REVIEW AND APPROVALS

Wapanocca National Wildlife Refuge
Turrell, Arkansas

ANNUAL NARRATIVE REPORT

Calendar Year 2000

Glen R Miller — 4/17/01
Project Leader — Date

Refuge Supervisor I — 4/26/01
Date

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Chief of Refuges — Date

WAPANOCCA NATIONAL WILDLIFE REFUGE

ANNUAL NARRATIVE REPORT
CALENDAR YEAR 2000

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INTRODUCTION

Wapanocca National Wildlife Refuge, established January 24, 1961, is located approximately 20 miles northwest of Memphis, Tennessee, in Crittenden County, Arkansas. The lands were acquired under the Migratory Bird Conservation Act (16 U.S.C. 715-715r), as amended, for use as an inviolate sanctuary, or for any other management purpose, for migratory birds (16 U.S.C. 715d). The refuge began its existence when 3,119 acres were leased from the Wapanocca Outing Club. As funds were made available from the sale of duck stamps, this land and various other tracts were purchased. On January 1, 1966, a substantial amount of land (1,695 acres) was added to the refuge and today Wapanocca totals 5,484.17 acres.

Prior to its establishment, the refuge was the site of one of the oldest and most prestigious hunting clubs. In the early 1800's two individuals from Memphis built cabins next to Wapanocca Lake and began waterfowl hunting. As the popularity of this sport increased, soliciting began for membership and members were brought in from as far away as Chicago, Illinois. In 1886, the Wapanocca Outing Club was established.

The club bought 6,500 acres for 50 cents an acre. The entire area, with the exception of Wapanocca Lake, was covered in forest. By 1895, 40 certificates of stock were issued while the limited number of remaining membership stock was sold individually until 1929 for prices up to $15,000. The club was one of the first to apply self-imposed bag limits on ducks (25) and geese (5). The majority of the lake was also established as a waterfowl sanctuary. The amount of waterfowl numbered well into the 100,000's in the early 1900's.

However, in the late 1920's, the club began to cut the timber and also clean out small islands of grass and bushes from the lake. The alteration of the habitat was the beginning of a continued decline of waterfowl usage at Wapanocca. In 1936, the club sold about 3,000 acres to a cotton farmer who completed the clearing and began growing cotton. By 1941, the number of geese using the area had declined sharply, and by the mid-1950's the sport of goose hunting had already vanished.

Due to the decline of waterfowl hunting at Wapanocca, and the decrease in interest for the sport by the older members of the club, negotiations began with the Service in 1958 for the sale of all club holdings.

Today the refuge literally stands as a wildlife oasis in an agricultural sea. An excellent diversity of habitat exists comprised of mainly agricultural land (1,300 ac), bottomland hardwood forest (500 ac), upland forest (860 ac), open water (610 ac) and flooded cypress/willow swamp (1,760 ac). Because of its strategic location in the heart of the Mississippi Flyway and the diverse habitat, the refuge is a prime wintering area for migratory waterfowl.

A. HIGHLIGHTS

Drought hurts water levels and agricultural crops (Section B.)

Land between Refuge and Turrell sold to another despite signed purchase agreement (Section C.1.)

Animal Control Plan approved (Section D.2.)

Depleting ground water levels (Section D.5.f.)

Lake problems (Section D.6. & F.2.)

Fall waterfowl numbers up Section G.3.)

Low lake levels create excellent shorebird habitat (Section G.5.)

First refuge sighting of swallow-tailed kite (Section G.6.)

Nutria population continued to explode (Section G.10. & G.15.)

Wood duck pre-season banding goals met (Section G.16.)

Squirrel hunt most successful in several years (Section H.8.)

Illegal commercial fishermen apprehended (Section H.17.)

New observation/fishing pier constructed and soon vandalized (Section I.1.)

Boat access berm completed (Section I.1.)

Banding site rehabed (Section I.2.)

B. CLIMATIC CONDITIONS

The year started off with above normal temperatures but cold temperatures hit the last week in January freezing over 80% of the lake. Four inches of snow fell January 28 and remained until temperatures moderated on February 1. The lake also became ice free on that date. The last freeze of the spring occurred March 12 with a low of 26 degrees.

Redbuds started blooming March 7 which is the earliest since records were started being kept in 1993.

Precipitation remained below normal until May and June when almost 13.5 inches were received. The early part of June was hot and dry but a 3 inch rain fell on the 14th as the corn was tasseling saving the crop. A drought and high temperatures hit in July and the

drought remained until November. Rainfall during the 4 month period was 8.23 inches below normal.

The first frost and freeze of the fall occurred much earlier than normal happening on October 9 this year with temperatures dipping down to 30 degrees.

The year ended with 5 inches below normal precipitation for the year. Temperatures varied widely through the year. Record low temperatures at Memphis were recorded 9/26, 10/9 and 10. Record high temperatures were recorded 8/29-31, 10/24-27 and 10/29. August was the hottest on record in Memphis. The last half of December was extremely cold with average highs of 29 and lows of 19 degrees. For the month temperatures averaged 14 degrees colder than last year. An ice storm hit December 13 with a buildup of 1/4 inch on trees and power lines. Many trees still had leaves on them and couldn't hold up under the weight. There was considerable tree damage. Most of the water bodies were froze over the last two weeks of the year.

12/14/00 01-1-11 GRM
Ice storm damage along Levee 1 from the December 13 storm.

2000 WEATHER DATA* - WAPANOCCA NWR

Month	Precipitation	35-year** Average Precipitation	Max Min Temperature		Average Max Temperature	Average Ave Temperature
January	1.86	3.34	72	15	49.4	32.3
February	3.88	3.67	77	21	60.3	39.8
March	4.28	5.03	80	26	59.9	45.3
April	4.84	5.45	85	33	70.0	50.2
May	7.35	5.18	90	49	81.4	62.9
June	6.06	4.07	94	50	85.9	66.7
July	.78	3.17	97	63	92.4	70.2
August	.16	3.21	105	62	96.2	70.6
September	3.26	3.40	99	42	85.3	61.7
October	.85	3.50	91	30	78.3	52.7
November	6.85	5.03	85	23	55.6	41.2
December	5.32	5.44	65	8	37.6	24.4
Totals	45.49	50.49				

*This data was collected at the refuge weather station located at the headquarters.
**1962-1996

C. LAND ACQUISITION

1. FEE TITLE

FmHA Transfer

Year Acquired	Tract #	Acreage	Habitat	Administered by
1990	St. Francis County (10)	480.0	Acorn/pecan nuts planted 1991-92 (rodents dug up most of the acorns) Mostly go back at present.	Wapanocca NWR
1991	St. Francis County (11)	29.3	Idle cropland	Wapanocca NWR

Total 2 tracts 509.3 acres

Wapanocca NWR

Heath Tract - A purchase agreement was signed in 1999 with landowner Bud Heath. On August 23, 2000, Refuge Manager Miller received a call from Mozzell Williams, Crittenden Co. NRCS DC inquiring into our property boundary on the north side. He said that Dr. Jeff Mullens, West Memphis had recently purchased the land and wanted to put up a dike and enroll it into the Wetland Reserve Program (WRP). This was the Heath Tract. In talking with Paul Charrette, RO realty, this was news to them and they were planning to close on it shortly. RM Miller requested that involvement with the Solicitors Office be held up until field negotiations were exhausted. Since there had been such a long interval between the signing of the purchase agreement and the closure, Mr. Heath said he believed the Service was no longer interested in the land. He may have had a strong case. In talking with Dr. Mullens he basically planned to develop the land similar to what the refuge would do under its ownership. Dr. Mullens said he was interested in developing the land for wildlife and provide a place for he and his family to hunt and fish. He applied for a 10 year WRP agreement since it was believed the land would not rank out high enough to be funded under the other WRP programs. Partners for Wildlife will pick up the remaining 25% for tree planting which is not covered by the WRP agreement. Dr. Mullens indicated he would be willing to negtiate a Conservation Easement with the Service to provide the protection against development which the refuge had sought through acquisition.

D. PLANNING

2. Management Plan

The Animal Control Plan was approved and received back from the Regional Office in May.

The refuge received a cost estimate from the Corps of Engineers for a hydraulic feasibility study on a supplemental water supply system for Wapanocca Lake. The estimated cost of the study was $34,500.

3. Public Participation

The public comment period for the Animal Control Plan and the associated Environmental Assessment expired on January 18. Comments were included in the final plan.

4. Compliance with Environmental and Cultural Resource Mandates

Section 7 Consultation was completed for:

1. Animal Control Plan
2. Pesticide Use Proposals

COE Section 404 Permits:

Extension of permit number Big Creek (SFR) 97-068 (JLS), the borrow ditch clean out along the west side of Old Levee 1.

Compatibility Determination completed for:

Animal Control Plan

The overhead storage tank at well #3 was removed and fuel transferred to the new convault storage tank.

Air Quality, Inc. analyzed well supply lines east of well #3 for asbestos so the broken pieces can eventually be hauled to the county land fill.

2. Research and Investigations

a. Lower Mississippi River Ecological Assessment Study

The final report has not yet been received from North Carolina State University.

b. WPN-00-1 - Information on Bats of Wapanocca NWR

Vernon Hoffman, Arkansas State University, set up mist nets on the refuge during the nights of June 16-17 to census for bats in the area. Weather did not cooperated with windy and rainy conditions, however the following bats were caught and banded with plastic bands: 1 Eastern Pipistrelle (Pipestrellus subflavus) a lactating female, 1 Eastern Red Bat (Lasiurus borealis) a lactating female, and 9 Evening Bats (Nyctescius humeralis) all males.

b. WPN-00-2 - Importance of Reforestation Sites to Wintering Migratory Birds.
Rob Doster, University of Arkansas grad student, did preliminary field work for study on wintering birds in early successional stage habitat.

c. WPN-00-3 - Pesticides in Northern Cardinals and Indigo Buntings.
Jonathan Maul a student at Arkansas State University proposed the project but did no field work this year.

d. Percolation Tests in Wapanocca Lake.
Lake mud was put into three 2"X5' clear PVC tubes. In the control, a column of 4.5 feet of mud was used with bottom of the tube sealed and water on top of the mud. The other two had 2 feet and 4 feet of mud respectfully with screen at the bottom of the tube to allow water out but keep the mud in place. During a 12 week trial period, water percolated through the 2 feet of mud at a rate of .26 inches per week and through the 4 feet of mud at .115 inches per week. At the banding site with a sand bottom where the mud was removed, the water level dropped at 2 inches per week. Assuming the sand lies below a substantial portion of the lake, a layer of the mud is needed to hold water in the lake without a major continual source of water inflow.

d. Ground Water Level Monitoring
In September 1992, the U.S. Geological Survey drilled two 2" wells just east of the refuge shop to monitor water levels and water quality. The north well was 145' deep and the south well 52' deep. The drillers at that time said the water level in the south well raised to within 6' of the surface. Based on USGS quad maps of the area the ground level at the well is approximately 224.5' MSL. The water table at the time would have been approximately 218.5' MSL. The USGS was contacted to get the information they had recorded since then to determine what effect the water table had on lake levels. The USGS had no records of the wells being established so have not been monitoring the wells. A groundwater monitoring instrument was purchased so the refuge could begin keeping records. The first reading was taken August 23 with a reading of ~207.50' MSL. Water levels continued to drop until November 24 when a 3 inch rain started bringing the level up. A reading on November 21 indicated the level at ~206.40' MSL. The water table has dropped 11.5 feet from September 1992 to September 2000. Irrigations wells have greatly increased in the surrounding lands since 1992. That plus 3 years of below normal precipitation have both probably contributed to the problem. In 1992 the ground water was probably contributing to the lake whereas now is either neutral or taking water away from the lake.

Water levels in Well #4 near the south end of the lake were monitored beginning in late September. Based on rough estimates from the USGS quad maps, the water elevation at that time was approximately 203' MSL.

Water levels will continue to be monitored to see if it can be determined if the Mississippi River could possibly supply underground water for the lake when it reaches flood stage.

6. Other

White River/St. Francis Focus Area

Wapanocca Lake Restoration

On March 6 and 7 the Advanced Placement Environmental Science Class, Marion High School, tested the lake for pH readings. Readings at the observation platform registered 10.36 both days confirming water quality is definitely a problem.

The Project Management Branch of the Memphis Corps of Engineers worked up a cost analysis for a Lake Wapanocca Hydraulic Feasibility Study to look at possible water sources. Cost of the study was estimated at $34,500 which either the refuge would have to come up with or they thought it would qualify as a Section 1135 project which would require a nonfederal sponsor to come up with 25% of the cost.

In order to drain the lake the outlet channel would first need to be cleaned out. Laccasine NWR has an amphibious excavator and would be willing to loan it during winter months. Cost is projected to be $25,000 which includes transporting the equipment, operators salary and per diem for 20 days.

The Mississippi River never reached flood stage during the year thwarting COE's plan to check for artesian waters as a possible water source for the lake.

E. ADMINISTRATION

1. Personnel

a. Glen R. Miller (EOD 10-21-90) PFT	Project Leader GS-0485-12
b. Chester C. McGee (E0D 10-14-84) PFT	Engineering Equipment Operator WG-5716-10
c. Patricia A. Jolliff, NWR*(EOD 04-03-71) PFT	Big Lake Office Assistant (Office Automation) GS-0303-7

*stationed at Big Lake NWR

G. Miller, C. McGee

2. Awards

EO McGee and OA Jolliff received On-The-Spot awards and RM Miller received a Star award.

Wapanocca NWR Staffing Pattern

FY	Full-time	Part-time	Temporary	FTE
86	5			5
87-94	5 (3 of which assigned to Complex)			5
95-01	2*(Refuge Manager also Project Leader for Big Lake NWR)			2 projected

*The assistant refuge manager, secretary and one engineering equipment operator positions have been lost at this station.

4. Volunteer Program (FY00)

Volunteer	Survey	Admin.	Nest Struct.	Visitor Services	Hours Accumulative FY00 Total hrs.	(All Years) Totals
Matthew Hulsey & 9 helpers			112		112	112
Jay Zimmerman			9	24	33	33
Norman Lavors	3.5				3.5	3.5
Cheryl Lavors	3.5				3.5	3.5
Diane Miller		24		7	31	201
John Weldon				10	10	69
Crisp Contractors	___	___	____	12	12	12
Total 16 volunteers	7	24	121	53	205	

Matthew Hulsey completed a Service Project for his Eagle Scout Badge by raising money for the materials, constructing and erecting 20 new wood duck nesting boxes replacing deteriorated ones on the refuge.

Mack Howington, Northeast Arkansas Audubon Society, donated 7 large bags of wood shavings for wood duck box maintenance.

Alfred Hogan donated 1440 cubic yards of dirt and Jimmy Fraley donated 4164 cubic yards. The dirt was used for extension of the berm along the boat access channel and parking lots along Old Levee 1. The dirt was valued at $.50 per cubic yard.

Lee Catt of Lee Catt Construction donated $800 of equipment and labor costs to pull the refuge TD-15 which was stuck in the mud.

5. Funding (Northeast Arkansas Refuges figures)

Fiscal Year	Total Funding (Thousands)	Base Funding (Thousands)	Supplemental Funding (Thousands)
92	917.2	494.6	422.6
93	809.1	599.3	209.8
94	785.5	650.4	135.1
95	352.0	244.0	108.0
96	327.0	260.4	66.6
97	494.4	279.5	214.9
98	355.7	284.9	70.8
99	695.3	250.8	444.5
00	398.8	260.0	138.8

Funding for years 92-94 included totals for Northeast Arkansas Refuges which included Big Lake, Cache River and Wapanocca NWR's. FY 95-00 figures are for Big Lake and Wapanocca only. Funding for FY00 was allocated in the following categories.

Description	Thousands
Base Funding	
1261 Initial Operation	260.0
Supplemental Funding ($138,858)	
1261 Volunteers ($900)	
Big Lake	.5
Wapanocca	.4
1261 Ecosystem Aid ($13,500)	
Pumping (Wapanocca)	1.0
Pumping (Big Lake)	2.5
Timber Stand Improvement (Wapanocca)	15.0
Timber Stand `' to cover base shortage	-5.0
1262 MMS ($45,300)	
Annual Maintenance Allocation	25.3
Annual Maintenance Allocation additional	20.0
2956 Carryover Const. - Wap WCS - E4MJ ($2,305)	2.3
2957 Carryover Const. - B.L. Levee - E4MC ($14,036)	14.0
2957 Carryover Const. - Wap Levee/WCS/Roads -E4MJ (12,700)	12.7
2961 Carryover Const. - B. L. Debris Cleanup E4LE ($17,000)	17.0
2962 Carryover Const. - B. L. Debris Cleanup E4LE (33,117)	33.1

6. Safety

The following videos were reviewed by the staff:

Landscape Equipment Safety: Part II Riding Lawn Mowers
Heat Stress
Boat Sober
Chainsaw Safety
Back Care - Lifting Safely
A Living Legacy: Protecting our Most Valuable Resources
First Aid for Burns and Fractures
Fire Extinguisher Training
Coldwater Near-Drowning
National Driving Test - Volume I

Department Safety Day April 5 was observed with safety stickers attached to station vehicles, safety pins given to employees, and safety posters placed on buildings personnel doors as a constant reminder to think safe.

7. Technical Assistance

Numerous individuals were provided information on the construction and placement of wood duck nesting boxes.

8. Other

Training/Workshops

Course	Attendee	Location	Date
Hunt Coordination Meeting	Miller	Little Rock	1/19
LMR Ecosystem Team Meeting	Miller	Memphis, TN	2/14
Project Leaders Meeting	Miller	Memphis, TN	2/14-17
LE Refresher	Miller	Quincy, FL	2/28-3/3
Budget Tracking System	Jolliff	Orlando, FL	3/13-17
WRP Workshop	Miller	Forrest City	4/20-21
N. Amr. Colonial Waterbird Conserv. Plan Workshop	Miller	Memphis, TN	5/4
LMR Ecosystem Team Meeting	Miller	New Orleans,LA	8/10-14
Warrant Training	Jolliff	NCTC, WV	11/13-17
Ethic Training	Miller	Web Site	11/14
Pesticide Applicator Recertification	Miller	Jonesboro	12/6

A Freedom of Information Act response was packaged on refuge trapping and sent to the Animal Protection Institute. Information was forwarded to the Regional Office responding to a FOIA request regarding the history of Field Trials on Wapanocca NWR.

The Comprehensive Study of FWS Law Enforcement Workforce Survey (officers and managers) was completed for the Office of Inspector General.

A Centennial Legacy Plan was developed for Wapanocca.

F. HABITAT MANAGEMENT

1. General

The diversity of habitat is near equally divided between cropland, wetland, and woodland acreage. These habitats are managed primarily for waterfowl, but other wildlife species also benefit.

The largest colony of water spider orchids, Platanthera repens, in Arkansas is on the refuge. This rare to Arkansas orchid was previously recorded only in Saline and a couple of southern counties. The plants are found anchored in floating plants along the borrow pit on the east side of Old Levee 1 north of the parking lot. Their numbers were down considerably this year due to low water levels and heavy growth of other aquatic plants.

2. Wetlands

Wapanocca Lake and the adjacent cypress-willow swamp are located in a saucer shaped depression, surrounded by man-made levees and natural ridges. A total of 600 acres of open water, 1,370 acres of cypress-willow swamp and 180 acres of bottomland hardwoods are collectively managed as one unit. There are also 185 acres in 30 impoundments that are flooded during winter months if enough rain is received.

Water level in the lake at the beginning of the year was at 207.78'MSL which was almost 2 3/4 feet below the optimum winter level of 210.50'MSL. Water does not start flooding onto bottomland hardwoods until approximately 209.30'MSL. A maximum elevation was reached on May 15 with a reading of only 208.38' MSL.

Cold temperatures the last week in January froze over 80% of the lake but it became ice-free again February 1.

The approved interim water management plan of 1985 calls for high lake levels of 210.00'MSL during the spawning period until June 15 every 3 years to maximize fish spawning habitat. This was scheduled for 2000 but water did not come close to those levels.

Water Control Structure #3 on Woody Pond was opened June 19-23 to slow down the rapidly depleting lake levels.

American lotus continues to be monitored. The Fishery Management Plan calls for no more than 30-35 percent of the lake being covered with lotus at any one time. Lotus made up 12.6 percent of the lake in 2000. This was down almost 50 per cent from last year. Lotus was noticeably missing from the southern portion of the lake which had little water for the last two summers.

9/15/00 Print 01-1-5 GRM

Drought dried up the connection between Little Lake and Wapanocca Lake.

9/15/00 Print 01-1-7 GRM

Excellent moist soil food production in cypress openings but lake levels did not raise enough to make food available to waterfowl this winter.

Percent of lake covered by lotus

1993 - 27.3 percent
1995 - 19.3 percent
1996 - 11.5 percent
1997 - 15.8 percent
1998 - 25.6 percent
1999 - 24.6 percent
2000 - 12.6 percent

With higher than normal temperatures and drought conditions, lake levels dropped to below 206,25' MSL from October 17 to November 4. Water in the lake receded from gauge points thus true elevations were not able to be calculated. Approximately 200 acres of mud flats were exposed mainly at the south end resulting in an excellent growth of pigweed and sedges. However, an early killing frost and freeze on October 9 hit before much seed production was made. The lake and Woody Pond froze over on December 17 except 3 openings in the lake kept open by waterfowl.

Level at the end of the year was only 206.75' M.S.L. thus moist soil plant foods along the lake margin were not flooded and available to waterfowl.

The Advanced Placement Environmental Science classes from Marion High School ran some test on Wapanocca Lake at the observation platform on March 6 and 7. The pH registered 10.36 both days, Dissolved Oxygen: 11.9 - 19.9 PPM, Nitrates: 18.4 - 21.5 PPM, Phosphates: .85 - .91 PPM, and Silica: .443 - .447 PPM.

Water in the impoundments varied at the beginning of the year:
0-25% full: A-1,2;B-1,2,4,5,6,7,8,9,10,12,13,14;C-1,2,3,4,5,6; D-2,3;E-1
24-50% full: A-3;C-8
50-75% full: C-7;D-1,3

The following impoundments were opened March 7 to encourage the growth of moist soil plants: B-1,2,3,9,12;C-5,6,7,8;D-1,2. B-13 and D-2a were already dry. Impoundments A-1;B-6;C-3 were opened May 15. The remainder of the impoundments were already dry by that time.

The hot dry summer resulted in no Jap millet production in the impoundments planted but fair to good crop of smartweed in other impoundments.

Impoundment Information

Unit	Stoplogs pulled	Food Production
A-1	5/15	Miscellaneous weeds
A-2	Dry prior to 5/15	Miscellaneous weeds
A-3	Dry prior to 5/15	Planted to millet, too dry, failed
B-1	3/7	Disced up, vines
B-2	3/7	Good smartweed
B-3	3/7,3/8	Excellent smartweed
B-6	5/15	Excellent smartweed, cocklebur under

Unit	Stoplogs pulled	Food Production
B-7	Dry prior to 5/15	Disced, vines, some smartweed
B-9	3/7	Fair smartweed
B-10	Dry prior to 5/15	Mostly vines, some smartweed
B-12	3/7	Excellent smartweed in south pood Soybeans planted in north pool
B-13	Dry prior to 5/15	Soybeans, good smartweed in low areas
B-14	Dry prior to 5/15	Little moist soil plants
C-1	Dry prior to 5/15	Good smartweed
C-2	Dry prior to 5/15	Excellent smartweed
C-5	5/15	Planted to soybeans
C-6	3/7,3/8	Good smartweed
C-7	3/7,3/8	Good smartweed on fringe, cocklebur in low areas
C-8	3/7,3/8	Disced for millet but not planted Nothing but ragweed species
D-1	3/7	Good smartweed
D-2	3/7	Ragweed species
D-2a	Dry prior to 3/17	Vines, ragweed, some smartweed
E-1	Dry in June	Mostly cocklebur, sicklepod on west, good smartweed in areas of higher ground

In October, portions of impoundments B-3 and B-6 were mowed and B-2, B-6 and D-1 were disced to open the areas for waterfowl once the areas became flooded. E-1 was disced to prepare it for spring 2001 shorebird use.

Stoplogs were replaced in all structures by September 29. What rainfall that fell soaked into the parched ground and the impoundments did not start filling until December 12 but cold weather immediately froze them over and they remained so through the end of the year.

3. Forests

The National Tree Trust had no oak seedlings to donate this year. An order for 3,200 oak seedlings had been placed with them to fill in where drought had killed some of the planting the past 2 years. The following seedlings were received from the National Arbor Day Foundation and planted around the headquarters area: Flowering Crab (2), American Redbud (2), Washington Hawthorn (2), White Flowering Dogwood (2), Flowering Bradford Pear (2), and a French Lilac.

The hot dry summer and fall once again stressed the recent reforestation plantings with many young as well as old trees dying back early. It is hoped that they went dormant due to dry conditions and not have died. Next spring will tell the tale. There was very little mast crop produced this year, a result of the past two summer droughts. It was noted that some of the red oaks aborted next years crop this fall thus next year is already looking unfavorable.

The major ice storm in December resulted in considerable loss of limbs, especially oak trees as many still had their leaves.

4. Croplands

In order to meet the refuge objective of 3,600,000 use days for ducks and 1,200,000 use days for geese, the production of agricultural crops to supplement the natural food supply is a vital and necessary program.

Corn in field D-25 was lightly disced on January 15 to make it more readily available to waterfowl. It and fields P-2 and F-3a were completely eaten by spring. Field D-27 was approximately 75% eaten. Corn in field D-28 was not knocked down. It was later harvested and the refuge share, 250 bushels, was stored in the metal bin at the old shop for future use in trapping hogs if it becomes necessary.

Cooperative farmer Driver planted the 2000 corn crop on March 27 and 28. Fraley planted corn on April 5 and Pirani on April 17.

Cooperative farmer Driver harvested 111 bushels of wheat for Big Lake NWR and 75 bushels for Wapanocca to be used as bait for catching wood ducks and for seed at Big Lake for goose browse.

The Jap millet planted in the impoundments failed due to the drought.

2000 Farming Program (1,227.8 acres)

	Pirai acres (182.4 ac.)		Driver acres (912.8 ac.)		Farley acres (132.6 ac.)		Total acres	
Crop	Co-op	Refuge	Co-op	Refuge	Co-op	Refuge	Co-op	Refuge
Soybeans	22.0	3.9	354.2	19.6	99.5		475.7	23.5
Corn		13.5		119.1		8.2		140.5
Millet		13.3		70.0		5.6		88.9
Wheat	114.8			18.3			114.8	18.3
Wheat/ soybeans*			285.0				285.0	
Natural foods		14.9		33.4		19.3		67.6
Fallow				13.2				13.2
	136.8	45.6	639.2	273.6	99.5	33.1	875.5	352.3

*Winter wheat harvested followed by soybeans

Soybeans following the wheat were no-till-drilled into the wheat stubble.

Due to the drought the corn crop put in by Driver was 50-75% of what it should have been. The later planted corn of Pirani yielded 25-50% and Fraley's 0-25% but it was also effected by poor Johnson grass control. Despite the stress of high temperatures and drought, aflatoxin was not a problem this year. Corn was tested from each of the fields and fell well below the tolerable limits.

Field	Aflatoxin levels
D-3	Not detected
D-21b	9 parts per billion
P-9,F-4	Did not exceed 5 ppb

The soybean crop was also severely hurt by the drought. Driver's beans faired better than most around. He planted early maturing beans which produced some beans before the effect of the drought. He also planted beans after wheat in the wheat stubble which helped to conserve the little moisture available.

Driver disced down the corn in D-3 on December 9 to make it readily available for waterfowl.

9. Fire Management

At 4:20 PM, September 6, Cooperative Farmer Bob Driver called EO McGee to report smoke in the air at New Jab Ground. This caused a misunderstanding as to the location since the refuge uses a numbering system for farm fields. EO McGee assumed he had meant Jap Field which is an impoundment on the southern side of the refuge. He called the Turrell Fire Department, had Turrell City Hall contact RM Miller, and led the fire department to the Jap Field area. It was not until shortly before 5PM that city hall was able to contact Miller at home who responded and met McGee and the fire truck on Woods Road around 5:30 PM. McGee said they could not locate the fire but smoke could be smelled at that site. The timber obscured what direction the wind was in but Miller knew there was a strong east wind blowing. He headed back to get on field trails to the east to see if anything could be found. Smoke was seen south of Black Duck Hole and the fire truck crew notified. It was approximately 5:45 when suppression activities were initiated. It was in the woods and moving very slowly. It had burned a small area of soybean stubble, an acre of reforested area and was burning in old growth timber. Though in an extreme drought, the flames were less than a foot high. The flames were quickly suppressed but hot spots continued in fallen dead tree branches and in the 3 inch build up of detritus. Hot spots were sprayed with water until it was too dark to see smoke. At 7 AM the following morning, the area was checked again and four spots were found still smoldering. These were soaked down and the area checked again at 11:30 AM. One spot was found again to be smoldering and it was soaked again with water. No smoke was detected when checked again at 2:30 PM. Cooperative farmer Driver checked his combine and found a straw spreader bearing worn out. He thought it probably overheated and sent a hot spark or hot piece into the dry soybean stubble which ignited the stubble and burned into the timber. The fire department charged $250 for the run and another $98 for a hose that was destroyed while fighting the fire.

10. Pest Control

Pesticide Use

Cooperative Farming Program

Trade Name	Common Name	Crop	Acres	Gal.A.I.	Target Pest
Accent	nicosulfuron	Corn	110.0	.43	Johnson grass
Assure	quizalofop	Soybeans	100.0	.74	all grasses
Basagran	bentazon	Corn	12.0	.95	Broadleaf weeds
Classic	chlorimuron	Soybeans	100.0	.10	Broadleaf weeds
Dual	metalachlor	Corn	134.0	27.60	Grass
Fusilade 2000	fluazifop	Soybeans	23.0	.29	Grasses
Roundup	glyphosate	Corn	134.0	11.92	Vegetation
Roundup	glyphosate	Soybeans	159.6	120.27	Vegetation
Storm	bentuzon	Soybeans	23.0	.96	Broadleaf weeds
	aciflourfen	Soybeans	23.0	.44	Broadleaf weeds
2,4-D Amine	2,4-D Amine	Wheat	300.0	26.14	Broadleaf weeds *

Refuge Management

Arsenal	imazapyr	Moist soil	.1	.01	Trumpet vine
Garlon 4	triclopyr	Moist soil	.5	.33	Trumpet vine
Rodeo	glyphosate	Banding Site	1.0	.10	all vegetation
Roundup	glyphosate	Parking Lot/ Banding Site	3.0	.26	all vegetation
Carbamate	methyl carbamate	Buildings		.014	Brown recluse
Maki	bromadiolone	Buildings		.14oz	Mice

G. WILDLIFE

1. Wildlife Diversity

Wapanocca supports a good diversity of animal and bird (242) species due to its diverse habitat and close proximity to the Mississippi River. The American Bird Conservancy has qualified the refuge as a Continentally Important Bird Area based on its providing habitat for continentally significant numbers of herons and waterfowl.

See Figure I for Christmas Bird Count results on page 19.

2. Endangered and/or Threatened Species

The resident pair of bald eagles used the nest built last year in a cottonwood tree .25 miles south of the refuge. The tree is at the north end of a seasonal wetland with cropland on the other 3 sides. Two eagles fledged successfully by May 30 which is over 2 weeks earlier than last year and in line with previous years.

Least terns which nest on islands in the Mississippi River frequent the lake feeding for during summer months.

A peregrine falcon was regularly seen the last two weeks of the year on the ice on the lake feeding on ducks.

Christmas Bird Count - Figure I
Observer - Dick Preston 12/28/00 7-11:00 AM 73 species

Great Blue Heron	10	Horned Lark	68
Tundra Swan	1	Blue Jay	10
White-fronted Goose	1800	American Crow	19
Snow Goose	3500	Carolina Chickadee	16
Canada Goose	13100	Eastern Tufted Titmouse	19
Ross's Goose	5	White-breasted Nuthatch	2
Wood Duck	16	Carolina Wren	15
Black Duck	44	Winter Wren	2
Mallard	48700	Golden-crowned Kinglet	4
Pintail	48	Ruby-crowned Kinglet	8
Shoveler	125	Eastern Bluebird	6
Gadwall	760	Hermit Thrush	1
Wigeon	1175	American Robin	12
Ring-necked Duck	38	Northern Mockingbird	5
Hooded Merganser	42	Brown Thrasher	2
Ruddy Duck	28	Loggerhead Shrike	4
Bald Eagle	3	European Starling	420
Northern Harrier	8	Orange-crowned Warbler	1
Sharp-shinned Hawk	1	Yellow-rumped Warbler	8
Cooper's Hawk	1	Northern Cardinal	48
Red-shouldered Hawk	7	American Tree Sparrow	10
Red-tailed Hawk	15	Field Sparrow	9
American Kestrel	2	Vesper Sparrow	2
Peregrine Falcon	1	Savannah Sparrow	38
Northern Bobwhite	13	Fox Sparrow	6
Killdeer	2	Song Sparrow	62
Ring-billed Gull	2	Swamp Sparrow	38
Mourning Dove	43	White-throated Sparrow	128
Barred Owl	2	Dark-eyed Junco	46
Red-headed Woodpecker	1	Lapland Longspur	12
Red-bellied Woodpecker	13	Redwinged Blackbird	515
Yellow-bellied Sapsucker	6	Eastern Meadowlark	31
Downy Woodpecker	7	Common Grackle	280
Hairy Woodpecker	1	Brown-headed Cowbird	25
Northern Flicker	12	American Goldfinch	10
Pileated Woodpecker	3	House Sparrow	8
Eastern Phoebe	1		

3 Waterfowl

Duck populations started the year with good numbers at 60,000 but with record high temperatures in early January, they soon left. Cold temperatures the last week in January brought waterfowl back (52,500 ducks and 13,500 geese) as shallow water bodies in the area froze over. With warm weather in early February, waterfowl numbers quickly diminished.

With the low lake levels in August, migrating blue-winged teal (4000) and northern shovelers (1000) found the shallow water on the south end to their liking.

Despite low water levels, ducks flocked onto the refuge in November. A fall peak of 120,000 ducks was recorded November 27, of which 90,000 were on the lake and 30,000 on Woody Pond.

Cold temperatures in mid December pushed Canada geese down from Illinois. By the end of the year the refuge supported 13,000 Canada geese, 5,000 snow geese and 3,000 white-fronted geese but duck numbers were down to 32,000. The waterfowl were able to keep 3 areas open in the lake and fed on the corn and winter wheat on and off the refuge.

Snow goose numbers increased this fall and will probably continue to increase in this area as more soybean and cotton fields are leveled and planted to rice.

A swan, believed to be tundra, stayed on the lake opening the latter part of December.

Goose Use-Total Use and Percent of Population

	White-fronted	Snow/blue	Canada
1988	980 (.2%)	62,329 (11.4%)	481,528 (88.4%)
1989	714 (.1%)	12,903 (1.6%)	801,337 (98.3%)
1990	0	1,831 (.2%)	1,013,793 (99.8%)
1991	0	3,700 (1.7%)	220,285 (98.3%)
1992	11,092 (5.3%)	1,013 (.5%)	195,636 (94.2%)
1993	900 (.7%)	1,324 (1.1%)	116,600 (98.2%)
1994	11,250 (2.9%)	5,900 (1.5%)	374,751 (95.6%)
1995	15,721 (10.1%)	3,173 (2.0%)	137,242 (87.9%)
1996	46,110 (7.5%)	99,005 (16.2%)	468,373 (76.3%)
1997	162,080 (18.8%)	566,495 (65.7%)	133,396 (15.5%)
1998	23,080 (30.5%)	424 (0.5%)	52,270 (69.0%)
1999	88,580 (21.8%)	39,510 (9.7%)	278,210 (68.5%)
2000	185,420 (28.9%)	252,430 (39.4%)	202,921 (31.7%)

Figure 1
Refuge Goose Use History

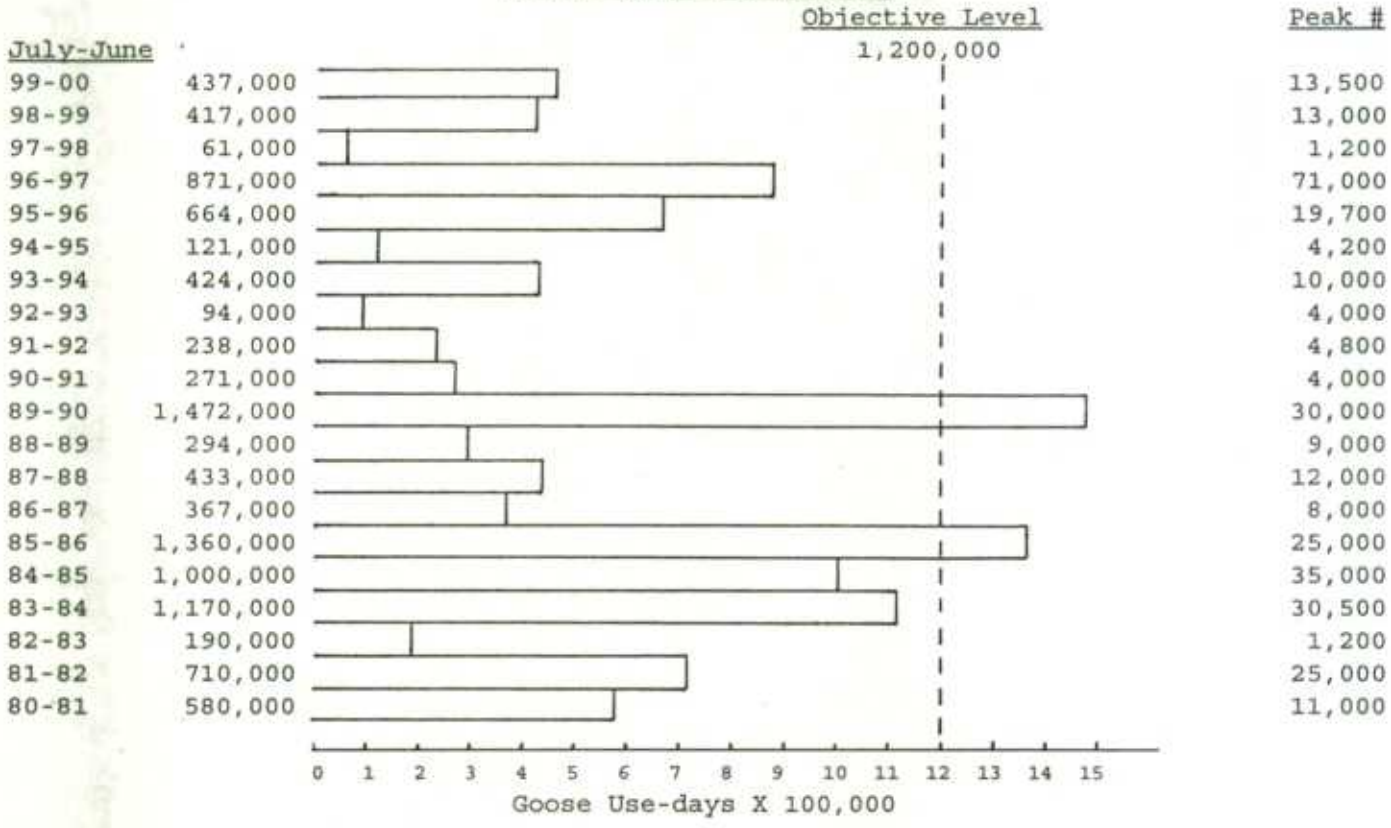
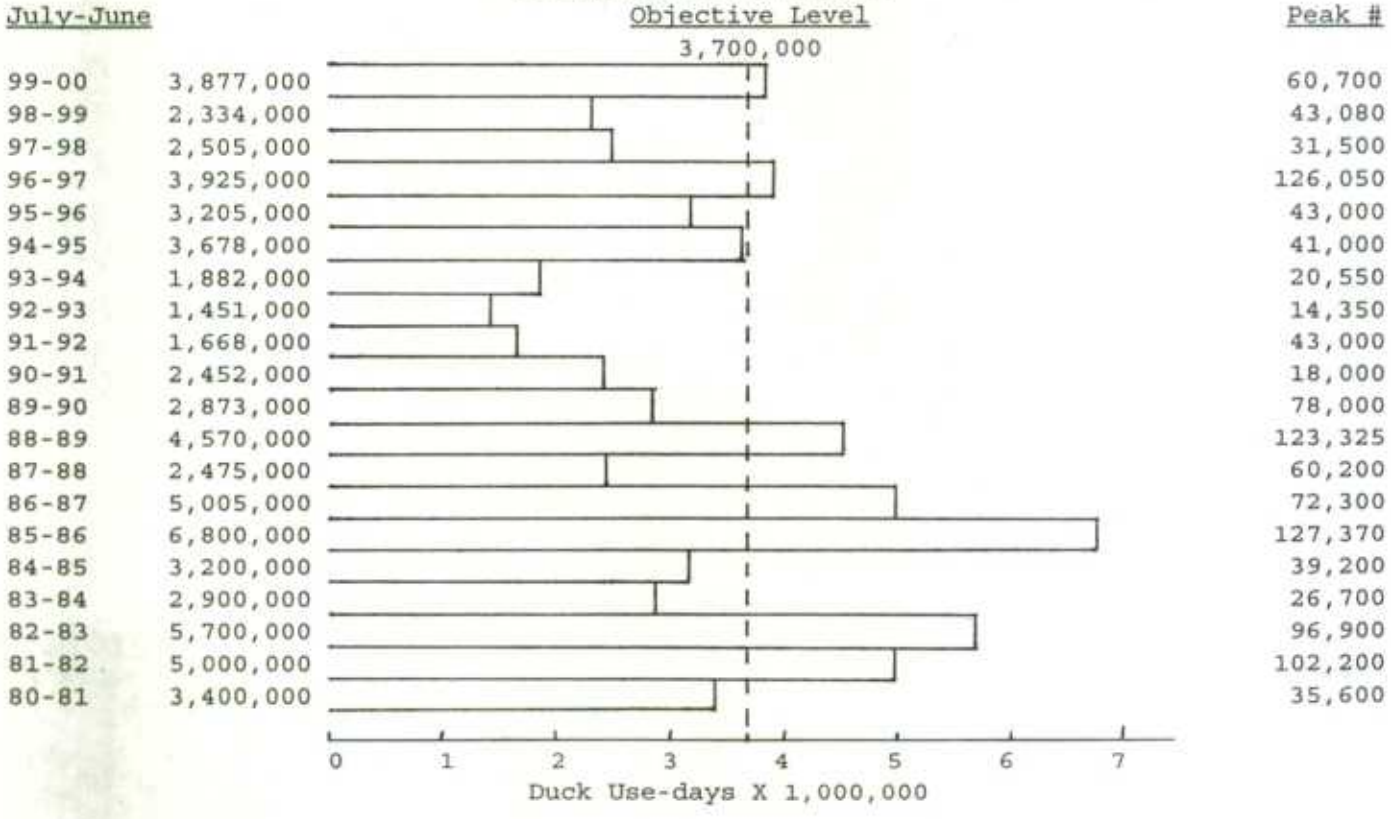


Figure 3
Refuge Duck Use History



ANNUAL REPORT FORM
WOOD DUCK BOX PROGRAM INFORMATION
YEAR 2000

Total Boxes Up	300
Total Usable Boxes	270
Use by Wood Ducks of Usable Boxes	?
Number of Successful boxes (Wood Ducks)	?
Use by Other Ducks of Usable Boxes	?
Period Checked (Month)	
Use by Other Wild-life of Usable boxes	?
*Total Wood Ducks Hatched	1200
Wood Duck Broods Produced	120
**Wood Ducks surviving to Flight Stage	600

Plans for Next Year (Indicate Number)

_____More boxes 0 Entrance Holes created in trees

_____Fewer boxes

X No Change

Remarks: * 10 per successful nest

** 50 percent of total hatch

The 50 wood duck boxes put up for the study in 1998 were checked. Of the 50 boxes, 44 were useable, 36 used and 24 successful. Five nests were predated due to the shields falling down. Seven were unsuccessful due to predation (2) and abandonment (5). Late in the year shields on metal fence posts were fixed in place using long carriage bolts to hold them up. Shields on metal pipe were braced up with pieces of rubber inner tube as support under the shields.

Figure 3
Wood Duck Box Program

Year	Wood Ducks Hatched
2000	1,200
1999	1,200
1998	1,200
1997	1,140
1996	740
1995	1,263
1994	1,150
1993	1,150
1992	1,140
1991	950
1990	1,300
1989	1,430
1988	890
1987	1,080

4. Marsh and Water Birds

On April 14, 12 snowy egrets were observed on Impoundment E-1.

An unusually large number of white pelican (700) stayed on the refuge the first half of March feeding in Little Lake and resting on the south end of the big lake. Shallow water may have made the fish easier prey this year. In mid October, 160 pelican again used the lake.

Anhingas, yellow-crowned night herons, and black-crowned night herons were seen regularly in breeding plumage suggesting all three may be nesting on the refuge this year. The great heron/great egret rookery is again suspected to be on the north side of the lake due to the considerable activity to and away from that area.

Two wood storks were observed regularly on Ditch 8 west of Drivers Bridge the later part of August.

Approximately 600 great egrets used the lake and Woody Pond during August.

A glossy ibis was observed on the lake October 16.

5. Shorebirds, Gulls, Terns and Allied Species

Three black-necked stilts were observed on Impoundment B-6 on April 19. This species is not listed on the refuge bird list but were not uncommonly seen in counties to the south in recent years. This species was again observed in September with 15 using the shallows on the south side of the lake.

Low levels in the lake from August through October exposed mudflats around the lake and especially the south side attracting shorebirds. Peak numbers were observed September 18 with 100 killdeer and 800 unidentified shorebirds observed. The following

were observed at various times during the fall: black-bellied plover, semipalmated plover, American avocet, short-billed dowitcher and red-necked phalarope.

6. Raptors

A swallow-tailed kite was seen regularly over wheatfield ridge during the last week of July. This is the first known sighting of this species on Wapanocca.

7. Other Migratory Birds

A total of 138 species of various other birds migrate through the refuge; of these, 37 species are warblers.

The Point Bird Count routes were censussed May 24 by Norman and Cheryl Lavors, Northeast Arkansas Audubon Society members. See the Table on page 25 for results.

The second annual sanctioned Christmas Bird Count was run December 28 by Dick Preston, Munford, TN. The count area is centered near the Mississippi River to enable inclusion of Wapanocca NWR, Menesha Hunt Club and Shelby Forest in Tennessee. Mr. Preston spent 4.5 hours on the refuge before heading off-refuge. He recorded 73 species on the refuge. (See Table in G.1.)

8. Game Mammals

White-tailed deer continue to be commonly seen.

Fox squirrels were frequently seen during summer months and harvest figures were up.(See H.8.).

Cottontail rabbits were commonly seen throughout the year. No swamp rabbits were reported by hunters this year.

Raccoon and their signs are commonly seen on the refuge.

10. Other Resident Wildlife

A new problem arose with nutria in February. Two nutria dug up the levee slope between the boat house and lake water control structure before the damage was noticed. They came in late in the evenings from the lake and dug up the ground to expose succulent roots for food since other vegetation had yet to begin growth. They were shot and the problem was stopped for the time being however some erosion occurred before grasses could once again take hold. The nutria population continued to explode with them commonly seen in borrow ditches along levees and in the lake outlet channel. They were shot as the opportunity presented.

Otter and bobcat were seen often this year.

Armadillos were seen in increasing numbers.

Wapanocca National Wildlife Refuge Bird Point Count - 2000

SPECIES	AOU	ABBR	Swamp 10 Stations Total Birds	Swamp % of Stops	Timber 9 Stations Total Birds	Timber % of Stops	Reforestation 9 Stations Total Birds	Reforestation % of Stops	Total 28 Stations Total Birds	Total Stations Found (%)
ACADIAN FLYCATCHER	465	ACFL	2	20	6	44			8	21
AMERICAN CROW	488	AMCR	4	30	7	44	10	66	21	46
AMERICAN GOLDFINCH	529	AMGO	2	10	1	11	1	11	4	11
AMERICAN ROBIN	761	AMRO							0	0
ANHINGA	118	ANHI	2	10			1	11	3	7
BARN SWALLOW	613	BARS	10	10					10	4
BARRED OWL	368	BAOW	1	10					1	4
BLUE-GRAY GNATCATCHER	751	BGGN	12	70	7	55	1	11	20	46
BLUE JAY	477	BLJA							0	0
BOBWHITE							3	33	3	11
BROWN-HEADED COWBIRD	495	BHCO	16	70	3	22	8	33	27	43
CAROLINA CHICKADEE	735	CACH	7	60	12	55	1	11	20	43
CAROLINA WREN	718	CARW	7	60	7	55	1	11	15	43
CHIMNEY SWIFT	423	CHSW					1	11	1	4
COMMON GRACKLE	511	COGR	10	40	2	11	13	44	25	32
COMMON YELLOWTHROAT	681	COYE	4	30	1	11	12	66	17	36
DICKCISSEL	604	DICK			1	11	40	88	41	32
DOWNY WOODPECKER	394	DOWO	3	30	1	11	2	22	6	21
EASTERN KINGBIRD	444	EAKI							0	0
EASTERN MEADOWLARK	501	EAME					5	33	5	11
EASTERN PHOEBE	456	EAPH	1	10					1	4
EASTERN TUFTED TITMOUSE	730	ETTI	4	20	5	44	2	22	11	29
EASTERN WOOD-PEWEE	461	EAWP	5	40	1	11			6	18
EUROPEAN STARLING	493	EUST							0	0
FIELD SPARROW	563	FISP							0	0
FISH CROW	490	FICR	2	20					2	7
GREAT BLUE HERON	194	GTBH	9	70	1	11	9	66	19	50
GREAT CRESTED FLYCATCHER	452	GCFL	1	10	2	22	1	11	4	14
GREAT EGRET	196	GREG	2	20	3	22	3	33	8	25
GREEN-BACKED HERON	201	GNBH							0	0
HAIRY WOODPECKER	393	HAWO	1	10					1	4
HOODED MERGANSER	131	HOME	1	10					1	4
HORNED LARK	474	HOLA							0	0
INDIGO BUNTING	598	INBU	12	80	6	55	7	66	25	68
KILLDEER	273	KILL							0	0
LEAST TERN	074	LETE	1	10					1	4
LITTLE BLUE HERON	200	LBHE							0	0
MALLARD	132	MALL	1	10			7	11	8	7
MISSISSIPPI KITE	329	MIKI	1	10	2	22	4	33	7	21
MOURNING DOVE	316	MODO	7	40	3	11	31	100	41	50
NORTHERN CARDINAL	593	NOCA	14	70	12	100	8	66	34	79
NORTHERN MOCKINGBIRD	703	NOMO					3	22	3	7
ORCHARD ORIOLE	506	OROR					2	22	2	7
PAINTED BUNTING	601	PABU	1	10					1	4
PILEATED WOODPECKER	405	PIWO	4	30	2	22	1	11	7	21
PROTHONOTARY WARBLER	637	PROW	5	50	1	11			6	21
RED-BELLIED WOODPECKER	409	RBWO	6	50	6	55	7	55	19	54
RED-HEADED WOODPECKER	406	RHWO					5	11	5	4
RED-EYED VIREO	624	REVI			1	11			1	4
RED-SHOULDERED HAWK	339	RSHA					1	11	1	4
RED-TAILED HAWK	337	RTHA	2	20			1	11	3	11
RED-WINGED BLACKBIRD	498	RWBL	10	40	8	44	79	100	97	61
ROCK DOVE							10	11	10	4
RUFOUS-SIDED TOWHEE	587	RSTO	1	10					1	4
RUBY-THROATED HUMMINGBIRD	428	RTHU	1	10			6	44	7	18
SUMMER TANAGER	610	SUTA	1	10	6	44	1	11	8	21
SWAINSON'S THRUSH	758	SWTH	1	10					1	4
WARBLING VIREO	627	WAVI							0	0
WHITE-BREASTED NUTHATCH	727	WBNU	2	20					2	7
WHITE-EYED VIREO	631	WAVI	4	30	3	22			7	18
WOOD DUCK	144	WODU	34	70	2	22	8	55	44	50
WOOD THRUSH	755	WOTH					1	11	1	4
YELLOW-BILLED CUCKOO	387	YBCU	2	20	3	33	2	22	7	25
YELLOW-BREASTED CHAT	683	YBCH	2	20	1	11	6	55	9	29
YELLOW-CROWNED NIGHT-HERON	203	YCNH			1	11			1	4
YELLOW-SHAFTED FLICKER	412	YSFL	4	30	2	22	1	11	7	21

3/8/00 Print 00-1-2 GRM
Sod dug up by nutria feeding on grass roots
on levee between boathouse and lake WCS.

3/8/00 Print 00-1-3 GRM
Sod dug up by nutria feeding on grass roots
on levee between boathouse and lake WCS.

11. Fisheries Resources

Sport fisheries continue to be poor due to water quality. With the loss of the water source from Big Creek, the lake waters can no longer be flushed and nutrient levels are extremely high. Fish in Big Creek were tested for chemical contamination in the 1980's and revealed a high concentration of DDT and Toxaphene in them. Refuge personnel were told to keep fish from entering the lake from Big Creek or close the lake to fishing. The former was done. The Corps of Engineers (COE) widened Big Creek and cleaned it out also in the 80's which results in water levels no longer rising enough back water into the lake. COE staff has determined only in flood events of once every 10-12 years will levels be high enough to get significant water into the lake thus a fish barrier would not resolve the problem.

The lake needs to be drawn down, dried up for a couple of years and a water source found to periodically flush the nutrient load out of the lake. The outlet channel will need to be cleaned out in order to obtain a drawdown which would allow the lake bottom to dry out.

The low lake water levels resulted in a considerable number of rough fish, especially noted were shad and drum, dying in late summer. It is unknown if game fish met the same fate.

15. Animal Control

The population of nutria continued to expand. Control amounted to shooting them when observed. A total of 92 were shot this year. Almost half of that number (42) were killed in December when the water iced over and many were staying along the bank of Woody Pond. Their carcasses were quickly fed upon by hungry scavengers.

Three raccoon were eliminated from the wood duck banding site due to their interference with banding activities.

The dry conditions forced many of the refuge beaver to leave looking for suitable sites. Only 9 were shot this year. No trapping was conducted this year as the normal problem areas were void of this problem rodent.

16. Marking and Banding

No Canada goose neck collars were read this year and only 14 hours were spent trying to read them. Canada geese peaked at only 1500 and the normal time devoted could not be spent this year thus geese never got familiar with refuge vehicles and couldn't be approached close enough to read the collared birds that were here. Records from 1987-1992 show the following population makeup:43.6% EPP (Eastern Prairie Population); 55.9% MVP (Mississippi Valley Population); .4% SJBP (Southern James Bay Population).

Wood duck pre-season banding results

	Goal	# Banded
	23 AHY-M	42
	53 AHY-F	59
	26 HY-M	51
	86 HY-F	38
Total	188	190

Because of the low spring lake levels, the banding site was exposed all spring thus banding activities commenced earlier than normal. The first shot was made June 13 while good numbers of adult males were present enabling that goal to be met. Low lake levels in August resulted in little water at the banding site. The muck was removed out to the cypress trees but this exposed a sand bottom resulting in accelerated loss of water. A channel was cut out to the lake water to keep the banding site supplied with water. This enabled a shot in September allowing the total refuge banding goal to be met.

H. PUBLIC USE

1. General

Refuge visits for FY 00 were down 10% from last year with an estimated total of 13,160. This was basically due to the decrease in fishing use when lake levels receded too low to access it by boat.

International Migratory Bird Day was celebrated May 20 with an open house and a bird watching event held by the Northeast Arkansas Audubon Society.

National Wildlife Refuge Week was celebrated October 14 with an open house and video presentation. Electronic field trip information, a special presentation for National Wildlife Refuge Week was sent to 22 area elementary school principals. RM Miller worked the FWS booth at the Arkansas State Fair on October 11.

2. Outdoor Classrooms - Students

RM Miller presented a discussion of the lake environment to 2 classes of the Advanced Placement Environmental Science (APES) from Marion High School.

6. Interpretive Exhibits/Demonstrations

An excellent display located in the visitor contact station is provided for the public to interpret various phases of the refuge's environment. Exhibits include the lake environment, summer wildlife and winter waterfowl. An estimated 625 visits were made to this room. Various other educational exhibits, displays and informational write-ups are available for the public's education.

Downsizing of the refuge staff has made it necessary to close the VCS room when staff are not present in the office.

Tom Collins, Wildlife Studio, Blytheville mounted a nutria, barn owl and woodcock at no cost to the refuge and did an excellent job.

A kiosk in front of the office building provides an important source of information for the public when the refuge office is closed.

7. Other Interpretive Programs

RM Miller provided programs to the First Baptist Men's Fellowship, Marion and the West Memphis Kiwanis.

Talks/tours were provided to members of the Turrell Summer Youth Program and Cub Scout Pack 293, Marion.

8. Hunting

In an effort to further curb the high raccoon numbers on the refuge, a March hunt was again offered this year. Due to pelts being worth very little, the turnout was again lower than hoped for. An estimated 50 hunters took 25 raccoons. Most were content with only taking 1 or 2 a visit and then going home. The fall hunting season was extended this year from a closing of November 16 to December 1 this year. This hunt was less productive than normal since with little food in the timber the animals stayed near the lake creating problems for the hunters and their dogs.

The fall hunt was good for fox squirrel with an abundance of animals despite a poor mast crop again this year.

Hunt	Visits	Animals Harvested
Raccoon		
3/1-31	50	25
11/1-30	60	180
Totals	110	205
Squirrel (10/1-11/30)		
Fox	452	1480
Rabbit (10/1-11/30)		
Cottontail	8	50

No known gray squirrels or swamp rabbits were harvested this year.

9. Fishing

Fishing on the lake opened on March 15. There were plenty of people anxious to get started fishing but with the lake so low, those with bass boats could not get through the access channel. Those with flat bottom boats managed to get to the lake but did not get a single bite. Crappie started biting on the 25th with one report of the limit of 30 crappie being caught in the shallow opening along the boat access channel before getting to the lake.

A number of fishers utilized the berm constructed for that purpose fishing off the bank and catching fish in the boat channel.

Crappie fishing was fair in April with a few limits of 30 taken however fisher visitation remained low since larger boats could not access the lake.

Good numbers of slab crappie and 5 pound catfish were caught in early May.

A few fishers continued to battle the mud to get out into the lake to fish in July but the only reported catches were of grinnel and fishing soon ended for the year with only 1625 visits for the fiscal year.

11. Wildlife Observation

An estimated 10,300 visits for this activity were made on the refuge this year. This is a slight increase over last year.

17. Law Enforcement

State conservation Officer Kirk Harris cited an individual on January 29 for trespass after dark. He also stopped an individual in November after dark and cited him for possession of a firearm and trespass.

A fisherman's vehicle was broken into Sunday afternoon March 26 at the boat access parking lot. An estimated $1200 worth of equipment was stolen.

The leaflet dispenser at the headquarters area was vandalized with the lid ripped off and taken.

Vandals knocked out numerous pickets in the new pier shortly after its completion.

On July 20, EO McGee brought a load of dirt to the boat access area arriving at 7:16 AM as part of the berm extension. He noticed a pickup with boat trailer on the boat ramp and no one around. He dumped the load of dirt at the end of the berm extension and on the way out noticed a boat pulled back into the lotus and full of fish and nets. There were no commercial fishing permits issued this year. About the same time a car came over the railroad tracks and in it was a commercial fisherman known for his illegal activities. He was driving his wife's car. RM Miller was on annual leave so McGee being mayor of Turrell called his Police Chief Perry Jennings to come and hold the suspect. By the time he got to the area, the suspect had gotten his pickup started and had left the area. Chief Jennings called State Conservation Officer Kirk Harris who arrived shortly at the suspects residence. The suspect confessed to taking the fish from Wapanocca. CO Harris issued a citation and confiscated the 3 nets and fish. The fish weighed out at 1441 pounds mostly buffalo and a few drum and carp. Unfortunately this was his first commercial fishing conviction so did not lose his commercial fishing license. Each paid a $200 plus $75 court costs.

The confiscated fish were sold by the state for turtle bait for $271 with the money going into the TIPS (Turn in Poachers) program.

I. EQUIPMENT AND FACILITIES

1. New Construction

Observation/Fishing Pier

The owner of Competitive Pumping Solutions, who was awarded the contract for the replacement of the Observation Platform with a larger structure, came out over the Christmas holidays in 1999 to look over the project area for the first time. He had bid on the project without first looking at the area. He then went back to Georgia and had a heart attack. He subsequently asked to be relieved of this commitment. With no monies available to reach the second low bidder, RO-Refuges came up with an additional $15,000 of FY00 1262 monies to add to the $61,163 FY99 available funds. The next low bidder, Don Bond Construction, Benton, Mo. was then awarded the contract for $73,500. Work began in May of removing the old observation area walkway and platform. Contracting and General Services gave permission for the contractor to use the refuge crane in return for removing the muck from around the platform. RM Miller inquired into the 12" gap under the fishing stations which could allow toddlers to fall into the lake. RO Engineer Joey Eldridge stated we had to have them due to the Americans with Disabilities Act. Berta Hollenberger (CGS) and Eldridge were out June 9 to make the final inspection. The contractor did an excellent job per design, however the design was faulty in that the railings did not have adequate support and were extremely loose. A 9 year old girl even complained about it. Also the 2"X2" pickets had no back support and could easily be broken. These problems were discussed with Berta and Joey and they agreed to let the contractor bid on correcting the problems. The bid came back at $6,300 which was considerable more than left in the budget and also seemed excessive for the work thus was rejected. Refuge personnel braced the railings to give added support and started installing back supports behind the pickets but vandals were still able to break the 2X2 sticks of wood by kicking them in the middle. Many pickets were knocked out before the vandals apparently had their fill of this 'fun'. Plans are to eventually replace all of them with 2"X4" material.

Boat Access Berm

Fill for the boat access berm was completed with a total of approximately 6075 cubic yards of dirt hauled in by refuge personnel. All the dirt was donated from spoil removed from Big Creek on private land owned by Alfred Hogan (2742 cu. yd.) and Jimmy Fraley (3333 cu. yd.). Delivery of 320 tons of rip rap rock was received to be used to arm the new berm against burrowing by nutria and beaver. FY99 funds were used for this purchase.

Old Levee 1 Parking Lots

Dirt donated by Alfred Hogan (1530 cu. yd.) and Jimmy Fraley (795 cu. yd.) was hauled in to construct two additional pull off parking lots along old levee one. Approximately 6 inches of pit run clay gravel was purchased to top them off.

6/8/00 Print 00-1-19 GRM
Completed Observation/Fishing Pier

6/8/00 Print 00-1-21 GRM
Completed Observation/Fishing Pier

9/18/00 Print 01-1-8 GRM
Vandalism on new pier by kicking out the 2X2 pickets.

2. Rehabilitation

During the annual termite inspection, damage was found along the west side of the highbay storage building. Bug Mobile of Arkansas, Inc., Osceola, who holds the contract retreated the ground inside and outside along the foundation.

Trees were cut down in front of the parking lot on levee 2 in order to open the view for observation purposed.

A new canopy was built over the Goose Pen pump engine.

A load of SB-2 gravel was spread at the railroad crossing at the boat access area to enable access with the lowboy trailer without bottoming out on the rails.

Low lake water levels almost dried up the banding site pool. EO McGee removed the muck out to the cypress tree line. He used the front end loader on the rubber tired backhoe to haul it out. The bottom was firm sand enabling him to do the work without sinking out of sight. The muck removed sloped down to 5 feet at the tree line. 50.71 tons of SB-2 crushed rock was spread on the slope in front of the banding site to prevent erosion. 50.24 tons of 1/4 minus crushed rock was spread on the surface of the banding site.

3. Major Maintenance

Tree branches were trimmed along the Nature Drive to keep limbs from slapping vehicles. Nelson Tree Service, Inc., Little Rock. AR trimmed trees along the powerline to the old shop.

8/1/00 Print 00-1-22 GRM
Mud flat in front of banding site.

8/2/00 Print 00-1-23 GRM
In front of banding site after muck removal. At end of cleanout is a 5' sill of muck held back by tree roots.

8/3/00 Print 00-1-24 GRM
In front of banding site after water allowed in.

Aluminum stop logs for the Lake and #3 water control structures were fabricated by Venus Corporation, Blytheville from excess stock they had on hand thus the cost to the refuge was less than otherwise would have been.

Fifty-four 20 yard loads of pit run gravel were hauled to various spots on refuge roads from a FY99 purchase order. Contractor Archie Smith was involved in serious train/pickup accident last fall which put him in the hospital and not in condition to run his business until will into 2000.

4. Equipment Utilization and Replacement

The following repairs were made by Equipment Operator McGee unless otherwise noted:

JD 6400 tractor - new fuel line

Truck-tractor - New switch, air valve and tie rod installed by General Truck, Memphis. New steering tires installed by Goodyear. New starter switch installed by Milam Garage.

Yazoo mower - New battery and fuel pump.

TD-15 - Fan belts and grease valve for track tightener.

Toro mower - new lever. New tires installed by Goodyear.

1993 Chevrolet pickup - New battery and alternator.

1993 JD walk behind mower - New lever.
Dump Truck - New fuel lines and fuel pump. Complete set of new tires installed by Goodyear.

Dragline - Replaced air line chewed up by rats, new seal installed in rotating drum cylinder.

1 3/4 ton pickup - New battery.

Side mount mower - New seal.

A DI-103 Report of Survey along with Statement of Circumstances on the maintenance history of the Northwest 28 dragline were sent to CGS in response to inquiry into suspected abuse of Government Personal Property due to the extensive repairs which occurred in 1999. The repair contractor reported damage due to lack of lubrication. A memo was eventually received from the Board of Survey that there was no finding of negligence by the refuge staff.

The 15 yard dump truck borrowed from Cache River NWR last year was returned to them May 11. Mississippi Wetland Management District loaned their 12 yard military dump truck to Wapanocca from July 18 until August 17.

A new blasting galvanometer was purchased. The battery in the old one finally lost its power and company was no longer in business to replace the battery.

A new meter and facing was purchased and installed on the diesel pump station.

A new circular saw, bandsaw, and table saw were purchased.

A used working ice machine was picked on surplus from Mississippi Wetland Management District in Mississippi.

While attempting to clean out the borrow ditch along Old Levee 1, the TD-15 dozer became mired in the mud. Attempts to pull it free using the winch on the truck/tractor was unsuccessful. Lee Catt Construction was contacted and they brought a large trackhoe which pulled the machine free. They only charged the price of the road permit to move the trackhoe which totaled $250. They donated their equipment and labor costs which figured out to $800. Over 3 inches of rain fell over the weekend the dozer was stuck resulting in water getting into the transmission thus it had to be flushed but it was time to change the oil anyway.

5. Communication Systems

The new radio base station was installed and made operational however the mobile units are yet to be installed in the vehicles.

8. Other

The electric pole holding the electrical panel for the well pump at the old shop broke when ice laden tree limbs broke and fell on the

power lines. The pole belongs to the refuge but linemen for Entergy, the power company, said they would report it and that a good used pole would probably be put back by the company.

J. OTHER ITEMS

1. Cooperative Programs

A Public Access & Wildlife Compatibility Survey Questionaire on Wapanocca NWR was completed for San Francisco Bay Conservation and Development Commission.

International Shorebird Survey reports for Wapanocca were sent to the Manomet Center for Conservation Sciences in cooperation with census studies.

Thirty-nine Winnstar Rocket charges were loaned to Mike Widner, turkey biologist for the AR Game and Fish Commission.

Gypsy Moth Monitoring
Four gypsy moth traps were set out May 22 in cooperation with Forest Health Protection Division of the USDA Forest Service, Pineville, La. One each was set out at the Nature Drive turn-around , observation platform parking lot, headquarters parking lot and the boat ramp parking lot. They were retrieved August 31 with no gypsy moths found.

3. Items of Interest

Refuge revenue sharing payment checks were hand carried to Crittenden and St. Francis Counties this year. Crittenden County received $28,867 which was 57.96% of the entitled amount of $32550.

A check was also delivered to St. Francis County for $552 for the Round Pond and Pigmon Units.

Refuge Revenue Sharing Payment for Wapanocca NWR

Fiscal Year	Amount	% of Total Entitlement	Entitlement
99	$18,867	57.96%	32,550
98	20,264	62.255	32,550
97	21,532	66.15	32,550
96	23,586	72.5	32,550
95	14,786	65.8	22,505
94	17,351	77.1	22,505
93	17,521	77.8	22,520
92	18,372	81.1	22,650
91	20,151	89.6	22,490
90	31,575	93.5	33,770
89	26,277	78	33,770
88	23,993	71	33,770
87	19,899	59	33,770
86	20,271	60	33,770
85	25,345	64.4	39,355

Refuge Manager Miller - wrote, typed, edited, and assembled.