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- WHEELER NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

MAY-AUGUST, 1957

I. GENERAL

A. Weather Conditions:

<u>Month</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
May	6.55	90	44
June	3.44	96	59
July	2.14	94	61
August	2.60	99	58

Conditions were fairly dry at the beginning of the period, but showers began near the end of the first week of May and continued throughout May and early June. Heavy rains fell the second week of June as a result of hurricane Audrey and showers continued until the second week of July. The latter half of July and all of August were extremely dry, with only a few spotty showers giving partial relief to some localities.

The showers throughout early May and June slowed farm work and work in dewatered sloughs, but did not cause serious delays. Heavier rains in June and July hampered grain combining and caused some losses. Minor losses due to ponding resulted in dewatered units, and uplands were badly grown to Johnson grass. The abrupt shutting off of rain in mid-July seemed especially hard on all vegetation, perhaps because the water supply had been generous throughout the early growing season and plants had a high moisture content.

Temperatures were mild until late July, and even since have not been excessive. Comparing the weather for the period with that of the same period last year, the two are similar.

However, this June was much wetter and the dry weather of the latter part of the period seems to have caused more crop damage than was the case last year.

B. Water Conditions:

Wheeler Reservoir (556' bank-full level)

<u>Month</u>	<u>Elevation Range</u>	<u>Flow Range</u>
May	556.1 - 555.4	39,400 - 22,400
June	556.1 - 554.5	49,200 - 17,600
July	555.8 - 553.9	33,400 - 18,300
August	555.0 - 553.2	35,400 - 17,900

1. General Reservoir Levels: At the beginning of the period the reservoir was bank-full and remained so until the last week of June, when the mosquito control fluctuation began. During July the fluctuation range was between the 554 and the 556 contours, but late August levels dropped to between the 553 and 555 foot marks with the reading at the end of the period only slightly above the 553 contour. The Crabtree Slough subimpoundment was allowed to fluctuate with the general reservoir.

2. Dewatered Units: Pumping was scheduled to begin May 1 on both units, but actually started on April 29. The ditch gate connecting Blackwell Swamp with the remainder of the Rockhouse-Buckeye-Blackwell units was closed and this slough was allowed to remain full for T.V.A. mosquito control experiments. It has not been pumped during the period and remains at near the full stage. The water that it contains will be a valuable addition to Rockhouse and Buckeye water levels in late October or November, when it will be gravity-flowed to help fill these sloughs.

By May 4 Rockhouse and Buckeye sloughs were virtually to ditch level, the earliest dewatering in their history. Slough beds were dry enough for farm work to begin in them by May 20. Water has remained within ditch lines throughout the period, although some extra pumping was required during the heavy rains brought by hurricane Audrey.

Water levels in the White Springs unit dropped more slowly, but had reached ditches by about May 15, and work actually began in the sloughs about May 20. Here, too, water has stayed in the ditches throughout the period. T.V.A. has blasted some small drainage ditches in the dewatered units and used dynamite to clear silt from others. Presumably pumping will stop on September 15.

#### C. Fires:

Wet weather held fire hazard low throughout the first half of the period. Although fire hazard was rather high during the latter half of the period, no wild fires occurred.

## II. WILDLIFE

#### A. Migratory Birds:

##### 1. Population and Behavior

a. Waterfowl: A late flock or two of Canada geese were still around at the beginning of the period. These were gone by the second week of May, although a flock of eight Canadas, presumably cripples, have been seen several times during the period. There has been no indication of nesting.

At the beginning of the period a few lesser scaup, ringnecks, gadwall and canvasback were present along with the usual numbers of resident mallards, black ducks, wood ducks and hooded mergansers and the late-migrating blue-wing teal and coots. All migrants were gone by the third week of May and the nesting by residents seemed about normal.

b. Mourning Doves: There was an outbreak of Trichomoniasis beginning in late May that rivaled the epidemic of 1950. Despite this, dove numbers have been high, nesting has proceeded full force, and the production of young appears good. At the close of the period the number of doves present seems to equal or exceed the high numbers of late summer and early fall last year.

c. Other Birds: A Mississippi kite, the first positive record for this locality, was seen on the refuge by Thomas A. Imhof on May 3. A blue-winged warbler, another new record, was identified by a visiting Alabama Ornithological Society group on May 4. The first positive nesting record for green herons was obtained this period. Two Franklin gulls, another new record, were identified by David Hulse on June 3. The only ibises seen this period were two white ibises noticed on May 7. No changes have been noted in the numbers or behavior of other herons, anhingas, shore birds, etc.

2. Food and Cover: The acorn crop, probably the most important of the natural foods, appears small this year. Early-planted corn will produce an excellent yield, but dry weather had damaged intermediate plantings and almost ruined late plantings.

Despite this, the Wheeler corn crop appears equal to the high production of 1955-56 and considerably above the low production of the early 1950's. At this writing, grain sorghum yields appear normal on upland.

Over half the Wheeler small grain acreage was lost to last winter's flood. The remainder was low-producing and was damaged by the heavy rains of June. These factors, coupled with low prices, may reduce the green acreage planted by cooperators, and the refuge lacks the large seed supply on hand during previous years. However, there are no local quotas for wheat or oats this fall and every effort will be made to plant a high acreage of green stuff to supplement cooperator plantings.

The blasting of new ditches and the cleaning of old ones last year paid off in more complete dewatering this year, and this practice was continued this summer. Dewatered units were dry ahead of schedule and were quickly planted between showers. Buckeye contains a considerable acreage of row-crop soybeans for the first time, along with row-crop corn and milo and broadcast stands of soybeans, milo, and millet. Rockhouse Slough contains row-crop corn and milo along with broadcast stands of milo, brown-top, black, Siberian, and Tennessee millet. The White Springs unit contains only about 60 acres of row-crop milo and no corn, but has extensive broadcast plantings of soybeans, milo, and brown-top, Japanese, pearl, and Siberian millet.

The backlash of hurricane Audrey ponded water on some young milo stands and ruined these, but the loss was not extensive and occurred early enough to allow the land to be rediscd and planted to millet.

At this writing soybeans appear good, but drouth has damaged milo and millet stands.

Dewatered crops should mature safely before frost and there has been no real insect damage to date. Yields should be at least average. It does appear that heavy milo plantings without the use of fertilizer have sapped the fertility of some locations and that future plantings will have to be either fertilized or rotated with soybeans to maintain high production. Again, the number of woody sprouts seems to decrease each year and even cocklebur is less abundant than formerly. Continued cleanup is rapidly increasing the usable acreage in the White Springs unit. The acreage planted this year exceeds any previous plantings. Present cleanup is along the "feather edge" in the extreme eastern part of the unit, and this will be planted this fall to small grain or ryegrass for additional goose forage.

3. Botulism and Other Diseases: No disease was noted among waterfowl this period. However, there was an outbreak of Trichomoniasis among doves that began in late May, reached a peak in late June and early July, and has continued at a reduced rate until the present.

Although refuge personnel did not actually see more than a dozen or so dead birds, a running tally of the number reported by farmers and other good observers was kept. At this writing, this totalled 650 known dead from the disease and a probable death toll of thousands. Despite this, dove nesting continued full force, young production was high and the number of birds now present appears large.

4. Lead Poisoning: There was no sign of lead poisoning during the period.

B. Upland Game Birds:

1. Population and Behavior: Although the early spring and summer were rainy, bobwhite quail production appears high and many young broods have been noted on all parts of the refuge.

While about 1,200 Coturnix quail have been released in this general locality, some of them within a few hundred yards of the refuge boundary, none have been seen on the refuge to date. There have been three local reports of Coturnix nests. Two were checked by state biologists, but eggs had either hatched or been destroyed by predators. One brood of eight young Coturnix in company with two adults was reported by a good observer.

2. Upland Food and Cover: There were heavy crops of wild plums and blackberries, and a good crop of red mulberries. The hickory nut yield appears average or above. Acorn production is light. There is a limited crop of acorns on water and willow oaks, but almost none on the various red and white oaks. There are few muscadines, but other wild grapes have fruited heavily. Herbaceous plants and other trees appear to have produced normally.

3. Disease: No disease was noted among upland game birds.

C. Big Game Animals: No big game occurred on the refuge during period.

D. Fur Bearers, Predators, and Other Mammals:

Both grey squirrel and rabbit numbers appear high. The amount of sign indicates a slight increase in both opossums and raccoons. Mink sign is becoming more prevalent. No changes have been noted in the number of other mammals.



#### E. Predaceous Birds:

For years Wheeler personnel had never seen eagles in midsummer and believed that these birds left this locality in hot weather. Last year, an eagle was observed down river from the refuge in July. This period, Grammer observed a bald eagle on July 2 and there were two other reports from down river. Evidently a few do remain throughout the hot weather period. No changes have been noted in the numbers or behavior of other predaceous birds.

#### F. Fish:

While T.V.A. biologists reported normal fish numbers hatching through checking stations, local anglers consider this the worst fishing season in several years. Crappie, black bass and white and yellow bass catches have been small. Only bream have furnished good fishing this period.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Developments:

##### 1. Field Work

a. Soil and Moisture Work: In May, refuge crews worked over the 50 acre Houser rental, completing some of the specifications of the farm plan covering the fields along the south side of Garth Slough. Brush and trees were bulldozed from about 12 acres of pasture land, piled and the land cut with a heavy harrow. A long drainage-way was constructed through the area. This will allow a reshuffling of land use, changing parts of the former pasture to row-crop land that will be valuable for waterfowl use and reblocking non-row-crop land into a new pasture.

A total of 663 tons of liming was bought during the period and spread on approximately 375 acres of refuge land. Farmers matched this with additional amounts. The entire Flint Creek Island area is now limed to a 6.5 ph. Soil acidity tests were made on Beaver Dam Peninsula and most of the fields there were properly limed. Other limed areas include the Nigger Slough Island, the Limestone Bay area, a part of the Richardson rental, one of the Rockhouse fields, all of the Hamilton rental, a part of the Garth Slough area and a part of the Poplar Ridge fields.

Farm plans are still pending final preparations that cover the Cain's Landing-Poplar Ridge area. During the period the preliminary work was begun on a plan covering the Nigger Slough Island, Yellow Gal Island, and the White Springs Islands.

The Nigger Slough Island was fallowed this year, with refuge personnel and equipment plowing or disking it at regular intervals in an effort to wipe out the heavy Johnson grass infestations. Johnson grass has been greatly reduced and this land will be planted to grain in early fall to provide goose forage.

**b. Road Construction and Maintenance:**

At the end of the last period refuge work crews were completing reworking the section of south boundary truck trail between Highway 67 and Cave Springs. Most of this was regraded, right-of-way cut back, and nine new culverts were installed.

The road on the White Springs islands was regraded during this period.

In co-operation with the Limestone County Road Commission, the river bank section of the White Springs dike, previously only spot-gravelled, was graded and thoroughly gravelled. Also, Blackwell Swamp road from the refuge boundary to the Tennessee River was gravelled - approximately three miles.

c. Work in Dewatered Units: Pumping began at the beginning of the period and Buckeye and Rockhouse were dry by the end of the first week of May, and the White Springs unit by the third week. Discing and planting began immediately by both refuge personnel and cooperators. Although work was hampered by regular showers, planting on Buckeye was completed by the second week of June and White Springs was virtually completed by July. The rains brought by hurricane Audrey in June drowned some plantings but, as soon as the ground dried sufficiently, the land was rediscd and replanted to millet. Some planting continued until the last few days of July in an effort to utilize certain low, wet areas.

Plantings resulted in good stands generally and, while these have suffered from too much water in early summer and too little water in late summer, production should be at least average.

Three culverts and small fills were installed in ditches in these units to permit access to hard-to-reach portions. Work was continued throught most of the period on the approximately 100 acres of White Springs unit land cleared last year. All the heavy brush piles were burned and the residue levelled. Land was thoroughly cut with heavy harrow and about 25 acres of the lowest planted to millet. The remainder will be used for goose forage plantings in early fall.

Beginning in early August, clearing was resumed in the brush areas between Yellow Gal and Nigger Sloughs and about 70 acres have been cleared and piled by the end of the period. This has been cut with heavy harrows behind the clearing and will soon be sown to green stuff.

During the period crawlers were moved to the Rockhouse locality and stumps removed from the south side of Rockhouse Slough and from the Lily Pond portion of the Whitworth arm of Buckeye Slough. This land was planted to corn by cooperators.

As usual, considerable time was spent hand-cutting willows from seeps and ditch banks, principally in the White Springs unit. Some time has also been devoted to the removal of isolated stumps that were a hazard to machinery.

d. Goose Browse Plantings: Attention was turned to readying areas for forage plantings beginning in mid-August. The 25-acre strip of shelf between the river junction of the White Springs dike and the power line was mowed free of grass and weeds. This dike supports a good fescue stand and should not need replanting. The Whitesides area, about 20 acres, was thoroughly disced and will be planted to fescue. A strip of shelf around a part of the eastern side of Flint Creek Island, about 8 acres, was mowed, 4 or 5 acres disced and this, too, will be planted. Cut-and-fill islands north of the boat house, about 10 acres, were mowed but the fescue stand is sufficient and replanting will not be necessary. The strip along the northeastern side of Garth Slough, about 20 acres, was mowed, disced, and will be replanted.

The planting of these areas and general mudflat planting will continue during the first weeks of the next period.

e. Miscellaneous Jobs: Only two trips were made during the period: One by pickup to Reelfoot Refuge to procure 1500 pounds of surplus millet seed; the other by tractor and lowboy to the Army's Atlanta surplus depot for a surplus D-7 tractor. Rental grain and seed were taken in, tagged, and stored, and the farming program checked regularly during the period.

2. Headquarters Development and Maintenance: A much-needed job was completed this period. The doors and windows of the office building were weather-stripped, and this should result in a marked reduction in the electric bill.

The open headquarters area was soil-tested and limed to a 6.5Ph.

After a pump breakdown, a complete new well head was installed on the headquarters water system.

The Joe Wheeler Electric Cooperative was induced to relocate the headquarters transformer, moving it closer to electrical equipment and providing better operating efficiency.

Some work was necessary on the sewer line serving residence No. 2. Grounds were kept mowed, shrubbery pruned, and general clean-up practiced.

Materials for the long-needed equipment shed were purchased and stacked at the proposed site. Construction is planned early next period, unless this work is stopped as a result of the recent suspension of funds.

3. Vehicle and Equipment Maintenance and Repairs: A light Rome Offset harrow and a John Deere grain drill were purchased during the period. Both have proved especially useful on dewatered land. One of the John Deere discs was mounted on rubber tires with hydraulic control. This permits quick moving, eliminating much time-consuming loading.

One of the D-8 tractors had brake- and steering clutches thoroughly reworked, but only minor repairs and adjustments were required for other crawlers. A head gasket was replaced on the jeep pickup, I-19556, and other repairs made. Other vehicles and wheel tractors, farm equipment, etc., received only minor repairs and the usual maintenance.

B. Plantings:

1. Aquatic and Marsh Plantings: No plantings of this type were made this period.
2. Trees and Shrubs: No trees or shrubs were planted this period.
3. Upland Herbaceous Plants:

About eight acres of otherwise unused Flint Creek Island land was well prepared and planted to combine peas for soil improvement and to furnish food for quail and doves. This was the only upland planting other than those handled through cooperative farming. Dewatered plantings have been discussed above.

4. Cultivated Crops: Wheeler corn and milo production should equal that of last year. Fall grain production was poor, with acreage drastically reduced by flood, that remaining of poor quality and some of this lost to continuous rain. Only ryegrass, a good-weather crop, produced normally.

There will be no wheat quota for this locality for this fall, but poor returns from small grain this year may discourage farmers and reduce acreage planted this fall.

Early corn plantings will produce high yields. Intermediate planting suffered from drouth, and dry weather practically ruined late planting. However, the overall yield should be about that of 1956.

Grain sorghum yields appear normal and there has been no excessive damage from worms to date. Hybrid grain sorghum is becoming increasingly popular locally. About 40 acres of this was planted on the refuge this year.

The European corn borer has done light damage to both corn and milo on refuge land this summer.

An invasion of imported fire ants has agricultural officials alarmed here. Only a single colony has been found on the refuge, and this was controlled with poison.

This year the Alabama Fertilizer Control Board has prohibited the mixing and sale of 6-8-4, popular locally. The 4-10-7 and 6-8-8- have been the most common substitutes. Local farmers are turning to higher-analysis fertilizers and heavier fertilization.

#### C. Collections:

1. Seed and Other Propagules: Except for seed collected through the farming program, no collections of this type have been made.
2. Specimens: A dove, killed by Trichomoniasis, was sent to the Cooperative Wildlife Research Unit to check on virulence of present strain of the disease. No other collections of this type were made.

D. Receipts of Seed and Nursery Stock:

One hundred pounds of Tennessee or golden millet seed was donated to the refuge by the Swan Creek Hunting area. Fifteen hundred pounds of surplus Japanese millet seed was transferred to Wheeler from the Relfoot Refuge. There were no other receipts during the period, except as a result of the farming program.

#### IV. ECONOMIC USE OF REFUGE

A. Grazing:

Wet weather during May and June kept pastures in excellent condition, but the dry weather of the latter half of the period has held grazing low.

B. Haying:

The wet weather of the first half of the period resulted in excellent hay production, although some hay was lost to continuous rain. The dry weather of the latter half of the period has held hay production low. The loss by fire of a local alfalfa meal mill is causing refuge cooperators to reduce alfalfa plantings and to plow up some existing stands.

C. Fur Harvest:

There was no fur harvest during the period and none is planned for the coming fall and winter.

D. Timber Removal:

During this period T.V.A. has marked every pre-war pine plantation on the refuge for pulpwood thinning. It is understood that thinning operations will proceed as rapidly as possible.



Evidently T.V.A. plans to complete these cuttings before the consummation of the land-use transfer to the Service. Pulp thinning began in late July in the big loblolly pine stand along the western side of Blackwell Swamp. The retirement of Mr. W. H. Armstrong on June 30 removes the direct contact that the refuge had with this type of T.V.A. operation. However, officials at Wilson Dam report that the only timber products sold during the period were 942 cords of pulpwood to the Hiwassee Land Company @ \$3.40 per cord, for a total return of \$3,202.80.

#### E. Other Uses:

Mussel shelling was poor throughout this period and continued at a much reduced rate. In June shell prices rose to \$80.00 per ton, but soon dropped back to \$60.00. It appears that the marketable mussels are being rapidly fished out of local waters, and commercial shelling may put itself out of existence within another two or three years.

Limestone County made no use of the gravel pit, near Mooresville, until August 20. However, it is understood that digging will continue through most of the next period.

#### V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

Three new millets are being tried experimentally this year. These are black or African millet, Siberian millet, and Tennessee millet. Good stands were obtained and the final results will be covered in the next report.

Recent items of equipment include a light offset disc and a grain drill. The drill has proved valuable and obtains more even stands. The offset disc does a much better job of sprout removal than the old type disc and leaves ground more level and with a better seed bed.

## VI. PUBLIC RELATIONS

### A. Recreational Uses:

There were the usual fishing, picnicking, boating, and general sight-seeing, but poor fishing success has kept fishermen numbers below normal. There has been a marked increase in pleasure boating and water skiing. However, the majority of this takes place below the refuge.

### B. Refuge Visitors:

The following groups visited the refuge this period:

<u>Date</u>	<u>Group</u>	<u>Number</u>
May 3-5	Ala. Ornithological Society	25
May 31	Hartselle School Class	50
July 15	Florence College Group	66

### Official Visitors

May 15 - Following T.V.A. officials:

Mr. G. C. Palo, Chief Structural and Heavy Equipment Design Branch, Knoxville Office.  
 Mr. C. J. McCarthy, Solicitor, Knoxville Office  
 Mr. Newton B. Dicks, Ass't. to Comptroller, Knoxville.  
 \* Mr. C. E. Almon, Jr., Chief, Power System Op. Branch.  
 \* Mr. James E. Goddard, Chief, Local Flood Relations.  
 Mr. M. A. Tschantre, Ass't. to Director of Chem. Development, Wilson Dam Office  
 Mr. E. R. Wall, Chief Dist. Manager, Office of Power, Chattna. Office  
 June 28. Mr. Salah El Zarka, Biologist, Alexandria, Egypt.  
 July 1-3 Mr. Philip G. Van Dyck, Regional Soil Conservationist.  
 Aug. 13 Mr. Wm. Hart, Agriculturist, T.V.A. Wilson Dam Office  
 Mr. A.L. Lindsey, Dep't of Reservoir Propt., TVA.  
 Mr. W. H. Evans, Decatur Office, " " TVA.

\* From Knoxville Office of TVA.

### C. Refuge Participation:

The Manager has attended numerous Scout Council meetings and the regular weekly meetings of the Decatur Lions Club. He was also elected to the Board of Directors.

The Alabama Ornithological Society held its spring meeting at Wheeler Refuge on May 3, 4, and 5. At the principal night meeting both the Manager and the Biologist gave short talks. The meetings of the Morgan County Sportsmen's and Conservation Association have been attended by various refuge employees. The Biologist attended a special board meeting of this group on the night of May 15. He has also attended the meetings of the Alabama Archaeological Society during the period.

Service films have been procured by the refuge for use by local groups. Material has been furnished for garden club meetings. Help has been given students in the preparation of term papers dealing with wildlife, and Scouts have been helped with merit badge requirements.

### D Refuge Publicity:

Three separate news items have been written during the period and all have appeared in at least one local paper, some in as many as five. The outdoors column has been continued through the period. In addition, the Decatur Daily has carried frequent favorable mention of the refuge.

The article, "Shotguns Versus Rifles for Gray Squirrel Hunting," written by refuge personnel, was submitted to the JOURNAL OF WILDLIFE MANAGEMENT, returned for revision, revised and resubmitted, and is scheduled for publication in the January JOURNAL.

Since the article dealing with the history of the Flint Creek Island quail population, by Dr. A. O. Haugen and refuge personnel, found considerable opposition in the Central Office, the request for publication approval was retracted.

An issue of ALABAMA BIRD LIFE, received this period, carried the article, "Ibis Records from the Tennessee Valley," written by refuge personnel.

Issues of ALABAMA CONSERVATION, received this period, have carried favorable mention of the refuge. Bird data have been supplied for publication in AUDUBON FIELD NOTES.

The article, "Use of Dewatered Land in Southeastern Waterfowl Management," by Supervisor Givens and refuge personnel, was approved for JOURNAL OF WILDLIFE MANAGEMENT publication, and should appear in the October issue.

The article, "Deep Water Ducks," by refuge personnel and illustrated by David Hulse, was submitted to ALABAMA CONSERVATION.

E. Hunting:

There was no public hunting during the period. However, plans are approved to hold the October day- and night hunts in exactly the same manner in which they have been held in recent years.

F. Fishing:

Sport fishing was generally poor with low catches of crappie, black bass and white- and yellow lake bass. Bream catches were good. Commercial fishing, on the other hand, was about normal for the period.

### G. Violations:

As usual, there were few violations this period, although there were reports of both illegal squirrel and quail shooting. Only a single case involving refuge hunting was made during the period. This was against Walter Black, of the Talucah community. Since there was evidence that he had killed squirrels out of season but no conclusive evidence that he had shot them on the refuge, he was charged with hunting out of season and paid a total of \$56.00 in fine and costs.

There was no known livestock trespass and no impoundments.

### VII. OTHER ITEMS OF INTEREST

The new Highway 20 from Decatur to Huntsville has been completed, as has the four-lane section of this road from Decatur to Mooresville. The County road from Swanscot to the Triana blacktop has been paved. The portion of the County road from the Triana blacktop to a point near the Barren Fork Creek bridge has also been paved.

Contact with the Redstone Arsenal officials indicates that they are becoming increasingly interested in managing the game on the 40,000 acre reservation.

Morgan County has been added to the list of counties in this State where guns are barred from night hunts. This was a reaction to the shrinking coon population of this County.

While considerable land was soil-banked in Morgan, Limestone, and Madison counties, most of this was not on the fertile valley land proper but was in the less fertile hill land. This should make little or no difference in the amount of waterfowl food available on private land, but should cause local increases among quail and rabbits.

The Chemstrand Corporation has leased 90 acres of the Cleveland Sharp property, lying between the Susie Hole and Black's Branch, and will manage this for goose hunting. This organization had previously leased the hunting rights on the W. G. Kimbrough property near Limestone Bay.

9-6-57

Date submitted

Charles M. Parker

Refuge Manager

Approved by:

ad C. V. Fennrich  
Regional Refuge Supervisor

SEP 17 1957

W A T E R F O W L

REFUGE Wheeler

MONTHS OF May TO August, 1957

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<b>Swans:</b>										
Whistling										
Trumpeter										
<b>Geese:</b>										
Canada	25	12	8	5	3	0	0	0	0	0
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<b>Ducks:</b>										
Mallard	100	75	50	50	50	50	75	100	125	125
Black	50	30	30	30	30	50	75	75	75	75
Gadwall	10	5	0	0	0	0	0	0	0	0
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal	200	100	50	25	10	0	0	0	0	0
Cinnamon teal										
Shoveler										
Wood	300	300	300	300	400	450	450	450	450	450
Redhead										
Ring-necked	15	10	5	0	0	0	0	0	0	0
Canvasback	5	0	0	0	0	0	0	0	0	0
Scaup	10	5	0	0	0	0	0	0	0	0
Goldeneye										
Bufflehead										
Ruddy										
Other										
Hooded merganser	5	0	0	0	0	0	0	0	0	0
<b>Coot:</b>	50	30	20	10	5	0	0	0	0	0

PHOTOGRAPHS



No. 1. TD-18 pushing in for second burning of brush pile  
hedgerow clearing, River bank fields, Garth Slough.



No. 2. Td-18 pushing in for second burning of brush pile  
hedgerow clearing, River bank fields, Garth Slough.



3-1750a

Cont. NR-1  
(Rev. March 1953)WATERFOWL  
(Continuation Sheet)REFUGE Wheeler MONTHS OF May TO August, 19 57

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimate seen : total	
	11	12	13	14	15	16	17	18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	0	0	0	0	0	0	0	0	371		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	125	125	125	125	125	125	125	125	12,225	10	75
Black	75	75	75	75	75	75	75	75	7,615	6	45
Gadwall	0	0	0	0	0	0	0	0	105		
Baldpate											
Pintail											
Green-winged teal											
Blue-winged teal	0	0	0	0	0	0	10	25	2,865		
Cinnamon teal											
Shoveler											
Wood	450	450	450	450	450	450	500	550	51,550	18	250
Redhead											
Ring-necked	0	0	0	0	0	0	0	0	210		
Canvasback	0	0	0	0	0	0	0	0	35		
Scaup	0	0	0	0	0	0	0	0	105		
Goldeneye											
Bufflehead											
Ruddy											
Other											
Hooded Merganser	0	0	0	0	0	0	0	0	35		
Coot:	0	0	0	0	0	0	0	0	805		

(over)

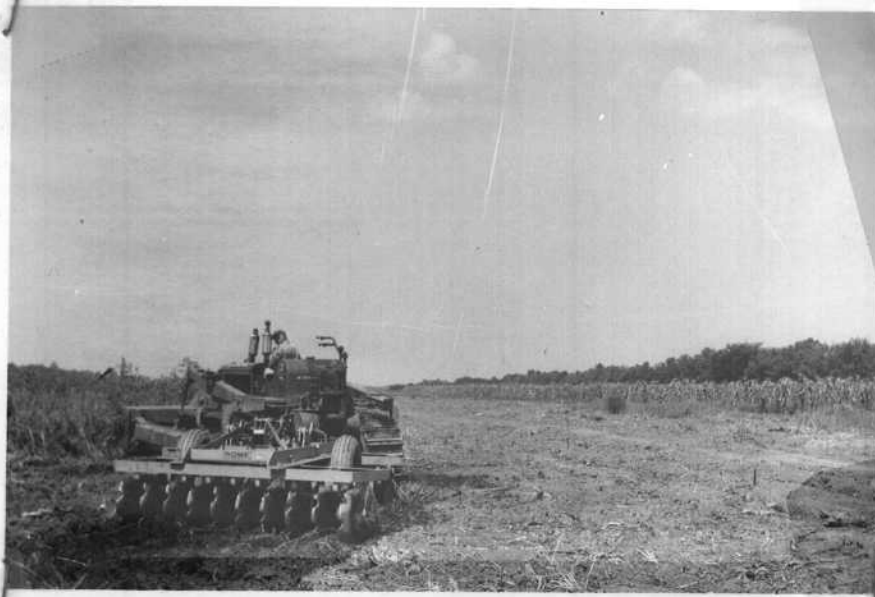
	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	0	0	0	Principal feeding areas <u>Scattered</u>
Geese	371	25	0	
Ducks	74,745	750	370	Principal nesting areas <u>Scattered</u>
Coots	805	50	0	

Reported by \_\_\_\_\_

Charles M. Parker, Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).



No. 3. Same area as photo No. 2. Plowing nearly complete.  
Note width of area that will be added to existing  
corn field.



No. 4. Row crop milo, Thorsen <sup>Ar</sup>m, Buckeye, looking east.  
Exposure made Aug. 20. Not fully headed when made.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)Refuge WheelerMonths of May to August 1957

(1) Species  Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimate
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Number
<b>I. Water and Marsh Birds:</b>										
Red-billed Grebe	Throughout period		10	Aug. 31	-	-	-	-	-	25
Great Blue Heron	Permanent resident		250	Aug. 31	-	-	-	-	-	300
American Egret	Throughout period		150	May 1	-	-	-	-	-	200
Snowy Egret	2	May 4	40	July 15	-	Aug. 15	-	-	-	60
Little Blue Heron	Throughout period		200	May 15	-	-	-	-	-	300
Green Heron	Throughout period		150	June 15	-	-	-	50	75	250
Anhinga	2	May 2	2		2	July 15	-	-	-	2
White Ibis	2	May 7	2		2	May 7	-	-	-	2
Double-crowned Cormorant			10	May 1	1	May 20	-	-	-	20
<b>II. Shorebirds, Gulls and Terns:</b>										
Lesser Yellow-legs	1	Aug. 21	50	May 1	15	May 4	-	-	-	200
Greater Yellow-legs			50	May 1	5	May 15	-	-	-	200
Snipe	1	Aug. 21	20	May 1	1	May 10	-	-	-	50
Upland Plover	2	Aug. 21	10	Aug. 31	Still present		-	-	-	25
Semi-palmated Plover	1	Aug. 21	50	May 1	3	May 12	-	-	-	200
Killdeer	Permanent resident		200	Aug. 31	-	-	-	300	500	2000
Spotted Sandpiper	Throughout period		100	May 10	-	-	-	-	-	200
Solitary Sandpiper	2	Aug. 21	25	May 1	2	May 10	-	-	-	50
Pectoral Sandpiper	21	Aug. 21	30	Aug. 31	9	May 10	-	-	-	100
Semi-palmated Sandpiper			15	May 1	7	May 4	-	-	125	25
Least Sandpiper	7	Aug. 21	20	May 1	6	May 4	-	-	-	50

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	Permanent resident	1800	Aug. 31	-	-
White-winged dove				-	-
IV. <u>Predaceous Birds:</u>					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow	Permanent resident	1000	Aug. 31	-	-
Cooper's Hawk	Permanent resident	150	Aug. 31	-	-
Sharp-shinned Hawk	-	50	May 1	1	June 1
Mississippi Kite	1 May 3	1	May 3	1	May 3
Sparrow Hawk	Permanent resident	30	May 1	-	-
Red-shouldered Hawk	Permanent resident	350	Aug. 31	-	-
Reported by.....					

Charles H. Parker, Refuge Manager.

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.



No. 5. Brown-top millet maturing and falling Aug. 20, Whitworth Arm, south side of main ditch, Buckeye area. Corn in background is area cleaned last fall.



No. 6. Starr millet just beginning to head, Rockhouse Slough. Similar in every detail to pearl other than leaves and stems broader or larger.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Wheeler For 12-month period ending August 31, 1957

Reported by Charles J. Parker Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type      Acreage		(3) Use-days	(4) Breeding Population	(5) Production
Refuge-wide	Crops	6,200	Ducks	4,900,300	420
	Upland	12,800	Geese	1,069,363	370
	Marsh		Swans		
	Water	22,000	Coots	125,980	
	Total	41,000	Total	6,095,643	400
.....					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
.....					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
.....					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
.....					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		
.....					
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		

(over)

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August narrative report.

#### INSTRUCTIONS

- (1) Area or Unit: A geographical unit that, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. Estimated acreage of each unit should be indicated.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland consists of all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type including wet meadow and deep marsh; and the water category includes all other water areas inundated most or all of the growing season and extends from the deeper edge of the marsh zone to strictly open-water areas, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for each type should be kept as accurate as possible through reference to available maps supplemented by periodic field observations and should agree with unit acreage.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.





No. 7. Broadcast milo, just beginning to head - August 20.  
North end of Buckeye, near Buckeye Pond.



No. 8. D-7 and new Rome offset harrow plowing ryegrass field  
at pump station, White Springs unit. (Photographer  
Parker "goofed" on light reading).

Refuge Wheeler Months of May to August, 1945

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acre per Bird	Number broods obs.'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bob-white Quail.	Pasture, 1849 acres	7	50	1800	60 males 40 females	0	0	0	207	Although the spring was wet,  nesting success appears good  and present quail population  is high.
	Cultivation and hay, 4604 ac.	3							1535	
	Timber, 4500 acres	50							90	
	Brush and pine plantations, 3,700 acres	50							74	
	Brushy fields, 3,000 acres	4							750	
	Weed fields 1,747 acres	3							582	
									3238	

## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

3-1570  
NR-8a

REFUGEE GRAIN REPORT

Refugee Wheeler

Months of May thru August 1957.

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Milo	500 bu	125 bu	625 bu	0	500 bu	0	500 bu	125 bu	125 bu	0	0
Shelled corn	60 bu	0	60 bu	0	0	0	0	60 bu	0	0	60 bu
Brown-top millet	785 bu	10 bu	795 bu	0	770 bu	0	770 bu	25 bu	25 bu	0	0
Japanese millet	90 bu	90 bu	180 bu	0	130 bu	0	130 bu	50 bu	50 bu	0	0
Pearl millet	45 bu	0	45 bu	0	30 bu	0	30 bu	15 bu	15 bu	0	0
Black millet	1 bu	0	1 bu	0	1 bu	0	1 bu	0	0	0	0
Siberian Millet	4 bu	0	4 bu	0	4 bu	0	4 bu	0	0	0	0
Term. millet	0	2 bu	2 bu	0	2 bu	0	2 bu	0	0	0	0
Combine cowpeas	34 bu	16 bu	50 bu	0	18 bu	0	18 bu	32 bu	17 bu	0	15 bu
Guar peas	4 bu	0	4 bu	0	2 bu	0	2 bu	2 bu	0	0	2 bu
Borman soybeans	60 bu	0	60 bu	0	60 bu	0	60 bu	0	0	0	0
Ogden soybeans	40 bu	0	40 bu	0	40 bu	0	40 bu	0	0	0	0
Fescue	0	65 bu	65 bu	0	0	0	0	65 bu	65 bu	0	0
Ryegrass	70 bu	710 bu	780 bu	0	0	0	0	780 bu	780 bu	0	0
Oats	0	655 bu	655 bu	0	0	0	0	655 bu	655 bu	0	0
Wheat	0	315 bu	315 bu	0	0	0	0	315 bu	315 bu	0	0

(8) Indicate shipping or collection points \_\_\_\_\_

(9) Grain is stored at \_\_\_\_\_

(10) Remarks \_\_\_\_\_

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.



1. Milo-maize - heading. Buckeye area, Thorson arm, looking west.



No. 2. Soy beans - Buckeye area, Thorson arm, looking west.