

RG 22 Narrative Report Chautauqua NWR 1972

1972

NARRATIVE REPORT  
1972

Chautauqua National Wildlife Refuge  
Havana, Illinois

PERMANENT PERSONNEL

John E. Toll  
Harry R. Prochnow  
Mrs. Alice Clanin (part time)  
Charles W. (Bill) Watts

Refuge Manager  
Biological Technician  
Clerk-Stenographer  
Maintenanceman

Gerald E. Cummings

Area Biologist

TEMPORARY PERSONNEL

Donald H. Cordell (7/03/72 - 8/04/72)  
Raymond G. Godfrey (6/12/72 - 8/30/72)

Biological Aid  
Biological Aid

United States Department of the Interior  
Fish and Wildlife Service  
Bureau of Sport Fisheries and Wildlife

Chautauqua National Wildlife Refuge  
Rural Route 2  
Havana, Illinois 62644

## C O N T E N T S

|  | <u>Page</u> |
|--|-------------|
| I. General                                 |             |
| A. Weather Conditions . . . . .            | 1           |
| B. Habitat Conditions . . . . .            | 1           |
| II. Wildlife                               |             |
| A. Migratory Birds . . . . .               | 1           |
| B. Raptors . . . . .                       | 1           |
| C. Fish . . . . .                          | 1           |
| III. Refuge Development and Maintenance    |             |
| A. Physical Maintenance . . . . .          | 2           |
| B. Plantings . . . . .                     | 2           |
| IV. Resource Management                    |             |
| A. Commercial Fishing . . . . .            | 2           |
| V. Field Investigation or Applied Research |             |
| A. Recreational Uses . . . . .             | 2           |
| VI. Public Relations                       |             |
| A. Refuge Participation . . . . .          | 3           |
| VII. Environmental Education . . . . .     | 3           |
| VIII. Other Items                          |             |
| A. Items of Interest . . . . .             | 4           |
| B. Photographs . . . . .                   | 4           |
| C. Credits . . . . .                       | 4           |
| D. Signature . . . . .                     | 5           |

## CHAUTAUQUA NATIONAL WILDLIFE REFUGE

### HAVANA, ILLINOIS

#### I. GENERAL

##### A. Weather Conditions

This was an extremely wet year with high waters starting in early spring and continuing through the summer and winter. Near flood conditions existed in December and in January, 1973, waters breached the cross dikes.

A permanent record of weather conditions for the past year is available at the Illinois Power Company in Havana.

##### B. Habitat Conditions

Due to the extremely high water during the growing period, virtually no waterfowl food grew. This was the case in the entire Illinois River Valley. Migrating waterfowl had to depend on field feeding. Fortunately for them but unfortunately for the farmers, a wet fall left some crops in the fields and prevented fall plowing.

Food and cover conditions for all other animals were adequate.

#### II. WILDLIFE

##### A. Migratory Birds

There was nothing unusual to report about waterfowl migrations and numbers for this year. Details have been reported on the monthly waterfowl reports.

##### B. Raptors

During the winter months unusually large numbers of ospreys were observed by bird watchers on and near the refuge.

##### C. Fish

High water conditions made fishing areas accessible throughout the year. As a result, we had tremendous increase in fishing pressure when compared to last year's extremely dry summer. Bluegill catches were very poor but excellent strings of crappie were caught with pole and line and channel cat fishing remained good throughout the year.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Maintenance

In addition to routine maintenance of all facilities on the refuge, there were some things that were concentrated on this year. The radial gates were scraped and tarred for the first time since construction, intensive rehabilitation of all the recreation areas was completed, a new furnace and heater were installed in the residence, and safety railings were installed at the radial gates and the tower.

#### B. Plantings

About 100 trees and shrubs were planted at various public use areas on the refuge. The purpose of the planting was to provide future shade trees for the areas and to screen facilities such as rest-rooms, etc.

### IV. RESOURCE MANAGEMENT

#### A. Commercial Fishing

Commercial fishing on the refuge has slowly declined over the past several years. At the present time, we only have seven commercial fishermen and of these only about three actually fish more than a week or so on the refuge. Soon we will recommend to discontinue the issuance of special permits for commercial fishing on the refuge and allow it to be fished the same as other waters in this area under state regulations.

### V. FIELD INVESTIGATION OR APPLIED RESEARCH

#### A. Recreational Uses

An intensive public use survey was conducted this year to determine more accurately the number of people that use the area and for what purpose they come to visit. The survey was made with the use of traffic counters on all entrance roads plus periodic personal surveys scattered throughout the year. A survey indicated an increase in public use from an average of about 50,000 visitors in past years to a total use of over 90,000 this year. Whether this is actually an increase in visitor use or whether past estimates have been low, we are not sure. The two highest uses of the refuge are fishing and wildlife observation.



## VI. PUBLIC RELATIONS

### A. Refuge Participation

During the year talks were given to 17 different groups totaling 1,200 individuals. These groups varied from an annual meeting of the Postal Workers of Taxewell County to the Izaak Walton League of Peoria.

Maintenanceman Watts is vice-president of the Mason County Fire Fighters Association and chaplain of the local V.F.W. Toll is a member of the Sierra Club and chairman of the Conservation Committee. He is also on the governing board of the Environmental Association of Illinois and a member of the Environmental Forum of Peoria.

## VII. ENVIRONMENTAL EDUCATION

The environmental education program has developed rapidly during the year and as a result has demanded a considerable amount of time. Numerous talks were given to groups involving environmental topics. These were primarily to school groups but also included bird watching groups, conservation groups and civic organizations. The refuge participated in planning and carrying out the Sparkling Waters project in Peoria which resulted in over 4,000 people participating in the collection of several tons of litter in the Peoria area.

Five workshops were conducted during the year for teachers to introduce them to methods in environmental outdoor education.

Toll was appointed to the Office of the Superintendent of Public Instruction Task Force to write an environmental education plan for the State of Illinois. The Task Force was made up of individuals from throughout the state of Illinois. About 50% of them were teachers with the remainder made up of representatives from industry, newspapers, farmers and other professionals. In December of this year, the Task Force completed the rough draft of the plan and it is now in the hands of professional writers.

In the spring, Refuge Manager Toll became acquainted with Dr. Kellogg of Western Illinois University and found that they both shared an interest in promoting environmental education. As a result of this meeting, several exploratory meetings were held at Western Illinois University with Dr. Kellogg and others in the months of September, November and December. As a result of these planning sessions, it was agreed that the Havana school system would be offered the opportunity to participate in a pilot program in environmental education. As of this writing, a series of workshops are under way in Havana with the idea that the pilot program will be initiated in the Havana schools this fall.

## VIII. OTHER ITEMS

### A. Items of Interest

Although the final papers have not been signed, it now appears a certainty that the Bureau will inherit the 1,800-acre Meredosia Island. During the year a management plan, biological reconnaissance report and a draft environmental impact statement were written for the island and additional land recommended for acquisition.

In recognition of her outstanding contributions to the Bureau effort at Chautauqua over the past years, Refuge Clerk-Stenographer Alice Clanin was given a Superior Performance Award and a step increase.

### B. Photographs

Appended.

### C. Credits

Photographs by Susan Toll, Jerry Cummings and Jack Toll. Darkroom work by Susan Toll. All NR forms completed by Watts. Typing, by Clanin. Remainder, by Toll.

3-1979 (NR-12)  
(11/63)

Bureau of Sport Fisheries and Wildlife

Refuge  
**CHAUDAUQUE**

**ANNUAL REPORT OF PERSTICIDE APPLICATION**

Proposal Number      Reporting Year  
**1972**

**INSTRUCTIONS:** Wildlife Refuge Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|------------------------|------------------------|--------------------------|---------------------|------------------|----------------------------------|------------------|------------------|-----------------------|
| (1)                    | (2)                    | (3)                      | (4)                 | (5)              | (6)                              | (7)              | (8)              | (9)                   |
|                        |                        |                          |                     |                  | <b>None</b>                      |                  |                  |                       |

10. Summary of results (continue on reverse side, if necessary)



3-1761  
Form K-1  
(2/46)

TIME REMOVAL

Refuge.....CHAUTAUQUE..... Year 1972

| 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 |
|-----------|------------|------------------|---------|---|----------------|--------------|-------------------------------------|-------------|
| None      |            |                  |         |   |                |              |                                     |             |

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

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

Cords.....

Ties.....

.....

3-1-73  
Form NR-9  
April 1946)

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

Refuge CHARTERDA Year 1972

| Species | Collections |                                    |        | Receipts  |        | Total<br>Amounts<br>on Hand                                | Amount<br>Surplus |
|---------|-------------|------------------------------------|--------|-----------|--------|--|-------------------|
|         | Amount      | Date or<br>Period of<br>Collection | Method | Unit Cost | Amount | Source   |                   |
| NONE    |             |                                    |        |           |        |  |                   |
|         |             |                                    |        |           |        |  |                   |
|         |             |                                    |        |           |        |  |                   |
|         |             |                                    |        |           |        | Interior Duplicating Section,<br>Washington 25, D.C. 84267 |                   |

2-1870  
(7/1)

# REFUGE GRAIN REPORT

Refuge CRATAEGUS Months of January through December, 1967

| (1)<br>VARIETY* | (2)<br>ON HAND<br>BEGINNING<br>OF PERIOD | (3)<br>RECEIVED<br>DURING<br>PERIOD | (4)<br>TOTAL | (5)<br>GRAIN DISPOSED OF |        |     |       | (6)<br>ON HAND<br>END OF<br>PERIOD | (7)<br>PROPOSED OR SUITABLE USE* |      |         |
|-----------------|--|-------------------------------------|--------------|--------------------------|--------|-----|-------|------------------------------------|----------------------------------|------|---------|
|                 |  |                                     |              | Transferred              | Seeded | Fed | Total |                                    | Seed                             | Feed | Surplus |
| W O R E         |  |                                     |              |                          |        |     |       |                                    |                                  |      |         |

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

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

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

\*See instructions on back.

3-1758  
Form 8-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge CAHOKIA County JEFFERSON State ILLINOIS

| Cultivated<br>Crops<br>Grown | Permittee's<br>Share Harvested |          | Government's Share or Return |          |                      |          | Total<br>Acreage<br>Planted | Green Manure,<br>Cover and Water-<br>fowl Browsing Crops<br>Type and Kind | Total<br>Acreage |
|------------------------------|--------------------------------|----------|------------------------------|----------|----------------------|----------|-----------------------------|---|------------------|
|                              | Acres                          | Bu./Tons | Harvested<br>Acres           | Bu./Tons | Unharvested<br>Acres | Bu./Tons |                             |   |                  |
| NONE                         |                                |          |                              |          |                      |          |                             |   |                  |
|                              |                                |          |                              |          |                      |          |                             | Fallow Ag. Land.  |                  |

No. of Permittees: Agricultural Operations \_\_\_\_\_ Having Operations \_\_\_\_\_ Grazing Operations \_\_\_\_\_

| Hay - Improved<br>(Specify Kind) | Tons<br>Harvested | Acres | Cash<br>Revenue | Grazing                                    | Number<br>Animals | AUM'S | Cash<br>Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
|                                  |                   |       |                 | 1. Cattle                                  |                   |       |                 |         |
|                                  |                   |       |                 | 2. Other                                   |                   |       |                 |         |
|                                  |                   |       |                 | 1. Total Refuge Acreage Under Cultivation  |                   |       |                 |         |
| Hay - Wild                       |                   |       |                 | 2. Acreage Cultivated as Service Operation |                   |       |                 |         |

1-1757  
Form NR-  
Rev. June 1960)

(1)  
NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge CHARTERS Year 1972

| Collections and Receipts<br>(Seeds, rootstocks, trees, shrubs) |                                    |                     |      |                        |      |                                   | Plantings<br>(Marsh - Aquatic - Upland) |                                      |  |                                       |      |          |                  |
|--|------------------------------------|---------------------|------|------------------------|------|-----------------------------------|---|--------------------------------------|--|---------------------------------------|------|----------|------------------|
| Species  | Amount<br>(lbs.,<br>bus.,<br>etc.) | (2)<br>C<br>or<br>R | Date | Method<br>or<br>Source | Cost | (3)<br>Total<br>Amount<br>on Hand | Location of<br>Area Planted             | Rate of<br>Seeding<br>or<br>Planting | Amount<br>Planted<br>(Acres or<br>Yards of<br>Shoreline) | Amount and<br>Nature of<br>Propagules | Date | Survival | Cause<br>of Loss |
| None   |                                    |                     |      |                        |      |                                   |   |                                      |  |                                       |      |          |                  |

- (1) Report agronomic farm crops on Form NR-8
- (2) C = Collections and R = Receipts
- (3) Use "S" to denote surplus

Total acreage planted:  
Marsh and aquatic \_\_\_\_\_  
Hedgerows, cover patches \_\_\_\_\_  
Food strips, food patches \_\_\_\_\_  
Forest plantings \_\_\_\_\_

Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Refuge CHANTABUN Year 1972

**Botulism**

Period of outbreak None

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 \_\_\_\_\_

**Lead Poisoning or other Disease**

Kind of disease None

Species affected \_\_\_\_\_

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

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

Year 1967

| (1)<br>Weeks of<br>Hunting | (2)<br>No. Hunters<br>Checked | (3)<br>Hunter<br>Hours | (4)<br>Waterfowl Species and Nos. of Each Bagged  | (5)<br>Total<br>Bagged | (6)<br>Crippling<br>Loss | (7)<br>Total<br>Kill | (8)<br>Est.No.<br>Hunters | (9)<br>Est. Total<br>Kill |
|----------------------------|-------------------------------|------------------------|---|------------------------|--------------------------|----------------------|---------------------------|---------------------------|
| 7                          | 167                           | 2,450                  | Mallards-72; wood duck-5; black-1;<br>red bill-1; pintail-1; green-winged teal-1;<br>blue-winged teal-1 | 32                     | 2                        | 34                   | 1,694                     | 339                       |

(over)

### INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent.  $\text{Column 9} = \frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}.$

80348-60

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

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge CHAUTAUQUE

For 12-month period ending August 31, 1972

Reported by John E. Toll

Title Refuge Manager

| (1)<br>Area or Unit<br>Designation | (2)<br>Habitat |       |       | (3)<br>Use-days | (4)<br>Breeding<br>Population | (5)<br>Production |
|------------------------------------|----------------|-------|-------|-----------------|-------------------------------|-------------------|
|                                    | Type           | Acres |       |                 |                               |                   |
| <u>CHAUTAUQUE</u>                  | Crops          | 0     | Ducks | 6,165,765       | 110                           | 330               |
|                                    | Upland         | 240   | Geese | 371,330         |                               |                   |
|                                    | Marsh          | 570   | Swans | 0               |                               |                   |
|                                    | Water          | 3,725 | Coots | 135,000         |                               |                   |
|                                    | Total          | 4,535 | Total | 6,602,115       | 110                           | 330               |
| <u>CAMPBELL</u>                    | Crops          | 44    | Ducks | 153,575         |                               |                   |
|                                    | Upland         | 37    | Geese | 33,335          |                               |                   |
|                                    | Marsh          | 36    | Swans |                 |                               |                   |
|                                    | Water          | 200   | Coots | 2,625           |                               |                   |
|                                    | Total          | 535   | Total | 509,635         |                               |                   |
|                                    | 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 meadows 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 NS-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.



SIGNATURE PAGE

Submitted by:

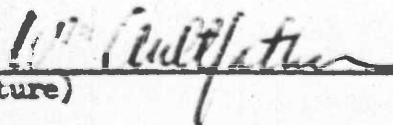
  
(Signature)  
John E. Toll

Date: May 10, 1973

Refuge Manager  
Title

Approved, Regional Office:

Date: 5/15/73

  
(Signature)

Refuge District Supervisor  
~~Regional Refuge Supervisor~~

1972

CHAUTAUQUA NATIONAL WILDLIFE REFUGE

Cameron Division

United States Department of the Interior

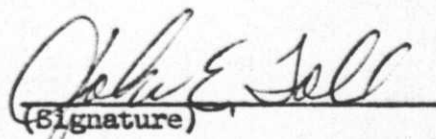
Fish and Wildlife Service

Bureau of Sport Fisheries and Wildlife

Havana, Illinois

SIGNATURE PAGE

Submitted by:

  
(Signature)

John E. Toll

Date: April 10, 1972

Refuge Manager  
Title

Approved, Regional Office:

Date: APR 17 1972

  
James C. [illegible]

(Signature)

Regional Refuge Supervisor

3-1758  
Form W-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge CHAUTAUQUA-CAMERON DIVISION County Marshall State Illinois

| Cultivated<br>Crops<br>Grown | Permittee's<br>Share Harvested |          | Government's Share or Return |          |                      |          | Total<br>Acreage<br>Planted | Green Manure,<br>Cover and Water-<br>fowl Browsing Crops<br>Type and Kind | Total<br>Acreage |
|------------------------------|--------------------------------|----------|------------------------------|----------|----------------------|----------|-----------------------------|---|------------------|
|                              | Acres                          | Bu./Tons | Harvested<br>Acres           | Bu./Tons | Unharvested<br>Acres | Bu./Tons |                             |   |                  |
| None                         |                                |          |                              |          |                      |          |                             |   |                  |
|                              |                                |          |                              |          |                      |          |                             | Fallow Ag. Land.  |                  |

No. of Permittees: Agricultural Operations \_\_\_\_\_ Haying Operations \_\_\_\_\_ Grazing Operations \_\_\_\_\_

| Hay - Improved<br>(Specify Kind) | Tons<br>Harvested | Acres | Cash<br>Revenue | Grazing                                    | Number<br>Animals | AUM'S | Cash<br>Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
|                                  |                   |       |                 | 1. Cattle                                  |                   |       |                 |         |
|                                  |                   |       |                 | 2. Other                                   |                   |       |                 |         |
|                                  |                   |       |                 | 1. Total Refuge Acreage Under Cultivation  |                   |       |                 |         |
| Hay - Wild                       |                   |       |                 | 2. Acreage Cultivated as Service Operation |                   |       |                 |         |

DIRECTIONS FOR PREPARING FORM NR--8'  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres 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. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.