

BRANCH OF WILDLIFE REFUGES

NARRATIVE REPORT

ROUTING SLIP

DATE February 18, 1952

Mr. Salyer _____

Mr. DuMont PAD

Mr. Krummes _____

~~Miss Baum~~ _____

SECTION OF OPERATIONS:

~~Mr. Ball~~ _____

~~Mr. Morley~~ Len

~~Mr. Rogers~~ RJR

SECTION OF HABITAT IMPROVEMENT:

~~Mr. Griffith~~ REG

Mr. Kubichek _____

Dr. Bourn _____

Mr. Stiles _____

SECTION OF LAND MANAGEMENT:

~~Mr. Anderson~~ wa

~~Mr. Davis~~ cas

STENOGRAPHERS:

REFUGE Calhoun & Batchtown

PERIOD September-December, 1951

CALHOUN AND BATCHTOWN REFUGES
NARRATIVE REPORT
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1951

I. GENERAL

A. Weather Conditions:

The maximum temperature in September and December was higher during this period than last year. Minimum temperatures were lower in 1950 in every month except October, which was the same. Weather conditions were better for the duck hunter this year than last year for there were not many cold days to keep hunters out of the fields. All but two days were good weather for duck hunters during the 45 day season. Many days were very warm, and most of the hunters were pleased with weather conditions this season.

Relative readings are shown below:

| Month | Year | Maximum | Minimum | Precipitation |
|-----------|------|---------|---------|-----------------|
| September | 1950 | 91 | 36 | 1.77 |
| | 1951 | 97 | 39 | 3.67 |
| October | 1950 | 90 | 35 | .98 |
| | 1951 | 85 | 35 | 2.07 |
| November | 1950 | 88 | 6 | 2.69 |
| | 1951 | 75 | 13 | 2.27 |
| December | 1950 | 68 | 2 | .80 |
| | 1951 | 73 | 27 | .20 |
| | | | | 1950 total 6.24 |
| | | | | 1951 total 8.21 |

B. Water Conditions:

The river stage in Pool 26 was good throughout the period, with essentially normal levels prevailing part of the time, and slightly above normal readings the rest of the time. This resulted in more favorable hunting conditions in the pool, especially in areas which are difficult of access during low or normal water. Generally, conditions in Pool 26 were the most favorable in several years.

A comparison of pool levels in Pool 26, compared to the same period in 1950, is shown in the following table:

II. WILDLIFE

A. Migratory Birds: 1. Populations and Behavior: a. Waterfowl:

Ducks started coming into the area in late September, and increased during the rest of the period. Blue-winged teal arrived late this year, coming in on September 29, compared to August 23 in 1950. Pintails were first observed on September 29, also, while in 1950 they were first seen on September 20. Mallards came in on September 29, compared to September 11 last year.

The peak concentration occurred on November 22. At that time, a big flight of ducks went through, with few stopping on the refuge. These birds were moving through ahead of a snow storm.

The peak concentration on the Calhoun Refuge this fall was 321,000 ducks, compared to 150,000 in 1950. Ducks would pile up in the refuge in goodly numbers; then they would be greatly reduced; and then they would build up again. It is believed that with warmer weather following early season cold, many ducks moved back from the south again.

The peak concentration on the Batchtown area occurred before the season opened. On October 23, a peak of 49,400 ducks were observed, compared to 79,400 last year. At no time during the waterfowl season did the population exceed 19,000 birds. This was most unusual, for normally high populations are built up and held in the closed area throughout the season. Unfavorable water conditions in this pool, as discussed previously, were responsible for the reduction of birds using the Batchtown area this fall.

In both the Batchtown and Calhoun areas, ducks fed in cornfields and were in good condition throughout the season. Since most of the feeding was done after shooting hours, some hunters disliked this feeding habit this fall.

b. Geese:

Canada geese started to stay on the refuge on October 27. They remained there all season, and they were present in about their peak numbers by mid-December. The peak concentration occurred on December 7, with 500 geese being noted compared to the peak of 200 in 1950. It is estimated that 15 Canada geese were killed in the vicinity of the refuge this year.

Blue and snow geese showed a good increase this year. They started coming into the area on October 20, and peaked at 12,000 on December 7. Quite a number of these birds were still present on the Calhoun Refuge at the close of this report period. The 1950 peak of blues and snows was 4,000 birds. It is estimated that 75 of these birds were killed in the vicinity of the Calhoun Refuge during the past waterfowl season.

c. Swans:

None were observed on either area this period.

d. Egrets:

Egrets were numerous all during the season. By the time the duck season opened, most of them had pulled out. The peak concentration occurred October 8, with an estimated 2,000 birds in the area compared to 800 birds last year.

e. Shorebirds:

Wilson snipe showed an increase this year, with an estimated 150 in the area, compared to 50 for the same period in 1950.

There was also an increase noted in killdeer, with 600 present this year compared to 400 a year ago.

2. Food and Cover:

Excessive and prolonged high water during the early part of the growing season resulted in a reduced production of natural foods this year, and consequently the food conditions in the closed areas were not up to the usual abundance. This shortage of food in the closed areas did not have an adverse effect on waterfowl useage, however. Higher than normal water levels during the season in Pool 26 made considerable food available, when marginal smartweeds, millets, etc., were flooded with a few inches of water.

In Pool 25, food conditions during the season were very poor, because the almost complete lack of water on normal areas rendered the good crop of smartweed and millet seed unavailable to ducks.

In both pools, however, the presence of machine-picked cornfields alleviated any shortage of natural foods, and waterfowl fed in these fields in large numbers throughout the fall.

B. Upland Game Birds:

No upland game birds are present on either the Batchtown or Calhoun Refuges.

There is ample food and cover present on both areas to sustain fairly high populations of these birds in event any should become established in the areas. Perhaps high water in the spring discourages upland game from using the bottomlands.

C. Big Game Animals:

No big game animals are present on either area.

D. Fur Bearers:

a. Muskrats:

The muskrat population is low in this portion of the river. Very few signs were observed during the season, and there was very little trapping done this year. It is probable that prolonged high water had a deleterious effect on this species.

b. Minks:

Trappers report that minks are scarcer this year than last. Very few of these animals were taken by trappers this year.

c. Skunk:

No skunk sign has been noted on either area this fall.

d. Beaver:

Beavers seem to be on the increase this year. Almost all islands have beaver signs on them, and a new house was built on Six-mile Slough near Swan Lake this fall.

For the first time in many years, Illinois had a beaver season this fall. An estimated 15 animals were removed from the vicinity of the Calhoun Refuge.

e. Otter:

No otter signs have been seen on either area.

f. Raccoon:

Trappers and coon dog handlers report raccoon are plentiful throughout the bottoms this fall, and some of them report taking 6 or 7 in one hunt. This species continues to increase in this area.

g. Foxes:

Foxes are plentiful in areas, and in the entire portion of the river in this vicinity. Trappers are taking a lot of foxes and report that these animals are increasing.

E. Predaceous Birds:

Eagles remain static, although this fall 27 were seen, compared to 25 for the same period in 1950.

Hawks are common in all areas. Red-tailed hawks seem to be in the majority, and appear to be on the increase.

A goodly number of owls have been observed in the timbered areas. These birds seem to be on the increase in this locality.

F. Fish:

Fish are plentiful in all lakes in the area. The Illinois and Mississippi Rivers seem to have plenty of rough fish as some commercial fishermen report good results. Pole and line fishermen report that there are plenty of game fish in all lakes and sloughs.

III. REFUGE DEVELOPMENT AND MAINTENANCE

B. Plantings:

4. Cultivated Crops:

Although 8 share-cropping permits were issued, no crops were planted because the area was so badly flooded out during the prolonged high water this spring.

VI. PUBLIC RELATIONS

A. Recreational Uses:

Boating and picnicking were extensively done throughout the fall on both the Illinois and Mississippi Rivers. Pecan

picking, always a popular activity after the first frost, was noticed and it was as extensive as in the past.

B. Refuge Visitors:

Dr. W. E. Green, biologist for the Upper Mississippi Refuge, spent the first week of the waterfowl season here helping to check hunters and secure bag check data.

C. Refuge Participation:

There is nothing to report under this heading.

D. Hunting:

Duck hunters in Pool 26 had a good season. The better duck hunters took plenty of ducks, although high shooting was still very common, and high shooters often were unsuccessful. All areas checked showed a greater hunter success this year than in the past, with the exception of the Batchtown area, where hunting was poor as a result of low water throughout the season. Excellent hunting weather prevailed throughout the 45 day season this fall. Hunting pressure on the Illinois River, Pool 26, was greater this year than normally, because low water at Batchtown forced many who usually hunt there to do their hunting in Pool 26.

In the Batchtown area this fall, a total of 535 hunters were checked, with 926 ducks, for an average daily bag of 1.73 per hunter. This compares to the data collected from 1947 hunters taking 2884 ducks for a 1.48 average in 1950. No hunters went out in the State managed area for the first week of the season, because of extremely low water. During the entire season, only 45 hunters were taken out, and they succeeded in bagging only 15 ducks.

In Pool 26, a total of 2,579 hunters were checked, with 2,981 ducks, for a daily average of 1.15 ducks per hunter day. In 1950, a total of 1,561 hunters were checked with 1,436 ducks, for an average of 0.91 birds per day.

The Diamond Island Club in Pool 26 showed the biggest increase this fall, with a total of 482 hunters taking 1,031 ducks, for an average of 2.13 ducks per day. In 1950, it was found that there were a total of 184 hunters with 257 ducks, for an average of 1.30 ducks per day.

It is interesting to note that while hunting conditions in Pool 25 were generally considered very poor, the success rate

was higher this year than last, for in 1950 the average for the entire pool was 1.48 birds per day; while this fall, the pool averaged 1.73 ducks per day. It should be pointed out, however, that hunting pressure was only 27.47 percent as great as in 1950.

E. Fishing:

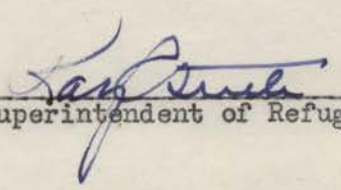
Pole and line fishing was fair during the early part of the period, but was over by the first of November. Crappie, bass, and bluegill fishing was better than last year.

Commercial fishing was better this fall than last year too. Fishermen report that the high water put new fish in the area and they expect better results. Most of them say this was a better year than last year.

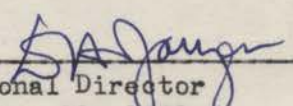
F. Violations:

No cases were made during this period. Hunters in this area were the best behaved that have been noticed for several years. The sanctuaries were respected more this year than at any time since they were established.

January 5, 1952.



Superintendent of Refuges



Regional Director
January 11, 1952

WATERFOWL

Refuge Calhoun

Months of September

to December

19 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. Swans: | | | | | | | | | | |
| Whistling swan | | | | | | | | | | |
| II. Geese: | | | | | | | | | | |
| Canada goose | | 200 | 10/27 | 500 | 12/7 | 500 | 12/9 | | | 500 |
| Cackling goose | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted goose | | | | | | | | | | |
| Snow goose | | 300 | 10/20 | 6,000 | 12/7 | 6,000 | 12/9 | | | 6,000 |
| Blue goose | | 300 | 10/20 | 6,000 | 12/7 | 6,000 | 12/9 | | | 6,000 |
| III. Ducks: | | | | | | | | | | |
| Mallard | | 100 | 9/29 | 245,800 | 11/22 | 89,300 | 12/7 | | | 300,000 |
| Black duck | | 100 | 10/20 | 2,000 | 11/22 | 500 | 12/9 | | | 4,000 |
| Gadwall | | 500 | 10/27 | 500 | 10/27 | 200 | 11/8 | | | 5,000 |
| Baldpate | | 200 | 10/6 | 5,000 | 11/13 | 200 | 12/9 | | | 11,500 |
| Pintail | | 50 | 9/29 | 40,000 | 11/22 | 10,000 | 12/9 | | | 120,000 |
| Green-winged teal | | 300 | 10/27 | 500 | 11/3 | 200 | 11/22 | | | 4,000 |
| Blue-winged teal | | 150 | 9/29 | 500 | 11/3 | 100 | 11/13 | | | 5,000 |
| Cinnamon teal | | | | | | | | | | |
| Shoveller | | 400 | 10/27 | 2,000 | 11/13 | 200 | 12/8 | | | 3,000 |
| Wood duck | | 200 | 9/29 | 3,000 | 11/8 | 50 | 12/9 | | | 5,000 |
| Redhead | | 100 | 10/27 | 200 | 11/13 | 200 | 11/13 | | | 200 |
| Ring-necked duck | | | | | | | | | | |
| Canvas-back | | 100 | 10/27 | 300 | 11/13 | 100 | 11/24 | | | 300 |
| Scaup | | 100 | 10/27 | 10,000 | 11/3 | 3,000 | 11/22 | | | 10,000 |
| Golden-eye | | 100 | 11/13 | 100 | 11/13 | 50 | 12/9 | | | 100 |
| Buffle-head | | 50 | 11/3 | 100 | 11/22 | 100 | 11/22 | | | 100 |
| Ruddy duck | | 100 | 10/27 | 300 | 11/13 | 200 | 11/22 | | | 300 |
| IV. Coot: | | 500 | 10/6 | 20,000 | 10/27 | 50 | 12/8 | | | 20,000 |

SUMMARIES

| | |
|---|--|
| Dates waterfowl counts made _____ | Total waterfowl usage during period <u>500,000</u> |
| Percent of waterfowl area covered _____ | Peak waterfowl numbers <u>321,300 ducks</u> <u>20,000 coot</u> |
| Dates brood counts made _____ | Areas used by concentrations <u>Swan & Gilbert Lakes</u> |
| Percent of area covered in brood counts _____ | Principal nesting areas this season _____ |
| Total production: | |
| Geese _____ | |
| Ducks _____ | |
| Coots _____ | |
| | Reported by <u>Edward A. Davis</u> |

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 these are necessarily based on an analysis of the rest of the form.

WATERFOWL

 Refuge Batchtown Months of September to December 19 51

| (1) Species | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Young Produced | | (6) Total |
|---|-------------------|-------|---------------------------|-------|------------------|-------|-----------------------|-----------------|----------------------|
| | 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 | 25 | 9/29 | 10,000 | 10/23 | 3,000 | 12/7 | | | 20,000 |
| Black duck | 100 | 10/20 | 300 | 10/23 | 100 | 12/7 | | | 600 |
| Gadwall | 100 | 10/23 | 100 | 11/8 | 100 | 11/8 | | | 400 |
| Baldpate | 100 | 10/6 | 3,000 | 10/23 | 200 | 11/8 | | | 3,000 |
| Pintail | 50 | 9/29 | 20,000 | 10/23 | 200 | 12/7 | | | 35,000 |
| Green-winged teal | 100 | 10/23 | 100 | 10/23 | 50 | 11/24 | | | 200 |
| Blue-winged teal | 150 | 9/29 | 1,000 | 10/23 | 100 | 11/3 | | | 1,000 |
| Cinnamon teal | | | | | | | | | |
| Shoveller | 200 | 10/23 | 200 | 11/8 | 200 | 11/8 | | | 200 |
| Wood duck | 200 | 9/29 | 300 | 11/23 | 100 | 11/8 | | | 300 |
| Redhead | 25 | 10/23 | 100 | 11/3 | 50 | 11/8 | | | 100 |
| Ring-necked duck | | | | | | | | | |
| Canvas-back | 100 | 11/3 | 100 | 11/29 | 100 | 11/29 | | | 100 |
| Scaup | 5,000 | 11/3 | 5,000 | 11/3 | 200 | 11/24 | | | 5,000 |
| Golden-eye | 50 | 11/8 | 50 | 11/8 | 50 | 11/8 | | | 50 |
| Buffle-head | 50 | 11/3 | 50 | 11/3 | 50 | 11/3 | | | 50 |
| Ruddy duck | 25 | 11/3 | 100 | 11/8 | 100 | 11/8 | | | 100 |
| IV. <u>Coot:</u> | 300 | 10/6 | 6,000 | 10/20 | 500 | 11/8 | | | 6,000 |

SUMMARIES

| | |
|---|--|
| Dates waterfowl counts made _____ | Total waterfowl usage during period <u>75,000</u> |
| Percent of waterfowl area covered _____ | Peak waterfowl numbers <u>49,400</u> |
| Dates brood counts made _____ | Areas used by concentrations <u>Batchtown closed areas</u> |
| Percent of area covered in brood counts _____ | Principal nesting areas this season _____ |
| Total production; | |
| Geese _____ | |
| Ducks _____ | |
| Coots _____ | Reported by <u>Edward A. Davis</u> |

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 these data are necessarily based on an analysis of the rest of the form.

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

MIGRATORY BIRDS
(Other than waterfowl)

Refuge Calhoun Months of September to December 1951

| (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. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Blue heron | 30 | 9/4 | 200 | 10/9 | 2 | 12/7 | | | | 300 |
| Egrets | 75 | 9/4 | 2,000 | 10/8 | 3 | 12/1 | | | | 5,000 |
| Cormorants | 20 | 9/4 | 5,000 | 10/28 | 10 | 12/7 | | | | 8,000 |
| II. <u>Shorebirds, Gulls and Terns:</u> | | | | | | | | | | |
| Gulls | 100 | 9/4 | 2,000 | 12/7 | 2,000 | 12/7 | | | | 5,000 |
| Killdeer | 100 | 9/4 | 600 | 9/28 | 25 | 12/7 | | | | 600 |
| Wilson snipe | 20 | 9/4 | 150 | 10/23 | 2 | 12/7 | | | | 150 |

(over)

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|-----|-----|-----|-----|-----|
| III. Doves and Pigeons: | | | | | |
| Mourning dove | | | | | |
| White-winged dove | | | | | |
| IV. Predaceous Birds: | | | | | |
| Golden eagle | | | | | |
| Duck hawk | | | | | |
| Horned owl | | | | | |
| Magpie | | | | | |
| Raven | | | | | |
| Crow | | | | | |
| Crows are here in big numbers all year. | | | | | |
| Reported by <u>Edward A. Davis</u> | | | | | |

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.

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

MIGRATORY BIRDS
(Other than waterfowl)

Refuge Batchtown Months of September to December 1951

| (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. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Blue heron | 10 | 9/17 | 100 | 10/3 | 3 | 12/7 | | | | 150 |
| Egrets | 20 | 9/17 | 1,000 | 10/3 | 2 | 11/15 | | | | 1,500 |
| Cormorants | 100 | 9/7 | 3,000 | 10/28 | 5 | 12/7 | | | | 5,000 |
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(over)

Form NR-2
(April 1946)

1613

Months of September to December, 1945

| (1) Species | (2) Density | (3) Young Produced | (4) Sex Ratio | (5) Removals | (6) Total | (7) Remarks | |
|----------------|--|--------------------------|--|-----------------|---|--|--|
| Common Name | Cover types, total acreage of habitat | Acre per Bird | Number broods obs'd. Estimated Total | Percentage | Hunting For Re- stocking For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| | Nothing to report under this. | | | | | | |

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 Calhoun and BatehtownYear 1945

| (1) Species | (2) Density | (3) Young Produced | (4) Removals | | | | (5) Losses | | | (6) Introductions | | (7) Estimated Total Refuge Population as of Dec. 31 | (8) Sex Ratio |
|-------------------------------|--|--------------------------|-----------------|---------------------|------|-----------------|---------------|---------|------------------|----------------------|--------|--|------------------|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease | Winter Losses | Number | Source | | Percentage |
| Nothing to report under this. | | | | | | | | | | | | | |

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) exclusive of fenced herds. 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 total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge as of December 31.
- (8) SEX RATION: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Refuge Calhoun and BatchtownYear 1951

Botulism

Lead Poisoning or other Disease

Period of outbreak _____

Period of heaviest losses _____

Losses:

| | Actual Count | Estimated |
|----------------|--------------|-----------|
| (a) Waterfowl | _____ | _____ |
| (b) Shorebirds | _____ | _____ |
| (c) Other | _____ | _____ |

| Number Hospitalized | No. Recovered | % Recovered |
|---------------------|---------------|-------------|
| (a) Waterfowl | _____ | _____ |
| (b) Shorebirds | _____ | _____ |
| (c) Other | _____ | _____ |

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease _____

Species affected _____

| Number Affected Species | Actual Count | Estimated |
|----------------------------|--------------|-----------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks Nothing to report under this.

Refuge Calhoun and BatchtownYear 1951

| Species | Relative Abundance | Sport Fishing | | Commercial Fishing | | Restocking | | Number re- moved for Restocking |
|---------|-------------------------------|---------------------|-----------------|--------------------|-----------------|-------------------|--------------|---------------------------------------|
| | | Man days Fishing | Number Taken | No. of Permits | Pounds Taken | Number Stocked | Area Stocked | |
| | Nothing to report under this. | | | | | | | |

REMARKS:

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge Calhoun and BatchtownYear 1951

| Species | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount & Nature of Propagules | Date of Plant- ing | Survival | Cause. of Loss | Remarks |
|-------------------------------|--------------------------------|--------------------------------------|--|----------------------------------|--------------------------|----------|-------------------|---------|
| Nothing to report under this. | | | | | | | | |

TOTAL ACREAGE PLANTED:

Marsh and aquatic _____
 Hedgerows, cover patches _____
 Food strips, food patches _____
 Forest plantings _____

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, brome grass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

COLLECTION AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge Calhoun and Batchtown Year 1951

3-1760
Form NR-10
(April 1946)

HAYING AND GRAZING

Refuge Calhoun and Batchtown Year 1945

| Permittee | Permit No. | Unit or Location | Actual Acreage Utilized | Animal Use Months | Tons of Hay Harvested | Period of Use From - To | Rate | Total Income | Remarks |
|-------------------------------|------------|------------------|-------------------------|-------------------|-----------------------|-------------------------|------|--------------|---------|
| Nothing to report under this. | | | | | | | | | |

Totals:

| | | |
|--------------------------|------------------------|---------------------------|
| Acreage grazed..... | Animal use months..... | Total income Grazing..... |
| Acreage cut for hay..... | Tons of hay cut..... | Total income Haying..... |

TIMBER REMOVAL

Refuge Calhoun and Batshtown Year 1951

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B. F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut |
|-------------------------------|------------|------------------|---------|---|----------------|--------------|-------------------------------------|-------------|
| Nothing to report under this. | | | | | | | | |

Total acreage cut over..... Total income.....

No. of units removed B. F. Method of slash disposal.....

Cords.....

Ties.....

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