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WHEELER NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

PERIOD: May - August 1944

I. GENERAL

A. Weather Conditions:

	Snowfall	Rainfall	Max. Temp.	Min. Temp.
May	0	2.41 in.	93	39
June	0	1.39	100	58
July	0	5.22	97	59
August	0	5.15	93	62

The weather was generally hot and dry from the first of May until July 12 when the seasonal rains began. The Weather Bureau station is located within the city of Decatur, and this area receives each summer a number of scattered showers which fail to fall at headquarters and other sections of the refuge. The increase in precipitation during late July and August made a poor season into a good one as all crops were suffering from drought conditions. Temperatures were about normal for the summer season. The dry weather during June and part of July created a mid-summer fire hazard condition, which is usually the one time of the year when the refuge is free of fires. This fire hazard occurrence was a repetition of conditions which existed last year for the first time.

B. Water Conditions:

Wheeler Reservoir (556 Bank Full Level)

	<u>Elevation Range</u>	<u>Flow Range</u>
May	556.1 - 555.1	27,400 - 69,100 C.F.S.
June	556.2 - 554.6	19,500 - 31,500 C.F.S.
July	556.5 - 554.2	18,000 - 30,800 C.F.S.
August	555.4 - 554.0	21,800 - 28,600 C.F.S.

During this four-months period which can be described as the growing season, the fluctuations of reservoir levels were restricted to the range of 556.2 - 554.0, a differential of 2.2 feet as compared with 3.4 feet during the same period last year. This continuing reduction in the range of water level fluctuations on Wheeler Reservoir during the growing season is resulting in increased development of marsh and shoreline vegetation growths. While this water control schedule will have a tendency to establish a definite shoreline, the band of available natural foods will become more restricted. Draw down for flood control during the period Dec. 15 - March 15 isolates the available marsh and shoreline food plants except during floods which may occur during the winter and

early spring. This flood control draw down occurs during the hunting season and when waterfowl winters on the refuge. Since most of the native foods are isolated from the waterfowl at this season, the birds flock from adjacent reservoir areas to the upland planting areas on the refuge. While this gives the refuge a large wintering and spring migrant waterfowl population, it almost ruins hunting on adjacent areas.

C. Fires:

As mentioned under weather conditions, hot, dry weather during May, June, and July created a summer fire hazard condition which is unusual for the southeast when late fall, winter and early spring is usually considered as our fire season. Four fires burning a total of $6\frac{1}{2}$ acres were controlled by the refuge staff or co-operators during the period. Numerous fires were started by air plane bombing and mortar fire on the refuge by army personnel but was controlled by their fire crews.

II. WILDLIFE

A. Migratory Birds:

1. Population and Behavior: Very few observations on waterfowl were made during the period. Blue-winged teal returned to Wheeler by mid-August, but in fewer numbers than previously observed during the pre-season flights. Each year a few more mallards nest on the refuge and rear their young, but this nesting is still very limited. We have no observations for the period regarding the nesting of our pinioned Canada geese. Last summer we had records of three Canada geese rearing broods on Wheeler Reservoir but to date no information or observations were obtained on these Pea Island geese raising young. Last April the eight geese which stayed about headquarters left on their restricted spring migration to the west end of the refuge and seven returned on the first of September. This seasonal migration has characterized the movement of the pinioned geese each year since arrival on the refuge. Young geese raised last year evidently went north with the spring migrations.

Little change has been observed in the numbers of the wood ducks using Wheeler. Doves still show a good increase and will provide some good early season hunting in north Alabama from September 16 to October 15. Late hunting for doves, December 25 to January 20 will be of little value to hunters in the north Alabama area as most of the doves are in the southern part of the State by this time.

2. Food and cover. An abundance of food and cover is available for migratory birds on the refuge. In view of an expected increase from 50,000 to 70,000 birds using the refuge, a large increase in corn, milo maize, grain sorghum, soybeans, cow peas, and peanuts will be left unharvested in the field for wildlife. Waterfowl will be dependent upon agricultural crops during November, December, and January, the period of low water levels, but they will have accessibility to large amounts of wild millet, smartweeds, rice cutgrass, panicum, square-stemmed spike rush, and nut grass in February, March, and April when high water elevations are present.

Waterfowl feed on agricultural crops chiefly during the night and hide out in the dense cover and open expanses of water during the day. —Passing from the resting area to the feeding grounds at sunset and returning at sunrise.

Wheat, oats, barley, vetch, and crimson clover are being planted for winter cover crops. These cover crops are chiefly used by Canada geese, and to lesser degree by ducks, and blue and snow geese. However, when cover crops are planted in corn fields, between the rows, the ducks and geese both partake of the grain as well as the greens.

The water control structures at Blackwell Swamp and Buckeye Pond will be regulated to raise the water from 554 to 555 by November 1 and to elevation 556 or bank full stage by December 1 so as to furnish as large a feeding and resting area as possible for large concentrations of ducks which will winter in these two areas.

3. Botulism: Neither botulism, lead poisoning, or any other disease has been noted as being present or a problem at Wheeler.

3. Upland Game Birds:

Bobwhite quail appear to have had a very successful nesting season. Large coveys of young birds have been noted scattered about the refuge area. In some cases quail were still incubating eggs in late August. While spring census figures indicated we had a population of approximately 3,500 quail on 1400 acres of selected upland, a check census will be conducted in mid-November. A proposed supervised public hunt has been submitted for the removal of a maximum of 2,000 quail in December. This hunt will be conducted in cooperation with the Alabama Department of Conservation and the U.S.T.V.A. This removal of surplus crops of incidental wildlife by public hunting is the best demonstration that the Service could present to the public on annual returns from managed wildlife. Public hunts on extensively farmed areas should prove to the farmers and others that they can raise wildlife as well as crops on their agricultural areas with little restriction or additional costs.

2. Food and Cover: There is an abundance of native food and cover for quail on Wheeler Refuge. Extensive agricultural fields of partridge peas grown as a double crop with winter grains show great promise of furnishing large amounts of additional food. The partridge pea not only increases soil fertility but does not compete with the small grain crops as most of its growth occurs following the spring grain harvest. The partridge peas are harvested about October 1 and stored for planting on additional fields the following spring. Grain sorghum, soybeans, cow peas, annual lespedeza, milo maize, and corn will be left unharvested in food strips scattered about the refuge uplands. Unharvested strips of wheat, oats, and barley have been available for quail during the summer months.

3. Disease: There is no evidence of disease in quail on the refuge.

C. Big Game Animals:

None present.

D. Fur Animals, Predators, Rodents, and other Mammals:

A proposed plan for the share-crop trapping of fur bearers for the period December 15 - January 31 has been submitted to remove surplus fur bearers. Detailed justification for this operation was presented in the plan. Since population figures are not available, this trapping program will enable us to obtain sufficient take records to use as a basis to estimate fur animal populations.

Gray squirrels were included in the quail hunt plan as it will be an excellent opportunity to remove surplus squirrels and check damage to T.V.A. and refuge corn fields as well as adjacent corn fields. The reduction in our squirrel population will relieve a lot of unfavorable criticism which has been present during the past three years due to our unwillingness to reduce squirrel depredations on agricultural crops both within and outside the refuge.

During the period, six beaver received from the State were liberated on the upper reaches of Beaver Dam Creek. The beaver released in 1941-1942 on Flint Creek appear to be holding their own but show no appreciable increase as far as we are able to determine.

E. Predacious Birds:

Cooper hawks play havoc with my chickens at headquarters, but aside from this damage, no unusual predation was noted in the field on wild birds or mammals. Crows a few years ago were very uncommon, but starting last year they have become numerous in later summer and their concentrated foraging becomes very destructive by late fall.

F. Fish:

Fishing both for sport and commercial purposes was good during May and June, but the usual let up in fishing took place during July and August when fishing for all species is very poor. It appears that sport fishing is steadily becoming poorer on this impoundment of T.V.A. while commercial fishing increases in importance. The war has reduced considerably the number of people engaged in sport and commercial fishing in this area where industries are paying wages 200-300 percent higher than the average laborer received in peace time. During May and June approximately 1,000 pounds of commercial fish were removed daily from refuge waters.

III. REFUGE DEVELOPMENT AND MAINTENANCE.

A. Physical Developments:

During the period the floating boathouse at Triana was completely reconditioned; woodwork and drums were replaced; it was repainted, and permanently tied to the bank of Indian Creek with a flexible pipe harness. A new hot air furnace, purchased last winter was installed in the manager's residence at headquarters. The southside truck trail was graded and bridges repaired. Most of available time of personnel was spent on maintenance of boats, motors, vehicles, buildings, and grounds. Water control structures at Blackwell Swamp and Buckeye Pond were maintained in operating condition.

Work projects planned under emergency fire and soil and moisture funds are pending due to insufficient mileage and unavailable labor during the period. We hope to expedite these projects if above limitations improve, and when water levels are at a minimum this fall and winter.

B. Plantings:

The share-cropping of 2,000 acres of land by the refuge for waterfowl and upland game requirements constitutes the largest and most important refuge operation. This agricultural program is constantly expanding due to wildlife increases and the necessity for more available food, especially so with food decreases on adjacent areas. Corn, milo maize, peanuts, soybeans, and cow peas are the chief and most important duck foods which are left unharvested in the field. At Wheeler, peanuts must be restricted to the poorer soils, but where they can be profitably planted, the waterfowl use is only exceeded by corn. Milo maize is of considerable importance in that it can be planted during July following winter cover crops, the seed is of large size, palatable to ducks, and the local dwarf variety can be harvested by a combine. Soybeans is an excellent duck food, is at times readily taken, but is not preferred to corn, milo maize, or peanuts. Cow or field peas is an excellent fall and early winter legume for waterfowl but molds and rots readily following cold rains. Winter cover crops, including wheat, oats, barley, crimson clover, and vetch are extensively grazed by geese and to a lesser degree by ducks. The secondary use of these waterfowl foods by upland game and other wildlife has been discussed elsewhere in this report.

During the period, cooperative farmers under the direction of Mr. Steenis have planted several acres of square-stem spike rush about the Flint Creek area. Square-stem spike rush is the only rush to date of value for waterfowl that shows any appreciable ability to become established and spread under present conditions.

C. Collections:

1. Seeds and other propagules: Mr. Steenis collected 600 lbs. of Eleocharis quadrangulata (wet weight) for planting at Kentucky Woodlands Refuge.

2. Specimens: No specimens were collected during the period.

3. Receipts of Seeds and Nursery stock: None received.

IV. ECONOMIC USE OF REFUGE

A. Grazing:

Only 96 $\frac{1}{2}$ acres of pasture land is rented by the Service on Wheeler Refuge. This grazing use is being expanded whenever possible to meet the public needs wherever it does not compete with other land use considered more essential to wildlife requirements.

B. Haying:

The refuge has issued hay contracts in the amount of 76 $\frac{1}{2}$ acres. Cutting of hay on the refuge is not encouraged as it is very destructive to nesting quail, and these lands can generally be kept open and productive by agricultural operations. On many of our share-cropping areas, the cooperater cuts his share of soybeans for hay while the Service's share is permitted to remain unharvested in the field for wildlife use. This amount of haying may average about 200-250 acres for the present season.

C. Fur Harvest:

A proposed share-cropping program for the harvesting of surplus fur bearers has been submitted during the period.

D. Timber Harvest:

The timber cutting operations on the Dancoy Bottom tract is now nearing completion. This operation conducted by agreement with T.V.A. has been carefully carried out and our wildlife interests in the area have been adequately protected. No other timber cutting activities are planned for the near future.

V. FIELD INVESTIGATIONS

Mr. John Steenis, stationed at Wheeler Refuge, and assigned to the Research Division, has been working on biological problems at Reelfoot Lake, Kentucky Woodlands Refuge, and the new T.V.A. impoundment in the Kentucky-Tennessee region of the Tennessee Valley.

VI. PUBLIC RELATIONS

A. Recreational Use:

War time demands on the leisure time of the public has greatly reduced the recreational use of the refuge during the period. Yet, many of the local business men find time to do some limited fishing. Tire and gasoline rationing has partially eliminated normal recreational use from near-by cities. The pending supervised quail and squirrel hunt will provide 500 man-days of recreational use on the refuge this December.

B. Refuge Visitors:

Members of the Athens, Decatur, and Gadsden Conservation Clubs, as well as interested people from Birmingham have been visitors at the refuge office during the period. Many local and near-by residents call at the office to discuss possible public hunts, trapping permits, agricultural contracts, etc., for the utilization of refuge resources. Our multiple-use program is playing an important part not only in refuge development, but in providing the necessary public contacts to acquaint the people with the principles of wildlife conservation.

Official visitors during the period were limited to the following personnel:

May 4,	Mr. Morgan Loyd, Supervisor Game Wardens.
	Mr. B. Gibson, Warden. (Dist. Game)
May 19	Mr. C. D. Fairer, T.V.A. Health and Safety Dept.
	Mr. Archie Hess T.V.A. " " " "
May 24	Mr. C. D. Fairer T.V.A. " " " "
	Mr. W. Lewis, T.V.A. " " " "
May 25	Mr. Will Kelly, Dist. Game Warden
	Mr. Joe Morris, " Supervisor of Wardens.
May 29	Mr. Hall T.V.A. Health & Safety Dept.
	Mr. Isley, T.V.A. " & " "
May 30	Mr. Wm. Armstrong, TVA, Reservoir Proptly Management.
June 6	Dr. Watson, from Regional Office.
	Mr. C. D. Fairer, of TVA.
June 7	Mr. Conard, Asst. Area Manager, T.V.A.
June 17-18.	Mr. Arthur F. Miller, Reg. Refuge Inspector.
June 24	Mr. Wm. Armstrong, TVA RPM.
Aug. 11	Mr. Wm. Armstrong. " "
Aug. 26	Mr. C. D. Fairer, TVA H&S.

F. Violations:

Only one poacher was apprehended on the refuge during the period, although considerable night hunting took place during late July and August. On one night in September Patrolman Grammer apprehended 7 persons hunting foxes with a total of 22 hound dogs. Until more patrolmen are available, poaching on the refuge and cattle trespass will be prevalent. With the increase in refuge wildlife populations, external pressure from violators increases in the same proportion. We are hoping that the public interest in our supervised hunts, fur trapping program, and grazing permits will counteract much of the illegal operations and reduce our law enforcement problem to a degree where it can be adequately controlled by our present personnel. However, the operation of a comprehensive economic land use program necessitates the requirement of considerable supervisory personnel which also may not be staffed at the refuge.

Respectfully submitted,

Chester R. Markley
Chester R. Markley
Refuge Manager.

ARM 9-21

Sept. 19, 1944.

MIGRATORY BIRDS

Refuge Wheeler National Wildlife Months of May 1 to August 31, 1944.

1612

(1) Species	(2) First Observed		(3) Became Common	(4) Peak Concentration		(5) Last Observed		(6) Young Produced			(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg. Size	Esti- mated Total	Number Using Refuge
Pied-billed Grebe	Present from last period			150	March						300
Double-crested Cormorant	Permanent resident			2000	January						2500
Great Blue Heron	Permanent resident			1000	September						1200
American Egret	Present from last period			1400	October						1800
Snowy Egret	Present from last period			50	September						75
Little Blue Heron	"	"	"	No records							-
Eastern Green Heron	"	"	"	"							-
American Bittern	"	"	"	Rare							-
Canada Geese	Permanent resident			Last period (May all be pinioned)							50
Snow Geese	Not present during period										-
Blue Geese	"	"	"								-
Mallard Duck	Permanent resident			Last period							200
Black Duck	Permanent resident but rare in summer										10
Blue-winged Teal	3	Aug. 25									300
Turkey Vulture	Permanent resident										Common
Black Vulture	"	"									"
Sharp-shinned Hawk	"	"									Uncommon
Cooper's Hawk	"	"									Common
Red-tailed Hawk	"	"									Uncommon
Red-shouldered Hawk	"	"									Common
Marsh Hawk	Last period										"
Sparrow Hawk	Permanent resident										"

REMARKS: (Pertinent information not specifically requested)

INSTRUCTIONS

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

- (1) SPECIES: Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

MIGRATORY BIRDS

Refuge Wheeler National Wildlife Months of May 1 to August 31, 1944.

1612.

(1) Species	(2) First Observed		(3) Became Common	(4) Peak Concentration		(5) Last Observed		(6) Young Produced			(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg. Size	Esti- mated Total	Number Using Refuge
Osprey	Permanent resident										Uncommon
Killdeer	"	"									Common
/Spotted Sandpiper	Probable nester										Uncommon
Solitary Sandpiper	"	"									"
Greater Yellow Legs	"	"									"
Lesser Yellow Legs	"	"									"
Least Sandpiper		May			Next period						"
Herring Gull		May			Last period						Common
Ring-billed Gull		May			Last period						"
Common Tern		July									"
Black Tern		June									"
Mourning Dove	Permanent resident			2,000	August						2,500
Screech Owl	"	"									Common
Barred Owl	"	"			September						"

REMARKS: (Pertinent information not specifically requested)

INSTRUCTIONS

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

- (1) SPECIES: Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

Refuge Wheeler National Wildlife Months of May 1 to August 31, 1944.

(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'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bobwhite Quail	Hay and cultivation									During the supervised quail hunt of December 1943, 807 birds were removed. It is estimated that a surplus of 1500 birds should be removed next season.
	6,000 acres	5							1,200	
	Pasture, 800 acres	10							80	
	Wood fields,									
	-- 4,000 acres	3							1,333	
	Brush fields,									
	3,200 acres	3							1,067	
	Total acreage,									
	14,000 acres									
							Total		3,680	

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.

GRAIN AND SEED REPORT

Station: Wheeler Nat'l. Wildlife Refuge
Decatur, Alabama.

Period: May - August 1944.

(Quantities shown in bushels)

Variety	On hand begin period	Received during period	Total	Grain disposed of:			On hand end of Period	Proposed use:		
				Transfd.	Seeded	Seed		Seed	Feed	Surplus
Corn	250	0	250	25	0	2	27	223	0	123
Oats	39	539	578	221	4	4	239	349	0	249
Barley	4	66	70	4	0	0	4	66	0	66
Wheat	0	570	570	245	4	2	251	419	0	319
Wheat-vetch	4	16	20	18	0	0	18	2	0	2
Oats-vetch	3	3	10	10	0	0	10	0	0	0
Soybeans	14	0	14	0	0	0	0	14	0	14
Crimson Clover	0	4	4	0	2	0	2	2	0	0
Vetch	0	39	39	9	2	0	11	28	0	28

Remarks: All of the above seed with the exception of the corn is sacked and ready for shipment.
Corn is in the shuck.

Submitted by:

Chester R. Markley
Chester R. Markley
Refuge Manager.

GRAIN AND SEED REPORT

Station: Wheeler Nat'l. Wildlife Refuge
Decatur, Alabama.

Period: May - August 1944.

(Quantities shown in bushels)

Variety	On hand begin period	Received during period	Total	Grain disposed of:				On hand end of Period	Proposed use:		
				Transfd.	Seeded	Red	Total		Seed	Feed	Surplus
Corn	250	0	250	25	0	2	27	223	0	100	123
Oats	39	539	578	221	4	4	229	349	0	100	249
Barley	4	66	70	4	0	0	4	66	0	0	66
Wheat	0	670	670	245	4	2	251	419	0	100	319
Wheat-vetch	4	16	20	18	0	0	18	2	0	0	2
Oats-vetch	5	5	10	10	0	0	10	0	0	0	0
Soybeans	14	0	14	0	0	0	0	14	0	0	14
Crimson Clover	0	4	4	0	2	0	2	2	2	0	0
Vetch	0	39	39	9	2	0	11	28	0	0	28

Remarks: All of the above seed with the exception of the corn is sacked and ready for shipment.
Corn is in the shuck.

Submitted by: Chester R. Markley
Chester R. Markley
Refuge Manager.

GRAIN AND SEED REPORT.

Station: Wheeler Nat'l. Wildlife Refuge,
Decatur, Alabama.

Period: Jan. 1 - April 30, 1944.

Units in bushels.

Variety	On hand begin. period.	Received during period.	Total	Grain disposed of:				On hand end of period.	Proposed use:		
				Transf'd.	Seeded	Fed	Total		Seed	Feed	Surplus
Corn	149	201	350	80	0	20	100	250	0	50	200
Oats	84	0	84	20	0	25	45	39	0	39	0
Barley	6	0	6	0	0	2	2	4	0	0	4
Wheat-vetch	4	0	4	0	0	0	0	4	0	0	4
Oats-vetch	5	0	5	0	0	0	0	5	0	0	5
Soy Beans	40	88	128	114	0	0	114	14	0	0	14

Remarks: All above seed with exception of corn is sacked ready for shipment. Corn is in the shuck.

Approved: _____

[Signature]
5/15

Submitted by: _____

Chester R. Markley
Chester R. Markley
Refuge Manager.