

BRANCH OF WILDLIFE REFUGES

NARRATIVE REPORT

ROUTING SLIP

DATE Oct. 15, 1951

Mr. Salyer \_\_\_\_\_

Mr. DuMont PAD

Mr. Krummes \_\_\_\_\_

Miss Baum [initials]

SECTION OF OPERATIONS:

Mr. Ball \_\_\_\_\_

Mr. Morley [initials]

Mr. Regan \_\_\_\_\_

SECTION OF HABITAT IMPROVEMENT:

Mr. Griffith REY

Mr. Rubinchuk \_\_\_\_\_

Dr. Bourn WGB

Mr. Stiles WGB

SECTION OF LAND MANAGEMENT:

Mr. Ackerman WGB

Mr. Davis WGB

STENOGRAPHERS:

WGB

\_\_\_\_\_

REFUGE Okefenokee

PERIOD May-August, 1951

# OKEFENOKEE NATIONAL WILDLIFE REFUGE

## NARRATIVE REPORT

MAY - AUGUST  
1951

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NR FORMS

# OKEFENOKEE NATIONAL WILDLIFE REFUGE

## NARRATIVE REPORT

MAY - AUGUST  
1951.

### I. GENERAL.

#### A. Weather Conditions.

	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
May	1.63	94	46
June	3.24	99	58
July	5.34	100	63
August	9.35	99	61
	<u>19.56</u> Extremes	<u>100</u>	<u>46</u>

Precipitation for this period was the lowest in comparison to corresponding periods since 1942 when 18.62 inches occurred. Station records since 1938 indicate this period's precipitation to be 4.53 inches less than the average of 24.09 for the past 14 years. Only one other total for the comparative period during the past 14 years is lower than this period total, that of 1940 when precipitation amounted to 19.45 inches. Rainfall was scattered in small showers throughout the period until August 12th when 3.10 inches fell.

Although the temperature did not exceed 100 degrees during these four months the mercury reached 90 or better every day from May 30th on with the exception of a few days in June and July when readings of 84 degrees were recorded. Humidity was extremely high and the heat unbearable. Minimum temperatures were above average for corresponding periods.

#### B. Water Levels.

On the first day of this period a reading of 120.82 was recorded on the Cornelia gauge. By May 13th the water level had dropped to 120.50 and at no time during the remainder of the period did the gauge indicate a reading higher than 120.50. On August 31st a low reading of 120.00 was recorded. A review of a record of gauge readings over the past 10 years indicates lower water levels for this period than any of the other years except 1941 and 1942 for a period average. The reading of 120.00 on August 31st was the lowest recorded at Cornelia since June 14, 1941 when an all time low of 118.98 was observed. Water levels for this period at the Cornelia gauge were 12 to 18 inches lower than for the corresponding period in 1950.

On the west side of the refuge the water levels were affected more by the low precipitation for the period than on the east side at Cornelia. On May 20th the water level dropped below the bottom of the gauge on Billy's Lake and remained there all during the month of June except around the 24th when a reading of 113.22 was recorded. However, on June 27th the gauge again dropped to 109.58. All during July the water level remained below the 110.00 elevation mark and on July 17th a record low, according to station files, was recorded at 109.42. A record low for the month of June was also recorded on the 16th at 109.50.

The Suwannee River fell below the bottom of the gauge on May 10th and remained there until August 4th. It again dropped below on August 7th and at the end of the period read 101.88. A record low on the Suwannee River was recorded on July 22nd at 101.00.

### C. Fires.

Lightning started refuge fire No. 51-1 on Mitchell's Island on July 16th. The fire burned with the wind through approximately 550 acres and crowned out. About 350 acres back burned. Predominant timber is 4" to 12" D.B.H. The burn was investigated by Pilot Ball and Manager Edwards in Service plane on July 27th. It was impossible to move fire fighting equipment to the area.

## II. WILDLIFE.

### A. Migratory Birds.

#### 1. Populations and Behavior.

a. Geese. None observed during period.

b. Ducks.

Slight increases were noted in the Mallard and Black Duck populations that stayed on the refuge throughout the period. An increase of almost 100% is estimated in the wood duck population. The refuge seems to be swarming with them. A few Blue-winged Teal remained throughout the period as did Coot.

#### 2. Food and Cover.

Ducks continued to feed on the principal foods on the refuge. These foods were described in detail in the 1948 narrative report covering this period.

#### c. Water and Marsh Birds.

Pied-billed Grebe, Cormorant and Anhinga populations indicated an

increase over the corresponding period in 1950. Heron populations remained static as did the Florida Crane and American Bittern. A 20% increase was noted in the American Egret populations. An estimated 20,000 white ibis used the refuge during the period. Some refuge personnel are of the opinion this estimate is extremely conservative. This figure shows a 100% increase over the population for 1950 in the same period. Wood Ibis also increased about 100%.

Low water levels provided an abundance of food for the water and marsh birds. In the large prairies the Ibis would fly in flocks of sufficient size to hide the sun.

## B. Upland Game Birds.

### 1. Population and Behavior.

Although some young quail and turkey were observed not as many of the older birds were seen and it is believed the populations remain static. However, more quail were noticed in the Pocket than in past years. It is believed the berry crop which followed the controlled burning attracted the birds to the area. One covey was reported on Billy's Island by Boy Scouts camping there.

### 2. Food and Cover.

It is believed there will be better feeding conditions when the controlled burn program is put into full swing at this station. Likewise better cover will be available.

## C. Big Game Animals.

### 1. Populations and Behavior.

#### a. White-tailed deer.

The abundance of sign on "The Pocket", Billy's Island, Strange Island and Fiddler's Island points out that deer are very definitely increasing in the areas. Sign on the northwest end of the refuge also indicated a good increase. However, very little sign, if any, is noticed on the eastern uplands of the refuge. Quite a few logging operations are in progress on private lands adjacent to the east side of the refuge and it is possible the deer have been driven deep into the bays surrounding the swamp.

Very little, if any, protection is given the deer on the private holdings on the east side of the refuge. Night hunters run rampant and the deer that leave the refuge to range out on these areas are quickly killed off.

## b. Black Bear.

Palmetto berries and wild grapes attracted a number of this species to the uplands during the period. Numerous cubs were seen with their mothers on patrol trips by refuge personnel into all parts of the refuge. Several sets of triplets were seen and almost all of the rest of the young were observed in pairs. Several stock owners reported killing bears on their property but no complaints were received in the refuge office concerning depredations to stock.

## 2. Food and Cover.

The conditions of the animals observed indicate an abundance of food available. No signs of overgrazing were noticed on the deer range. Good berry crops were in evidence for the bear.

## D. Fur Animals, Predators, etc.

Otter showed the most increase in population. Their sign and slides were observed in abundance from Billy's Lake up the boat run to Big Water. The run through Floyd's Island Prairie contained an abundance of sign. On the east side they were observed all along the Suwannee Canal and in many of the Prairie Lakes. There is no question but that the specie is working over the fish population to some extent. Many large bass were noticed lying on the banks and slides half eaten.

Bob-cats continued to show an increase. This specie is undoubtedly keeping the quail and turkey population from showing any decided increase. Their sign is abundant all over the refuge and on night patrols they can be counted in large numbers.

Cat-hunting at night with dogs is fast becoming a popular sport on areas adjacent to the refuge. This action may help to reduce the cat population to some extent since the animals are always killed when treed.

The Raccoon population apparently is decreasing. It is too early to make any definite statements but it is believed lack of food is causing the decrease. This is apparent from the conditions of the animals observed.

Populations of the rest of the fur-bearers remain static.

## E. Predaceous Birds.

Population increases were noted in all species except the marsh hawk. A 150% decrease is estimated in the Bald Eagle population. It may be possible that some of the eagles have moved to more remote sections of the refuge indicating the decrease. Osprey, on the other hand, have established nesting sites in areas used daily by the visiting public.



## F. Fish.

Undoubtedly, the low water prevailing during the period greatly affected the fish population on Okefenokee. It is believed War-mouth Perch and Bream did not spawn until very, very late in the period. Natives living adjacent to the area advise low water greatly affects spawning periods thereby greatly reducing increases in population.

## G. Alligators.

Although alligators have been discussed in previous narratives, no estimate has ever been made as to the number of reptiles on the refuge. It has been stated that great increases have been noted every year for the past six or seven years. At the last refuge personnel staff meeting an average was decided upon from all estimates submitted. The figure arrived at was 75,000 now on the refuge.

# III. REFUGE DEVELOPMENT MAINTENANCE.

## A. Physical Maintenance.

Mr. Fulks, the refuge mechanic made considerable progress during the period in putting automotive equipment in efficient operating condition at a considerable monetary savings to the Government. It was noted operating expenses were reduced on most pieces of equipment.

Mr. Fulks was also able to effect repairs needed to outboard motors. These motors are used almost daily on Okefenokee and rapidly accumulate many hours of operation. Installation of new rings, pistons and water pumps greatly increase the life of these units.

Road maintenance consumed a considerable amount of refuge personnel's time using the dump truck and hand tools.

New poles and line were used in repair and maintenance of the telephone system from Cornelia to Folkston.

## B. Physical Development.

A new flag pole, made from sections of pipe, was erected to replace the old wooden pole at Cornelia. This was considered necessary from a safety standpoint. The old wooden poles became weak and rotten very quickly after being erected.

With the assistance of a local radio technician and the services of Mr. J. C. Berry, field technician for the General Electric Company, we were able to complete the installation and tuning of the new 250 watt FM Receiver-Transmitter at the Cornelia headquarters. Test transmissions with the portable field units indicated the station to be working excellently in covering distance. Test transmissions were read very

easily by WTDJ, the Savannah Refuge FM station. At the close of the period FM mobile units were being overhauled by a radio firm in Jacksonville and were being retuned to the 250 watt receiver.

A Timber Management Program was prepared during the period by Mr. Robert V. Wade assisted by refuge personnel. At the close of the period the refuge manager had almost completed preparation of the Controlled Burn Program using the timber compartments in the Management Plan as units in the burn plan.

Approximately 520 miles of fire lines were put in and 2800 acres prepared for control burning in connection with the Forest Insect Control Program.

#### IV. ECONOMIC USE OF REFUGE.

The Okefenokee Sportsman's Club, Inc., of Folkston, Georgia continued to show interest in their operation of the concession at the eastern entrance to the refuge under Contract I-6-fw-11134. Plans were prepared during the period to landscape the area and construct the boat shelter at the Cornelia landing.

The Refuge Manager and other refuge personnel spent a great deal of time in supervision of the concession operation at the western entrance to the refuge. Attempts were made to have the Okefenokee Recreation, Inc. complete the building program on Jones Island and complete improvements at the boat landing site. However, very little, if any, success could be had and the matter was turned over to the Regional Director with recommendations for stern reprimand to the concessionaire.

Due to low water it was necessary to close the northern entrance to the refuge and therefore no operation under the concession contract at that point was attempted.

#### V. FIELD INVESTIGATION OR APPLIED RESEARCH.

None during period.

#### VI. PUBLIC RELATIONS.

##### A. Recreational Uses.

It is estimated approximately 8,000 people visited the refuge during the period, indicating a considerable decrease in attendance for the comparative period in 1950. This is attributed to low water levels which made boating impossible on a majority of the refuge areas. However, the number of sightseers increased approximately 10% compared to fishermen.

##### B. Refuge Visitors.

United States Attorney John Cowart, U. S. Game Management Agent



Harrod and party arrived at Camp Cornelia on May 18th. They spent the 19th and 20th on inspection of the eastern side of refuge. Departed on the 20th.

Robert V. Wade, forester from St. Marks Refuge arrived on June 5th for field studies in connection with preparation of the timber management plan. Mr. Wade departed on the 9th.

Captain Kelly and Captain Church from the U. S. Air Force base at Turner Field visited the refuge on July 10th and 11th investigating the possibility of a Pilot Training Survival School on the area.

Colonel Olds, Commanding Officer of Turner Field and party arrived at the refuge on July 14th and were escorted through portions of the swamp on the west side of the refuge by Patrolman Hall and Manager Edwards, on the 15th, investigating the area for the Pilot Survival Training Project. They departed on the 15th.

U. S. Game Management Agent Harrod stopped in the Waycross Office on July 24th for a conference on patrol and case disposition.

Regional Supervisor Miller and Pilot Ball flew in to refuge on July 26th for a conference on the timber management plan and concession management and supervision. They departed on the morning of the 27th.

Mr. J. C. Berry, field technician for the General Electric Company visited the refuge on August 9th to assist personnel in completing installation and tuning of the new 250 watt FM station at the Cornelia headquarters.

Mr. William Emerson, Staff writer for Collier's Magazine, arrived at the refuge the evening of August 12th. Mr. Emerson remained throughout the 21st. During his stay he was escorted over the refuge and introduced to prominent people living adjacent to the refuge while gathering material for a feature article on Okefenokee. Mr. Emerson accompanied patrolmen on several trips into the swamp and spent one night in the swamp in the Big Water area with the manager.

State of Florida Conservation Officers Dick Bryant and Brooks Payne visited the Waycross office on August 22nd for a conference on cooperative enforcement of violations under the amended Black Bass Act in an effort to halt the shipping of game fish from Florida into Georgia.

#### C. Refuge Participation.

On July 26th Refuge Manager Edwards exhibited the Service film "Okefenokee" at a meeting of the Waycross Exchange Club and gave a 20 minute talk on refuge activities. Assistant Manager Eadie also attended the meeting.

D. Hunting.

None.

E. Fishing.

Low water prevailing during the period ruined fishing on most parts of the refuge. War-mouth perch were caught regularly in the Suwannee Canal and Prairie Lakes on the east side during May but very little success was had during the latter three months. Bass fishing was fair in the evening on Billy's Lake during the latter part of July and August for those who used fly rods. Bream fishing was fair on Billy's Lake in June only. On a whole fishing was considered poor during the period.

F. Violations.

Charles A. Williams, Millard N. Williams and James W. Adams were apprehended fishing on Billy's Lake without having in possession a valid State of Georgia fishing license on May 10th by Patrolman Cone and State Conservation Officer Tucker. They posted bonds of \$25.00 each in Clinch County Court which were forfeited.

Cone and Tucker apprehended Mrs. Ogden Lanier and Lee Ball on May 24th fishing on Billy's Lake without license. They also posted bonds of \$25.00 each in Clinch County Court which were forfeited.

State Conservation Officer Wright and Patrolman Hall apprehended A. D. Musgrove of Homerville, Georgia dynamiting fish in the Suwannee River on May 26th. Musgrove forfeited a \$100.00 cash bond in Clinch County Court.

At the close of the period all pending refuge fishing cases, with the exception of those filed with the U. S. Attorney were arraigned for disposition in Charlton County Court at Folkston, Georgia on September 24th.

G. Enforcement.

Refuge personnel kept their noses to the grindstone on overnight patrols during the period protecting concentrations of alligators caused by low water. To the best of our knowledge and investigations no 'gators were killed on the refuge.

VII. OTHER ITEMS.

## A. Items of Interest.

On June 21st U. S. Deputy Game Warden Da Lie, assisted by refuge personnel, removed a ten and a half foot alligator from the Suwannee Canal at the Cornelia boat landing. The 'gator was becoming too friendly with visitors to the area, having chased several persons along the banks of the canal. The reptile was removed to the alligator pool in the Swamp Park for display purposes and is now enjoying a daily fish diet without having to catch them.

Respectfully submitted,

*Wm. R. Edwards*Wm. R. Edwards  
Acting Refuge Manager

September 12, 1951

Date: Sept. 17, 1951Approved: *W. F. Hermannich*Asst. Regional Refuge Supervisor

## WATERFOWL

Refuge ChautauqueMonths of Mayto August19 51

(1) Species		(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name		Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u> Whistling swan										
II. <u>Geese:</u> Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose										
III. <u>Ducks:</u> Mallard Black duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck										
		Present		250	8/31	Still Present		4	50	300
		"		300	8/31	"		7	100	400
		"		50	8/31	"		0	0	50
		"		5000	8/31	"		23	500	5500
IV. <u>Coot:</u>		"		100	8/31	"		0	50	150

3-1750

(over)

Form NR-1

(Sept. 1950) Interior - Duplicating Section, Washington, D.C. 82449



### SUMMARIES

Dates waterfowl counts made None

Percent of waterfowl area covered ---

Dates brood counts made None

Percent of area covered in brood counts ---

Total production:

Geese None

Ducks 650

Coots 50

Total waterfowl usage during period 6400

Peak waterfowl numbers 5700

Areas used by concentrations Prairies-Lakes-Bays

Principal nesting areas this season ---

Prairies and Bays

Reported by Refuge Personnel

### INSTRUCTIONS

- (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) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: 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 in the reporting period.
- (5) Young produced: 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.
- (6) 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 nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since the data are necessarily based on a analysis of the rest of the form.

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

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Okefenokee

Months of May to August 1945

(1) Species  Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimated
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Number
<u>I. Water and Marsh Birds:</u>										
Pied-billed Grebe	Present		100	8/15	Still	Present	0	0	0	100
Cormorant	"		200	8/15	"	"	0	0	0	200
Anhinga-anhinga	"		500	8/15	"	"	6	49	108	500
Ward's Heron	"		500	8/15	"	"	3	37	70	500
Little Blue Heron	"		300	8/15	"	"	2	13	25	300
Green Heron	"		400	8/15	"	"	5	46	100	400
Yellow-night Heron	"		150	8/15	"	"	2	19	50	150
American Egret	"		2500	8/15	"	"	5	67	600	3000
Wood Ibis	"		2000	8/15	"	"	0	0	0	2000
White Ibis	"		20,000	8/31	"	"	0	0	0	20,000
Florida Crane	"		450	8/31	"	"	0	9	25	450
American Bittern	"		150	8/31	"	"	0	0	0	150
Florida Gallinule	"		200	8/15	"	"	0	16	50	250
<u>II. Shorebirds, Gulls and Terns:</u>										
Wilson's Snipe	Present		500	8/15	"	"	0	0	100	600
Woodcock	"		200	8/15	"	"	0	0	50	250
Solitary Sandpiper	"		50	8/1	"	"	0	0	0	50
Greater Yellowlegs	"		50	8/1	"	"	0	0	0	50
Kill deer	"		400	8/31	"	"	0	0	0	400
Black Tern	"		50	8/1	"	"	0	0	0	50
Herring Gull	"		50	8/31	"	"	0	0	0	50

(over)



(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	Present	500	8/31	Still	Present
White-winged dove				0	21
				50	550
IV. Predaceous Birds:					
Golden eagle					
Duck hawk					
Horned owl					
Magpie					
Raven					
Crow, Southern	"	400	8/31	"	"
Osprey	"	200	8/1	"	"
Bald Eagle	"	20	8/1	"	"
Barred Owl	"	1000	8/1	"	"
Red-Shouldered Hawk	"	750	8/1	"	"
Red-Tailed Hawk	"	200	8/1	"	"
Marsh Hawk	"	50	8/1	"	"
				0	3
				0	21
				0	1
				0	0
				0	2
				0	3
				0	0
				0	10
					450
					250
					25
					1200
					1000
					250
					60
Reported by.....				Refuge Personnel	

#### 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.

UPLAND GAME BIRDS

1613

Refuge Okefenokee 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	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.
Bob-white quail	50,000 acres, pine woods, fields and islands	14.2	9	75	Unknown	0	0	0	3,500	
Eastern Turkey	"	76.9	2	10	"	0	0	0	650	



## 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.

REFUGE GRAIN REPORT

Refuge Okefenokee

Months of May thru August 194....

(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.
None	None	None	None	0	0	0	0	0	0	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.