

ROUTING SLIP

DIVISION OF WILDLIFE REFUGES

DATE: 5-10 1944

✓ MR. SALYER _____

_____ MRS. WOODIN _____

✓ MR. ELMER 9 _____

_____ MRS. CARVIN _____

✓ MR. DUMONT PAD 5/30 _____

SECTION OF HABITAT IMPROVEMENT:

Mr. Kubichek _____

Mr. Smith _____

✓ Mr. Griffith 2268/11

✓ Miss Cook JWC 5-10-44

SECTION OF OPERATIONS:

✓ Mr. Krummes W 5/18

Mr. Gustafson _____

Miss Baum _____

Mrs. Kricun _____

SECTION OF ERA:

✓ Mr. Regan JGR 5/18/44

✓ Dr. Bourn WJB 5-19/44

Mrs. Fishman _____

SECTION OF LAND MANAGEMENT:

✓ Mr. [unclear] 3

Mr. Ackerknecht _____

STENOGRAPHERS:

Miss Whorley _____

SECTION OF STRUCTURES:

✓ Mr. Taylor WVT 5/31/44

REMARKS: CHAUTAQUA NARRATIVE REPORT and Annual Summary 1944.

JANUARY-APRIL 1944

Return to: Habitat Improvement

CHAUTAUQUA NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT - JANUARY, FEBRUARY, MARCH, AND APRIL 1944

I. GENERAL

A. Weather Conditions.

The following is a summary of the weather data taken from the records of the official Weather Bureau station at Havana, located 10 miles from the Refuge Headquarters:

	<u>Snowfall</u>	<u>Precipitation</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
January	.2	.43	65	2
February	8.5	1.89	61	-10
March	8.7	5.02	71	13
April	--	6.44	76	25
Totals	<u>17.4</u>	<u>13.78</u>	Extremes <u>76</u>	<u>-10</u>

In general, temperatures averaged several degrees warmer than the corresponding period a year ago. Extremely dry weather, which has prevailed since last September, continued throughout January. Moderate rainfall occurred during February and excessive amounts fell during March and April. Likewise, most of the snow fell during February and March with an increase of 2.75 inches or 18 percent over last year. Rainfall averaged 22 percent of normal for January, 117 percent for February, 185 percent for March, and 197 percent for April.

Ice formed after the freeze-up of December 13 and covered the pool to a depth of about one foot until the last week of January when it broke up completely. This condition did not last as the pool was frozen over again on February 12. This broke up during the latter part of the month, was frozen over on March 8, and finally broke up the last time on March 12, two days earlier than last year.

B. Water Conditions.

Pool levels increased only slightly until the middle of March when abnormal rainfall and runoff brought river levels up to flood stage. The flood gates were opened on March 16 then water started flowing into the pool over the spillway from the river. The first crest occurred on March 24 with a guage reading of 10.24. The water receded slowly for a time but additional rainfall resulted in rising levels starting April 11 which continued until April 29 with a crest of 18.26 feet, 13.26 feet above normal. The level had fallen only .16 foot by the end of the period.

Water flowed over a large portion of the levee system and it can be expected that a few inches of the levee will be worn down at such times. The North levee, which was repaired last October, after the 1943 flood,

MIGRATORY BIRDS

Refuge Chautauqua Months of January to April, 1944

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(1) Species	(2) First Observed		(3) Became Common	(4) Peak Concentration		(5) Last Observed		(6) Young Produced			(7) Total
	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg. Size	Esti- mated Total	Number Using Refuge
D. C. Cormorant	75	4/6	4/12	400	4/12						1000
Great Blue Heron	9	3/27	3/27	21	4/21						30
American Egret	3	4/12									3
Canada Goose				600	2/25						1500
Mallard				325000	1/14						325000
Black duck				4500	1/14						4500
Gadwall	2	3/11				2	4/6				2
Baldpate	2	3/2	3/11	17	3/27						20
Pintail	21	1/28	2/25	2000	3/11						2000
G. W. Teal	1	3/2	3/27	21	3/27	11	4/12				25
B. W. Teal	3	3/27	4/6	60	4/12						150
Shoveler	35	4/6	4/6	35	4/6	5	4/12				50
Wood duck	2	3/2	3/27	26	4/6						125
Redhead	2	3/11	3/27	7	3/27	7	3/27				10
Ringnecked duck	1	3/11	3/27	1500	4/6						2000
Canvasback	45	2/25	2/25	45	3/27	6	4/6				200
Lesser Scaup	400	2/25	2/25	40000	4/12						60000
American Goldeneye				65	1/14	1	4/21				150
Bufflehead	6	3/4	3/11	6	3/11	2	4/6				10
Ruddy duck	1400	3/11	3/11	1800	4/6						2500
Bald Eagle				19	1/14	1	4/21				19
American Merganser				850	1/14	7	3/27				2000
Coot	5	3/4	3/11	350	4/12						350
Ring-billed Gull				750	1/21						1000

REMARKS: (Pertinent information not specifically requested)

INSTRUCTIONS

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

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

- (1) SPECIES: Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact are to be omitted.
- (7) TOTAL: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

held until April 20 when heavy wave action broke over the top. All sand has now been washed from the top of the levee and there is no doubt but what the former low spots will be cut down some. The levee system has been more severely damaged this year than last season although the water has been lower. The water level came up slower and was near or at the top of the levees for a longer period and heavy winds resulted in severe erosion. On April 25 the wave action started to undermine the riprap and upper retaining walls on the pool side of the floodgate. This damage was repaired, temporarily at least, by dumping sand and stone over the sides of the walls.

It is expected that water levels will recede even more slowly than last year because the Mississippi River has reached a 100 year record crest and is holding up the Illinois River. In addition, abnormal rainfall in the near future could easily result in water levels reaching the 1943 record crest.

Gauge readings have varied greatly again this period, ranging from 5.29 to 18.26 as compared to a range of from 6.70 to 11.64 for 1943.

II. WILDLIFE

A. Migratory Birds.

1. Population and Behavior.

a. Waterfowl: In general, it is estimated that waterfowl have decreased 9 percent on the refuge and was reduced 50 percent last year. This condition pertains to the refuge only and is believed to result from the high water levels, prevailing during both years, which make resting and feeding conditions unfavorable. Reports indicate that certain species of waterfowl have increased greatly on areas outside of the refuge where much food is usually left from the fall season and this becomes available with higher water levels. In addition, migrations at this point consist almost entirely of shoalwater species which do not find the refuge so attractive with deep and rough water.

It is estimated that the following reductions occurred: Mallard 18 percent, Black ducks 63 percent, Blue-winged Teal 87 percent, Shoveler 50 percent, Wood Duck 64 percent, Canvasback 65 percent, American Merganser 70 percent, Coot 70 percent and Canada Geese 25 percent. No change was noted in the number of Gadwall, Baldpate, Green-winged Teal, Redhead, Bufflehead, Hooded Merganser, and Mourning Dove.

The following increases were noted: Pintail 22 percent, Ringneck 98 percent, Scaups 82 percent, Goldeneye 49 percent and Ruddy Duck 29 percent.

b. Other Waterbirds: Cormorants have decreased approximately 80 percent this period as compared to last year when a notable increase occurred. However, Great Blue Herons have increased at least 75 percent and have established a nesting colony on the refuge for the first time. A total of 12 nests are in use and many others were started but not com-

Refuge Chautauqua Months of January to April, 1944

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total		Hunting	For Re- stocking	For Research		
Bob-white Quail	Upland hardwoods, 200 acres	9							22	Actual counts made while on patrol during period. Three covies noted.

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.

pleted. It is likely that high water has retarded nest construction as the entire nesting area, located in the northwest part of the refuge and inside the levee, is flooded. All nests are located in Willow trees which are much lower than other Pecan, Cottonwood, Ash, and Maple which are available nearby. It is possible these birds are from an old colony at Duck Island, less than 10 miles upriver, the nesting habitat of which has been reported as deteriorating during the past two years. Ring-billed Gulls have been common and the favorite feeding spots, during high water, is where shallow water flows across the levees.

c. Shorebirds: Relatively few shorebirds are ever noted on the refuge, even with normal water levels, and there is no suitable habitat with abnormal water levels. No Wilson's Snipe or Woodcock have been noted but a few shorebirds have been noted passing over.

2. Food and Cover.

Practically all natural foods are cleaned up on the refuge during the fall seasons owing to the much larger number of birds and usually semi-stable water conditions at that time. High water during the spring does make a large additional food supply available outside of the refuge on unstable water areas.

Approval has finally been received for lowering the pool level 6 inches from May 1 to September 15 annually and it is anticipated that waterfowl food production may be increased considerably. However, this may result in no advantages during high water seasons, over which we have no control, similar to the spring and summer of 1943 and the current season because the levels may remain above normal until well into the growing season.

B. Upland Game Birds.

1. Populations and Behavior.

Bob-white quail and Mourning Doves are the only birds of this class which are found on the refuge. The quail population dropped considerably during the previous period and remains low at this time. The birds are now scattering out onto adjacent farm lands for the nesting season. Relatively few Mourning Doves make use of the refuge and most observations are of birds passing over between Mason and Fulton Counties as the refuge seems to be one of the local flight routes.

2. Food and Cover.

An abundance of cover is found on the hillsides and timbered areas along the bluff and that is where the quail are found during cold weather. Sufficient natural food was available during the winter and, except during heavy snows, waste grain could be obtained on farm lands adjacent to the refuge boundary.

Refuge ChautauqueApril 30, 1944

(1) Species Common Name	(2) Density Cover Types & Total Acreage of Habitat Acres Per Animal		(3) Removals					(4) Disposition of Fur					(5) Total Popula- tion	
			Hunting	Fur Harvest	Predator Control	For Re- stocking	For Research	Share Trapping		Total Refuge Furs Shipped	Refuge Income	Furs Donated		Furs Destroyed
							Permit Number	Trappers' Share	Refuge Share					
Raccoon	Bottomland and upland hard and soft woods, 500 acres			5	14*	1**			5	5	***			50
Mink	" "			1					1	1	***			10
Red Fox	Ice covered pool and upland hard and soft woods, 4200 acres		420											NONE
Woodchuck	Bottomland and upland hard and soft woods, 400 acres		16											25
Fox Squirrel	" "		3.3											125
Muskrat	Bottomland hard and soft woods, 325 Acres Marsh, 125 acres		1	5					5	5	***			450?
Opossum	Bottomland and upland hard and soft woods, 500 acres		10	4					4	4	***			50

REMARKS: Fourteen raccoon removed by Ill. Natural History Survey under Permit No. 43-326.
One raccoon captured alive and turned over to Department of Conservation, Springfield, Ill., under Permit No. 5066, for breeding or restocking purposes.

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*** No record that refuge furs have been sold as yet.
Impossible to make reliable estimate of muskrat population owing to flood conditions at end of period.

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) **SPECIES:** Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)
- (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, bottom land 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) **REMOVALS:** Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.
- (4) **DISPOSITION OF FUR:** On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) **TOTAL POPULATION:** Estimated total population of each species reported on as of April 30.
- REMARKS:** Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Two and one-half bushels of mixed grain was used for feeding quail and other upland birds during severe weather.

C. Fur Animals, Predators, Rodents, and Other Mammals.

Raccoon: All observations indicate that raccoon have not been reduced sufficiently as yet. No share-crop trapping was carried on this season so refuge personnel attempted to remove the surplus. Only 5 animals were taken owing to the loss of animals which pulled out of the traps even when on drags. At least 20 animals were lost in that manner.

One raccoon was also captured alive during March and turned over to the Department of Conservation for breeding or restocking.

Mink: Mink are never plentiful although a few are present at all times. None have been noted during the recent high water while 4 individuals were noted last spring.

Red Fox: Fox have been very numerous and are apparently increasing owing to protection, except during the fur trapping season, by state law. One den is known near the refuge and it can be expected that dens will be found on the refuge at any time.

Woodchuck: Although chucks are common on adjacent uplands it is not believed that they have increased this year. High water has occurred during the past 3 years to drive them from the levee system and assist in controlling the population on the refuge.

*See
attached
report*

Fox Squirrel: All observations indicate that squirrels came through the winter in good condition and are increasing. A total of 24 adults and 19 young were counted in a total of 397 Wood duck boxes which were checked during late February and early March and many other boxes contained nests made of leaves. Young were out and able to care for themselves before the end of this period.

Muskrat: This has been another difficult period for the Muskrats. Water levels came up during the latter part of March to flood all houses and most dens and no doubt the first litters of young will be lost in addition to driving the adults from the refuge.

No trapping was carried on this season owing to the low population resulting from the 1943 flood. Now it seems there may be no surplus for the coming season unless the water recedes rapidly and the animals return to the refuge. Not more than 3 muskrats have been noted at any one time during the present flood.

D. Predaceous Birds, including Crows, Ravens, and Magpies.

Bald Eagles have been common during the winter months for several years and although not present this season in as great numbers at any-

one time as last year, they have been present for a longer period. The last record for 1943 was 14 birds on February 24 while the last record this season was 1 bird on April 21. Apparently these birds feed almost entirely on fish and an occasional dead or wounded duck as no predation of healthy waterfowl has been noted.

Crows are common but no roosting concentrations occur on or near the refuge. Two nests have been found this season for the first in several years.

Quite a number of Screech Owls make use of the Wood duck boxes and 3 adults were captured and banded while checking and cleaning out the boxes.

E. Fish.

With high water during the latter part of this period, fish have been able to leave or enter the refuge over the spillways and over the levees. The movement of fish can only be noticed when shallow water is passing over the spills or levees owing to the turbidity at such times making it impossible to see the fish. Very little movement of fish has been noted this period.

Carp are usually in spawning condition by the end of this period and then followed by Buffalo so it is possible that considerable spawn will be destroyed if the water recedes rapidly.

Conditions for game fish have been fair even though water levels fluctuated greatly. Ice covered the pool for only short periods and many water holes were available at that time. Some dead fish were noted during February after the ice broke up one time and these were principally Bluegill, Crappie, Warmouth and Yellow Bass. However, with a large population a relatively small annual loss is to be expected.

III. REFUGE DEVELOPMENT

A. Physical Development.

Reconditioning Wood Duck Boxes: In order to keep the Wood duck boxes in good condition for nesting it is necessary to go over them prior to the nesting season to clean out all undesirable litter, replace sawdust if necessary, and repair the boxes if needed. A total of 397 boxes were cleaned and reconditioned during late February and early March in this manner. Some boxes had been broken down by the 1943 flood and many others were minus lids. Boxes were relocated, lids replaced and 189 new front sections installed. The new fronts were made from 1 inch rough Cypress, 12 x 12, with 3 x 4 entrance hole to keep out large raccoon. These were nailed over the old original 4 inch entrances.

Disposal of Cottage No. 78: This cottage, which was located within a few feet of the residence, was declared to be the property of the Government by the Department of Justice. Since the structure was worthless it was determined that disposal by burning would be desirable. Therefore, the building was moved to a spot between the power line and the residence with the Bulldozer and completely burned. A start was made on filling the depression in the lawn, where the cottage formerly stood, with top soil but was not completed by the end of the period owing to the work load in connection with flood control.

Levee Repair: A total of 348 tons of stone was purchased in a stockpile on the river bank at Havana for placing in low spots on the west levee. The U. S. Engineers derrickboat, barge, and towboat were rented for moving and placing the stone, but this could not be accomplished until March 17 when the water levels came up sufficiently to float the equipment. The stone was placed at 6 locations on the west levee at a cost of \$2.64 per ton.

On April 25 heavy wave action at high water levels began undermining the riprap and footings of the upper retaining walls on the pool side of the floodgate. A total of \$28.50 was spent for emergency labor on this job to dump sand and stone along the outside of the wall for temporary repairs.

B. Plantings.

The only plantings this period was 1/2 bushel of Lespedeza on the hillside at the Myers Ditch Boatyard and 1 1/2 bushel of Lespedeza used at the Headquarters site where the seeding was thin or lacking.

C. Receipts of Seed and Nursery Stock.

Six hundred pounds of Lespedeza was received from the Wheeler Refuge, Decatur, Alabama, by freight on January 17. This seed seemed to be of good quality and came through in good condition.

IV ECONOMIC USE OF REFUGE

A. Fur Harvest.

The population of fur-bearers did not justify share-crop trapping, therefore, refuge personnel carried on the fur harvest this year. Three raccoons were taken this period in addition to one muskrat accidentally trapped in a set made for raccoons. This made a total of 5 raccoon, 5 Muskrat, 4 opossum, and 1 Mink for the trapping season. These were shipped to the New York Auction Co., but have not been reported as sold at this time.

B. Other Uses.

1. Boatyards: Permit No. 12401 was issued to Harry Rudolph, Sr., for the operation of a public boatyard and parking area at the Rudolph location .65 mile Northeast of the Headquarters. A total of \$25.00 revenue was derived from this permit which covers 25 boats.

This permit was returned to the Regional Office during the latter part of April with our recommendations for cancellation owing to the fact that the permittee was apprehended, while in possession of over the legal limit of game fish contrary to Federal and State laws and regulations.

Permit No. 12402 was then issued to Marion J. Benassi for operation of this boatyard. Revenue derived from this permit was \$25.00 which also covers 25 boats.

Permit No. 11398 was issued to John Lane for the operation of a public boatyard and parking area at the Myers Ditch location along the North levee. A total of \$15.00 revenue was received which covers the use of 15 boats.

2. Commercial Fishing: A total of 11 permits were issued, at no fee, for commercial fishing from February 1 to September 23, but only 8 permittees have actually participated to date. No fishing gear was placed in the refuge until March 1 and very few nets used before the latter part of March.

Fishermen were permitted 23 nets each or a combined total of not more than 250 nets until April 20 with double that number permitted after that time. However, very few fishermen used the full amount of nets and the total limit has never been reached at anytime. Owing to extreme high water conditions all nets were removed from the refuge by April 30, because the water was so deep, and rough most of the time, that the nets poles were too short and nets could not be tended properly.

A total of 45,493 lbs. of Carp; 14,920 lbs. of Buffalo; and 382 lbs. of Catfish were taken during the period. It is estimated that Carp averaged $3\frac{1}{2}$ lbs. each, Buffalo 5 lbs. each, and Catfish $3\frac{1}{2}$ lbs. each. This represents an increase of 22 percent in the total weight of all species taken. The total approximate value of these fish to the permittees was \$2760.76. Although all permits covered the removal of additional species such as Dogfish, Gar, Sheepheads, and Turtles, only Carp, Buffalo, and Catfish were taken this period.

The following fish were removed by the Havana Re-claim Station, Department of Conservation, under Permit No. 43-319, during the period for restocking other waters of the State:

Large-mouthed Black Bass, 84; Crappie, 3294; Bluegill, 851;

Pumpkinseed, 75; Yellow Bass, 372; Yellow Perch, 1403; Channel Catfish, 172; Bullhead, 426; Carp, 372; and Buffalo, 59; making a total of 6079 game fish and 1029 commercial fish removed.

V. PUBLIC RELATIONS

A. Recreational Uses.

Public fishing is practically the only recreational use made of the refuge at this time of the year. Although fishing is permitted along the East shore during all of this period, the major portion of the pool does not open until April 15. Curtailed travel, particularly for recreational purposes, adverse weather conditions, and high water has held the number of fishermen to a new low for this period.

B. Refuge Visitors.

<u>Name and address</u>	<u>Date</u>	<u>Time spent</u>
Leo. H. Borgelt, Game Agent, Havana, Illinois	1/5	1 Hr.
	1/6	1½ "
	1/7	1½ "
	1/12	2 "
	1/13	2 "
	1/19	½ "
	2/10	½ "
	2/18	2 "
	3/6	1 "
	3/28	1 "
John Sarff, Inspector, Dept. of Conservation, Chandlerville, Illinois	1/5	1 "
	2/1	½ "
	2/2	½ "
John M. Martin, Game Agent, Peoria, Illinois	1/7	1½ "
	1/19	½ "
Warren E. Hall, Reg. Engineer, Minneapolis, Minn.	1/22	3 "
	1/23	2½ "
Ted Young, Investigator, Dept. of Conservation, Lincoln, Illinois	2/1	½ "
F. C. Gillett, Reg. Refuge Inspector, Minneapolis, Minn.	2/3	6 "
	2/4	6 "
J. Clark Salyer, Chief, Div. Wildlife Refuges, Chicago, Ill.	3/17	2½ "
R. H. Smith, Flyway Biologist, Mississippi Flyway	4/8	½ "
	4/10	2 "

C. Refuge Participation.

Refuge personnel did not participate in any public meetings and no requests were received for such appearances.

D. Fishing.

Fishing conditions have not been good this period because of cool weather, ice, and high water conditions, particularly for hook and line fishing. High water has prevailed since mid March and the water is always very turbid at such times. Detailed data relative to hook and line fishing will be reported at the end of the year as usual.

E. Violations.

One violator was apprehended during the period by refuge personnel. This occurred on April 15, less than 12 hours after the fishing season opened on the main pool, and the defendant was found in possession of over the legal daily limit of Large-mouthed Black Bass and Crappies. The case was taken to State Court where the defendant pleaded guilty and paid a fine of \$25.00 and \$2.00 costs.

May 4, 1944

(date)

Homer L. Bradley

(signature)

Approved:

A. J. Hursey
MAY 9 - 1944

Refuge Manager

(title)

ANNUAL SUMMARY
FISCAL YEAR 1944

I. WILDLIFE

One new bird record for the refuge was that of a Pigeon Hawk, which was definitely identified by Mr. Frank C. Bellrose, Jr., Illinois Natural History Survey, and the Refuge Manager.

Two species were found nesting on the refuge for the first time during this period. One Hooded Merganser nest was found in a Wood duck box and the eggs later identified by the Illinois Natural History Survey and the Service. Great Blue Herons also established a small nesting colony on the refuge during April 1944 and a total of 12 nests were in use.

II. OBSERVATIONS AND TRENDS OF POPULATIONS

A. Waterfowl.

It is estimated that the fall migration contained 17 percent more birds than during the previous year with a peak concentration of approximately 1,050,000 birds. Favorable increases were made by Mallard, Shoveler, and Wood duck, but this was partially offset by reductions in the numbers of Black duck, Gadwall, Baldpate, Blue-winged Teal, Pintail, Redhead, Canvasback, Scaups, Ring-necked duck, American Goldeneye, Bufflehead, Ruddy duck, Canada Goose, and Coot.

The spring migration indicated a 9 percent reduction, in general, as compared to a reduction of 50 percent for the previous year. No doubt high water, and lack of desirable foods resulting from prolonged high water levels, was responsible for this loss of migrants. Mallards, Black duck, Blue-winged Teal, Shoveler, Wood duck, Canvasback, Canada Geese, and Coot, were reduced considerably while gains were made by Pintail, Ring-necked duck, Scaups, American Goldeneye, and Ruddy duck.

B. Bird Banding.

The following birds were banded during the fiscal year:

SPECIES	TOTAL PREVIOUSLY BANDED	TOTAL 1944 FISCAL YEAR	TOTALS
Mallard	21,381	6,363	27,744
Black duck	1,401	414	1,815
Black X Mallard	37	14	51
Gadwall	3	-	3
Baldpate	4	-	4
Pintail	583	33	616
G. W. Teal	1	1	2
B. W. Teal	93	-	93
Shoveler	1	-	1
Wood duck	198	259	457
Ring-necked duck	114	-	114
Canvasback	1	-	1
Lesser Scaup	19	-	19
A. Merganser	2	-	2
Red-shouldered Hawk	1	-	1
Coot	201	2	203
Schreech Owl	17	3	20
Barred Owl	2	-	2
Grand Totals	24,086	7,089	31,175

C. Mammals.

Raccoon: A total of 14 raccoon were live-trapped and removed by the Illinois Natural History Survey under Permit No. 43-319. Five additional animals were taken by refuge personnel during the fur harvesting season. One other animal was captured alive and turned over to the State Department of Conservation for breeding or re-stocking purposes under Permit No. 5066. Thus, a total of 20 raccoon were removed from the refuge. Predation to Wood duck nests demands continued removal to further reduce the population.

Muskrat: Owing to the record flood of 1943 the Muskrat population was reduced to a point where there was no surplus and no trapping was carried on. Five animals were accidentally taken in sets made for raccoon and the pelts were shipped with other refuge furs.

Abnormal water levels prevailed until well into the summer of 1943 and similar conditions have existed since the middle of March 1943 to damage and destroy the Muskrat habitat. Unless water levels return to normal soon it is very likely that surplus animals will be available for removal during the next trapping season.

D. Commercial Fish.

Eleven permits were issued to local commercial fishermen, a no fee,

for the removal of Carp, Buffalo, Dogfish, Gar, Sheephead, Catfish, and Turtles. Only 8 permittees operated and very few of that number used the limit of 23 hoop nets each which was effective until April 20.

A total of 45,493 lbs. of Carp, averaging $3\frac{1}{2}$ lbs., each; 14,920 lbs. of Buffalo, averaging 5 lbs. each; and 382 lbs. of Catfish, averaging $3\frac{1}{2}$ lbs. each, were removed from March 1 to April 30, 1944. Making a total of 60,795 lbs. which were worth \$2760.00 to the permittees. This represents an increase of 22 percent over the total weight taken during the previous year.

III. WATER CONDITIONS

It was impossible to draw the water down to normal pool level, after the record flood of May and June 1943, until July 18. Gauge readings varied but little after that time until the middle of March 1944 when excessive rains and run-off brought the river level up. The first high water crest occurred March 24 with a gauge reading of 10.24. The water then fell slowly until April 8 when additional rain brought the level up until a crest of 18.26 was reached on April 29. This amounts to 13.26 feet above normal for the pool.

Gauge readings varied greatly again with a range of 4.90 to 18.26, a deviation of 13.36, as compared to a range of 4.76 to 22.54, a deviation of 17.78 for the 1943 fiscal year.

A few inches of soil is washed from the top of levee system, and if sand, the entire amount is removed, during each high water period. Practically all of the 9 mile levee system has been covered with water or subject to heavy wave action at some time during the last two years. In addition, most of the spoil, deposited on the south levee when dredging during 1942, has been cut away, by ice and wave action. Owing to the fact that water levels have stood at or near the top of the levees for a longer period this spring, damage has been increased. Wave action damage has been increased, and started to undercut the riprap and upper retaining walls on the pool side of the floodgate but this was repaired temporarily by dumping sand and stone along the outside of the walls. Since the levee system has been cut down year after year it is now in urgent need of repairs and some work must be done before the post war period if the levee is to be held.

IV. IMPROVEMENTS

The following work was accomplished during the year:

1. Boatwell Excavation: The cribbing, which was removed for the installation of Wakefield piling by WPA during 1942, was replaced at Boathouse No. 1, the ladders installed, and railing replaced. The east well of Boathouse No. 2, at Smith's landing, was excavated by hand while the river level was low and the spoil placed behind the Wakefield piling. The cribbing was replaced around that well, ladders installed, and railing replaced. Cribbing lumber for the other well was piled inside of the building. Extra labor was hired for approximately 60 percent of this work and the remainder was accomplished by refuge personnel.

2. Weed Cutter Operation: The weed cutter was placed in the water July 1 and operation was continued until September 13 when the motor broke down. A total of 251 acres of American Lotus was cut during that time. One extra laborer was hired to operate this machine and additional assistance was given by refuge personnel during breakdowns.

3. Painting Water Control Structures: Both the gate, at the box culvert in the south levee, and the floodgate at the north levee were under water during the 1943 flood and, therefore, in need of paint. Two coats of silica-graphite paint were applied on the gate at the box culvert and one coat on all metal parts at the floodgate by refuge personnel.

4. Painting Headquarters Buildings: The green trim on all Headquarters buildings, with the exception of the residence, was given one coat of paint. The weather became too cold to complete the residence and Boathouse No. 2, at Smith's Landing was not painted. This job was accomplished by refuge personnel.

5. Levee Repair: The low spots on the north levee, resulting from the 1943 flood, were built up to as near the former grade as possible with the material at hand and by the use of the Bulldozer. The sand washed from the top of the levee was deposited along the inside toe and a heavy growth of willows made it difficult to reach and move the material to the desired location.

A total of 348 tons of stone, all passing a 4" screen, was purchased and placed at 6 low spots on the west levee by the U. S. Engineers derrickboat, barge, and towboat which were rented. This could not be accomplished until March 1944 when water levels came up sufficiently to float the equipment.

On April 25 heavy wave action at high water levels, began undercutting the riprap and upper retaining walls on the pool side of the floodgate. Temporary repairs were made at that location by dumping sand and approximately 30 tons of stone along the walls.

It is estimated that refuge personnel furnished 40 percent of the labor on the levee repair jobs and the balance by extra laborers which were hired.

6. Reconditioning Wood Duck Boxes: A total of 397 boxes were cleaned and reconditioned during late February and early March. Some boxes had been broken down by the 1943 flood and many others were minus lids. Boxes were relocated, sawdust added, lids replaced and 189 new front sections installed. New fronts, with 3" x 4" diamond shaped entrance holes, were nailed over the conventional 4" circular hole to keep out all but the small raccoon.

7. Disposal of Cottage No. 78: This structure reverted to the Government and, since it was worthless for salvage, it was determined that burning would be desirable. The building was moved away from the residence with the Bulldozer and completely burned while the ground was covered with snow. The disposition of this structure was a welcome event because it had stood within 8' of the front of the residence ever since the residence was constructed.

V. REFUGE VIOLATIONS

A total of 4 violators were apprehended during the year. Convictions were obtained in State Courts in each case and all cases were made by refuge personnel.

The following offenses were committed by the above violators:

Offense	Number of		
	Cases	Fine	Costs
Fishing without State Fishing License	1	5.00	2.00
Hunting without State Hunting License	1	10.00	2.00
Shooting at migratory waterfowl from motor boat	1	25.00	7.00
Possession of more than legal limit of game fish	1	25.00	2.00
Totals	4	\$ 65.00	\$ 13.00

VI. RECREATIONAL USES

A. Fishing.

The results of hook and line fishing, estimated from a sampling with Record Cards furnished by the State Natural History Survey, are indicated below:

A total of 4747 boats were used by 10,207 fishermen in taking the following fish:

Large-mouthed Black Bass, 1480; Small-mouthed Black Bass, 1; Blue-gill, 25,220; other Sunfish, 1,767; Yellow Perch, 10,080; Bullhead, 2720; Yellow Bass, 3580; Crappie, 4333; Sheephead, 233; Channel Catfish, 300; Rock Bass, 120; Carp, 27; Dogfish, 53; and Eel, 7. This makes a total of 49,921 for an average daily catch of 4.9 fish which is a decrease of 27.8 percent in the number of fish taken and a drop of 40.9 percent in the average daily catch as compared to the 1942 season.

The following fish were also taken by the Havana Re-claim Station, Department of Conservation, with hoop nets under Permit No. 43-319, for restocking the other waters of the state:

Large-mouthed Black Bass, 94; Bluegill, 851; Other Sunfish, 75; Crappie, 3294; Yellow Bass, 372; Yellow Perch, 1403; Channel Catfish 172; Bullhead, 426; Carp, 372; and Buffalo, 59; making a total of 6,079 game fish and 1,029 commercial fish removed.

note - see data for year 1943 (see Sep & Dec 43 Natl. Ref.)

May 5, 1944
(date)

Homer L. Bradley.
(signature)

Approved _____

Refuge Manager
(title)



