WAPANOCCA NATIONAL WILDLIFE REFUGE
Turrell, Arkansas

Narrative Report
July 1974 - June 1975

PERSONNEL

Refuge Manager.....Transferred 06/75.....Donald J. Kosin

Assistant Refuge Manager.....Marvin L. Nichols

Biological Technician.....Franklin D. Robbins

Maintenanceman.....Transferred 10/74.....Dane G. Winningham

Clerk-Typist.....(Part Time).....Betty J. White

TEMPORARY PERSONNEL

Wintfred Voyles.....08/01/74 - 06/30/75

CETA - ENROLLEES
(Comprehensive Employment Training Act)

Tommy Smith.....06/09/75 - 07/31/75

Alvin James.....06/23/75 - 08/14/75

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I. GENERAL

A. Weather Conditions

The refuge has maintained a weather station since 1968. Twenty year averages are based on data collected at a state agricultural experiment station located adjacent to the refuge.

Last year blessed this area with relatively mild temperatures. A high of 99° was recorded on July 19, and a low of 10° was observed on January 13. Open waters of the lake remained free of ice throughout the winter.

Abnormal precipitation patterns caused flood waters to enter the lake for the third straight year. Total precipitation was 2.97 inches above average (49.21 inches). However, the runoff from 12.24 inches during March caused April flooding. Snow flurries were experienced several times during the period, but no measurable accumulation resulted. While several tornados were supposedly observed in the area, the refuge and immediate area escaped unscathed.

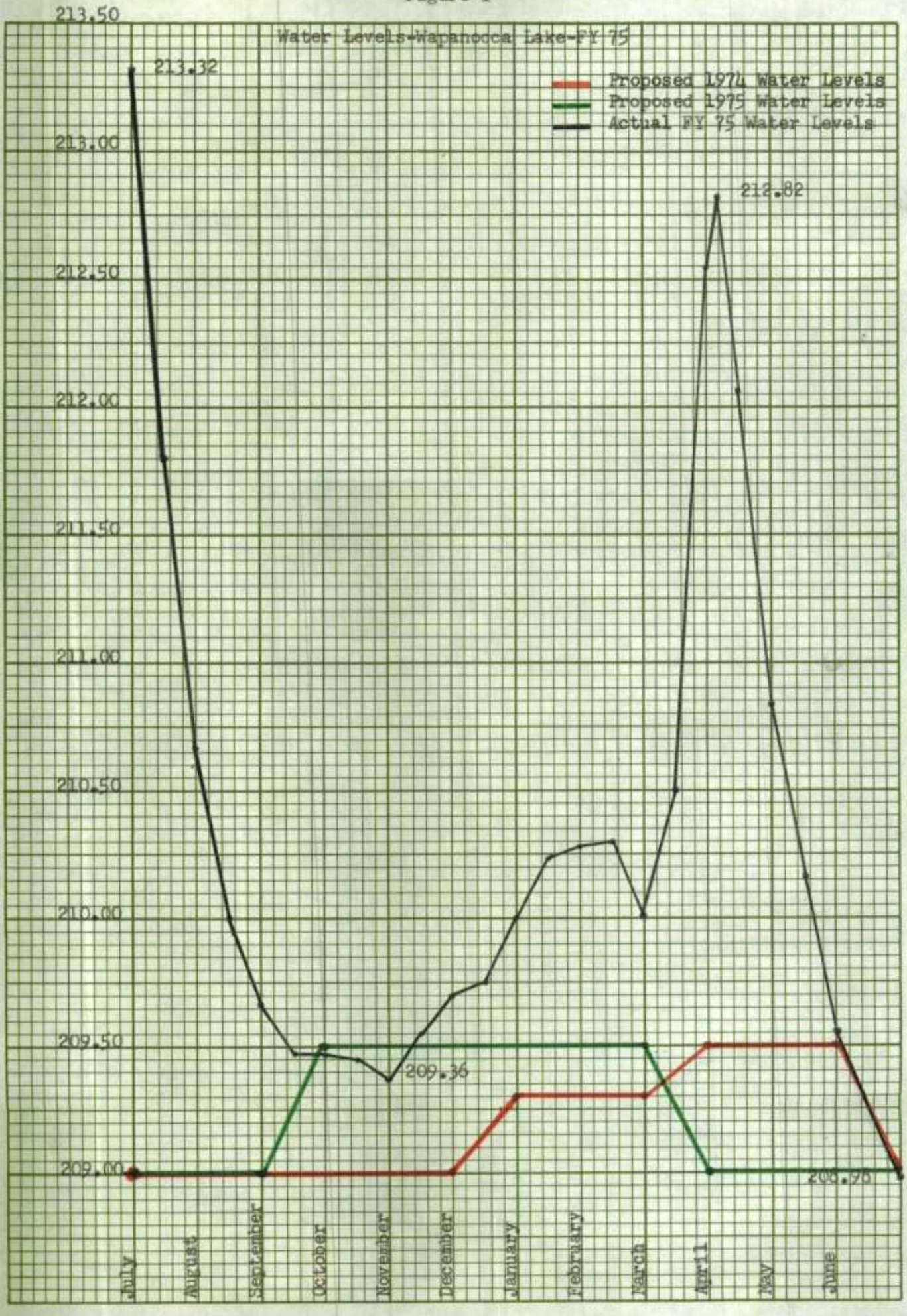
B. Habitat Conditions

1. Water.

Wapanocca Lake: As the year got underway the main water control structure on Levee # 1 was open. Efforts were made to lower lake levels following flooding which occurred in early June 1974. Wapanocca Lake finally reached the desired stage of 209.50' (m.s.l.) on September 9, and all gates were closed.

The water management plan for the lake was revised (Figure 1) as of January 1975. The new schedule calls for water levels to be maintained at 209.00' from April to September. This revision was made in order to reduce stress on timber which had been flooded the previous two seasons. Unfortunately the heavy rains of March brought a halt to these well laid plans as flood waters again topped the lake levee system. Lake levels crested at 212.05' on April 7, and two bays in the water control structure were opened on April 10. It should be noted that this structure is only functional for a drawdown when the flood level in Big Creek outfall is below the level of the lake. The drawdown was terminated on June 19 when the lake gauge read 209.05'. Lake levels for the year averaged 1.3' above scheduled stages.

Figure I



Highwater mark on building in background indicates extent of flooding.

Woody Ponds: Contrary to Wapanocca Lake (except during flooding), the three Woody Ponds receive runoff from agricultural lands which lie adjacent to the refuge. Since this water is heavily laden with agricultural chemicals, every attempt is made to exclude it from the lake proper. Levees # 5 and # 3 normally serve this purpose.

Unfortunately, Levee # 5 is the weak link in the levee system which protects Wapanocca Lake. As a result, water overflows Ditch 8 and spills into Woody Pond # 3. After this pond fills, water pours over Levee # 5 and fills Woody Pond # 2 which subsequently spills water into farm field P-16 and into the lake. This chain reaction was again a reality during March - April 1975. Woody Pond # 1 also received flood water during this scenario, but failed to overtop Levee # 3 as in the past two years. During this period water topped the gauge (213.5' m.s.l.) in Pond # 1 and then receded to 210.00' by the close of the year.

Field Impoundments: The Master Plan for this station calls for the construction of 14 field impoundments. Nine impoundments have been established to date, all of which were operational during the past year. All refuge farming acreage is located on fields which provide for maximum utilization of field impoundments by waterfowl.

Control structures were closed on all field impoundments on October 9 with the exception of impoundment # 5. This impoundment was closed on October 23 following the soybean harvest. Impoundments # 5 and # 11 were quick to fill with runoff from adjacent fields and received good use from early arriving mallards. Pumping was initiated on December 3 to fill impoundments # 2, # 12, and # 13. An estimated total of 162 acres of field impoundments were successfully flooded during the overwintering period. Heaviest duck use was concentrated on impoundments # 2 and # 11. Canada geese also showed a preference for impoundment # 2 in addition to # 12.

2. Food and Cover.

Wapanocca Lake: Five years ago there was considerable concern over the extensive invasion of coontail (Ceratophyllum sp.) in Wapanocca Lake. In 1971 Little Lake was completely filled as was a substantial portion of the northern part of Big Lake. The flooding, and associated silt which the lake sustained during the past three years, significantly affected the spread of this aquatic species. During 1975 coontail was confined to perimeter areas and had little impact on management of the lake.

Other desirable aquatics were virtually eliminated as a consequence of repeated floods. Sago pondweed (Potomogeton pectinatus), American pondweed (Potomogeton nodosus), and muskgrass (Chara sp.) are examples of aquatics which, while never abundant, are now difficult to find.

The reestablishment of these and other submerged aquatics is dependent to a large degree on the extent of phytoplankton bloom which the lake experiences in coming years, as well as the incidence of flooding. During the summer of 1975 a very heavy bloom was observed. This situation is an asset to the fishery program, but a liability to waterfowl (dabblers in particular) food production efforts. Consequently the lake proper served mainly as a roosting and staging area during FY-1975.

Limited feeding is available in the 1200 acre swamp which surrounds the lake. Bald cypress (Taxodium distichum), buttonbush (Cephalanthus occidentalis), and water elm (Planera aquatic) provide the bulk of this opportunity. This is also the area in which coontail is observed most frequently. The usual abundant growth of duckweed (Lemna sp.) was again in evidence and served as a limited food source through early fall.

Bottomland Hardwoods: Mast production during 1974 was relatively poor. Both acorns and pecans were in short supply as most mast producers showed signs of stress resulting from prolonged inundation. Available supplies were readily consumed as overwinter water levels provided excellent feeding opportunity.

During recent years flooding has resulted in the loss of an estimated 200 acres of hardwoods on the refuge. This loss has occurred in the transition zone between the swamp which borders the lake and more upland areas (209.00'-209.50' m.s.l.). While of little commercial value, this area represents a significant loss of both food and cover for all wildlife forms which inhabit the area. Cypress and willow (Salix sp.) regeneration in this area is excellent.

Beaver damage to bottomland hardwoods is also a matter of increasing concern. Most of this damage has been confined to "edge" areas, but it is only a matter of time before control measures must be initiated to protect interior zones. All species have been affected to some degree by this activity; however, no cypress mortalities have been noted.

Agricultural Crops: Generally, refuge farming agreements call for all refuge acreage to be planted to corn. Spring weather conditions dictate the extent to which these plans become a reality. During the fiscal year portions of two farming seasons were underway. For the purpose of this report only those crops available for use during the 1974-75 waterfowl season are discussed.

Because of wet weather, only 148 acres of corn were planted during the spring of 1974. All of this acreage was located in close proximity to managed impoundments with a history of good use. This crop was manipulated so that some corn was available to waterfowl through most of the season. The yield for this crop was not calculated, but gross observation indicated only fair production. A yield of over 30 bushels per acre in this area is considered good in the absence of irrigation. For this obvious reason corn is not commercially grown in eastern Arkansas.

Those fields in which corn could not be planted were sown to brown top millet. These 193 acres were also located in areas of field impoundments. Fall army worms were first observed in this crop on August 28. Adverse weather conditions prevented treatment until September 5. It was estimated that 50% of this millet crop was lost as a consequence. While brown top millet is consumed by waterfowl in this area, it does not appear to be a preferred item. Flooded millet is heavily utilized, but upland areas only seem to attract large concentrations of "blackbirds." Minor goose use was also recorded.

Soybean acreage in 1974 totalled 1,106 acres. Twenty acres were retained as a refuge share and left in the field. Waste beans associated with harvest operations provide a major food source both on and off the refuge.

The refuge provided 235 acres of winter wheat for Canada geese which concentrate on the refuge in January and February. Most goose feeding is confined to the refuge in spite of good winter browse conditions elsewhere in this locale.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl.

Ducks: Total duck use days numbered 2,626,227 for the 1974-75 season. This represents a 20% decline from the figure estimated for the previous year. Records indicate that mallards contributed 45% of this overwintering total, followed by wood ducks (25%), gadwall (11%), and wigeon (4%). Twelve other species each tallied 2.5% or less of this use. Gadwall use showed the most drastic decline (49%).

The duck population peaked early in the season when 37,930 birds were counted in the middle of November. Mallards made up 68% of this figure. The first major departure flight occurred during January, and by the end of the month only 12,000 ducks could be counted.

Waterfowl make use of field impoundments on the farming area.

Generally there has been a decline in both peak use and total use by waterfowl during the past five years. While a completely objective appraisal may be difficult, it is felt that this situation is associated more with flyway population dynamics than habitat conditions on the refuge.

Wood duck nesting during 1974 was adversely affected by floodwaters during June which interupted much of this activity and made production estimates difficult at best. Production was put at 935 from 96% of 128 nesting boxes utilized. The flood waters which entered the lake in April 1975 failed to reach most nesting structures, and prospects for "bumper crop" of woodies was good by the close of the year. Flooding during recent years has undoubtedly resulted in a decline in the quality and quantity of brood habitat available on the refuge. Closer observation will be required to determine the long term effect on production to flight stage.

Geese: During recent years no major flights of Canada geese have been observed prior to January. Such was the case during the past year when an estimated 4,000 "honkers" made use of the refuge for four weeks during January and February. Eight white-fronted geese were present throughout May. Only five snow geese were reported for the year (during October), a sizeable reduction from the peak of 200 which was reported in FY-1974. Patterns of use by snow geese seem to show little consistency from year to year.

Problems with predators brought a halt to management of a captive goose flock during FY-1974. Evidently one pair of geese survived this effort and nested during the spring of 1975. These birds were sucessful in raising two goslings to flight stage.

2. Other Water Birds.

Only 10 coots braved the 1974 summer on the refuge. As is characteristic for this species, their numbers reached a peak early in the season when 5,500 birds were observed in October and November. Total coot use days for the year were put at 598,445.

3. Marsh and Water Birds.

The refuge provides relatively little habitat for marsh and water birds. Great blue herons are the most conspicuous users with observations being recorded throughout the year. Even so only 794 use days were reported for this species. Other birds in this category which make occasional visits to the refuge include the green heron, little blue heron, snowy egret, and black-crowned night heron. Both the horned and pied-billed grebe were again in evidence on the refuge. However, the horned grebe recorded a total of only 266 use days as compared to 6,320 for the pied-billed. Double-crested cormorants were observed several times during the year.

4. Shorebirds, Gulls, and Terns.

Relatively little refuge use is documented for species in this category. Undoubtedly many species visit the refuge unobserved during migrations.

Killdeer contributed the most use during the year with an estimated 4,245 days. The only other species noted during the year were the common snipe, herring gull, and upland sandpiper.

5. Doves.

The population of mourning doves utilizing the refuge appeared to increase last year although no formalized counts were conducted. Total use for FY-1975 was put at 277,200 days as compared to 207,000 days in FY-1974, and a paltry 73,000 days in FY-1973.

B. Upland Game Birds

1. Turkey.

The establishment of a viable population of wild turkeys has been a significant accomplishment during Wapanocca's short history as a refuge. In 1964 the population was thought to exist of seven hens. During that same year the Arkansas Game and Fish Commission trapped three gobblers on White River Refuge and released them here. The population flourished during the next five years until an estimated 200 birds were on the area in 1969. This is somewhat remarkable in view of the fact that the refuge has only about 1,800 acres of upland hardwoods. Farm fields are interspersed well between wooded tracts to the advantage of this population. Without question the protection afforded by the presence of the refuge also played a major role in this comeback story.

During 1969 concern was voiced that the area had reached its carry capacity and the threat of a disease outbreak was a matter deserving attention. In an effort to reduce turkey numbers, the State was issued a permit to trap turkey from the refuge for use in their transplant program. This trapping program has since continued with varying degrees of success. Meanwhile the population has remained between 150 and 200 individuals.

Trapping attempts during the past year were without success owing to adverse weather and personnel limitations. The population was estimated at 185 late in 1974. An estimated 35 young were successfully raised to flight stage following the 1975 nesting season. Since an adequate "alley" of habitat exists between the refuge and the Mississippi River flood levee, it is assumed that some turkeys annually depart the refuge for wooded areas inside the levee.

2. Quail.

Bobwhite quail are not found in great abundance on the refuge. The 5,500 acre tract is felt to support on the average only 75 of these popular game birds. This represents a slight increase over FY-1974, but is still a surprisingly low total.

One's initial impression is that the refuge should provide good quail habitat. The mix of surface water, forested areas, and numerous farm fields interlaced with a network of ditches should be adequate in terms of food and cover requirements. Although no hard evidence is available, a first reaction is to put the blame for this situation on the presence of pesticide residues.

C. Big Game Animals

1. Deer.

Deer observations on the refuge have become more numerous during the past year. Even so, it is estimated that no more than six are in permanent residence. The absence of floodwaters on the area for several years should result in a sharp increase in the size of this population.

D. Fur Animals, Predators, Rodents, and Other Mammals

1. Squirrels.

The squirrel population on the refuge declined for the third year in succession. The peak population of fox squirrels was put at 2,300, or 23% below last years high. Gray squirrel numbers were also on the decline with only 18,250 use days being reported. These data are based primarily on information collected during a short managed hunt offered each year. Loss of habitat associated with seasonal flooding during recent years is judged to be the reason for this deteriorating trend.

2. Raccoons.

Hunting records also indicate a decline in the refuge raccoon population. This welcomed trend is thought to reflect the true status of the population. Total numbers were "guessimated" at 400.

3. Beaver.

As in most areas of the lower Mississippi River Valley, this area has seen a tremendous increase in beaver activity during the past 10 years. Evidence of beaver activity is now apparent throughout the refuge. Several years ago timber destruction was limited mainly to willows and a few cottonwoods (Populus deltoides).

During recent years other more desirable species have become victims, and building of dams has caused considerable drainage problems. With the public stigma attached to animal control there has been some reluctance to embark on a beaver control program. Nevertheless, some active beaver "management" is envisioned during the coming year.

4. Muskrat.

The refuge muskrat population is thought to have stabilized at 100 animals. At this relatively low level there occurs little damage to dikes and water control structures.

5. Otter.

Historically otter were known to have been residents of Wapanocca, but there has been no sightings of this species for several years.

6. Bobcat.

Bobcats are observed infrequently on the refuge and in the general vicinity. This population is thought to have leveled off commensurate with the available habitat.

7. Mink.

Observations of mink are less frequent than one would expect given existing conditions on the refuge. No more than 50 of these fur - bearers are thought to be inhabiting the refuge.

8. Fox.

Red fox observations on the refuge are not reported with regularity. The total population is put at 10.

9. Coyote.

The coyote has become well established in this part of Arkansas as evidenced by numerous reports received of "wolves" in the area. The incidence of this species on the refuge no doubt fluctuates with the season and prevailing food availability. The peak concentration is put at six.

E. Hawks, Eagles, Owls, and Crows

The red-tailed hawk is by far the most commonly observed raptor on the refuge. Marsh hawks are also observed regularly during winter months. The red-shouldered hawk which was a common visitor a few years ago is now only seen occasionally.

Only 1 bald eagle was noted on the refuge during the past 12 months. This bird remained on the area for one week during the summer. Two Mississippi kites were observed during May.

Barred and screech owls constitute the majority of strigidae records for the year. Crow observation remain uncommon on the area.

F. Other Birds

Refuge records fail to indicate any new additions to the refuge bird list during the report year. Large concentrations of blackbirds inflicted heavy damage to the cultivated millet crop again this year, but this has come to be expected. Much of this loss is experienced on dry sites which traditionally receive little use by waterfowl.

G. Fish

The average citizen of this area associates Wapanocca with its fine fishing opportunities. The lake enjoys a reputation as one of the best bream fishing sites in the mid-south. Each year Fishery Services personnel sample the lake in order to make recommendations for maintaining and enhancing this resource.

Stocking of the lake continues to sustain a fine fishery management program.

In July 1974 both rotenone and gill net sampling were conducted. Results of this effort indicate that bass and catfish reproduction in the lake remains poor, but that fish growth is excellent. Thus the supplemental stocking program is considered essential for maintaining an attractive fishing program. On October 23, a stocking of 53,400 channel catfish was accomplished and an additional 47,300 were introduced on October 31, 1974. A largemouth bass stocking of 60,000 followed in June. All of this stock was supplied by Corning National Fish Hatchery.

Wapanocca Lake was drained in 1968 for several reasons, one of which was to remove rough fish. Flooding combined with the passage of time has resulted in the reintroduction of carp, buffalo, gar, gizzard, and threadfin shad. Of particular concern is the super abundance of shad which recent sampling has disclosed. If floodwaters can be excluded from the lake during the coming season, a selective rotenone sample will be considered.

Two minor fish kills were noted in Big Creek (no confluence with Wapanocca Lake) during the year. Both the kill in August and the second in September were attributed to water heavily laden with pesticides from agricultural operations in the area.

H. Reptiles

The abundance of red-eared turtles on the refuge continues to delight visitors. On suitable days literally thousands can be observed sunning on every available exposed log along the levee system. The commercial value of this species has increased significantly as scientific supply firms attempt to fill their orders. No doubt these innocuous creatures will be the next target of poachers.

Observations of canebrake rattlers and cottonmouth moccasins are becoming less frequent. Most of this information is provided by fearful squirrel and raccoon hunters. Where in the past they have been encouraged to dispatch as many poisonous snakes as possible, now hunters are warned against involvement in this illegal activity.

I. Disease

There was no known incident of disease during FY-1975.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Funding and personnel limitations during FY-1975 severely limited activity of a developmental nature. Roughly 30% of the physical features called for in Wapanocca's Master Plan were completed during the 60's. Since then there has been little development of major consequence. Many minor rehabilitation and maintenance jobs were completed during the year, but they will not be enumerated here.

This station was fortunate in receiving $25,000 in MARS funding for levee repair work nessitated by flooding during the last three years. Contract # 14-16-0004-490 was issued to Mr. Roy Prince for 5,262 yards of earth fill and 4,466 yards of GB2 gravel. All spreading, compaction, etc. associated with this job was accomplished from force account funds. Work on this much needed project was just getting underway by the close of the reporting year. It is hoped that by raising the perimeter levees to desired grade, floodwaters will be excluded from the lake during most years. Additional force account work on Levee # 5 remains to be completed.

Headquarters was the scene of construction of a closed sand filter septic type sewage disposal system. This contract (14-16-0004-459) was awarded to Mr. Wayne Evans in the amount of $9,940.50. Pollution abatement funds were provided for this work which was initiated on August 21 and completed on September 11, 1974.

Excess military bridge stringers are again put to good use.

One major force account undertaking during the year was the erection of a new bridge on the east access road. In conjunction with this work several hundred feet of roadway leading to the bridge were raised. This fill work, which was accomplished with a refuge dragline, was designed to ease access to farm fields in that vicinity during wet weather.

B. Plantings

1. Aquatics and Marsh Plants.

None

2. Trees and Shrubs.

Two boy Scouts from West Memphis, Arkansas planted 210 improved loblolly pine seedlings as a windbreak at the headquarters site. Other pine seedlings were planted in the vicinity of the shop as a vegetative screen.

3. Upland Herbaceous Plants.

None

4. Cultivated Crops.

A brief description of farming activities for the 1974-75 season is presented in Section I.

TABULATION OF AGRICULTURAL CROPS AND ACREAGES

Crop	Acreages	Cooperator Share	Refuge Share
Soybeans	1,106	1,086	20
Wheat	235	235	0
Browntop Millet	215	0	215
Corn	148	0	148
Fescue-Ladino Clover	47	0	47
Total	1,751	1,321	430

With the exception of 69 acres, all farming operations were conducted by three cooperative farmers. As can be observed from the above figures, farming agreements generally called for cooperators to farm 25% of their assigned acreage on behalf of the refuge. While this arrangement causes some headaches, it has been deemed the best compromise between economic and wildlife interests. All refuge acreages are located in fields which provide the best opportunity for waterfowl use. The refuge maintains control over what crops may be planted on all acreage.

Obviously this provision prohibits the growing of cotton and other crops which provide little wildlife benefit. All wheat acreage available during the winter of 1974-75 was summer fallowed following the spring harvest.

No documented information as to crop yields are available for the harvest which occurred in 1974. Apparently, yields were average for refuge crops, but below those observed on adjacent private lands. Three reasons are put forth in explanation of the latter situation. Refuge fields generally display poorer drainage and greater variation of soil types than adjacent lands. However, the greatest difference between these operations is the degree of pest plant control achieved. Refuge farmers have been slow to accept the economical soundness of a well conceived and executed pest plant control program. This has been the case in spite of efforts to the contrary on the part of the refuge. The next line of action may require a large boot.

C. Collections and Receipts

None

D. Control of Vegetation

All vegetative control on farming acreage was handled by cooperative farmers. Although some improvement has been noted, the overall program remains below standard. Johnsongrass (Sorghum halepense) and cocklebur (Xanthium pensylvanicum) continue to cause the most severe problems.

No vegetative control was required on Wapanocca Lake during the period. High water during the past three years has effectively surpressed the spread of willow, cutgrass (Leersia oryzoides), and coontail. These conditions have also prevented the recurrence of lotus (Nelumbo lutea) on the lake. These are the only species which pose any potential threat at present.

All vegetative control on refuge levees was accomplished by mowing.

E. Planned Burning

None

F. Fires

None

IV. RESOURCE MANAGEMENT

A. Grazing

None

B. Haying

A one-time, special use permit was issued to Mr. Ray Phillips to conduct haying operation on 47 acres of fescue-ladino clover. Other maintenance on this tract was accomplished by refuge personnel.

C. Fur Harvest

None

D. Timber Removal

None

E. Commercial Fishing

None

F. Other Uses

The refuge concession contract (# 14-16-0004-199) with John V. Cage was renewed during the year for another five year period. This concession, which is located at the public access area, is essentially concerned with providing boat and motor rentals. A franchise fee of $3.00 per day, 6% of gross rental receipts, and 2% of miscellaneous other sales is charged for this privilege. In addition, the concessionaire is required to supply rental toilets for public use. The following such fees were collected in connection with this operation:

Franchise fee (183 days @ $3.00/day).....	$ 549.00
Boat and Motor Rental (6% of $23,614).....	1,416.84
Miscellaneous Sales (2% of $3,825.37).....	76.50
Toilet Rental (183 days @ $3.00/day).....	549.00
Total Cost to Concessionaire.....	$2,591.34

The sale of scrap in the amount of $30.00 provided the only other funds remitted during the year.

V. FIELD INVESTIGATIONS AND APPLIED RESEARCH

A. Waterfowl Banding

The refuge was assigned a quota of 300 pre-season wood ducks for 1974. All banding effort was directed toward the permanent cannon net trap site adjacent to the goose pen pond. Only 1 successful shot was made, and 71 wood ducks were banded. This method of trapping appears to meet with less success with each year of use. When first initiated on this refuge, cannon net techniques for capturing wood ducks proved very efficient. As of late however, it is proving more and more difficult to attract wood ducks to bait, particularly during the summer months. Undoubtedly feeding conditions on the refuge have improved during this same time frame.

Essentially the same type of problem was encountered during post-season efforts when a quota of 400 mallards was the goal. Dwindling numbers of ducks and increasing concentrations of Canada geese at the close of waterfowl season combined to make mallard baiting difficult. Consequently most bait was consumed by geese as mallards seemed content to search elsewhere for sustenance. The ultimate outcome was a "snowball"—nothing!

B. Wood Duck Nesting Box Program

No new nesting structures were erected during the year. Instead efforts were aimed at maintenance of existing and previously used boxes. Out of a total of 128 boxes, 36 were moved to new locations. This translocation was undertaken for several reasons, the most improtant being direction from higher authority. In addition to maintenance on boxes in the field, roughly 40 old boxes were rebuilt for placement during the coming year.

VI. PUBLIC RELATIONS

A. Recreational Uses

Wapanocca is no different than most refuges in that there has been little development of public use facilities. Those facilities which do exist are the result of the past initiative and resourcefulness of the staff. Opportunities for public use presently include sport fishing, squirrel and raccoon hunting, a scenic boat trail, an observation tower, fair weather auto trails, and limited conducted tours. Total visits for the year were put at 34,412. This represents a decline of 29% from figures for fiscal year 1974. This reduction is believed to relate most directly to high water levels during the year which made access difficult and adversely affected fishing success.

Even though the refuge contains only about 1,000 acres of waters available to the fisherman, 94% of the total public use was amassed in this activity during the 183 day season. These figures would no doubt be much higher if additional parking spaces were provided. However, this factor has been used to effectively limit total one-time use.

Another satisfied "customer" returns from Wapanocca Lake (note the restrained smile).

An estimated 1,540 persons enjoyed the "Cypress Discovery Boat Trail" during the year. This was one of the few areas of activity which was enhanced by high water levels. The observation tower continues to be a popular attraction, particularly during the waterfowl season. Unfortunately unimproved roads limit access to this facility during wet weather.

B. Refuge Visitors

A register of refuge visitors is maintained at refuge headquarters. Assistant Regional Supervisor Curtis Wilson conducted a comprehensive inspection on the refuge on October 15, 1974. All other visitations were of a routine nature.

C. Refuge Participation

A combined total of 34 programs was presented to 2,480 persons during the year. A special effort was made to make the staff available for presentations during National Wildlife Week. Over 1,800 students and 135 teachers were contacted during this period.

Dr. Frank McCamey, representing the National Science for Youth Foundation, visited the refuge on April 29, 1975. This organization is exploring the possibility of sponsoring the formation of an environmental education center on the refuge.

D. Hunting

The 1974 hunting season was the first attempt at a permit system for regulating the refuge hunt. Since the refuge entertains relatively few hunters, permits for hunts were issued on a daily basis. Most hunters view the permit program as another needless regulation designed to limit their freedom. While one may argue against the need of such a system on small hunts, there exists little doubt that the system provides an increased measure of control over this activity.

1. Squirrel Hunt.

The refuge hosted a 10 day squirrel hunt which opened on the same date (October 1) as the state season. As usual the greatest concentration of hunters were recorded the first day of the season when 101 permits were issued. By the close of the hunt, 326 permits and questionaires had been issued. A surprising 78% of the questionaires were returned, thereby providing the best statistical information ever for a hunt, These data confirmed suspicions that the squirrel population was not plentiful. The average hunter spent 3.36 hours in quest of "Mr. Bushey-tail", and only bagged 0.83 animals per visit. Nevertheless, several limits were reported.

2. Raccoon Hunt.

A total of 96 hunters participated in the 10 day 'coon season which got underway on November 1. Quite surprisingly, only 46 'coons were taken during this hunt. Apparently the combination of too many dogs on a relatively small area adversely affected the total kill.

E. Violations

With no significant boundary posting problems and a rather easily distinquished natural boundary, the refuge has little problem with the fortuitous violator. At the opposite end of the spectrum, this area has its share of characters capable of exploiting anything and everything. Unfortunately none of these individuals were apprehended during the course of the year. A number of minor fishing and littering violations were routinely prosecuted during the period through the local court system.

One significant judicial development during the year was the appointment of Judge Lindsey Fairly of West Memphis to a Federal Magistrate's post. Prior to this appointment all federal prosecutions required a trip to Little Rock.

F. Safety

The last lost time accident on the refuge was recorded on March 9, 1972. Since that time 23,052 employee hours have accumulated free from such mishaps. Fiscal year 1975 was totally accident free thanks to the efforts of each staff member. It is felt that this success is at least partially attributable to the effort which has been made to make each employee aware and conscious of his responsibility in the station safety program.

Refuge Manager Kosin, Biological Technician Frank Robbins, and Clerk Betty White successfully completed the Red Cross revised first aid course conducted by the Crittenden County Rescue Squad.

VII. OTHER ITEMS

A. Items of Interest

During the last 18 months this station has been the scene of many "goin's and comin's". Five persons gave the appearance of being involved in a game of musical chairs which involved this station, South Florida Refuges, and Big Lake Refuge. Some of the local people have had difficulty understanding this complex process, but they are not alone.

The story starts with the promotion and transfer of Maintenanceman Dane Winningham to South Florida in October 1974. Dane has since resigned from the Service and is farming in this area. Later in the year (June) Manager Kosin was selected for the Manager's job at Key Deer which is in the South Florida complex. Don's dedication, amiable personality, and winning smile will long be remembered at this station.

In August 1975 the undersigned was selected (after considerable confusion) following a one year stay at Big Lake preceded by three years at South Florida. To further add to the confusion, Assistant Manager Marvin Nidhols was selected for the Big Lake job and transferred in October 1975. He was subsequently replaced (November) by Assistant Manager Jim Pilgreen who was previously assigned to South Florida and was Acting Manager at Key Deer prior to the arrival of Don Kosin. And so ends the saga. Now the only concern is that a mallard is not confused with an everglade kite or vice versa.

Two enrollees in the Comprehensive Employment Training Act program were made available to the refuge in June. These gentlemen provided much needed assistance during the summer. However, as with most such programs, a disproportionate amount of supervisory time was required.

County Judge Jack Brawley was again presented a check in the amount of $18,250.25 by Manager Kosin. These Refuge Revenue Sharing Act revenues were made available to the Turrell and Marion school districts.

The preparation of this report was the combined effort of Assistant Manager Pilgreen and the undersigned, neither of which was on board during the report period. Thanks go to Big Lake Manager Marvin Nichols who reviewed the draft copy and also provided photos. Kudos to Clerk Betty White for her usual fine job in typing and preparation of this report.

Submitted By:

[signature]
(Signature)

REFUGE MANAGER
(Title)

2/13/76
(Date)

Approved, Regional Office

2/18/76
(Date)

[signature]
(Signature)

Assistant Regional ~~Refuge Supervisor~~
(Title)