I N D E X

WHEELER NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

MAY - AUGUST 1959

I. GENERAL

A. Weather Conditions:

Month	Precipitation	Max. Temp.	Min. Temp.
May	4.88	91	45
June	2.65	95	57
July	2.99	95	64
August	1.94	95	65

At the beginnin of the period, weather was moderately dry and planting and early cultivation were proceeding full force. Beginning in mid-May, rains commenced and continued almost daily until the third week of June. This delayed much planting, made heavy equipment use impossible, drowned crops in some low areas, and caused others to become lost to heavy grass growth or so infested that thorough cleaning was impossible. The period from the third week of May to past mid-July was dry, with no rain of consequence falling. This caused poor stands of some late-planted crops and severely damaged young corn, but did permit the combining of small grain. From mid-July until the end of the period there were regular light showers that kept soil moisture high and crops and pastures in excellent condition.

Comparing weather this period with that of the same period last year, there was much more rain through late May and early June. The dry period came later. Rainfall has kept temperatures reasonably mild and these have seldom reached above the mid-nineties.

B. Habitat Conditions:

1. Water:

a. General Reservoir Levels: The reservoir was bank-full at the beginning of the period and remained so until the beginning of the malaria control drawdown in late June. The over-all levels experienced during this period last year were much less noticeable. By late July, levels had dropped appreciably and mudflat was beginning to show during the first week of August. At the end of the period, the reservoir was fluctuating between the 553 and 554 foot contours.

b. Dewatered Units: Pumping began in the White Springs unit on May 1, with the unit gauge reading 554.1 feet. Water of this unit was within ditch lines by May 24.

As usual, T.V.A. closed the structure between Blackwell and Buckeye Sloughs. The Rockhouse pumps were started on May 2, with the water of the Rockhouse-Buckeye-Blackwell units standing at the 555 level. The pumpdown was rapid, and by May 9, Rockhouse and Buckeye Sloughs were within ditches. The control structure separating Blackwell and Buckeye was then opened and the Blackwell Swamp water quickly pumped out. After the initial pumpdown, all water of both units remained within ditch lines throughout the period.

2. Food and Cover:

In the early part of the period, wild plums, red mulberries, dewberries, and blackberries bore heavily. For the second year in succession, the mast crop is far above average. Water oaks, willow oaks, white oaks, and overcup oaks are full of acorns.

Red oaks and post oaks support at least an average crop. Shagbark hickory production appears normal, and the white hickories are well loaded with nuts. No hackberries have been noted this summer, and muscadine production is light.

The rainy weather of the latter half of May and the first half of June allowed many cornfields to run away to grass and weed growth - some beyond recovery - and delayed planting. However, the regular showers during the remainder of the period have kept late crops in good condition. Though the intermediate planted corn suffered badly, both early and late corn appear good. However, Wheeler corn production may drop below last year's figure, due partly to damage to the intermediate plantings, partly to the fact that wet weather delayed corn planting, other crops were substituted, and the corn acreage is limited. Little milo was planted this year, although that present promises fair yields. The soybean acreage increased markedly, as beans were substituted for corn on many rentals, and the prospects for high yields appear good at this writing. In short, where upland agricultural food production is concerned, Wheeler corn production may drop below last year's figure, but overall production should equal and may even exceed last year's.

Although natural food production is seldom heavy enough here to be of real consequence, moist conditions have brought a higher than average seeding of wild millet and smartweeds. The wet weather delayed dewatering plantings until the latter half of June.

Beginning then, an all-out effort was made to place all available dewatered land in food production. The White Springs unit was planted to a small acreage of row-cropped soybeans, and the remainder broadcast to Lee and Ogden soybeans, milo, Japanese and brown-top millets. Although a part of this unit was unplanted last year, every available acre is in production this year. The bed of Rockhouse Slough was planted to some row-cropped corn and soybeans and the remainder sown to broadcast stands of soybeans, milo, Jap millet, and brown-top. Buckeye Slough was planted to a high percentage of row-cropped soybeans and corn, the remainder sown to broadcast peas, Japanese millet, and brown-top millet. Only scattered stands were obtained on a few plantings, but the majority of all dewatered plantings support fine, thrifty stands that promise high yields, provided pump failure or insect damage do not occur before maturity. All plantings should mature well ahead of frosts. In short, the planted acreage in dewatered units is even higher than was the case last year, and potential production appears even more promising. All soybeans were inoculated before planting, and a high percentage of the milo and soybean acreage in the White Springs unit was well fertilized.

The upland small grain harvest resulted in sufficient seed for extensive green forage plantings this fall. Efforts have already begun to plant the maximum green acreage and actual planting will begin early next period.

To sum up the food situation, the mast supply and general production of wild seed is above normal. Hard upland food production should equal or exceed last year's. The food supply in dewatered units should be above last year's figure.

Refuge personnel are already concentrating on producing a maximum acreage of green forage.

II. WILDLIFE

A. Migratory Birds:

1. Waterfowl:

A few migrant ducks, geese, and coots were still present during the early days of the period. However, by late May only the resident mallards, blacks, and wood ducks were present, along with about a dozen Canada geese, probably cripples. No geese at all have been seen since early July. The number of duck broods seen or reported by local people seems average. A few migrant blue-winged teal were noted during the last few days of the period.

2. Doves:

Dove nesting appeared heavy throughout the period, and these birds are fairly numerous. There were no high winds to destroy nests, and no reports of fowlpox or Trichomoniasis. These birds appear fully as numerous as during this period last year, less so than during the heavy population of three years ago.

B. Upland Game Birds:

The heavy rains of the latter half of May and the first half of June caught bobwhite nesting at its peak and must have destroyed many nests. Old birds were numerous, but few young broods have been seen or reported, and those that have been are small. Unless late nesting can compensate for earlier losses, fall quail numbers will probably be below those of last year.

In early June one local cooperator reported seeing both chuckar partridges and coturnix quail on refuge land. However, refuge employees put little faith in this report.

C. Big Game Animals:

No deer sign or indications that other big game were present have been noted on the refuge this period.

D. Other Mammals:

Gray squirrel numbers appear high, and well above those of last year. Rabbits appear more numerous than for several years. Efforts have been made to check the rabbit population on that part of the refuge hunted last February against those parts on which there has been no rabbit hunting, but no difference in numbers can be noted.

The colony of beavers that became established near the mouth of Madden Branch last summer is still present. According to reports from local people these have brought off at least one or two broods of young. There has been no dam building.

Opossums seem abundant, but raccoon numbers seem only average. There are indications that both foxes and mink are increasing.

Redstone Arsenal officials report that a big dog-like animal has been seen on the western part of the Redstone reservation. This is thought to be either a wolf or large coyote, and arsenal employees are trying to trap it. It may prove to be nothing more than a stray dog.

E. Hawks, Eagles, etc.

Locally, red-tailed hawks are common during cold weather, but vanish during warm weather and have not been considered nesters. On June 24 a Mrs. Jane Gibson who lives at Fort Bluff, near Somerville, brought a young red-tailed hawk, incapable of any sustained flight, by this office for identification. However, there are high hills near Somerville. No other changes in pest or predaceous bird populations have been noted this period.

More information has been requested concerning bald eagles. None have been known to nest on this refuge in over 10 years. No eagles were sighted this period, although these are seldom seen locally during warm weather.

F. Other Birds:

David C. Hulse spotted a mature common loon on the refuge on June 15 and again on July 16. This was probably a cripple. In mid-July, refuge employee Tom Sandlin, reported sighting an albino yellow-billed cuckoo. On May 22, Thomas A. Imhof and David Hulse discovered a nesting colony of snowy egrets, black-crowned night herons, and little blue herons in a flooded thicket at Doulah Bay, a short distance west of the refuge boundary. This is the first indication of local nesting by any of the three species. On June 2, refuge employee Gordon Bishop discovered a small nesting colony of yellow-crowned night herons on the refuge in pines a short distance west of Triana. This was revisited by Depreast and the biologist on June 4 and the observation verified. Eighteen birds were present at the time and at least four nests were active, containing fledglings.

While yellow-crowns probably nest on Wheeler each spring and summer, this is the first colony actually discovered since 1940. Thomas A. Imhof reports that he carried two specimens of the small sub-species of Canada geese shot in this locality to the National Museum. There, they were definitely identified as Richardson's geese.

G. Fish:

As usual, fishing pressure was heavy throughout spring and summer. Crappie spawning was early, and the good spring crappie fishing did not carry into May. General fishing success throughout the period has been average. T.V.A. and State fishery biologists report a continued increase in sauger and white lake bass numbers. Commercial fishermen report unusually high catches of redhorse suckers.

H. Reptiles:

There have been no unusual observations and no indications of changes in the reptile population during this period.

I. Disease:

There have been no indications of fowlpox or trichomoniasis among local doves, nor of any other diseases among local wildlife.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

1. Work in Dewatered Units:

As mentioned under food and cover previously, the refuge turned full attention to the proper preparation and seeding of all available dewatered land.

Row crop and rental plantings by cooperators were supplemented by plantings made with the refuge's machinery. Much of the rental planted area was precut with big-tired refuge tractors in an effort to speed drying, since plantings were necessarily late, due to rainy weather. Every available acre was planted and every pound of soybean, milo, pea and millet seed on hand was used. However, enough seed were on hand to cover the available acreage.

In an effort to obtain maximum production, all soybeans were well inoculated and milo and soybean plantings on the poorer parts of the White Springs unit were well fertilized. There are some spotty stands but, in general, stands are good, rainfall sufficient to promote rapid growth and, barring some unforeseen catastrophe, production should be excellent, exceeding last year's.

Cooperating with T.V.A. by furnishing the necessary dynamite, a number of new ditches were blasted, draining low pockets and permitting the planting of additional wet land. In addition, some existing ditches were cleaned by blasting. T.V.A. has mowed the White Springs dike regularly. The refuge has spent a number of man-days of hand labor in cutting away all seed willows from ditches and seeps in Buckeye Slough. It has also regraded the existing road through Buckeye Slough and graded up a new road crossing the north end of this slough.

2. Soil and Moisture Work:

Forty acres of the Yellow Gal Island, fallowed this year for Johnson grass control, has been disced regularly throughout the period.

Eighty tons of lime and 20 tons of 0-20-20 fertilizer were purchased and spread on this land in an effort to properly neutralize it and bring up its residual phosphate-potash content. This will be sown to a grain-vetch cover crop during the early part of next period.

The 80 tons of lime purchased during the previous period were spread this period on the stretch of river bank land between the Madison-Limestone County line and the Buckeye channel. This was matched by a similar amount by the cooperator. A similar tract, lying immediately east of the county line, was also limed with 80 tons purchased by the refuge and matched by a like amount by that cooperator. This means that all river bank land between Blackwell Swamp and the Buckeye channel has been thoroughly limed. In addition, a 40-acre tract in the Whiteside locality was limed at a two-ton rate through refuge purchase and approximately 60 acres on the Beaver Dam Peninsula were limed at rates varying from one to two tons per acre, also through refuge purchase. However, adjoining land will be limed in the near future by cooperators , as a matching proposition.

Working under the farm plan covering the land between Rockhouse road and Limestone Bay, much effort and funds were expended on the shelf and island pasture lying between the upper and lower Limestone Peninsulas. This tract of approximately 60 acres is ideally located for heavy goose use, but soil tests showed it to be highly acid and infertile. This was temporarily removed from a cooperative agreement. Brush and stump piles resulting from previous clearing were shaken and burned.

Many loads of woody debris were picked up and hauled from the area. A bulldozer was used to construct many yards of shallow drainage - ways from low pockets. One hundred sixteen tons of lime and 22 tons of 0-20-20 were purchased and spread on this area. The land was first cut with a crawler tractor and heavy Rome harrow, then disced several times with a light offset disc and farm harrows. The area is now in excellent condition and will be sown to fescue during the early part of next period.

3. Goose Forage Establishment:

Toward the end of the period, the refuge turned its attention to preparations for green forage plantings. With over 30,000 geese present last winter, and the expectation that all these may return with their families and friehds, a maximum green acre establishment is planned. Preliminary work included the mowing of fescue sodded shelf between the south end of the White Springs dike and the power line, about 25 acres, the mowing of the Whiteside fescue tract, about 20 acres, and the mowing of small fescue-sodded islands near Camp Island, along with an adjoining upland 10-acre tract. About 25 acres of shelf on the Beaver Dam Peninsula and an estimated 20 acres of shelf and adjoining lowland on the lower Limestone Peninsula were cut with a heavy Rome harrow, then worked thoroughly with lighter discs. These will be seeded early next period. A 20-acre field in the Whiteside area, not under cooperative agreement, was also plowed with the Rome harrow and is scheduled for future seeding. Scattered seep areas, totaling about 15 acres, around the White Springs dike, were cut with the heavy Rome harrow and will soon be disced and seeded to ryegrass.

About 50 acres of the old Murphree place, not under cooperative agreement, were given a preliminary cutting with lighter discs and will be worked up and seeded to oats in early September.

4. Miscellaneous Jobs:

Only two official trips were made during the period, one to the Rome Equipment Company in Cedartown, Georgia, to obtain necessary repair parts; one to the Marion Fish Hatchery, near Marion, Alabama, to attend the Civil Defense school there. Weather during the latter half of May and the first half of June stopped equipment use and much of this time was spent in a thorough reposting of parts of the boundary on both sides of the Tennessee River. Many miles of line were repainted and many new posts and signs erected. The refuge farming program was closely supervised. Visiting groups were guided about. All squirrel hunt and night hunt permits were prepared for issuance, then stored until the issuance date, and smaller jobs too numerous to list were completed. Nearly 3,000 bushels of various seed and grain were taken in as a result of summer harvest, and a part of this was cleaned for transfer.

5. Headquarters Development and Maintenance:

A two-ton air conditioning unit was installed in the refuge office. The green blinds and white trim of the manager's residence were repainted. The headquarters entrance road was regraded. In addition, the open grounds were kept mowed regularly, the nature trail cleared back, shrubbery pruned, and general cleanup practiced.

6. Vehicle and Equipment Maintenance and Repair:

No really major repair work was required during the period. A new John Deere spreader-seeder was purchased. A hub, axle and bearing assembly was installed in the heavy Rome offset harrow. Some discs were replaced on lighter harrows.

A bottom roller and sprocket seal were installed in one of the D-7 tractors. Extension tail pipes were installed on the two new 1958 Ford pickups. A muffler and tail pipe were installed in the Dodge half-ton. On the 1948 Ford pickup, the bumper was welded, new window glasses installed and the solenoid and speedometer cable were replaced. A shaft assembly was installed on one of the rotary mowers.

B. Plantings:

1. Aquatics and Marsh Plants: No plantings of this type were made during the period.

2. Trees and Shrubs: No trees or shrubs were planted this period. However, 30,000 trees are on order from the State nursery and will be planted in late winter.

3. Upland Herbaceous Plants: Except as mentioned under dewatered planting, no upland herbaceous plantings were made this period.

4. Cultivated Crops:

Where land rental is concerned, this refuge has had a "seller's market" since the beginning of World War II. Now, this situation is changing rapidly. The amount of fallowed land has increased yearly for the past three years. A number of cooperators have already put the refuge on notice that they will not want their tracts during the 1960 crop year and, for some of these fields, no suitable renters are in sight.

This situation may become acute. There are many contributing factors. These include low crop prices, the general economic farming situation, a farm labor shortage due to the rapid industrialization of Decatur and Huntsville, rising farm equipment prices, a series of poor crop years, the effects of a high winter goose population, the introduction of the European corn borer to this locality, tighter acreage controls, the fact that refuge cooperators will no longer receive credit for refuge cultivation in higher cotton quotas on their home farms, and the fact that the refuge often requires a higher degree of cover-cropping, field maintenance, etc., than is required by private rentals. The effect will be that some high-risk and some low-production areas must either go uncultivated or be taken over by the refuge's own personnel and machinery. While this is true where row crops are concerned, good beef prices have kept pasture rental demands high. Although there was a record acreage of greenstuff planted last fall, heavy aphid damage coupled with a hard winter ruined much of this. On the fields where suitable stands remained, ryegrass and fescue produced only average yields. The wheat yields were low, while oat yields were at least barely average.

The heavy rains from mid-May to mid-June caught local corn planting at its height. Many cooperators, unable to plant corn until late June, substituted soybeans. The result has been a reduced refuge corn acreage and a sharp increase in the soybean acreage.

Although the refuge must operate under a wheat allotment this year, it has received none to date.

This has been promised by early September, but ASC officials tell us privately that we will be fortunate if this is worked out in time for actual use this fall.

C. Collections and Receipts:

1. Seeds or Other Propagules:

Except as a result of cooperative farming and as shown on the accompanying NR-8a form, no collections of this type have been made this period.

2. Specimens:

No specimens were collected this period. In late June, a local fisherman found a male hooded merganser dead and floating in the Tennessee River. This was turned over to Game Management Agt. Harley Pierson. He, in turn, gave it to refuge personnel who sent it to the Alabama Cooperative Wildlife Research Unit to determine the cause of death. Dr. Maurice Baker, of the research unit, reports a bruise about the base of the neck, but no other abnormalities. The bird may have flown into a power line.

D. Control of Vegetation:

No herbicide treatments were used this period. All vegetative control was mechanical and was done in connection with the refuge farming program, dewatered planting and the establishment of green goose forage.

E. Planned Burning: There was no planned burning here this period.

F. Fires:

Well-spaced rains throughout most of the period held fire hazard low. Not a single wild fire occurred on the refuge.

IV. RESOURCE MANAGEMENT

A. Grazing:

Except during the dry period from mid-June to mid-July, regular rainfall has kept refuge pastures in good condition. Although row crop rental requests have declined, good beef prices have kept requests for pasture rentals high.

B. Haying:

The good rainfall throughout the period has kept hay production high. Except for the heavy rainy period throughout late May and early June, rains have been spaced sufficiently far apart to permit hay harvest.

C. Fur Harvest:

There was no fur harvest during the period and none is planned for this year.

D. Timber Removal:

Contact with T.V.A. officials indicates that all previous timber cutting has been reported, all thinning of pulpwood stands through T.V.A. sales has been completed, and that there were no timber sales of any type this period.

With the completion of the Land Transfer Agreement with T.V.A., timber rights are now controlled by the Service. Although T.V.A. has thinned the majority of the pine plantations on the refuge, a few isolated small plantings remain unthinned, and none of those located on the Redstone Arsenal reservation have been thinned to date. During the past ten years, T.V.A. sales of locust posts have been so thorough that no additional post sales will be practical for several years.

E. Commercial Fishing:

The number of commercial fishermen and the size of the catch have not changed significantly this period. However, net fishermen do report taking unusual numbers of redhorse suckers.

F. Other Uses:

Mussel shell prices have increased sharply. All white shells, except "Three Ridges", are bringing $74.00 per ton, delivered, while "Three Ridges" sell for $35.00 per ton. Colored shells are not salable at present. This increase in price has brought a corresponding increase in local shelling. Shelling activities for the period have been far above that of this same period last year. Good shell catches are reported. Evidently, the rest given shell beds last year has permitted some recovery.

The public refuse pit installed last period near Mooresville has been well used this period, has proved good public relations, and seems to have reduced indiscriminate refuse dumping on the refuge in this locality.

The gravel pit, donated to the Limestone County Road Commission, has not been used this period. The Madison County Health Department continues to use the refuge residence at Triana for a public health clinic. The Morgan County Tuberculosis Sanitorium continues good use of the pasture area donated it.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

No field investigations were carried on this period.

VI. PUBLIC RELATIONS

New industries are continually moving to Decatur and Huntsville. The population of these two cities is increasing and spreading rapidly. Industrial planning boards are eyeing the refuge river frontage covetously. The eastward expansion of Decatur is already crowding the refuge boundary. A proposed extension of Decatur's city limits, if approved, will take in all of Flint Creek Island, a good part of the lower end of the Flint Creek Embayment, the land along both sides of this embayment, and the extreme western end of Garth Slough. There are already frequent requests for the sale or lease of refuge tracts for home or summer cabin locations. The proposed route for the new interstate expressway will cross a part of the White Springs dewatered unit and the western end of Garth slough, two of the best waterfowl concentrations sites on the refuge. This mounting public pressure for refuge land is almost certain to pose a ticklish public relations problem that will continuously worsen, unless an economic recession or something similar slows the present trend.

A. Recreational Uses:

As usual for the summer period, recreational use was high. Water sports are becoming increasingly popular here. As usual, fishing made up the majority of the recreational use, but there was considerable picnicking, sight-seeing, etc.

B. Refuge Visitors:

Classes were regular visitors until the termination of schools in early June. Afterward, there were only intermittent visits by miscellaneous groups. The refuge played host to the following groups this period:

Date	Group	Number
May 8, 1959	Decatur Brownie Scouts	12
May 15,1959	Decatur High School Biology Class	41
May 15,1959	Moulton Heights Class	45
May 19,1959	Moulton Heights school Class	38
May 20, 1959	Gordon Bibb School Class	33
June 1,1959	Junior Bible School Class	17.
Aug. 5, 1959	Primary Bible School Group	31
Total group visitors		217

Official Visitors

Mr. Carl S. Yelverton, Mgr., Back Bay Refuge, May 21
Mr. David E. Booth, Engr. Br., Reg. Office, May 18.
Mr. J. N. Welden, Redstone Arsenal Land Mgm. Office, M 19 Aug.10.
Mr. G. K. Lightsey, Ala.Dept. of Conservation, May 22,July 31.
Game Mgm. Agent C. M. Richardson, Montgomery, June 19,Aug.5.
Manager David W. Peterson, Big Lake Refuge, Aug. 3.
Mr. W. C. Ashe, Branch of Lands, Reg. Office, Aug. 3.
Mr. H. R. Williams Br. of Lands, Reg. Office, Aug. 3.
Lt. James Davis, Redstone Arsenal Land Mgm.Office, Aug. 10.
Sgt. Harrison, " " " " " May 19.

C. Refuge Participation:

In late July the Manager gave a talk on the refuge before a meeting of the Junior Farm Bureau, in Huntsville.

In early August the Manager attended the two-day Civil Defense Training Course held at the Marion Fish Hatchery.

During the period the Manager has attended the regular meetings of the Decatur Lions Club and has participated actively in the broom sales sponsored by this group.

The Biologist attended the June meeting of the Morgan County Sportsmen's and Conservation Association. He is currently serving a second term as vice president of the Alabama Ornithological Society. He has attended the various meetings of the Alabama Archaeological Society held this period.

Various Service films have been procured for use by local groups.

D. Refuge Publicity:

Seven separate news items were written by refuge employees this period. All appeared in at least one local paper, some in as many as four.

In addition, the weekly "Outdoor" column, written by refuge personnel and appearing in the Sunday edition of the Decatur Daily, was continued throughout this period.

Two articles written by refuge personnel, "White-winged Scoter Records from the Tennessee Valley" and "Golden Eye, Old Squaw, and Greater Scaup Records from Wheeler Reservoir," appeared in the most recent issue of ALABAMA BIRDLIFE.

An article, "Curlew and Godwit Records from Wheeler Refuge," was prepared by refuge employees and submitted to ALABAMA BIRDLIFE this period.

Two articles, "The Use of Millets in Southeastern Waterfowl Management,"and notes on "Use of Green Goose Forage in the Southeast," written by refuge employees in collaboration with others, were rejected by the WILDLIFE JOURNAL.

Bird records have been furnished for use in AUDUBON FIELD NOTES.

E. Hunting:

No public hunts were held this period. However, plans have been made to hold the refuge night hunt during the first three weeks of October, the refuge squirrel hunt in mid-October, and the rabbit hunt in mid-February.

F. Violations:

As usual for this period, game law violations were minor. There were a few reports of illegal night hunting, and probably some early squirrel shooting. No cases were made or settled during the period. Patrol was limited to that done in connection with other field work. There were a few instances of livestock trespass, but these were minor and no impoundments were made. State and Federal agents destroyed several "moonshine" stills on refuge land.

VII. OTHER ITEMS OF INTEREST

It is understood that State highway No. 20 will be four-laned from Mooresville to Huntsville. The two additional lanes will be placed on the south side of the highway, biting a bit deeper into refuge land where this road crosses the Beaver Dam arm. However, this will pose no real problem there.

Another large new industry, the Minnesota Mining and Manufacturing Company, is slated to move into Decatur in the near future. While there are certainly advantages to industrialization, this will do btless bring increases in population, heavier pressure on the refuge, and an aggravated farm labor situation.

The work on the new bridge across the Tennessee River at Decatur continues, but this bridge will not be ready for traffic until some time late next year.

A new public fishing lake, said to cover about 200 acres, is under construction near Huntsville. A Madison resident has constructed a private lake a short distance southeast of Madison on a tributary of Barren Fork Creek. This lake is said to cover from 15 to 200 acres. These bodies of water are certain to be used by goodly numbers of waterfowl.

The development of land adjacent to the refuge boundary for waterfowl hunting continues. Near the northeastern corner of the Blackwell Swamp part of the refuge, Dr. Walter B. Jones, one time State Conservation Department director, presently State geologist, is developing a large tract of land. Brushy fields have been cleared and sown to millet and a long earthern dike has been built so that water can be impounded in fall and winter. Several smaller developments are presently in progress at other points near the boundary.

Sept. 8, 1959.
Date submitted

Charles M. Parker
Charles M. Parker
Refuge Manager

Approved by:

/s/ Philip D. Van Dyck
Act.

Sept. 10, 1959

Photo No. 1. Diesel Fuel Tank Canopy.

Constructed in preceeding period to protect fuel from pollution by rainwater.

Photo No. 2. Mooresville Refuse Pit.

Constructed in preceeding period, the pit has been well used this period. This has proved good public relations and reduced trespass dumping in this locality.

Photo No. 3. Dewatered Land Preparation.
Scene shows discing in White Springs unit preparatory to planting. Dewatered crops promise good yields this fall.

Photo No. 4. Row-cropped Lee soybeans in Buckeye Slough. These beans, planted by a cooperator in the Thorsen arm are representative of many acres of similar beans in dewatered units and should produce fine yields.

No. 5. Row-crop beans, Buckeye Slough.
Photo looking north on Henderson's rental.

No.6. Row-crop beans, Buckeye Slough. Photograph taken looking west down Thorsen Arm, Pickens' rental.

No. 7. Young millet, west side Buckeye Slough. Photograph looking northward.

No. 8. Combine peas. Extreme north end of Buckeye Slough.

No. 9. Preparation of shelf land, Lower Limestone Peninsula. Photograph looking north. Upper Limestone Peninsula in background. (Case tractor got off in one of the stump holes).

No. 10. New shelf land clearing, Lower Limestone Peninsula. Photograph looking east, indicating how new land blends in with existing agricultural field on extreme right.

No. 11. Same area as photograph No. 6. Photo taken from same position looking a little more north, indicating width of reclaimed shelf land.

TERFOWL

MONTHS OF May TO August, 1959

(2)

reporting period

:	5	:	6	:	7	:	8	:	9	:	10
	12		12		12		12		0		0
	100		125		150		200		200		200
	30		50		75		75		75		75
	100		50		0		0		0		0
	300		350		400		500		500		500
	50		0		0		0		0		0

R F O W L
ation Sheet)

MONTHS OF May TO August, 19 59

ing period 15	16	17	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
0	0	0	0	875		
200	200	200	200	19,000	12	150
75	75	75	75	7,230	4	55
0	0	20	50	8,740		
500	500	500	600	50,700	17	300
0	0	0	0	5,250		

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SUMMARY

Principal feeding areas Scattered

Principal nesting areas Scattered

Reported by Charles M. Parker

Charles M. Parker, Refuge Manager

1 7534, Wildlife Refuges Field Manual)

l on form, other species occurring on refuge during the
ed in appropriate spaces. Special attention should be given
national significance.

ations.

umber of days present for each species.

nced based on observations and actual counts on representative
should be made on two or more areas aggregating 10% of the
aving no basis in fact should be omitted.

er (3).

esent on refuge during any census of reporting period.

er (4).

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Lacassine - Alabama Months of May to August 1950

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Common loon	1	June 15	1	Aug. 31	1	July 16	-	-	-	1
Red-billed Grebe	Permanent	resident	10	Aug. 31	-	-	-	-	-	30
Great blue heron	"	"	200	Aug. 31	-	-	-	-	-	300
American egret	Throughout	period	125	May 1	-	-	-	-	-	300
Snowy egret	"	"	25	June 15	-	-	-	-	-	50
Little blue heron	"	"	300	July 1	-	-	-	-	-	500
Green heron	"	"	200	June 15	-	-	-	35	65	300
Yellow-crowned night heron	"	"	100	June 25	-	-	1	5	35	175
Black-crowned night heron	"	"	100	July 1	-	-	-	-	-	150
Least bittern	1	July 17	1	July 17	1	July 17	-	-	-	10
Anhinga	2	July 3	2	-	2	July 3				5
II. Shorebirds, Gulls and Terns:										
Lesser yellowlegs	1	Aug. 5	20	Aug. 31	Still present		0	0	0	100
Greater yellowlegs	1	Aug. 25	5	Aug. 31	"	"	0	0	0	50
Spotted sandpiper	Throughout	period	100	July 1	-	-	-	-	-	200
Killdeer	Permanent	resident	150	Aug. 31	-	-	-	50	80	400
Bonaparte's gull	1	May 22	1	May 22	1	May 22	-	-	-	5
Caspian tern	1	July 6	1	July 6	1	July 6	-	-	-	5
Foster's tern	3	May 22	3	May 22	3	May 22	-	-	-	15

(over)

(1)	(2)		(3)		(4)		(5)			(6)
III. Doves and Pigeons:										
Mourning dove	Permanent resident		150	Aug. 31	-	-	-	450	600	2,200
White-winged dove										
IV. Predaceous Birds:										
Golden eagle										
Duck hawk										
Horned owl										
Magpie										
Raven										
Crow	Permanent	resident	900	Aug. 31	-	-	-	200	500	1,400
Cooper's hawk	"	"	125	Aug. 31	-	-	-	40	80	125
Sharp-shinned hawk	Throughout period		40	May 1	-	-	-	-	-	75
Sparrow hawk	Permanent	resident	25	May 1	-	-	-	10	25	50
Red-shouldered hawk	"	"	300	Aug. 31	-	-	-	60	150	350
Screech owl	"	"	50	Aug. 31	-	-	-	10	20	75

Reported by Charles M. Barber
Charles M. Barber, 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 Gruiiformes)
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 num of the species using the refu during the period concerned.

INT.-DUP. SEC., WASH., D.C.

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Wheeler   For 12-month period ending August 31, 1959

Reported by Charles M. Parker   Title Refuge Manager
Charles M. Parker

(1) Area or Unit Designation	(2) Habitat Type	Acreage		(3) Use-days	(4) Breeding Population	(5) Production
	Crops	6,200	Ducks	3,899,200	270	505
	Upland	12,800	Geese	3,262,166	0	0
Refugewide	Marsh		Swans	25	0	0
	Water	22,000	Coots	52,455	0	0
	Total	41,000	Total	7,213,843	270	505
	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			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

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 grand 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.

(1) Area or Unit: A geographical unit which, 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. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is 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 in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, 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 all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(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.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sheeler Months of May to August, 1959

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres 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.
Cobunito quail	Pasture, 1527 A.	9	15	1.00	6 % males 4 % females				160	
	Cultivation and hay crops, 4494 acres	4							1124	
	Hardwood and pine timber 7000 A.	70							100	
	Brushy fields 3,200 acres	6							533	
	Weed fields 2779 acres	4							695	
									2620	

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

REFUGE GRAIN REPORT

Refuge Wheeler - Alabama Months of May thru August 1959

(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		
				TRANSFERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Milo	405	0	405	0	405	0	405	0	0	0	0
Japanese millet	405	545	950	0	405	0	405	545	545	0	0
Barnyard millet	340	140	480	0	340	0	340	140	140	0	0
Combine cowpeas	25	7	32	0	25	0	25	7	7	0	0
Soybeans	265	0	265	0	265	0	265	0	0	0	0
Oats	0	1640	1640	0	0	0	0	1640	1640	0	0
Oats and vetch	0	60	60	0	0	0	0	60	60	0	0
Wheat	0	40	40	0	0	0	0	40	40	0	0
Wheat and vetch	0	55	55	0	0	0	0	55	55	0	0
Italian ryegrass	0	290	290	0	0	0	0	290	290	0	0
Kentucky 31 fescue	0	120	120	0	0	0	0	120	120	0	0

(8) Indicate shipping or collection points Decatur, Alabama

(9) Grain is stored at Headquarters buildings, Wheeler Refuge. All sacked.

(10) Remarks Two hundred bushels of above oats earmarked for transfer to Savannah Refuge. 25 bu. must be used to clean the 200 bu. needed for transfer.

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.