrating warblers account for 10 of the additional species. A list of those species new

to the refuge list of regularly expected bird species is listed below.

Double-crested Cormorant	Chestnut-sided Warbler
Glossy Ibis	Bay-breasted Warbler
Sharp-shinned Hawk	Wilson's Warbler
Merlin	Canada Warbler
Bald Eagle	Golden-winged Warbler
Golden Eagle	Blackpoll Warbler
Krider's Red-tailed Hawk	Prairie Warbler
Harlan's Red-tailed Hawk	Ovenbird
Franklin's Gull	Pine Siskin
Olive-sided Flycatcher	Vesper Sparrow
Veery	
Swainson's Thrush	
Philadelphia Vireo	
Magnolia Warbler	
Blackburnian Warbler	

The refuge list of accidentals should now also include Cinnamon Teal and Peregrine Falcon. Eight additional species have been seen on past refuge Christmas Bird counts within the count circle but just outside the refuge boundary. A Burrowing Owl has been seen several years in a row just northeast of the refuge.

An updated refuge bird list will now include "The Top 200": those species most likely to be seen in any given year.

8. Game Mammals

Deer hunting generates a lot of local interest in refuge operations. Many local hunters were not allowed to use their refuge deer hunting permit for the second year in a row. High flood water forced the deer herd out into the open. If the hunt was allowed to continue after the waters rose, hunters would have lined the edge of field and shot at each other while trying to kill a deer in the crossfire. Despite the low (25%) harvest of the deer herd for each of the last two years the herd is in excellent shape.

Squirrel and rabbit numbers were down at the end of the year. Hunting in the spring helped reduce rabbit numbers by 4,000 animals, long enough to allow tree seedlings to get established. A poor mast crop kept squirrel numbers depressed. They started the year without any dry feeding areas. Flood water had covered all the 1982 mast crop.

Raccoons were important predators on eggs of alligators, geese, and ducks. Hunting pressure seems to have little effect on the number of nests destroyed. Maybe more efficient hunting methods are needed to reduce the raccoon population.

10. Other Resident Wildlife

Not a beard in the group.

12/83 JTF



A Canebreak Rattlesnake is an unusual siting. 9/83 JTF

Its cryptic coloration and disruptive patterns make it very difficult to see in its natural habitat.

11. Fisheries Resources

Fishing is not allowed on the refuge due to high levels of pesticide contamination. (See Research and Investigations: D-5.) We do have potential for fisheries management on the refuge but hope to clean up the pesticide problems first. We know which chemicals are present and at what levels. What we are trying to learn next is what is the source or how is the chemical reaching the refuge. Rotenone is used to sample various parts of the refuge to compare communities in different bodies of water. Many fish species were observed during the rotenone treatments on 8/15 and 8/16/83. Gizzard shad, Channel catfish, and Yellow and Brown bullheads were sampled. The sixteen species observed were:

Spotted gar	<u>Lepisosteus oculatus</u>
Short nosed gar	<u>Lepisosteus platostomus</u>
Bow fin	<u>Amia calva</u>
Gizzard shad	<u>Dorosoma cepedianum</u>
Carp	<u>Cyprinus carpio</u>
Carp sucker	<u>Carpodes sp.</u>
Small mouth buffalo	<u>Ictiobus bubalus</u>
Big mouth buffalo	<u>Ictiobus cyprinellus</u>
Yellow bullhead	<u>Ictalurus natalis</u>
Brown bullhead	<u>Ictalurus nebulosus</u>
Channel catfish	<u>Ictalurus punctatus</u>
Warmouth	<u>Lepomis gulosus</u>
Blue gill	<u>Lepomis macrochirus</u>
White crappie	<u>Pomoxis annularis</u>
Black crappie	<u>Pomoxis nigromaculatus</u>
Freshwater drum	<u>Aplodinotus grunniens</u>

14. Scientific Collections

Fish, ducks, and duck eggs were collected during the year to check contaminant levels. See D-5.

15. Animal Control

Animal control is limited to reducing nutria and beaver populations. Nutria, big round-tail rats, continue to do damage to refuge dikes, levees, nesting mounds, and anything else they can dig into. Goose nesting mounds in Deer Lake continue to cave in from tunnels dug by these rats. Beaver also pose problems well known on many refuges. Control methods are limited to conibear traps and incidental .22 rifle kills.

16. Marking and Banding

Trapping efforts began in late January with nets and sites being prepared for what birds were still around on February 1st. Waiting until the first of February sure makes it difficult to capture a large quota. Postseason quotas were: 900 Mallards (450 ea. sex), 50 Ringnecks, and 50 Canada Geese (anytime).

Postseason trapping netted the following:

Mallard - 947 (539 males & 408 females)

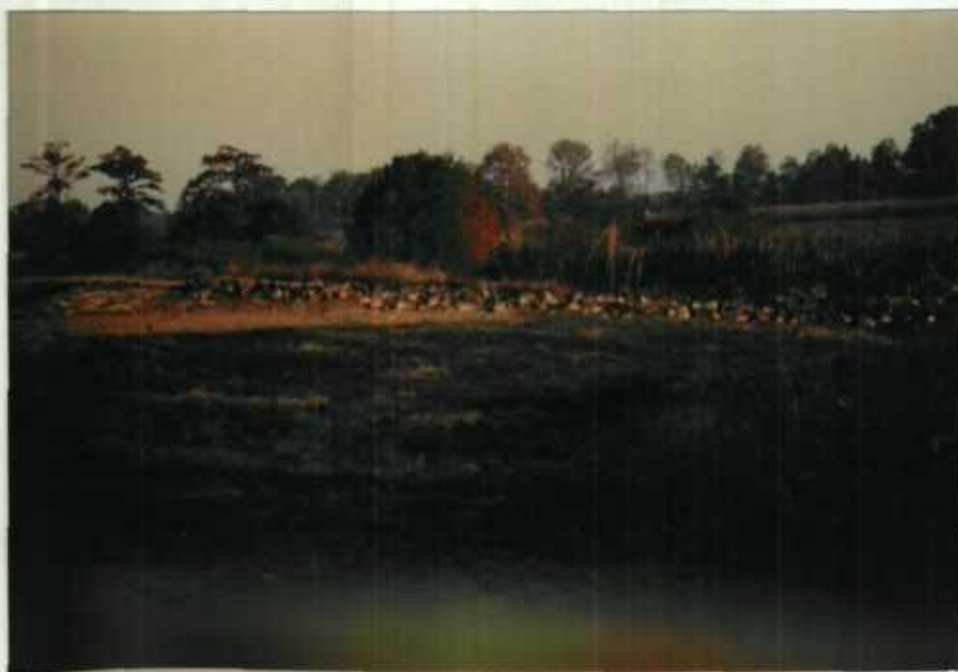
Standard band & reward band			
AHY-M	SY-M	AHY-F	SY-F
289	12	270	23

Standard band only			
AHY-M	SY-M	AHY-F	SY-F
203	35	75	50

Wood Duck - 28 (18 males & 10 females)

Blue-winged Teal - 5 (4 males & 1 female)

Canada Goose - 2 males



Sometimes the ducks cooperate!

11/83 JTF

Summer trapping of Wood Ducks was strung out from June until September 15. Ducks were trapped with cannon nets, walk-in, nest box traps, and netted while on the nest. Hatching year females continue to be the least dominant. Adult males were trapped later into the season this year possibly because of the late spring causing later nesting attempts. Maybe we jsut had more adult males! Summer Wood Duck trapping broke down as follows:

AHY-M	HY-M	AHY-F	HY-F	Total
179	188	131	109	607



Afternoon shots are the best.

9/83 JTF

Preseason Mallard banding with reward bands began in November. This is the third year of this program. Much early effort resulted in very few ducks. Warm weather and heavy rains caused the few ducks we had to disperse. Our quota was 400 Mallards, (200 ea. sex) but we were asked to band over that number. These birds were fitted with \$10.00 reward bands, a regular Fish & Wildlife band, weighed, both wings measured, and aged. We reward banded 596 and recorded data from 52 retrapped Mallards. Any retrapped birds with reward bands must also be weighed and measured. Our preseason reward banding summary was:

Mallards	386 males	(33 HY-M & 363 AHY-M)
	200 females	(61 HY-F & 139 AHY-F)
	52 retraps	(39 AHY-M, 1 HY-F, & 12 AHY-F)

Twenty (20) Ringnecks were also banded. These birds are hard to come by on Yazoo. In years past several thousand utilized the refuge. Now we have rare peaks (one or two days during extremely cold weather) of 500 birds.

Only two (2) immature male Canada Geese were captured, banded, and neck collared during 1983. Hopefully geese will use our cannon net site before the end of March '84.



Reward banding Mallards took considerable time. 11/83 JTF

The final 1983 banding tally is shown below with a breakdown by age and sex.

	AHY-M	HY& SY-M	AHY-F	HY& SY-F	Total
Mallards	855	80	484	124	1543
Wood Ducks	197	188	141	109	635
Ringnecks	3	9	2	6	20
Blue-winged Teal	4		1		5
Canada Geese		2			2
					<u>2205</u>

Band return information will be updated during February and March '84 by two volunteer workers.



Sometimes the duck just doesn't fit the norm! 11/83 JTF

H. PUBLIC USE

1. General

The majority of our public use comes from hunting, wildlife observation is second, but gaining. Land open to public hunting is scarce in Washington County.

Yazoo NWR contains a large portion of the undeveloped non-agricultural land in Washington County, Miss. As more local people realize this, we expect continued public use growth on the refuge. In anticipation of this expected growth, we are initiating a public use plan. Present public use demands are being met with unsigned observation trails and the many managed refuge hunts.

Archery deer hunters may be the most obvious refuge user group. Each of the 766 archers in 1983 spent many days scouting and hunting for each deer killed. They harvested 47 deer during the 10/1 to 11/18 hunt. Gun deer hunters have the potential to over harvest the deer. We allowed a total of 380 use days of gun deer hunting from a pool of 1,737 hunt applicants. Deer hunting generates alot of interest in the refuge. Our management of the deer herd and its hunting generates alot of good public relations for the refuge.

Other types of hunting also bring people to the refuge. Rabbit, raccoon, squirrel, and turkey hunters account for 2,000 visits a year.

Some people come to see panthers. William and Laura Riley write in their book, "Guide to National Wildlife Refuges", "...A sighting... occurs every two weeks...the populations is...a half dozen...". This 12,471 acre refuge could possibly support one adult panther at most. One animal is not a viable population. In the past there may have been panther present, but now? For the past several years all we have are disappointed fans of the Riley's. Once or twice a month another visitor asks where to see a panther.

8. Hunting

Public hunting on Yazoo increased again this year with the addition of a rabbit with dogs and our first turkey hunt. Other refuge hunts included deer (archery, muzzleloader, and conventional guns) squirrel, raccoon/possum, and furbearers allowed to be taken during hunts inside the state furbearer season. All hunts went well except for the general gun hunt and part of the muzzleloader hunts when flood waters forced their closure. Sunday hunting was allowed for the first time.

Our first hunts of the year were rabbit with dogs from February 7-28, and raccoon/possum from February 7-12, 1983. Raccoon hunters did fair during the six (6) night hunt with 80 hunter visits taking an estimated 100 raccoons and 12 opossums, during 320 hours of hunting. Rabbit hunters faired much better with 640 hunters taking an estimated 4,620 rabbits during 1,920 hours of hunting. This was our first rabbit hunt with dogs and our first rabbit hunt during February. Many hunters found that hunting without dogs was also productive. Rabbits were so abundant that reforestation efforts were being eaten down to the ground. Other saplings, some 12 years old, were being stripped of bark. The news of abundant rabbits spread rapidly, drawing people from the State Game & Fish Commission in Jackson, a two hour drive one way. The only problems were dogs and hunters in the closed area where our heaviest goose and duck use takes place and an occasional duck being shot.

Our third hunt of CY'83 was another first, a turkey hunt. A total of 117 hunters made 194 visits and hunted 1,061 hours to bag 35 turkeys. These hunters crippled at least 13 turkeys with 12 being verified as dead by their remains after being eaten by some predator. The total known kill was 47 birds. The first three weekends were permitted with only 25 permits issued for a three day hunt. Of the 25 permittees, only 18 hunted. These 18 took 16 turkeys and all shot at turkeys. The last weekend was a no limit type hunt (free-for-all)! The only turkeys killed were ambushed or shot off the roost. With 69 hunters in the limited woods of Yazoo, turkeys tend to be somewhat uncooperative. Next year all hunts will be limited.

Fall hunting began on October 1st with deer archery which ran for 49 days. Participation in archery hunting has steadily increased. During the 1982 hunt, 497 hunters participated, 766 participated in the 1983 hunt. Only 19 deer were taken during the 1982 hunt. We continue to have problems with bow hunters using drugs to hunt deer. Mississippi is the only state in Region 4 that doesn't have a law against hunting with drugs.

Squirrel hunting was poor this year with an estimated 105 hunters making 145 visits and taking only 200 squirrels in 400 hours of hunting. Hopefully hunting will improve next year.



I can't believe this!

11/84 TMW

Our first gun deer hunt was the youth hunt which takes place Thanksgiving weekend. We issued 60 permits per day for three days, estimating 50 hunters will show up each day. This year 149 hunters (55, 51, & 43 respectively) participated. They hunted 824 hours and took 57 deer, a 39+% success rate. Most youth hunters get a shot at deer and all get to see deer. They made a total of 1,138 deer sightings during the hunt. The refuge has received more positive comments about our youth hunt than any other hunt. We even have some hunters asking about getting up a petition to have only youth gun hunting on the refuge! Nothing in hunting circles compares to the satisfaction of seeing a young hunter full of excitement over his first successful hunt!

Only two days of the scheduled six day muzzleloader season were held. Flood conditions forced deer into small patches of woods and open fields where a potential slaughter could take place. During the two days 193 hunters hunted 1,079 hours and harvested 21 deer.

The one day gun hunt was not held due to flooding. The efforts to contact hunters with permits in a short period of time is somewhat hectic. We waited as late as possible to make the decision hoping waters would recede.



Another satisfied youth. 11/83 TMW

Refuge deer seasons and data follow:

Archery: Either sex - State limit

Season	# Permits Issued	Deer Harvested
Oct. 1 - Nov. 18, 1983	766	47 (26 bucks, 21 does)

Youth Gun Hunt: Either sex - one deer limit

Season	# Permits Issued	Deer Harvested
Nov. 24, 25, & 26, 1983	180 (149 total)	57 (22 bucks, 35 does)

Primitive Weapon - Muzzleloader: Either sex - one deer limit

Season	# Permits Issued	Deer Harvested
Dec. 2&3, 1983	193	21 (11 bucks, 10 does)
Dec. 7,8,9&10, 1983	Cancelled due to flooding.	

Four deer (1 buck, 3 does) were killed by vehicles, one 8 pt. buck was killed by poachers and there was evidence of three (3) other kills by poachers. Poaching attempts are increasing, much of it during daylight hours. There were eleven deer (5 buck, 6 does) found dead after hunts. An estimated 30 additional deer were lost during the deer hunts. The total known kill was 141 (66 bucks, 75 does) deer. The total estimated kill was 171 deer.

*I would like to have
this explained*

Deer Ages and Weights

<u>Age</u>	<u>Bucks</u>	<u>Est. Ave. Whole Wt.</u>	<u>Doe</u>	<u>Est. Ave. Whole Wt.</u>
6 mo.	14	58.23 lbs. (77)	15	60.87 lbs. (84)
1½	26	144.38 lbs. (170)	14	121.86 lbs. (145)
2½	10	203.00 lbs. (247)	10	132.70 lbs. (145)
3½	6	241.33 lbs. (259)	14	144.50 lbs. (168)
4½	0	-----	4	152.25 lbs. (170)
5½+	1	220 lbs.	7	151.43 lbs. (182)

*Whole weights were estimated by using attached deer weight table.
(Heaviest deer in age group)

The second raccoon/possum hunt was held December 21-23, 1983. A total of 90 visits were made by 65 hunters. They hunted 390 hours. and harvested 130 raccoons and five opossums.

Hunt programs on Yazoo have come a long way. We feel like it is time to stop and evaluate our hunt program. Hunts demand manpower and each additional hunt takes away from other refuge duties, many times conflicting with them.

11. Wildlife Observation

Between the fall and spring hunts we have our winter waterfowl peaks. During the latter part of December 1,000 vehicles drove through the refuge to see ducks and geese, as well as turkeys and deer. So far there has not been much demand for interpretive materials. The average person completes his or her refuge visit in less than 30 minutes. It is hard to say for certain whether constructing interpretive displays here will increase the number of visitors. It is easier to say construction may, and probably will increase the length and quality of each visit.

Bird watching attracts out of town tourists passing through the area. More highway signs would help these folks locate the refuge. Local birders organize the annual Audubon Society Christmas Bird Count on the refuge. The heat and mosquitos of summer are no problem for our most experienced local birders. They visit during other seasons.

DEER WEIGHT TABLE

In Pounds

LIVE WEIGHT	FIELD DRESSED ₁	CAVITY EMPTY ₂
85	68	64
90	72	68
95	76	71
100	80	75
105	84	79
110	88	83
115	92	86
120	96	90
125	100	94
130	104	98
135	108	101
140	112	105
145	116	109
150	120	113
160	128	120
170	136	128
180	144	135
190	152	143
200	160	150
210	168	158
220	176	165
230	184	173
240	192	180
250	200	188
260	208	195
270	216	203
280	224	210
290	232	218
300	240	224
310	248	232
320	256	240
330	264	248
340	272	256
350	280	262

1 Field dressed: Heart, lungs, and liver remaining.

2 Cavity empty: Completely cleaned -- all viscera removed.

John, Dave. 1973. How old is that deer? Louisiana Conservationist,
25:11 & 12, pp 24-27.

The majority of our wildlife observers seem to be hunters who enjoy watching wildlife. They scout year round. They are sportsmen who like to see wildlife, to study it and appreciate the opportunities to hunt on the refuge with their choice of weapon, be it bow, gun, camera, or just a notebook marked "Life List".

17. Law Enforcement

The addition of a February rabbit season and April turkey season brought more law enforcement responsibilities. Thanks to the assistance from other refuges we kept up with the extra hunts. Law enforcement demands have increased this year, not only due to extra hunts, but the knowledge of a good deer population has increased poaching efforts. With only one staff with law enforcement authority, hunts do not get the attention they sometimes need.

A list of offences and fines of 48 individuals follow:

<u>Offence</u>	<u>Fines</u>
Hunting in closed area (7)	\$350.00
Vehicle trespass (12)	350.00
Hunting without permits (4)	150.00
No hunting license (1)	50.00
Hunting with drugged arrow (3)	100.00
Loaded firearm in vehicle (6)	150.00
No hunter orange (1)	27.00
Warning Citations Issued (14)	

I. EQUIPMENT AND FACILITIES

1. New Construction

The shop outside shell was completed in 1982. This year the wiring, plumbing, and interior finish work were completed. The graveling of the yard will be finished shortly. Bill Parker did an outstanding job on all aspects of the construction. He remained undaunted regardless of changes in priorities, plans, or precipitation.

The new facility includes a wood-working shop, automotive shop, rest-room and shower, and a crewroom in addition to storage space inside and out. Dimensions are 60'x 150'.



ARD Wildlife Resources, Jim Lankford cuts
the ribbon to open our new shop on 12/19.
12/83 JTF



Bill's sunny disposition reflects the weather as the
concrete is poured.
11/83 JTF



Not even a monsoon can dampen Bill's spirits or distract him as he works the concrete surface to perfection.

11/83 JTF

2. Rehabilitation

Major rehab was completed on Quarters 22, the Pryor Impoundment Levee and water control structures, Lizard Lake water control structure, Deer Lake Slough to Big Lake water control structure, and the levee/road to Swan Island.

Quarters 22 had some much needed remodeling done. This house was built in the mid 60's with Florida weather in mind! You couldn't cool or heat the house. Remodeling features included removing some 354 square feet of windows (29% of outside wall space) and replacing these with 81 square feet (6% of outside wall space) of double insulated windows. The remaining space was framed, insulated, sheetrocked, and the outside was covered with cypress. See pictures on next page. The inside was remodeled by replacing light fixtures, removing the extremely heavy and unmanageable closet doors and replacing them with louvered folding doors, tiling part of the bathroom, painting the inside, adding brick (wall & floor) for a wood stove, and carpeting all but the kitchen and bathroom where vinyl carpet was laid. The house looks different to say the least.



Typical R-4 house with hurricane windows on 29% of outside walls.
5/79 JTF



Quarters 22 after remodeling, thermopane windows are now 6% of the outside walls.
6/83 TMW

The Pryor Impoundment Levee washed out during the year due to heavy rains and a stopped up drain pipe. The 12 inch drain pipe was replaced with a 24 inch pipe and 30 inch stop-log rizer. The levee was rebuilt, shaped, and seeded to fescue.

The Lizard Lake gated structure had rusted away. The gate and frame were rebuilt. In addition to replacing the gate, a new walkway was constructed.

The Deer Lake Slough to Big Lake water control structure was replaced with a 20 inch pipe and framed sliding gate. A walkway was also constructed.



Lizard Lake walkway construction.

9/83 TMW



Final touches.

9/83 TMW

Another rehab job was rebuilding the levee/road to Swan Island. Beaver had done considerable damage causing the road to cave in. A combine was almost lost when part of the road collapsed underneath it.



Combine almost lost over a 14 foot drop.

12/83 TMW

It took a large four-wheel drive Versatile tractor with eight large lugged tires to pull the combine out. The levee was rebuilt and gravel added. The bank where beaver and nutria damage occurred was overlaid with chain-link fence. This stopped our burrowing problems. The chain-link fence was suggested by Refuge Supervisor, Sam Drake.

4. Equipment Utilization and Replacement

The tight budgets make it paramount that expensive equipment be put to use rather than sit idle. This often means sharing one piece of equipment among several stations or transferring repair parts as well as intact units.

Several motorized pieces of equipment were shuffled around during '83. Our John Deere 4440 tractor went temporarily to Noxubee NWR for part of the summer. We found a new home for a surplus dragline with the Mississippi Levee Board. A four-wheel drive jeep courtesy of Law Enforcement will replace the four wheeled Honda ATV we transferred to Pea Island NWR, N.C. A D-8 at Hatchie NWR may roll again thanks to our surplus track and rollers donation. A motor patrol road grader is no longer sitting idle. It has gone to the Jobs Corps office in Lexington, Kentucky.

6. Energy Conservation

It is more difficult to insulate walls after construction than during construction. While window space was being converted to walls in Quarters 22, was the perfect time to insulate. That accounts for all of the 24% of exterior wall that now has any insulation. The standard R-4 houses like Quarters 22 were originally built without any insulation. Now the boarded up areas around the new double glazed thermopane windows contain fiberglass insulation. No longer can you see curtains move as drafts of cold air slide down the windows.



White shingles save air conditioning energy in summer.
Smaller windows and insulation save energy both summer and winter.
12/82 TMW

Heating with propane can be expensive. In December's record cold spell the office heater used 450 gallons of fuel to heat 750 sq. ft. The temperature in the office never reached above 60°F. The baffles had burned out. The heater was replaced with two small space heaters. Fuel savings should be almost 50% even using two heaters instead of one.

The refuge has a good supply of down timber that supplies firewood for the wood burning stoves in both the new and old shops. Two residences are now also using wood burning stoves.

J. OTHER ITEMS

1. Cooperative Programs

Cooperative farmers farmed 3,891 acres of soybeans, rice, corn, milo, and millet on a 75 - 25 % share-cropping basis. Reducing farmland on Yazoo and converting it to hardwoods is a major goal.

A special use permit was issued to Joe Ott for the purpose of placing bee hives on the refuge. Mr. Ott worked 550 hives at nine (9) locations on the refuge. Along with the 10¢ per hive fee, the refuge receives the beneficial effects of pollination.

The revenue sharing check in the amount of \$64,586.00 was given to the county on March 9, 1983. This is supposed to be the last year refuge managers hand deliver the checks. Refuges will lose some contact and public notice because of this action.

3. Credits

Sections B,E,F-1&2,G-1,2,4,5,6,7,8,10,11&14, H-1&11, and I were done by Fulton. Introduction and sections A,C,D,F-3,4,5,8,9&10, G-3,15&16, H-8&17, J-1, and K were done by Wilkins. Typing was done by Charla.

K. FEEDBACK

Other than the usual gripes about the continued overload of paperwork where the information was needed last week and the pressure to open refuges to more and more consumptive public use, without additional help, I have very few gripes.

General requests for information requires almost if not as much time from small stations as well as large. Much of the time small stations do not have time to handle the request properly and do other more important items identified in their performance standards. It seems and hopefully by coincidence that when it rains it pours. At times each refuge needs an administrative assistant! I know Washington works on a tight schedule and many times has no choice but to put a rush on certain requests. Some things might be looked into a little deeper before being sent to the field.

Refuge public use (primarily hunting) has come a long way in a few years. Refuges should be examples of quality hunting. In many cases, refuges are the only place an average citizen has to hunt or can afford to hunt. Quality is a nebulous term to many and rightfully so. To many, just the opportunity to be in the outdoors is quality. To me quality goes a bit further. Examples - turkey hunting quality is the knowledge that a bird is in the bush and that I have a reasonable expectation to hunt that bird with minimal interference by other hunters. Deer hunting is quality where I know there is at least the potential of taking a trophy buck with minimal interference by other hunters. Why do you suppose Yazoo or White River NWR attract the hunters they do. I dare say it is not because they have deer, I would not travel 300 to 800 miles to just hunt deer, but because they have trophy deer. Yazoo Refuge would hold little interest to even local hunters if they did not have the expectation of taking that "big one". There are numerous other nearby places to hunt, even local hunting club members jump at a chance to hunt the refuge. Most of these clubs have more deer and far fewer hunters. Many refuges have wide open hunting programs which offer almost anyone the opportunity to hunt anything at anytime. Many times it is just a hunt not a satisfying experience. Most hunters had rather sacrifice not being drawn on a limited hunt than exploit the resource. Having minimal or no restrictions does not insure a quality hunt, many times it is just the opposite. In the past some season restrictions were in force to allow other refuge operations to function. The increased hunting opportunities, many of which were warranted, have stretched most small staffed refuges, as well as large refuges, to the limit. It takes manpower to have hunts. Thus far that time has come from a staff that has been static or decreased over the period of increased demands. Someone somewhere must come to the realization that much of the increased refuge hunting and the recreational opportunities offered on refuges must be offset with additional manpower. Does the Park Service offer the quantity of public use that refuges do with the same number of people? If you can get the information, compare Okefenokee NWR with Cumberland Island! If we are going to expand so must our staffs.

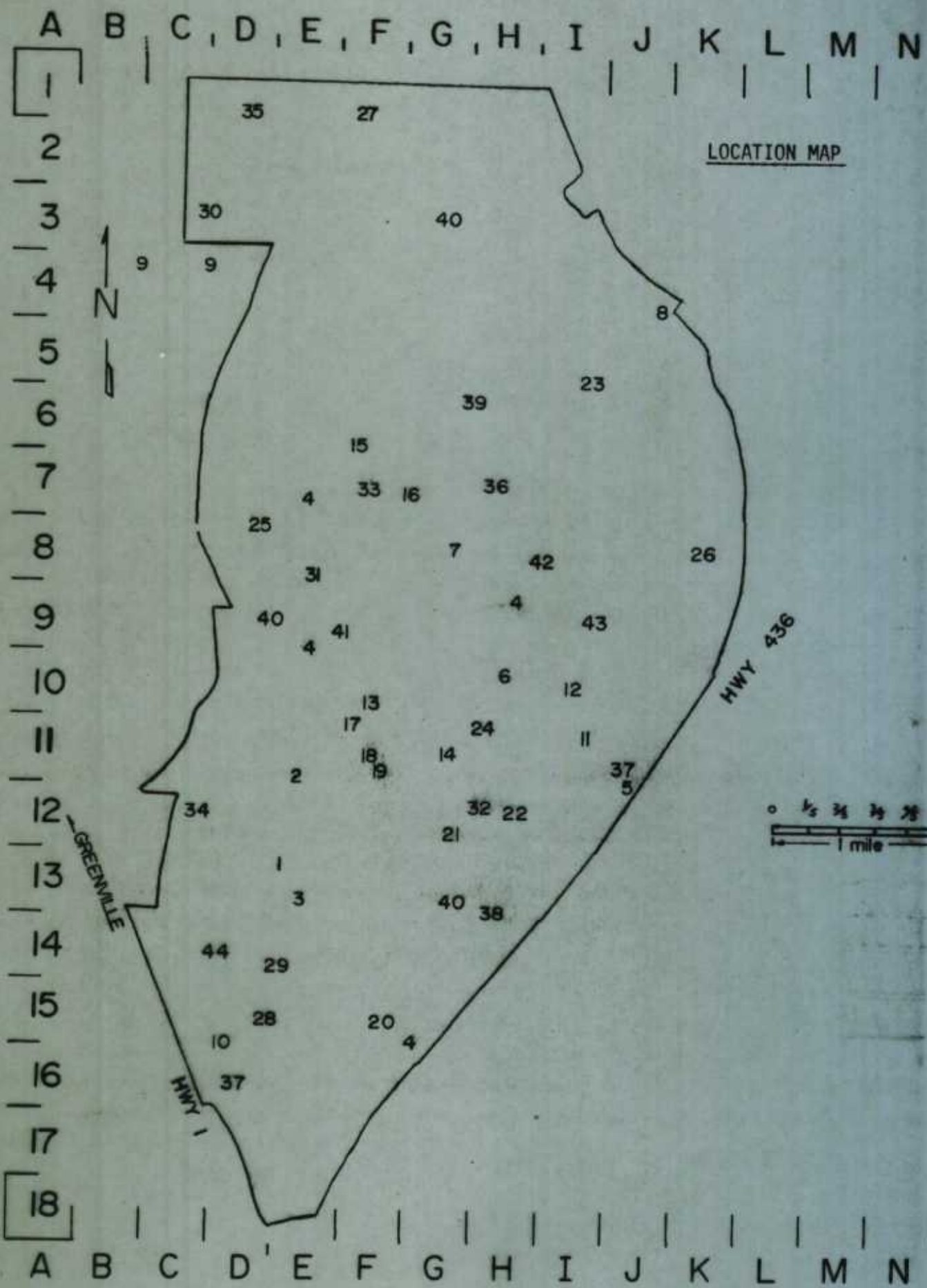
Some things I find difficult to swallow and feel a need to express my opinion, which amounts to very little. I have a problem with allowing children in the woods without supervision, gun hunting deer without at least a florescent orange vest requirement or hunting turkeys with hi-powered rifles! These present safety problems that are only realized at the field level. We preach safety yet we don't support it! Have we changed our philosophy where it will take someone being shot to bring the point home, close calls don't count? Most refuge hunts are intensified hunts with the maximum number of people allowed at any given time. Has hunter safety gone out the window?

I would like to express my appreciation to the Regional Office staff, especially Sam Drake. Sam has made my job one that I'm proud of.

I would also like to express my appreciation to my staff for their support and efforts with another year of positive accomplishments - jobs well done.

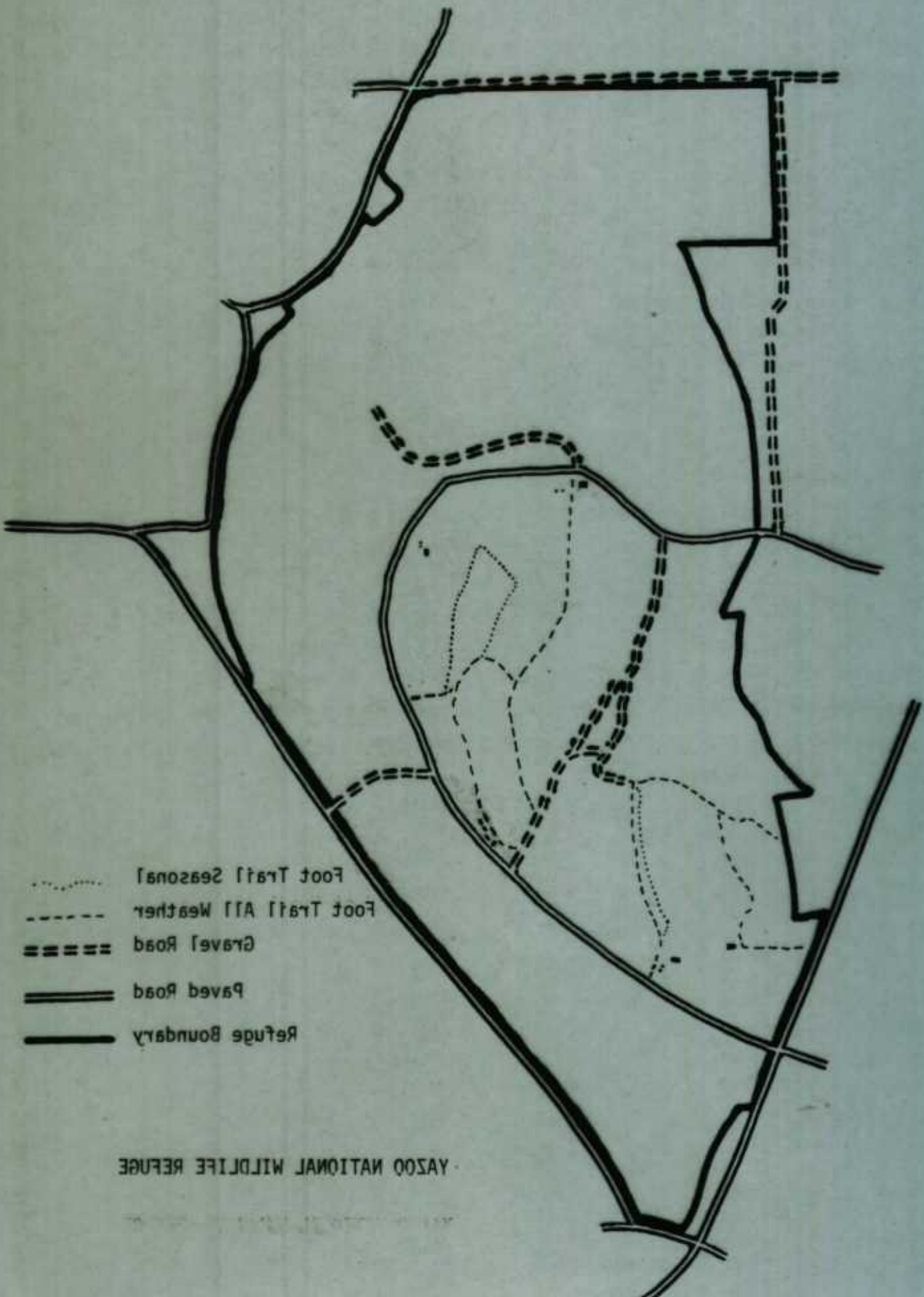
YAZOO NWR LOCATION MAP INDEX

<u>Location Name</u>	<u>Location Coordinates</u>
1 Alligator Pond Heron Rookery	E-13
2 Alligator Pond Levee	E-11
3 Alligator Pond Trail	E-13
4 Archeological Sites	E-7, E-9, H-9, G-15
5 Bear Garden Bridge	J-11
6 Big Lake Levee	H-10
7 Big Lake Trail	G-8
8 Black Bayou	J-4
9 Catfish Ponds	J-4
10 Contact Station (Proposed Site)	D-15
11 Cope Impoundment	I-11
12 Dead Man's Ditch	I-10
13 Deer Lake Cannon Net Site	F-10
14 Deer Lake Slough Cannon Net Site	G-11
15 Gin Slough	F-6
16 Gin Slough Grain Bins	G-7
17 Goose Pen (Abandoned Sites)	F-11
18 Goose Pond	F-11
19 Goose Pond Cannon Net Site	F-11
20 GTR	F-15
21 Headquarters, Shop, Display Pond	G-12
22 Hoot's Dump Slough	H-12
23 Hunting Club Lodge (Abandoned Site)	I-5
24 Lizard Lake Nature Trail	G-10, H-12
25 Long Dump	D-8
26 Long Pond	K-7,8,9
27 Number 9 Grudge Ditch	F-1
28 Oak Tree Mound	D-15
29 Peyton Shed, Grain Bins	E-14
30 Pryor Impoundment	C-3
31 Rabbit Alley	E-8,9
32 Residences: Q-19 & Q-22	H-12
33 Residence: Q-139	F-7
34 Sand Pit	C-12
35 Silver Lake Bayou	D-1
36 Skunk Corner	H-7
37 Steele Bayou	J-11, ..., D-16
38 Straight Lake	H-13,14
39 Swan Island	E-6, ..., J-8
40 Swan Lake	G-15, ..., G-3, ..., K-7, ..., G-14
41 Walk-in Duck Trap	F-9
42 Warner Grain Bins, Shed, Orchard	H-8
43 Warner Impoundment	I-9
44 West Equipment Shed	D-14



YAZOO NATIONAL WILDLIFE REFUGE

- Foot Trail Seasonal
- Foot Trail All Weather
- Gravel Road
- Paved Road
- Refuge Boundary



SPASURSTA
U.S. Navy
Tracking Station

To State Hwy. #12






Swan Lake

To Hollandale

To U.S. 61

To Foote

LEGEND

- Water 
- Wooded Area 
- Closed Area 

To Greenville

Marathon
Plantation

Ocey Lake

Alligator

State Bayou

G.T.R. #1

State Hwy. #436

State Hwy. #1

To Grace

To Glen Allan

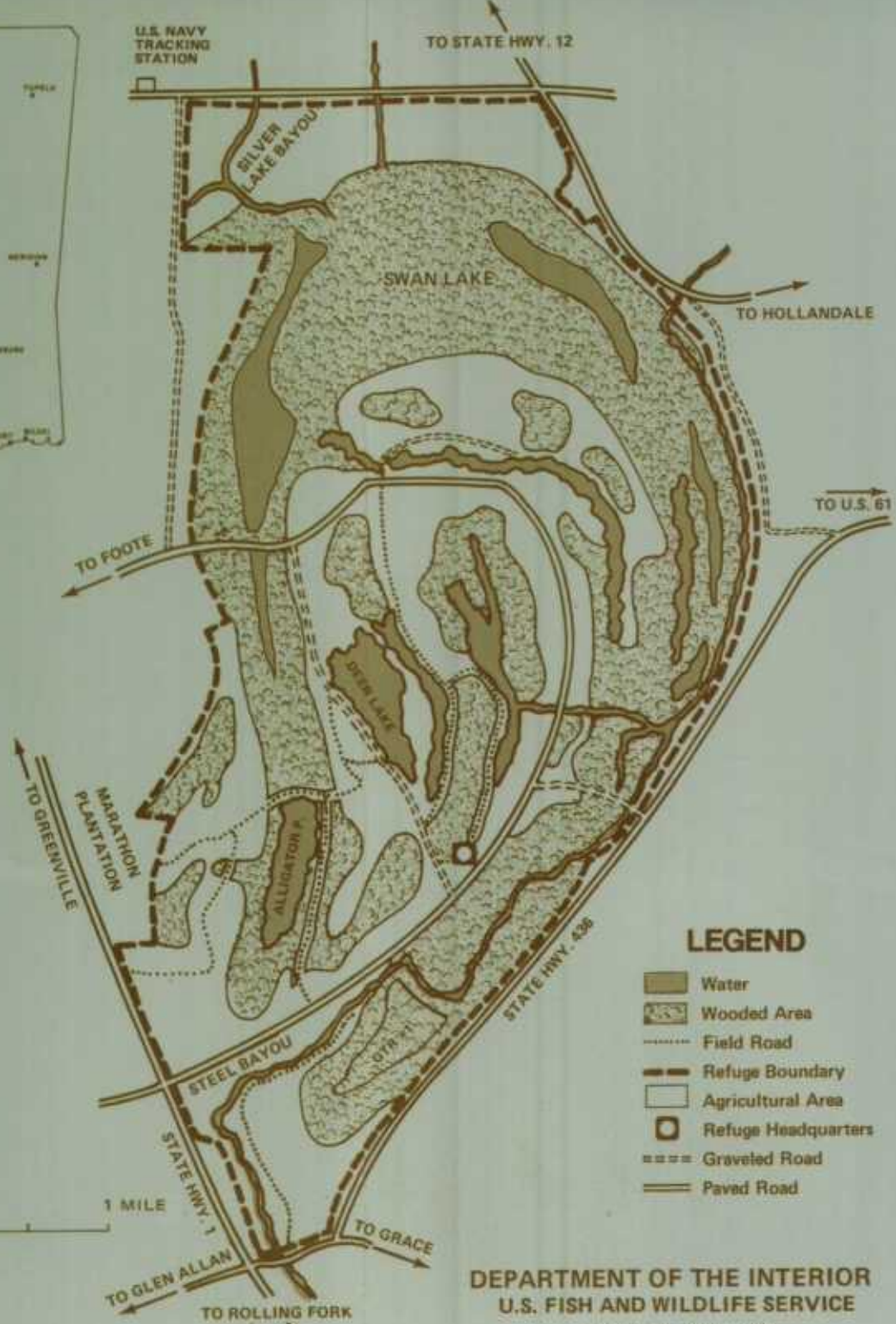
To Rolling Fork

YAZOO NATIONAL WILDLIFE REFUGE

Scale 1 inch = approx. 3,500'



YAZOO National Wildlife Refuge



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

RF-43680-1 June 1979



The YAZOO NATIONAL WILDLIFE REFUGE is situated in the bottomlands of the Mississippi River valley on the west side of the State of Mississippi, about 30 miles south of the city of Greenville and a few miles east of the great river. It is one of over 400 national wildlife refuges administered by the United States Fish and Wildlife Service.

The Mississippi River in the past often changed its course during the annual floods, cutting off part of old channels and forming numerous shallow lakes. Constantly renewed habitat for large numbers of wintering waterfowl was thus provided. The works of man—levees, ditches, dikes—have changed this, and now where ducks formerly found an abundance of ponds and marshes, they now find farmlands and woodlands. The Yazoo Refuge was established to replace some of this lost wildlife habitat.

The refuge was activated in 1956, starting with a nucleus of 2,500 acres that gradually enlarged with additional land purchases to a present 12,470 acres. An extensive development program is making the area useful to waterfowl. Land is being cleared to make way for water impoundments, and for fields to grow crops eaten by ducks and geese. A number of impoundments and fields are already completed. Natural water areas, such as Deer Lake, are being renovated by the removal of unwanted vegetation and undesirable rough fish. Valuable wildlife food plants will be introduced, and desirable sport fishes will be stocked to provide public fishing during the late spring and summer.

Impoundment areas known as "green tree reservoirs" are wooded and stay dry through spring, summer, and most of the fall. They are flooded and waterfowl, es-

pecially mallards, flock in to feed on the acorns.

Although natural foods found in the lakes and marshes of the refuge are important to ducks and geese, the success of the refuge in building up waterfowl populations will lie mainly in the production of those agricultural crops preferred by the birds. These crops include "hot foods" such as corn, millets, grain sorghums, soybeans, and buckwheat, and green grazing foods such as ryegrass, oats, and various small grains and legumes. These foods are raised on the refuge both by refuge personnel, in which case all the crop is used as waterfowl food, and by farmer-cooperators, who pay for the privilege of farming refuge land by leaving a share of the crop in the fields for the birds.

The refuge will appear to visitors to be a large farm with fields set among the impoundments and natural lakes and bayous all interspersed with woodlands of cypress, sweetgum, oaks, pecans, cottonwoods, etc. The long, hot summer months find the refuge relatively quiet, the lakes and impoundments shimmering in the sun, and the fields and woods fresh and green. By early fall, the farm grains are newly-ripened, the young oats and ryegrass, sown for duck pasturage, are growing and the first ducks are appearing from their breeding grounds in the northern United States, Alaska and Canada. These early arrivals are followed in succeeding weeks by increasing numbers of waterfowl that feed in fields and rest on the lakes and ponds and eat the acorns in the green tree reservoir. They remain all winter and return northward early in the spring.

Not only ducks receive attention in the refuge programs. An attempt is being made to renew the flights of Canada geese that once came into the area. A resi-

dent flock of the large birds remains at the refuge. Their offspring return each winter and gradually are building a wintering flock.

Many other birds are found on the refuge. Several species of herons and egrets are common. The bobwhite is increasing in numbers and mourning doves are plentiful. Five species of woodpeckers are permanent residents. Blackbirds often congregate in large numbers and feed on agricultural crops. A birdlist of 179 species observed on the refuge is available at refuge headquarters.

White-tailed deer are common on the refuge. Cotton-tails, swamp rabbits, squirrels, and raccoons are common. Opossums, striped skunks, minks, bobcats, red foxes, and muskrats are also present and occasionally beaver sign is noted. Alligators are common at Deer Lake.

Although opportunities for nature observation exist throughout the year, the time of large waterfowl numbers, which normally extends from mid-November to early March, provides the greatest variety of resident and transient bird species.

Refuge headquarters may be reached from the east via U. S. Highway 61 and Mississippi Highway 436 and from the west via Mississippi Highway 1. Roadside markers are located on State Highways 1 and 436 with directional arrows to headquarters. Visitors are always welcome, but during the wet winter months, roads are often impassable except to four-wheel drive vehicles.

Inquiries regarding the refuge may be addressed to the Refuge Manager, Yazoo National Wildlife Refuge, Route 1, Box 286, Hollandale, Mississippi.



HUNTING REGULATIONS

GENERAL PROVISIONS

Yazoo National Wildlife Refuge is one of over 400 national wildlife refuges. The primary objective of a national wildlife refuge is to provide habitat for the conservation and protection of all species of wildlife. Harvesting surplus animals is one tool used to manage wildlife populations at a level compatible with the environment, provide wholesome recreational opportunities and permit the use of a valuable renewable resource.

These regulations supplement the general regulations governing hunting on wildlife refuge areas as set forth in Title 50, Code of Federal Regulations. Hunting will be in accordance with applicable State regulations.

GENERAL HUNTING REGULATIONS

Public hunting on Yazoo National Wildlife Refuge is permitted on approximately 7,800 acres. Certain areas (shown on the reverse map) are closed to hunting and are conspicuously marked with "Area Closed" signs. Camping is prohibited. Dogs are permitted as noted in specific hunt regulations. Vehicle use is restricted to paved or gravel roads only. Off-road vehicles (ORV/ATV) are prohibited. It is unlawful to drive a metal object into a tree OR to hunt from a tree in which a metal object has been driven. Each hunter under age 16 must be closely supervised by an adult. All deer gun hunters and turkey hunters must check in and out. No hunting within 250 yards of buildings. All deer and turkey taken must be checked immediately at the refuge check station. Furbearers may be taken in season during any refuge hunt with weapons legal for that hunt.

PERMITS

Permits are required for all hunts and are not transferable. Permits must be in possession while hunting. All hunters must obtain a permit regardless of age. A limited number of permits for the youth gun hunt, general gun hunt, and the muzzleloader hunt will be issued by public drawing on the second Sunday of October at 2:00 PM. Applications must be received by the previous Thursday at 3:00 PM.

Permits for the spring turkey hunts will be issued by public drawing the first Sunday of March at 2:00 PM. Applications must be received by the previous Wednesday at 3:00 PM.

Refer to permit application forms for other details. An unlimited number of permits will be issued for the small game and archery hunts. These permits may be obtained at the refuge headquarters.

SPECIFIC HUNT REGULATIONS

Small Game Hunts

Squirrel & Rabbit - From opening of State season through third Friday in November.

Raccoon & Opossum - Three consecutive days beginning on the third Wednesday in December and five consecutive days beginning on the first Tuesday in February. Hours are from sunset to one hour before sunrise.

Rabbit with dogs - The second Friday in February through February 28. Any dogs running deer will be caught and removed from the refuge.

This pamphlet, when signed, will serve as your permit for all small game hunts on the refuge.

Signature

Deer Hunts - Gun deer hunters must wear a minimum of 500 square inches of fluorescent orange-colored material above the waistline. Small game hunters are encouraged to wear a fluorescent orange outer garment while hunting. Man drives and dogs are prohibited. The check station will open one and one-half hours before sunrise during all gun hunts. Seasons and special hunt regulations are as follows:

Archery - State season. Use and/or possession of any drug for hunting is prohibited.

Muzzleloaders - The first, second, and sixth through ninth days of the State season. Limit-one (1) deer per hunter.

Youth Gun - Either sex - Three consecutive days beginning with Thanksgiving Day. Limit - one (1) deer per hunter. Youth (age 8-15) and adult (age 18 or over) comprise a hunting party. Sixty (60) party permits per day will be issued. Only the youth may handle, carry, transport or discharge firearms.

General Gun - Either sex - The third Saturday in December. Limit - one (1) deer per hunter.

Spring Turkey Hunts - Each Friday and Saturday in April. Limit - one (1) bearded turkey. Shotguns only. No permanent blinds may be constructed.

Migratory Bird

Mourning Dove Hunt - A Mourning Dove hunt will be held if sufficient birds are present on the refuge. The refuge manager will announce the hunting dates well in advance through the public media. Shooting hours are from noon until sunset. Dogs are allowed.

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

RF-43680-6 - August 1983



YAZOO National Wildlife Refuge

Route 1, Box 286
Hollandale, Mississippi 38748
(601) 839-2638

Hunting Regulations and Permit



LEGEND

-  Closed to Rabbit Dog Hunt
-  Water
-  Wooded Area
-  Field Road
-  Refuge Boundary
-  Agricultural Area
-  Refuge Headquarters
-  Graveled Road
-  Paved Road
-  Closed Area

**YAZOO
National Wildlife
Refuge**

NOTES

Calendar of Wildlife Events



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

Yazoo
National Wildlife Refuge

CALENDAR OF WILDLIFE EVENTS

This calendar is a general guide to seasonal wildlife events. Weather may cause slight variations. Please contact Refuge Manager for more information.

JANUARY . Waterfowl are concentrated on the refuge impoundments with mallards and other puddle ducks abundant. Canada, snow, and white-fronted geese may be seen in refuge fields.

FEBRUARY . Waterfowl populations begin to drop toward the end of the month. Waterfowl trapping is in full swing. Some refuge fields are being prepared for new crops.

MARCH . . . Most migratory waterfowl except resident Canada geese are gone. Corn fields are being planted.

APRIL Wood duck and Canada goose nesting is in full swing. Young geese and wood ducks may be observed in Deer Lake. Swallow and warbler migration beginning. Alligators are out soaking up the warm sunshine. Turkeys may be observed strutting in refuge fields. Preparation for planting of soybeans and rice have begun with most rice being planted before the end of the month.

MAY Young geese and wood ducks may be observed in Deer Lake and other refuge waters. Shorebirds may be observed in shallow refuge waters. Turkeys begin nesting and continue strutting activities.

JUNE Most wildlife activity has slowed due to hot weather. Deer are giving birth along with many other wildlife species. Wheat is being harvested and most crops have been planted.

JULY Hot weather sets in. Wildlife activity is slow. Wading and shorebirds along with other small birds are nesting. Painted buntings are present.

AUGUST . . . Young shorebirds, herons, and egrets begin flying.

SEPTEMBER . Blue-wing teal migration is in progress. Some crops are being harvested and wheat planted to be ready for the arrival of migrating Canada geese.

OCTOBER . . The fall migration of Canada geese, mallards, etc. begins. Alligators soak up sunshine before cold weather sets in. Hunting season begins.

NOVEMBER . Ducks and geese are abundant. Deer and other wildlife may be observed in open fields. Crop harvest is in full swing.

DECEMBER . Ducks and geese are abundant. Refuge hunts take place. The local Audubon Society affiliate conducts the annual Christmas bird count.

VISITOR INFORMATION

The headquarters of the Yazoo National Wildlife Refuge is located in southern Washington County, Mississippi, approximately 28 miles south of Greenville, Mississippi. To reach the headquarters, drive south on State Road 1 to its intersection with State Road 97 and drive about two miles. There will be a small roadside park at the intersection. Turn east on State Road 97 and drive about two miles. The headquarters is located on the left (north) side of the road.

There are no overnight or eating establishments on the refuge. Two picnic tables are located in the roadside park near the entrance to the refuge. Camping is not permitted on the refuge, however, Leroy Percy State Park is located nearby and has camping facilities and recreational vehicle (RV) facilities.

There are two motels located in the nearby town of Glen Allan which is approximately 5 miles from the refuge.

Reminders: No provisions or goods are sold on the refuge so you should bring everything you need. Insect repellent is suggested during warm months. During periods of waterfowl use, binoculars, field glasses or spotting scopes are highly recommended.

If additional information is needed before you arrive at the refuge, please write to: Refuge Manager, Route 1, Box 286, Hollandale, MS 38748, or call (601) 839-2638.



DON'T LITTER, HELP KEEP OUR WILD AREAS CLEAN

BIRDS

of the

YAZOO

National Wildlife Refuge

Yazoo National Wildlife Refuge is located 30 miles south of Greenville, Mississippi, in the heart of the Mississippi Delta. Refuge acreage amounts to over 12,000 acres. Croplands, open water, and flooded forest lands provide a diverse habitat for wintering waterfowl and nesting and migratory songbirds.

Birdlife of the refuge is probably most interesting in the fall and winter months when many species of ducks frequent the refuge and can be observed feeding in agricultural fields and small impoundments. Walking and driving trails wind through the various habitat types making travel and sightseeing easier for the refuge visitor.

The following list contains 179 species of birds normally expected to be present on the refuge at sometime during the year. The list is a result of observations made by refuge personnel and visiting bird

watchers since 1956. Several birds of accidental or of rare occurrence are included at the end of the list.

For additional information, write Refuge Manager, Yazoo National Wildlife Refuge Route 1, Box 286, Hollandale, Miss. 38748.

Birds that are known to nest on the refuge are indicated by an *.

Seasonal and abundance status are as follows:

Sp - March-May	a - abundant
S - June-August	c - common
F - September-November	u - uncommon
W - December-February	o - occasional
	r - rare



	Sp	S	F	W
— Pied-billed Grebe	c	u	c	c
— *Anhinga	u	u	u	
— *Great Blue Heron	c	c	c	u
— *Green Heron	c	c	c	c
— *Little Blue Heron	c	c	c	c
— *Cattle Egret	a	a	a	
— Snowy Egret	u	u	u	
— Louisiana Heron		r		
— *Great Egret	c	c	c	u
— Black-crowned Night Heron		o	o	
— *Yellow-crowned Night Heron	u	c	c	o
— American Bittern	u	u	u	
— Least Bittern	u	u	u	
— Wood Stork		r	r	
— White Ibis		o		
— *Canada Goose	u	u	u	
— White-fronted Goose	o		o	
— Snow Goose	o	o	o	
— Mallard	a	a	a	



	Sp	S	F	W
— Black Duck	c	c	c	
— Gadwall	c	c	c	
— Pintail	c	c	c	
— Green-winged Teal	c	c	c	
— Blue-winged Teal	c	c	c	
— American Wigeon	c	c	c	
— Northern Shoveler	c	c	c	
— *Wood Duck	c	c	c	
— Redhead		u		
— Ring-necked Duck	c	c	c	
— Canvasback	u	u	u	
— Greater Scaup		u	u	
— Lesser Scaup		u	u	
— Bufflehead		u	u	
— Ruddy Duck		u	u	
— *Hooded Merganser	u	u	u	
— Common Merganser		u	u	
— Turkey Vulture	o	o	o	
— Black Vulture	u	u	u	
— *Mississippi Kite	c	c		
— Cooper's Hawk	u	u	u	
— Red-tailed Hawk	c	c	c	
— Red-shouldered Hawk	c	c	c	
— Broad-winged Hawk	u	u	u	
— Marsh Hawk	u	u	u	
— American Kestrel	u	u	u	
— *Turkey	u	u	u	
— *Bobwhite	c	c	c	
— Sora	u	u	u	
— *Purple Gallinule	c	c	c	
— *Common Gallinule	c	c	c	
— *American Coot	c	c	c	
— Semipalmated Plover	o	o	o	
— *Killdeer	c	c	c	
— American Golden Plover	o			
— American Woodcock	o	o	o	
— Common Snipe	c	c	c	
— Upland Sandpiper	u	u	u	
— Solitary Sandpiper	o	o	o	
— Greater Yellowlegs	o	o	o	
— Lesser Yellowlegs	o	o	o	
— Spotted Sandpiper	o	r		



Sp S F W

	Sp	S	F	W
Pectoral Sandpiper	o	r		
Baird's Sandpiper	o	u		
Least Sandpiper	o	o		
Long-billed Dowitcher			r	
Semi-palmated Sandpiper	o			
Western Sandpiper	o	r	o	
Herring Gull				o
*Rock Dove	c	c	c	c
*Mourning Dove	a	a	a	a
Ground Dove			r	
*Yellow-billed Cuckoo	c	c		
Barn Owl	u	u	u	u
*Screech Owl	c	c	c	c
Great Horned Owl	u	u	u	u
*Barred Owl	c	c	c	c
Short-eared Owl				c
Whip-poor-will	r	r	r	
Common Nighthawk			u	
Chimney Swift	o	o	o	
*Ruby-throated Hummingbird	c	c	c	
Belted Kingfisher	o	o	o	
*Common Flicker	c	c	c	c
*Pileated Woodpecker	u	u	u	u
*Red-bellied Woodpecker	c	c	c	c
*Red-headed Woodpecker	c	c	c	c
Yellow-bellied Sapsucker	u	u	u	u
*Hairy Woodpecker	c	c	c	c
*Downy Woodpecker	c	c	c	c
*Eastern Kingbird	c	c		
*Great Crested Flycatcher	c	c		
Eastern Phoebe	o	o	o	o
Acadian Flycatcher	u	u		
Eastern Wood Pewee	u	u	u	u
Horned Lark	r	o	c	
*Barn Swallow	u	u	u	
Tree Swallow	c	c		
Rough-winged Swallow	o	o	o	
*Purple Martin	c	c	c	
*Blue Jay	c	c	c	c
Common Crow	o	o	o	o
Fish Crow	o	o	o	o
*Carolina Chickadee	a	a	a	a
*Tufted Titmouse	u	u	u	u



	Sp	S	F	W
White-breasted Nuthatch	u	u	u	u
Brown Creeper	u	u	u	u
House Wren	u	u	u	u
Winter Wren				c
*Carolina Wren	o	o	o	o
Long-billed Marsh Wren	o	o	o	o
Short-billed Marsh Wren	c	c	c	c
*Mockingbird	a	a	a	a
Catbird	u	u	u	u
*Brown Thrasher	c	c	c	c
*Robin	c	u	c	c
*Wood Thrush	c	c	c	c
Hermit Thrush				o
Gray-cheeked Thrush	r	r		
Eastern Bluebird	c	u	c	
*Blue-gray Gnatcatcher	a	a	a	r
Golden-crowned Kinglet				c
Ruby-crowned Kinglet	o	o	o	c
Water Pipit	o	o	o	o
Cedar Waxwing				o
Loggerhead Shrike	u	u	u	u
*Starling	a	a	a	a
Solitary Vireo				r
*White-eyed Vireo	c	c	c	c
Yellow-throated Vireo	r	r	r	
Red-eyed Vireo	u	u	u	u
Black and White Warbler	r			
Prothonotary Warbler	a	a	c	
Blue-winged Warbler	u	u	u	u
Tennessee Warbler	c	c		
Orange-crowned Warbler				u
Nashville Warbler	r	r		
Northern Parula Warbler	u	u	u	u
Yellow Warbler	u	u	u	u
Yellow-rumped Warbler	r	r	r	r
Black-throated Green Warbler	u	u	u	u
Cerulean Warbler	u	u	u	u
Yellow-throated Warbler	u	u	u	u
Louisiana Waterthrush	u	u	u	u
*Common Yellowthroat	u	u	u	u
*Yellow-breasted Chat	u	u	u	u
Kentucky Warbler	o	o		
Hooded Warbler	u	u	u	u

	Sp	S	F	W
American Redstart				u
*House Sparrow	a	a	a	a
Bobolink	u	u	u	u
*Eastern Meadowlark	a	a	a	a
*Redwinged Blackbird	c	c	c	c
*Northern Oriole	c	c	c	c
*Baltimore Oriole	c	c	c	c
Rusty Blackbird	u	u	u	u
Brewer's Blackbird	c	c	c	c
*Common Grackle	a	a	a	a
*Brown-headed Cowbird	c	c	c	c
Scarlet Tanager	u	u	u	u
*Summer Tanager	c	c	c	c
*Cardinal	c	c	c	c
Rose-breasted Grosbeak	o	o	o	o
Blue Grosbeak	o			
*Indigo Bunting	a	a	a	a
*Painted Bunting	a	a	a	a
*Dickcissel	a	a	a	a
Purple Finch	o			
American Goldfinch	o			
*Rufous-sided Towhee	u	u	u	u
Savannah Sparrow				
Grasshopper Sparrow	c	c	c	c
Dark-eyed Junco				c
Chipping Sparrow	u	u	u	u
Field Sparrow	u	u	u	u
White-crowned Sparrow	u			
White-throated Sparrow	o			
Fox Sparrow	c			o
Swamp Sparrow	c			o
Song Sparrow				c



These additional 10 species are of accidental or rare occurrence on the refuge and have been recorded only one or two times.

White Pelican	Golden Eagle
Whistling Swan	Osprey
Glossy Ibis	Marbled Godwit
Fulvous Tree Duck	White-winged Dove
Common Goldeneye	Vermillion Flycatcher