

CHAUTAUQUA NATIONAL WILDLIFE REFUGE

Cameron Unit

ANNUAL NARRATIVE REPORT

Calendar Year 1980

NATIONAL WILDLIFE REFUGE SYSTEM  
FISH AND WILDLIFE SERVICE  
U. S. DEPARTMENT OF THE INTERIOR

MAY 11 1981

CHAUTAUQUA NATIONAL WILDLIFE REFUGE  
Havana, Illinois

ANNUAL NARRATIVE REPORT  
Calendar Year ~~1979~~  
1980

NATIONAL WILDLIFE REFUGE SYSTEM  
Fish and Wildlife Service  
U. S. DEPARTMENT OF THE INTERIOR



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Kevin P. Kenow . . . . .	Refuge Manager, GS-7	PFT
	Transferred 6/30/80	
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#### YACC

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Becky L. Shilling . . . . .	Enrollee 4/28/80 - 12/31/80





Refuge Manager Sanford EOD 8-15-76



Refuge Manager Trainee Nault EOD 6-30-80





Alice Clanin, Clerk-Stenographer EOD 6-20-66



Charles "Bill" Watts, Maintenance Worker  
EOD 9-6-60



Becky Shilling, YACC Enrollee EOD 4-28-80

REVIEWS AND APPROVALS

Thomas L. Dwyer 2/24/81  
Submitted by Date

Donald J. Young 2/26/81  
Area Office Date

Chautauqua National Wildlife Refuge  
Refuge

R. Wayne Steier 5/7/81  
Regional Office Date



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## I. GENERAL

### A. Introduction

The purchase of the Chautauqua Drainage and Levee District was authorized by Executive Order 7524 on December 23, 1936. The lands and waters of the refuge have experienced many changes over the years. Originally, a backwater area of the Illinois River providing habitat for migrating waterfowl and other birds, draining of the area during the 1900's resulted in a loss of waterfowl habitat. Farming in the floodplain was a losing battle as the Illinois River reclaimed the land for waterfowl in the 1920's.

Navigation dams were built in the 1930's for barge traffic on the river. The new nine-foot waterway channel carried silt along with barge traffic. The river's silt load was deposited in the quiet backwaters such as Lake Chautauqua. Silt pollution over the years has affected the aquatic, marsh, moist soil plants and waterfowl.

The Chautauqua Refuge contains 4,488 acres impounding 3,562 acres of water. The establishment of the refuge and repairs of river levees during the late 1930's controlled the effects of the Illinois River. This central Illinois refuge, located in Mason County, has become an important link in the chain of resting, feeding and wintering area for migratory birds in the Mississippi Flyway. The value to such lands continues to increase as less than fifty percent of the original floodplain now remains.

Some of the greatest concentrations of waterfowl along the Illinois River can be observed during the fall and winter months at Chautauqua. Peak concentrations of over a hundred thousand ducks and forty thousand geese occur during the early winter months.

### B. Climatic and Habitat Conditions

Climatological records are maintained at the Glen Oest farm which is located two miles south of the refuge headquarters. Annual precipitation (37.59") was eleven percent above the 35-year average (33.88").

The river stage at Havana increased from 5.8 to 10.8 on the last day of 1979. The river level topped the plug at the west spillway increasing Lake Chautauqua from 432.58 to 435.37. The fall of the river stage resulted in the washing out of the plug and draining of the lake.

This normally occurs during the spring floods. Cold weather during the month of February finally froze the lake except for a few spring holes. The lake was free of ice by March 12. Spring water levels peaked at 439.83 in mid-April.

During the first week of June, 3 to 6 inches of rain fell in the Illinois River watershed. The river reading went from 433.4 to 444.3. All exposed mudflats were flooded and moist soil production was set back. Water levels in Lake Chautauqua dropped over 10 feet by the end of July. The lake level went from 442.58 to 432.50 m.s.l. Rainfall during the months of August and September was almost double the normal rate (12.95 inches compared to 6.63 inches). Water levels in Lake Chautauqua peaked at 436.93 by mid-September. All the moist soil plants except for 75 acres of Walter's millet were lost during the flooding.

Stoplogs were placed in the Quiver Creek weir on October 8 in order to divert water into the lake. Water levels continued to drop as the Illinois River returned to normal river stage. Due to the high water level, the temporary plug was not placed in the west spillway. The water level in Lake Chautauqua dropped to 432.40 by mid-November. The normal procedure of plugging the west spillway and diverting water from Quiver Creek would result in a foot rise. Finally, the river provided assistance by reflooding the lake to 436.52 m.s.l. during mid-December.



Radial gates became operative after replacement of cables.

(R-933,P-0,TSS)

(1-18-80)



1980 WATER LEVELS

<u>Month</u>	<u>Liverpool</u>		<u>Lake Chautauqua</u>		<u>Precipitation</u>
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	
January	431.7	436.2	432.58	435.57	0.57
February	432.3	434.7			1.18
March	433.5	438.5	436.30	437.78	4.05
April	438.35	440.5	437.84	439.83	2.66
May	432.3	438.2	432.57	437.27	2.29
June	434.4	444.3	436.74	443.67	5.47
July	431.2	436.3	432.50	434.90	1.74
August	431.6	434.7	432.60	434.06	6.69
September	432.2	437.85	434.68	436.93	6.26
October	431.5	436.3	432.52	435.38	2.86
November	430.4	431.9	432.40	432.48	.94
December	431.4	437.6	433.77	436.52	2.88

<u>Month</u>	<u>PRECIPITATION</u>			<u>TEMPERATURE</u>	
	<u>1980</u>	<u>Normal</u>	<u>Snowfall</u>	<u>Maximum</u>	<u>Minimum</u>
January	0.57	1.82	4.9	57	0
February	1.18	1.53	12.0	44	-6
March	4.05	2.67	9.5	60	5
(Jan.-Mar.)	( 5.80)	( 6.02)			
April	2.66	3.55	7.5	89	29
May	2.29	3.84		92	33
June	5.47	4.09		94	46
(Apr.-June)	(10.42)	(11.48)			
July	1.74	3.50		103	56
August	6.69	3.03		98	55
September	6.26	3.60		93	39
(July-Sept.)	(14.69)	(10.13)			
October	2.86	2.48		87	22
November	.94	2.11		73	15
December	2.88	1.66	4.5	70	-9
(Oct.-Dec.)	( 6.68)	( 6.25)			
TOTALS	37.59	33.88	38.4		

C. Land Acquisition

1. Fee Title

Nothing to report.

2. Easements

Nothing to report.

D. System Status

1. Objectives

The primary objectives for the Chautauqua National Wildlife Refuge are 1) to provide migrating water-fowl with food and protection during the spring and fall migration, and 2) to improve and maintain

existing habitat to perpetuate optimum annual production of wood ducks. This refuge is located on a major mallard and Canada goose flight corridor and excess of over 7,000,000 waterfowl use days can be expected each year.

Secondary objectives are 1) to provide food, water and protection to wintering waterfowl, 2) to maintain balanced populations of all resident wildlife species, 3) maintain portions of the refuge river bottom habitat in its natural state, and 4) to provide limited day use recreation where and when such activities are compatible with the primary objectives of the refuge. Major portion of the public use is wildlife oriented.

Operation of the refuge under NFIO would greatly reduce wildlife observation, fishing and hunting. Wildlife maintenance for threatened species, waterfowl, and other migratory birds and animals would decrease by forty percent.

## 2. Funding

The current year marked adequate funding and personnel. Usually funding during the past provided only a few thousand dollars over fixed costs. Chautauqua Refuge received \$117,000 for operations during FY 1980. A decrease of 10 percent funding allocation occurred for fiscal year 1981.

<u>Fiscal Year</u>	<u>1210</u>	<u>1220</u>	<u>1240</u>	<u>Total</u>
1980-81	88,000 (83.8%)	2,000 (1.9%)	15,000 (14.3%)	105,000
1979-80	98,000 (83.8%)	2,000 (1.7%)	17,000 (14.5%)	117,000
1978-79	93,000 (83.8%)	2,000 (1.8%)	16,000 (14.4%)	111,000
1977-78	49,100 (74.2%)	5,700 (8.6%)	11,400 (17.2%)	66,200
1976-77	36,850 (70.0%)	7,450 (14.2%)	8,300 (15.8%)	52,600



The refuge manager trainee position was retained. As one trainee transferred out a second refuge manager trainee entered on duty at Chautauqua. The increase in funding for fiscal year 1980 permitted the necessary replacement of two vehicles and a small tractor.

## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

Nothing to report.

### B. Maintenance

The extreme flooding in previous years has caused considerable amount of erosion damage to the dikes. The hole in the north dike between the old boatyard #3, and the radial gates was filled with CA 6 and oversize rock, 290 tons. Costs for delivery and spreading of material was \$1,886.63.

The road from the landfill to the ring dike on the south dike was covered with 980 tons of CA-6 road gravel. Cost for material for .7 of a mile was \$6,125.00. On the dike below the Quiver Creek dam, pit run rip rap material was used to restore the slopes that had been severely washed in previous years. A total of 290.35 tons of rip rap was delivered and spread at \$7.85 per ton for a cost of \$2,279.25.

The west dike between the south and west spillways continues to erode each year. The dike is continually getting narrower each year due to wave action from barge traffic on the Illinois River. The condition of the dike is unsafe for vehicle traffic at certain times of the year. The D-4 dozer was used to clear the dikes of debris left by flood waters. An attempt was made to level the dikes in order to permit limited access with a 4-wheel drive vehicle.

The office furniture was sanded and painted in order to improve the office appearance and increase the life of the furniture. In fact, the old desk looks better and more durable than the new office furniture.



Additional damage to low spot on north dike. This is the site of a drowning last year.

(R-937,P-5,TSS)

(6-20-80)



Closure of the north dike due to high water flowing over the dike. This area is used by the public for fishing.

(R-936,P-5,TSS)

(6-9-80)





Some of the public's reaction to closure of the refuge. An off trail vehicle was used to drive the short distance to the washout (located center of photo).

(R-936,P-25,TSS)

(6-14-80)



Repairs to north dike by spreading 290 tons of CA-6 and over size rock.

(R-939,P-4,TSS)

(7-31-80)





Completed repairs on the washed out section of the north dike. Public reaction to the minor REHAB was very favorable.

(R-939,P-5,TSS)

(8-4-80)



REHAB of the south dike required gravelling 0.7 miles of trail in order to place 290 tons of rip rap at the Quiver Creek Weir.

(R-939,P-15,TSS)

(9-19-80)

New brackets were installed on the boat trailer to raise the tail lights above the water, and the boat trailer was completely rewired. The ceiling in the carpenter shop section of the north garage was closed in with plywood. This was a job left over from YACC when plans for an office did not materialize. The attic in the service building had an additional 5 inches of blown insulation added, to make it an R-19 value. This completed the energy savings recommendations for the office-shop building. The old gas tank and pump were removed and two tanks and pumps were installed. Part of the equipment still requires the use of leaded gasoline. The gas pumps were protected by installing steel posts set in cement.

The 1952 D-4 Cat was down for repairs again. The bearing on the idler was removed and replaced. The grain bins, north garage and the oil house were scraped and painted. The color was changed to light green in order to blend in with the landscape. The motor on the old jeep was overhauled in order to provide transportation for trapping ducks. Additional safety braces were installed on the radial gates. The height of the existing guard rail did not provide adequate safety for the public.

C. Wildfire

Nothing to report.

D. New Equipment

The following pieces of new equipment were purchased to upgrade equipment.

1. Plymouth Volare sedan delivery
2. J-10 4wd Jeep pickup
3. International Harvester 284 tractor, with rotary mower, and a pull-type side-mounted mower.
4. Equipment trailer - to haul equipment between units to utilize the equipment more efficiently.
5. Safety cabinet for flammable liquids for the oil house. Also, new cabinet provides secure storage of new chain saw.
6. Gun cabinet to lock up sidearm, ammo and accessories.





Appearance of the headquarter's site was enhanced with the use of the new tractor. This unit has a trailing mower for maintenance of trails.

(R-935,P-2,TSS)

(5-5-80)



Off trail vehicle problems were solved by installing low profile barrier fence at Boatyard number 3.

(R-935,P-13,TSS)

(5-13-80)

### III. HABITAT MANAGEMENT

#### A. Croplands

Nothing to report.

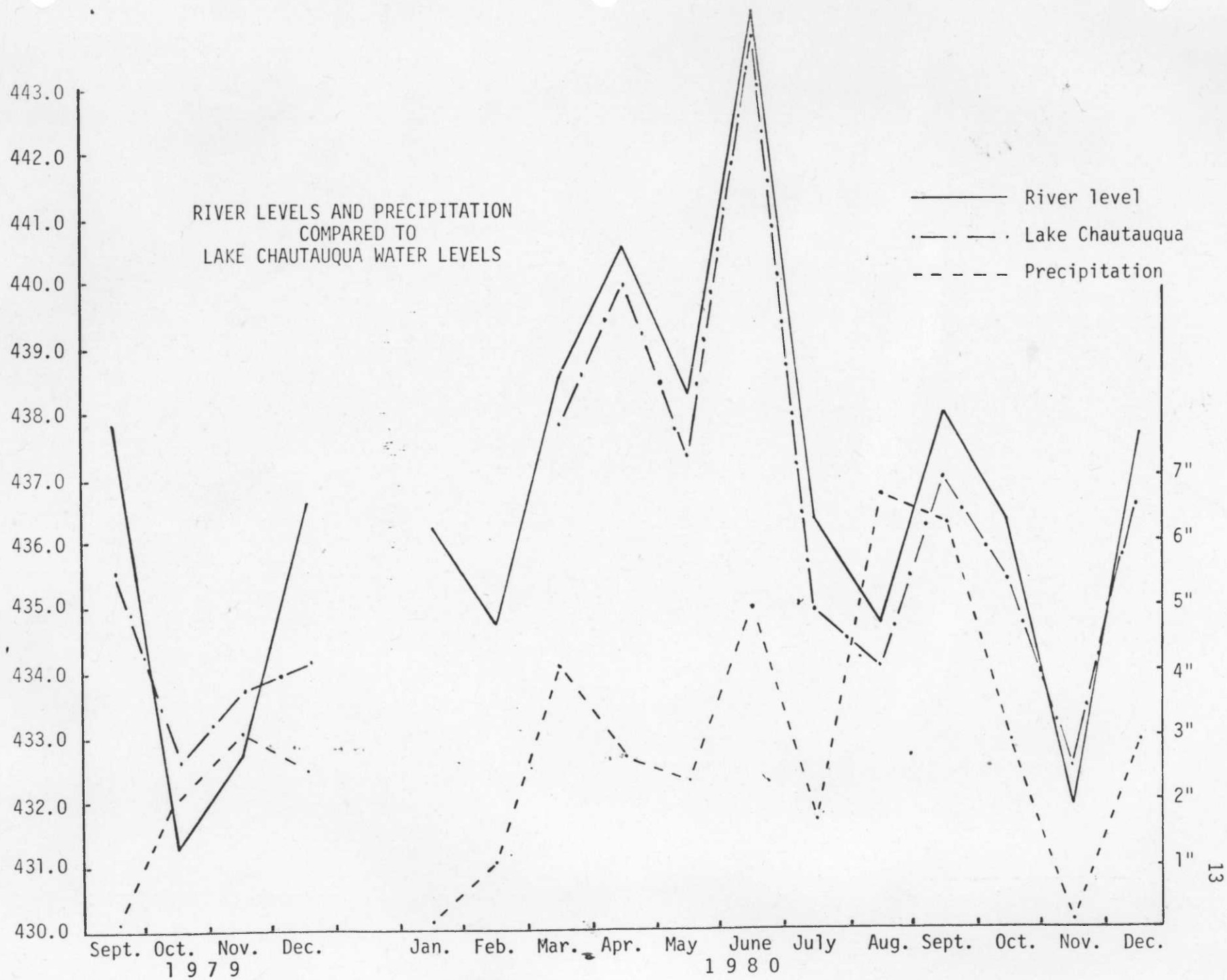
#### B. Grasslands

Nothing to report.

#### C. Wetlands

Following acquisition of the Chautauqua Drainage District in 1936, reconstruction of low-level dikes to minimize effects of river fluctuations provided water management control creating conditions favorable for migratory waterfowl. The key to water management requires water level control capabilities of the facilities. Annual spring floodings has repeatedly deteriorated facilities resulting in the loss of water level control. Presently, management of Lake Chautauqua is under the direct influence of the Illinois River. Submergent and emergent aquatic vegetation has been lost to fluctuating water levels, high turbidity and sedimentation plus rough fish activity. Current management has been directed toward moist soil plant production. Rainfall during the first week of June increased the water levels eleven feet to 443.67 m.s.l.. All exposed mudflats were flooded and moist soil plant production delayed. Water levels returned to desired levels by the end of July. Heavy rainfall in August and September increased the water level to 436.93. Normally the west spillway dries out during late summer and material is stock piled for plugging the spillway. This year the activity was not permitted due to wet soil conditions and water flowing through the spillway. The high water during mid-September destroyed most of the moist soil plants except for 75 acres of Walter's Millet located south of the radial gates. Waterfowl present during late September and early October fed heavily on the millet. Water levels in Lake Chautauqua increased four feet during December providing adequate water for waterfowl to use as a resting area. As the river level returned to normal stage, the lake level lowered as drainage continued into the new year. Flow into the lake from Quiver Creek and at the west spillway provided open water as 95% of the lake was frozen over.







Water control is under the direct influence of the Illinois River. The west spillway permits a slight rise in the river to flood moist soil unit.

(R-940,P-15,TSS)

(10-20-80)



This is the condition of the river dike after several years of erosion by barge traffic. The trail to the west spillway has been moved twice during the past five years.

(R-940,P-17,TSS)

(10-20-80)



An exposed mud flat in the north section of Lake Chautauqua. This area produced 75 acres of walter's millet that survived flooding in August.

(R-935,P-12,TSS)

(5-13-80)

D. Forestlands

Woodland on Chautauqua National Wildlife Refuge totals 380 acres. Bottomland hardwoods, silver maple-cottonwood, constitutes 155 acres while upland black oak-hickory timber accounts for 135 acres. Recent studies indicated potential nesting cavity densities ranged from 0.15 to 5.2 cavities per acre in upland areas. Bottomland hardwood stands contained 2.40 cavities per acre.

E. Other Habitat

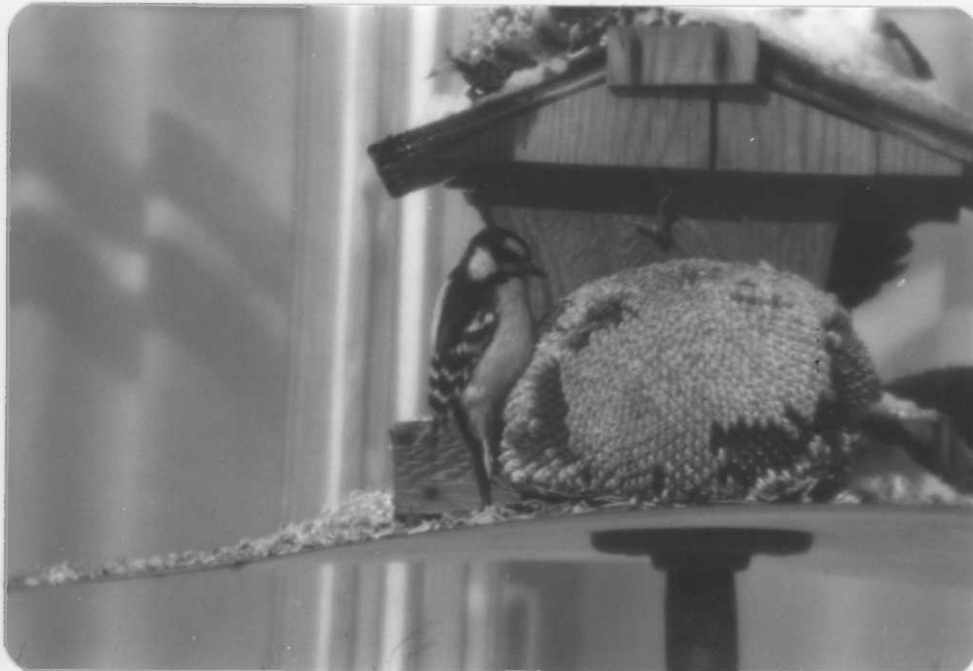
None.

F. Wilderness and Special Areas

Chautauqua has two designated Natural Areas - Melz Slough Public Use Natural Area (95 acres) and Rountree Research Natural Area (26 acres).

G. Easements for Waterfowl Management

None.



Wildlife activity is present year around even during the winter as resident birds visit the feeder for sunflower seeds and cracked corn.

(R-933,P-8,TSS)

(2-16-80)



## IV. WILDLIFE

A. Endangered and Threatened Species

Chautauqua NWR was used during 1980 by the following bird species, designated as endangered within the State of Illinois.

TABLE IV-1. Endangered Species Use - 1980

	<u>Use Days</u>	<u>Peak Population</u>
Great egret	11,850	220
Double-crested cormorant	2,115	82
American bittern	2,000	25
Bald eagle	1,696	43
Black-crowned night heron	1,600	15
Black tern	1,425	40
Marsh hawk	475	10
Wilson's phalarope	450	35
Common tern	425	15
Red-shouldered hawk	335	5
Cooper's hawk	190	5
Short-eared owl	150	2
Osprey	50	2
Little blue heron	25	4
Forster's tern	10	2

The northern bald eagle is the only Federally designated endangered species which used Chautauqua in 1980. The following table shows the overwintering population of eagles on the refuge.

TABLE IV-2. Northern Bald Eagle Use - Peak Population Observed  
by Month (Adults/Immatures)

<u>CHAUTAUQUA NWR</u>						
	<u>1980-81</u>	<u>1979-80</u>	<u>1978-79</u>	<u>1977-78</u>	<u>1976-77</u>	<u>1975-76</u>
October	0/2	1/1	0/2			
November	7/5	8/4	13/8	5/4	6/3	3/1
December	11/15	17/12	16/8	10/5	12/5	11/16
January	18/11	15/4	7/4	10/8	8/5	19/16
February	15/6	3/13	1/1		9/4	3/3
March		21/14	1/1			1/0
April		2/1	0/1			

<u>QUIVER CREEK</u>						
	<u>1980-81</u>	<u>1979-80</u>	<u>1978-79</u>	<u>1977-78</u>	<u>1976-77</u>	<u>1975-76</u>
October	0/0	1/1	0/0			
November	2/1	3/2	6/3	3/1		
December	2/3	8/4	16/7	7/3	5/3	4/2
January	4/2	14/7	11/5	3/2	4/2	9/5
February						
March		5/3				

## B. Migratory Birds

### 1. Waterfowl

Four spring aerial surveys were conducted by the Illinois Natural History Survey (of the Illinois Department of Conservation). These weekly surveys ran from March 18 to April 17. The spring migration peaked on March 18 with 182,825 birds. Mallards were most abundant, making up 46.5% of the total population. Other species include the American widgeon (13.6%), Canada geese (13.0%) and lesser scaup (8.6%). The 1980 peak is a considerable increase over the 1979 spring peak which consisted of 55,055 birds.

Fall surveys ran from September 8 through December 11. The fall migration peaked at 81,230 on November 3. Mallards made up the majority of the population (73.6%) with lesser numbers of American widgeon (8.6%), blue and snow geese (7.0%) and Canada geese (3.1%).

TABLE IV-3. Peak Fall Waterfowl Population By Species - 1974 - 1980

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>6-yr. Average 1974-79</u>
Mallard	138,000	215,000	59,000	149,850	231,000	170,000	59,825	160,475
Black duck	3,500	6,000	900	28,020	4,700	2,900	1,015	7,670
Gadwall	300	300	175	290	530	935	430	422
Pintail	1,400	1,800	1,200	1,850	4,575	5,025	1,380	2,642
Green-winged teal	5,200	5,200	3,700	1,100	2,860	3,000	4,725	3,510
Blue-winged teal	4,000	11,200	6,200	6,800	12,400	3,750	6,600	7,392
American widgeon	2,100	5,000	6,500	4,300	15,750	15,500	8,200	8,192
Shoveler	60	900	300	175	175	300	500	318
Wood duck	400	4,000	3,080	3,100	950	925	975	2,076
Redhead	-	70	-	335	250	175	200	138
Ring-necked duck	800	2,200	500	1,200	575	4,200	500	1,579
Canvasback	115	250	65	325	850	400	350	334
Lesser scaup	3,200	1,500	15,000	1,250	2,400	7,500	1,400	5,142
Bufflehead	30	125	-	85	475	300	150	169
Ruddy	150	225	75	225	300	200	100	196
Common merganser	800	70	60	325	1,700	1,600	485	759
Red-breasted merganser	10	15	-	-	100	125	-	42
Hooded merganser	75	40	30	35	200	150	40	88
Common goldeneye	1,200	325	125	850	4,600	3,800	500	1,817
Canada geese	1,300	1,200	1,200	1,950	7,375	4,000	3,475	2,838
Lesser snow geese	3,500	3,000	1,800	2,400	13,300	5,900	7,515	4,983
White fronted geese	-	-	-	-	80	-	-	13

TABLE IV-4 Waterfowl Use Days

Ducks

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>
1974	134,588	44,345	265,078	5,780,465	6,224,276
1975	458,456	44,040	382,835	10,227,345	11,112,676
1976	666,616	71,630	382,500	1,928,035	3,048,781
1977	1,120,785	182,265	327,660	5,498,305	7,129,015
1978	317,125	252,520	563,235	8,475,735	9,608,615
1979	864,490	139,942	282,000	7,592,515	8,878,947
1980	3,425,188	435,418	351,130	3,368,550	7,580,286
Average	998,178	167,166	364,920	6,124,421	7,654,685
Percent	13.0%	2.2%	4.8%	80.0%	

Geese

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>
1974	83,920	450	1,860	149,500	235,730
1975	182,509	1,270	4,955	273,835	462,569
1976	123,945	4,825	3,760	89,185	221,715
1977	91,110	3,910	4,060	111,610	210,690
1978	41,780	4,178	5,760	824,075	875,793
1979	132,250	7,350	4,690	412,985	557,285
1980	403,240	16,210	8,465	320,295	748,210
Average	151,251	5,456	4,793	311,641	473,141
Percent	32.0%	1.1%	1.0%	65.9%	



Total waterfowl use days for the year were 8,328,496. Duck use amounted to 7,580,286 use days - down 14.7% from 1979. Goose use was 34.3% higher than last year, with a total of 748,210 use days.

### Banding

The 1980 banding quota was 400 wood ducks. Trapping was only conducted at Chautauqua this year. Limited travel prevented trapping activities at Meredosia.

Six "Ohio-type" traps were used. The locations are shown on figure IV-1. The traps were baited with whole and cracked corn. Fluctuating water levels were a problem in washing away the bait, and subsequently fewer ducks were trapped than in previous years. The traps on the Liverpool Ditch and the ring dike disappeared and were never recovered. This is the first time that any traps have been removed from the refuge. The #1 trap on the cross dike was vandalized also. It was found in the lake, bent, but not unrepairable.

Trapping was the most intensive means of obtaining birds for banding. Hens banded in the wood duck nest box structures during box inspections was a secondary means. Banding success for 1980 is summarized in the table below. Only wood ducks were banded this year.

TABLE IV-5. 1980 Banding Results (Wood Duck)

<u>Age</u>	<u>Total Banded</u>	<u>Quota</u>
HYM	21	100
HYF	27	100
AHYM	0	100
AHYF*	17	100
Total	65	400

\* All AHYF wood ducks banded were hens on nests.

See Table IV-6 for summary.

# CHAUTAUQUA NATIONAL WILDLIFE REFUGE MASON COUNTY, ILLINOIS

UNITED STATES  
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

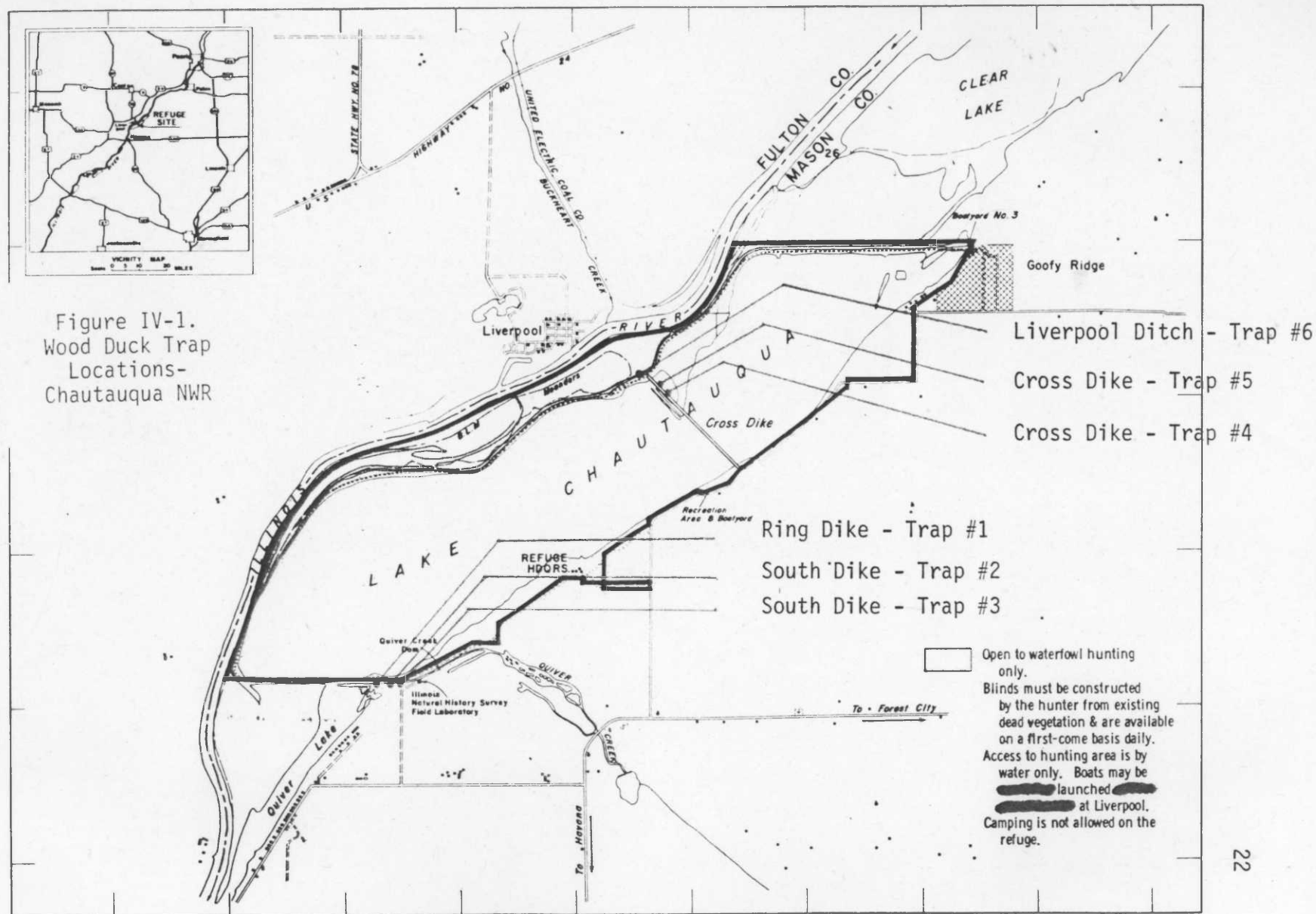


TABLE IV-6. Banding Summary of Hens on Nest - 1980

Band No.	Date Banded	Location	Box No.	Outcome
675-757-				
-23	05-29-80	Rountree - BY2	C-19	Success
-24	05-29-80	Rec Area - Rountree	C-4	Success
-25	06-09-80	South Melz Slough	80-3	Success
-26	06-09-80	South Melz Slough	80-5	Success
-27	06-09-80	South Melz Slough	80-9	Success
-28	06-09-80	South Melz Slough	80-20	Success
-29	06-10-80	North Melz Slough	68-2	Success
-30	06-10-80	North Melz Slough	68-5	Success
-31	06-10-80	North Melz Slough	66-9	Success
-32	06-10-80	North Melz Slough	66-5	Success
-33	06-10-80	North Melz Slough	68-7	Success
-34	06-10-80	North Melz Slough	68-8	Success
-35	06-10-80	North Melz Slough	D-17	Success
-36	06-10-80	North Melz Slough	80-32	Success
-37	06-10-80	North Melz Slough	80-24	Success
-38	06-10-80	North Melz Slough	80-21	Success
-39	06-16-80	North Melz Slough	80-29	Success

17 Bands

100% Success

Baited trapping began on July 22 and ran through September 4. High water levels which tended to fluctuate considerably throughout the summer made trapping efforts difficult. By early September, the water was too high to accomplish any effective trapping, so the traps were brought in. All ducks caught were hatch-year birds. In addition bluejays, starlings, carp, and several turtles were entrapped.

#### 1980 WOOD DUCK BOX PRODUCTION

##### Maintenance

A total of 130 wood duck boxes were available for nesting during the 1980 season. Boxes which received less than 30% usage over the past ten years and which had no nesting attempt in 1979 were deemed unproductive in their present location. The boxes were removed and relocated in the Melz Slough area, which has a history of high productivity. (Average use in 1979 was 61.5% in north Melz Slough and 60.2% in south Melz Slough.)



### Production

Production for 1980 is outlined in the following table, which shows usage for each area on the East Bluff and usage for north and south Melz Slough.

TABLE IV-7. Breakdown Of Production By Area - 1980

	No. Boxes	No. Boxes Used By Wood Duck	No. Boxes Produced Young	Produc- tion of Young	Average Hatch Size
<b>EAST BLUFF</b>					
Rountree to BY3	14	10	6	37	6.2
Rec Area to Rountree	5	4	4	45	11.3
HQ to Rec Area	7	0	0	0	0.0
Pete's Corner to HQ	2	1	0	0	0.0
Lab to Control Structure	1	1	1	22	22.0
	29	16(55%)	11(38%)	104(70%)	9.5
<b>MELZ SLOUGH</b>					
North	42	29	23	274	11.9
South	59	27	18	202	11.2
	101	56(55%)	41(41%)	476(64%)	11.6

Check of 130 available boxes indicated that 55% were used by wood ducks, and 580 young produced. As can be seen from this table, production was up considerably - up 146 from 1979 and up 165 from the ten-year average.

TABLE IV-7a. Ten-year Summary (1971-1980)

Year	No. Boxes Checked	No. Boxes Available	No. Used By Wood Duck	No. Produced Young	No. Young Produced	Average Hatch Size
1971	266	266	48(18%)	34(13%)	437	12.9
1972	192	189	45(24%)	42(27%)	381	9.1
1973	173	138	54(39%)	26(19%)	265	10.2
1974	135	116	53(46%)	39(34%)	312	8.0
1975	132	124	71(57%)	59(48%)	554	9.4
1976	139	132	55(42%)	48(36%)	432	9.0
1977	131	125	37(30%)	30(24%)	210	7.0
1978	113	114	54(47%)	45(39%)	542	12.0
1979	93	93	66(71%)	45(48%)	434	9.6
1980	130	130	72(55%)	52(40%)	580	11.2
TOTAL	1506	1427	555(39%)	420(29%)	4147	9.9
AVG.	150.6	142.7	55.5(39%)	42(29%)	414.7	9.9

### Banding

Seventeen wood duck hens were banded on nests and two wood duck hens banded in 1979 were recovered on nests. Dates and locations of banding hens in 1980 are summarized in a preceeding table, IV-6.

All banded hens brought off successful clutches. One of the two recovered hens (#-75709) lost a clutch due to box failure, but renested successfully in a nearby box later in the spring.

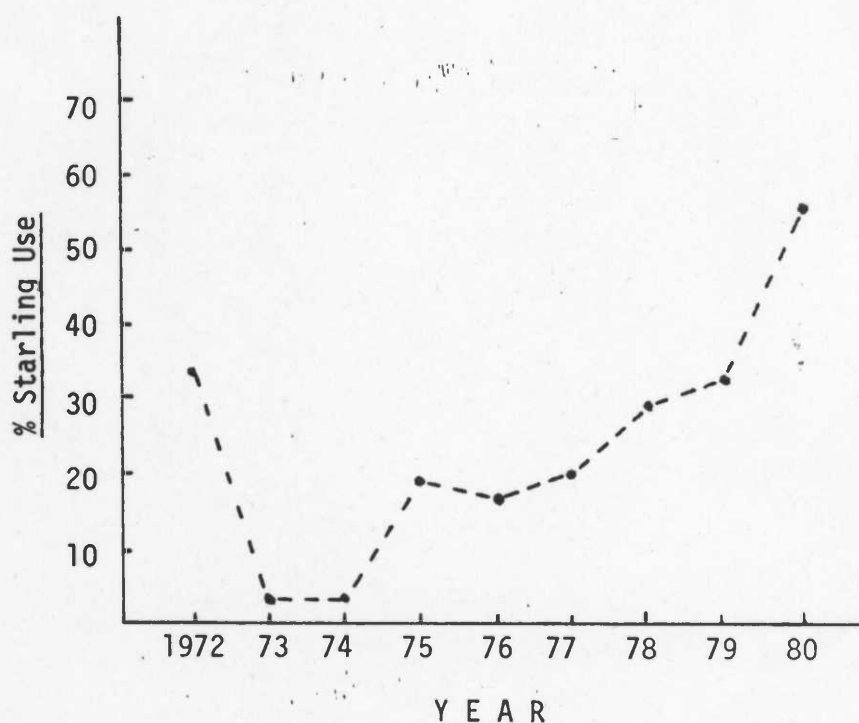
### Starling Use

Starling use in 1980 exceeded that of the past nine years. Fifty-five percent of the available boxes contained starling nests. Table IV-8, and the accompanying graph show starling use in wood duck boxes from 1972 to 1980.

The most recent method employed to deter starlings from initiating nests in wood duck boxes was covering the box opening with tape until wood duck nesting activity peaked in the spring. This was meant to eliminate nest-site attachment by starlings. Because of the high variability between nesting season conditions, the value of this method cannot be judged without further study. Boxes will again be taped over the 1980-81 winter in hopes of decreasing starling use in wood duck boxes.

TABLE IV-8. Starling Use in Wood Duck Boxes

Year	No. Boxes Available	No. Boxes Used By Starlings	% Starling Use
1972	189	63	33.3%
1973	138	5	3.6%
1974	116	4	3.4%
1975	124	24	19.4%
1976	132	23	17.4%
1977	125	25	20.0%
1978	114	33	29.0%
1979	93	30	32.3%
1980	130	72	55.4%
AVERAGE	129	31	24.0%

GRAPH IV-1. % STARLING USE BY YEAR.

## 2. Marsh & Water Birds

Coot use was 65% above last year's record of 1,056,740. The 1980 total of 1,741,950 represents a new record high for coot use days at Chautauqua. A seven year summary is presented in Table IV-9. The spring population peaked at 95,700 on March 27 and fall migration peaked at 19,500 coots on October 20.

TABLE IV-9. Coot Use Days

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	10,950	10,200	10,500	255,750	287,400	
1975	2,340	13,650	9,000	243,000	267,900	-6.8%
1976	23,250	37,800	19,200	134,550	214,800	-19.8%
1977	66,600	66,150	23,400	387,750	543,900	+153.2%
1978	42,000	216,300	50,100	1,038,600	1,347,000	+147.7%
1979	315,155	82,420	14,555	644,610	1,056,740	-21.5%
1980	812,000	497,000	60,725	372,225	1,741,950	+64.8%
Average	181,756	131,931	26,782	439,498	779,956	
Percent	23.3%	16.9%	3.4%	56.3%		

TABLE IV-10. Marsh and Water Birds Use Days

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	2,820	1,630	19,150	9,665	33,265	
1975	720	1,885	11,075	8,275	21,955	-34.0%
1976	8,275	1,515	16,720	2,660	29,170	+32.9%
1977	650	3,150	15,400	2,310	21,510	-26.3%
1978	825	6,190	33,820	5,020	45,855	+113.2%
1979	210	2,680	29,105	7,968	39,963	-12.8%
1980	955	5,970	24,035	6,075	37,035	-7.3%
Average	2,065	3,288	21,329	5,996	32,679	
Percent	6.3%	10.1%	65.3%	18.3%		



Marsh and water bird use dropped 7.3% from last year's 39,963 use days to a 1980 total of 37,035. The most abundant species were great egret (33.7%) and great blue heron (30%). The use by both of these species was less than that in 1979 - great egret use was down 17.8% and great blue heron use dropped 31.4%. This decrease resulted from high water levels in August and September. Black-crowned night heron use increased 38.6% over last year's 1,185 use days. Chautauqua has seen a tremendous increase in this species over the past two years.

### 3. Shorebirds, Gulls, Terns, and Allied Species

The total use days for this group, 251,400, fell 42% from 1979 use. Fluctuating water levels in July considerably reduced the availability of mudflats for these birds. Water levels in July were high enough to reach the willows on the banks of the cross dike, thus covering all feeding and loafing shorebird habitat. During late August and September water levels again were high resulting in flooding mudflats normally available for shorebirds during the early fall migration.

The most abundant species recorded include - pectoral sandpiper (21.5% of total use), lesser yellowlegs (15.4%), herring gull (14.7%), and ring-billed gull (13.2%). A total of 39 species were recorded at Chautauqua in 1980. This is two more species sightings than last year.

### 4. Raptors

Sixteen species of raptors were recorded at Chautauqua during 1980, giving a total of 16,361 use days on the refuge. This figure is 8% lower than that of 1979.

Barred owls (17.5%) and bald eagles (16.9%) were most abundant, accounting for one third of the total use days. Other prevalent species include screech owl (13.6%), great horned owl (13.1%) and red-tailed hawk (10.7%).

Data on bald eagle use is summarized in section IV-A, Endangered and Threatened Species.

TABLE IV-11. Shorebirds, Gulls, Terns and Allied Species

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>△%</u>
1974	42,030	909	199,290	82,550	324,779	
1975	93,460	9,770	178,540	69,339	351,109	+8.1%
1976	47,510	3,110	76,066	16,795	143,481	-59.1%
1977	54,800	6,280	70,720	26,345	158,145	+10.2%
1978	46,630	18,885	361,435	52,350	479,300	+203.1%
1979	48,750	2,755	92,165	287,685	431,355	-10.0%
1980	26,110	9,760	166,295	49,235	251,400	-41.7%
Average	51,327	7,352	163,501	83,471	305,653	
Percent	16.8%	2.4%	53.5%	27.3%		

TABLE IV-12. Raptor Use Days

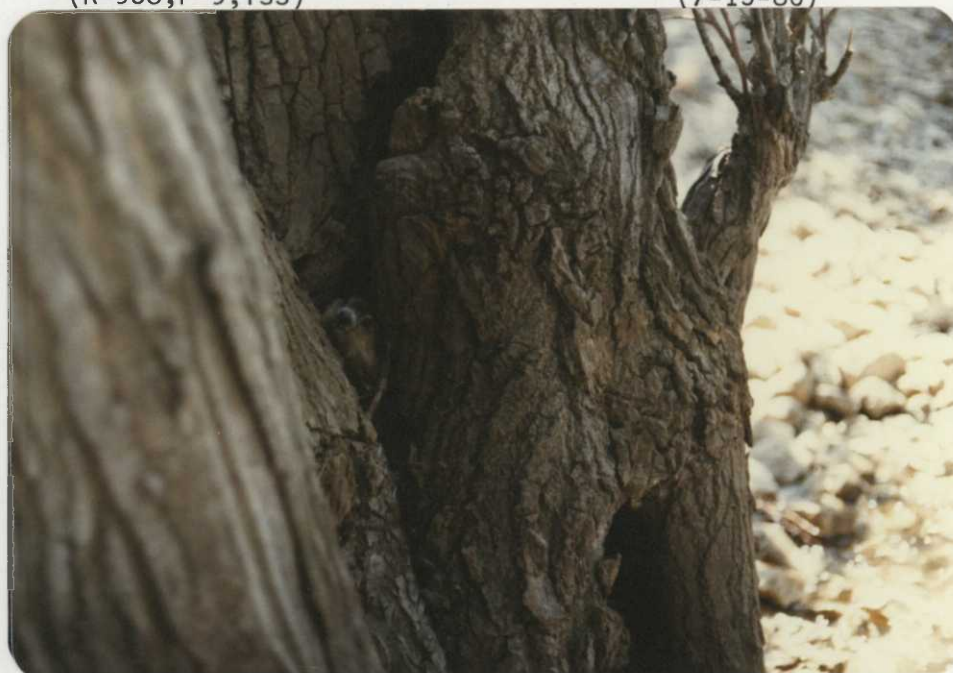
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>△%</u>
1974	2,265	1,245	1,640	1,880	7,030	
1975	2,900	680	685	2,045	6,310	-10.2%
1976	2,380	740	2,012	2,170	7,302	+15.7%
1977	4,465	1,610	1,607	3,375	11,057	+51.4%
1978	6,660	2,090	4,365	4,025	17,140	+55.0%
1979	5,750	1,765	5,630	4,590	17,735	+3.5%
1980	4,705	2,076	5,070	4,510	16,361	-7.7%
Average	4,161	1,458	3,001	3,228	11,848	
Percent	35.1%	12.3%	25.3%	27.3%		



Dr. Frank Bellrose checking on shorebirds along the edge of the south pool. The cross dike is in the background. Moist soil production is starting to grow on the edges of the shore.

(R-938,P-9,TSS)

(7-15-80)



Old cottonwood trees along the shoreline provide shelter for wildlife, such as this young woodchuck.

(R-937,P-7,TSS)

(6-20-80)

5. Other Migratory Birds

Mourning dove use days for 1980 totaled 34,400. A peak population of 215 was reached on September 10. This is about 9% less than in 1979. Production of 50 doves equalled last year's figures.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

- White-tailed deer is the only big game species inhabiting Chautauqua. However, the population is small due to the limited upland habitat along the periphery of Lake Chautauqua. The resident population utilizes neighboring farmland as additional habitat. A peak of 25 deer was reported in early December. No deer hunting on the refuge is permitted.

2. Other Mammals

Beaver use is concentrated along Quiver Creek and the Illinois River ridge. The population peaked at 25, as it did last year. Again, this spring's floods were high and beaver activity was quite evident.

The raccoon population remained stable during 1980. A peak of 135 was estimated, and production for the year reached 50.

Muskrat use was slightly lower than last year. A peak population of 75 was estimated. Muskrat activity is concentrated along Liverpool Lake, and Quiver Creek.

Twenty-four other species of mammals use the refuge. Total use days for mammals other than game was 243,674.

3. Resident Game Birds

Chautauqua game birds include only ring-necked pheasants and bob-white quail. Pheasant numbers are on the rise after a series of severe winters which depleted the population. Pheasants tripled from last year, totaling 35 for 1980. Bob-white quail numbers were reported at 230, a fairly stable number over the years.



#### 4. Other Animal Life

In the past, 15 species of amphibians, 29 species of reptiles and 54 species of fish were recorded as residents of the refuge. However, conditions of Lake Chautauqua and the peripheral habitat have degraded over the years, and species variation and abundance have undoubtedly declined. Lake Chautauqua is used extensively for recreational fishing - the primary game fish are channel catfish, carp, bullhead, and perch.

### V. INTERPRETATION AND RECREATION

#### A. Information and Interpretation

##### 1. On-Refuge

Public use during the calendar year 1980 increased 14% from the 1979 count. Wildlife observation increased 14% and fishing increased 16% over 1979.

Wildlife observation and fishing remained close to the same percentage as in 1979 but the total number of visits increased 13.7%.

The Wood Duck Trail usage has been declining since the energy crunch. Just a few schools made use of this facility. Even the local schools have eliminated the tours to the refuge and the refuge has discontinued conducted tours.

## 2. Off-Refuge

The system 70 Refuge Exhibit again was very successful as it has been in the previous years.

It was on display at the Pekin Public Library from March 17 to April 11 with 4,450 potential viewers. It was moved to the Forest Park Nature Center where it was on display from April 12 to May 2 with 265 viewers. Finally, the refuge exhibit was on display at the Wildlife Prairie Park, part of the Peoria Park District, from May 3 to November 17 with 119,657 potential viewers.

The refuge exhibit has proven to be a useful public relation tool for the refuge. This exhibit has been well received by the public resulting in favorable remarks and interest in the refuge.

	<u>PUBLIC USE</u>			
	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>
Interpretation Wood Duck Trail	742	864	1,315	1,062
Rec. - Wildlife Non-consumptive W/W Observation	22,868	19,980	27,418	23,263
Rec. - Wildlife Consumptive Fishing	22,734	19,447	20,277	15,988
Hunting	354	665	905	632
Other Consumptive	<u>225</u>	<u>281</u>	<u>468</u>	<u>349</u>
	46,923	41,237	50,383	41,294

## B. Recreation

### 1. Wildlife-Oriented

The sport fishing success on the refuge was poor due to the lake being at a very low water level. Trot line fishing success was very good during high water conditions. Channel cat, bullheads and sheep-head comprised the majority of the catch.

The silting of Goofy Ridge ditch has continued and it has curtailed the sport fishing during normal water level conditions.

Wildlife observation remains the highest percentage of the visitors on the refuge with nearly 49 percent of the public use.

There are several Audubon groups that visit the refuge on a regular basis. The main attractions are songbirds, waterfowl, shorebirds and bald eagles.

High water levels during late August and early September affected shorebird activity. Normally high concentrations of shorebirds attract birders from as far away as Chicago and St. Louis.

The Liverpool Lake Public Hunting Area was open to waterfowl hunting again for both the special teal season held in September and the regular waterfowl hunting season.

The water level during the special teal season was above normal and the hunter success was fair. The water level flooded additional areas of the Liverpool section providing a larger area to hunt. Due to the use of steel shot, hot weather conditions, and a large crop of mosquitoes, the harvest was down.

The regular waterfowl season opened on October 23 and closed on December 11 for ducks and December 31 for geese. The public use was down 47% from 1979. The extremely low water level, the low waterfowl population on Lake Chautauqua, and the requirement of steel shot were the main reasons for the drastic decline of the hunting pressure.

## 2. Non-wildlife Oriented

The extremely hot and dry weather limited the production of mushrooms and wild berries. The gathering of hickory nuts and walnuts was down due to a poor crop. This category comprises less than one percent of the total public use.

C. Enforcement

The illegal commercial fishing activity has slowed down considerably as a result of increased patrolling and local news releases. We are still experiencing some minor problems, but it has dropped drastically.

We have also slowed down vehicle trespassing by having individuals fined and the word got out to the public.

The lead shot problem in the steel shot zone has caused some problems. The waterfowl hunters are asking why the changing of the regulations. One year the regulation has been dropped and the following year the regulation is for all gauges except 20-gauge, and then a few days after the regular waterfowl season opened, 16-gauge were excluded from steel shot. This has caused public relations problems and confused the hunter.

Case Summary

<u>Violation</u>	<u>Disposition</u>
Motorized vehicle in Closed Area	\$50.00 fine
Motorized vehicle in Closed Area	25.00 fine
Motorized vehicle in Closed Area	25.00 fine
Motorized vehicle in Closed Area	25.00 fine
On area after hours - trespassing	25.00 fine
Fishing without license	Suspended
Lead shot in steel shot area	75.00 fine
Lead shot in steel shot area	75.00 fine
Lead shot in steel shot area	75.00 fine
Lead shot in steel shot area	75.00 fine
Fishing without license	50.00 fine
Fishing without license	Pending
Lead shot in steel shot area	Pending
No life jacket in boat	Pending
Fishing without license	Pending



## VI. OTHER ITEMS

### A. Field Investigations

Nothing to report.

### B. Cooperative Programs

The YACC program continued with one enrollee working in the office. This provides service to the public by having someone in the office to meet the public and answer the telephone.

Assistance was provided to two federal cooperative programs. One mourning dove call count route and one woodcock singing ground survey. Field surveys to determine annual mourning dove recruitment were discontinued this year.

The annual eagle count was conducted on Chautauqua NWR on January 11. Eagle observation prior to and after the mid-winter count were reported to Elton Fawks. Assistance was provided to Dr. Frank Bellrose, Illinois Natural History Survey. Several early morning surveys were conducted concerning wood duck movement and numbers. Information on wood duck box production and brood data was relayed to the survey. Dr. Bellrose is in the process of writing a book on the wood duck.

The refuge assisted Dr. Richard Bjorklund, Bradley University in surveying Clear Lake heronry. The heronry is used by great blue heron, great egret and black-crowned night heron. The last two species are listed as Illinois endangered species. The refuge provided a boat and personnel to assist in the June 24th survey.

#### Heronry Surveys

<u>Species</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>	<u>1977</u>	<u>Average</u>
Great blue heron	255(48)	160(34)	143(39)	103(37)	165(40)
Black-crowned night heron	224(42)	244(52)	180(48)	140(50)	197(48)
Great egret	39(7)	65(14)	47(13)	36(13)	47(11)
Cattle egret	13(3)	-	-	-	3(1)
	531	469	370	279	412



The YACC Program assisted refuge operations by providing an enrollee for duty at the office. Occasional breaks from office work include outside work.

(R-938,P-6,TSS)

(7-8-80)

The refuge manager participated in the Christmas Bird Count conducted on December 27. A total of 82 species were recorded compared to 65 species last year. One interesting observation for the group was observing a peregrine falcon pursuing a common merganser. The falcon over shot the duck twice prior to finally knocking it to the ground.

#### Christmas Bird Count

<u>Year</u>	<u>Total Species Reported</u>	<u>Observations</u>	<u>Waterfowl Only (%)</u>
1980	82	15,078	7,544 (50)
1979	65	15,304	7,283 (48)
1978	70	14,727	10,966 (74)
1977	66	8,524	3,000 (35)
1976	66	14,983	7,890 (53)
1975	81	190,053	176,913 (93)
1974	74	78,979	73,187 (93)

The number of special use permits for cabins on Chautauqua remains the same. Four active permits remain out of the original 56 cabins. These permits are renewed on a yearly basis.

A. W. Moore - Peoria	Cabin #40
Edward Pueschel - Peoria	Cabin #43A
Marvin Wys - E. Peoria	Cabin #53
Alexander Blessing - Peoria	Cabin #68

The Illinois Natural History Survey maintains a laboratory and storage buildings on the refuge. The survey was issued a special use permit by the U.S. Biological Survey in 1939.

#### C. Items of Interest

The refuge manager attended the following meetings:

Refuge Managers Meeting	4/8-9	Pere Marquette State Park, Grafton, IL
Organic Farming Workshop	6/25-26	DeSoto NWR Missouri Valley, IA
AWP Meeting	8/19-21	KCAO, Missouri
Administrative Workshop	12/16-18	St. Paul, MN

The refuge manager trainee (Kenow) attended the following:

Refuge Manager Academy 3/3-28 Beckley, W. VA.  
Law Enforcement Training 4/22-6/24 Glynco, GA.

Two revenue-sharing checks were delivered to the Mason County Treasurer. The first checks were received late in January. This check was not for the full amount due under the law. Supplemental appropriations were requested and the second checks arrived in August. This year a total of \$2,554.00 was presented to the County Treasurer.

#### REVENUE-SHARING PAYMENTS

<u>Year</u>	<u>Payment</u>	<u>Year</u>	<u>Payment</u>
1963	\$ 106.00	1972	\$1,042.94
1964	225.50	1973	1,042.94
1965	115.34	1974	1,042.94
1966	115.34	1975	1,042.94
1967	914.86	1976	2,285.85 (1)
1968	914.86	1977	1,856.84
1969	914.86	1978	1,302.41
1970	914.86	1979	1,659.00
1971	1,042.06	1980	2,554.00

(1) 15-month period

Sections of the 1980 narrative were completed by the following:

Refuge Manager (Sanford) - Sections I,III,VI.

Refuge Manager Trainee (Nault) - Section IV.

Maintenance Worker (Watts) - Sections II & V.

#### D. Safety

No lost-time accidents occurred during the calendar year. The station safety record has reached 9,927 days or 27,638 man days (plus 236 man days under YACC) without a lost-time accident.

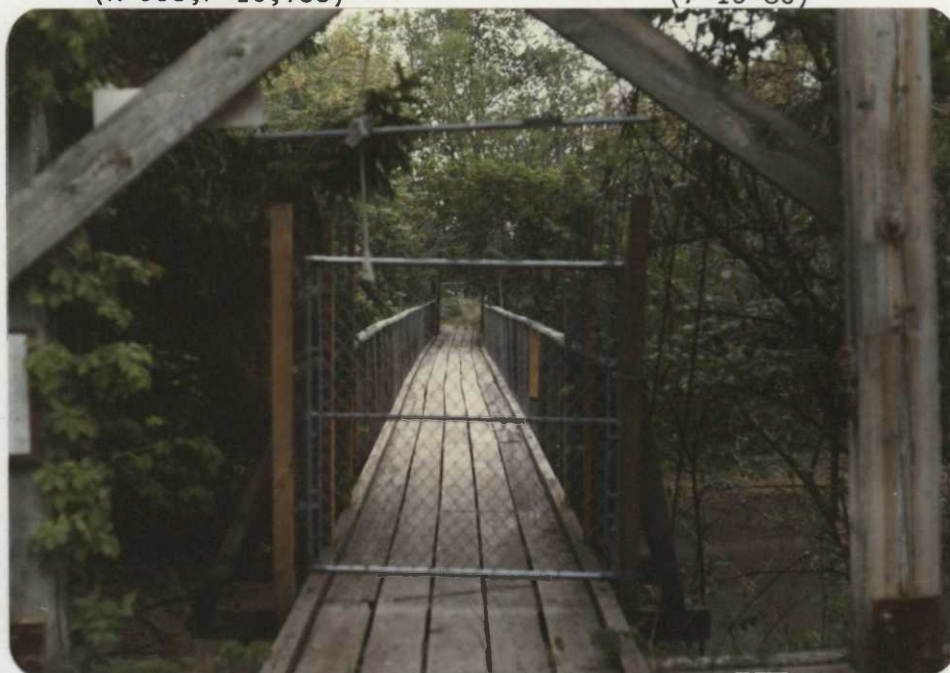




A safety meeting on fire extinguishers involved the entire staff handling different types of extinguishers. Biological Aid Buenzow receiving instructions from Bill Watts.

(R-938,P-10,TSS)

(7-16-80)



The swinging foot bridge across Quiver Creek at the INHS Lab was finally secured for safety reasons. The bridge belongs to the survey and used by lab personnel to have access to the refuge. The locked gates prevents public use and possible tort claims.

(R-935,P-14,TSS)

(5-13-80)

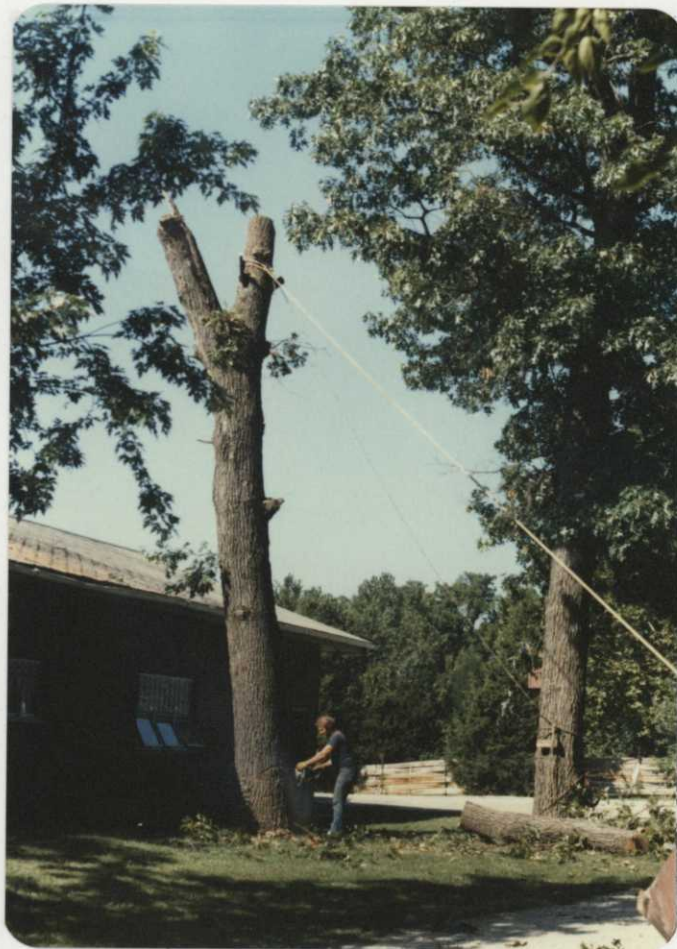
Regular safety meetings were held including YACC personnel. Safety subjects covered vehicle safety, first aid, household chemicals and poisons, safety policy for Fish and Wildlife Service employees, water safety, fire extinguishers demonstration, power mower operations, electrical fire demonstration and winter hazards. 41

The following safety films were viewed by the staff plus followup discussion:

Safety Check Your Car*	People Afloat
First Aid Action	Personal Floation Devices
Saving a Life	Suddenly without Warning
Treating an Injury	Winter Hazards*
Pro Driving Attitudes*	Options to Live*
Drive and Survive	Under the Influence*
Your Way Out (fire shelters)	

\*Defensive Driver Refresher Training

Safety improvements during the year included ROPS for refuge Jeep, purchase of storage cabinet for firearms and ammunition, securing storage cabinet for flammable fluids, additional guard rail protection at radial gates and vehicle barrier at new gas pumps.



No it is not a giant sling-shot! A contractor was hired to remove the tree after the left branch fell onto the office-shop roof.

(R-939,P-7,TSS)

(9-6-80)

CHAUTAUQUA NATIONAL WILDLIFE REFUGE

Cameron Unit  
Sparland, Illinois

ANNUAL NARRATIVE REPORT

Calendar Year 1980

NATIONAL WILDLIFE REFUGE SYSTEM

Fish and Wildlife Service

U. S. DEPARTMENT OF THE INTERIOR



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## I. GENERAL

### A. Introduction

The late Judge Glen J. Cameron of Pekin, Illinois donated the Cameron Unit to the U.S. Fish and Wildlife Service on May 17, 1958. The Cameron Unit is located in Marshall County at river mile 192 (64 miles up river from the Chautauqua National Wildlife Refuge). This unit is located between Sparland and Henry, Illinois on the west side of the Illinois River. This 636.5 acre refuge serves as a sanctuary. The Cameron Unit consists of bottomland timber, old fields that are reverting to timber and a back water area of the Illinois River. The Sparland Conservation Area administrated by the state is located along the south boundary of the refuge. Public use in the form of waterfowl hunting, fishing and snowmobiling is permitted on the Sparland Conservation Area.

### B. Climatic and Habitat Conditions

No information on climatic conditions is available. Due to the lack of a dike system, this bottomland area is subject to any rise or fall of the Illinois River to a greater degree than the Chautauqua National Wildlife Refuge.

### C. Land Acquisition

#### 1. Fee Title

Nothing to report.

#### 2. Easements

Nothing to report.

### D. System Status

#### 1. Objectives

Primary objectives are to provide migrating waterfowl and other migrating birds food, water and protection during the spring and fall migration periods. Maintaining existing habitat to perpetuate optimum production of wood duck is of equal importance. The Cameron Unit is located on a major mallard and Canada goose flight corridor. This unit can be expected to

accomodate over 500,000 waterfowl use days each 2  
year.

2. Funding

The Cameron Unit remains on a stand-by status due to priorities of the Meredosia National Wildlife Refuge and travel restrictions. See Chautauqua National Wildlife Refuge concerning funding.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Nothing to report.

B. Maintenance

Limited maintenance included inspection of boundaries and posting prior to the waterfowl seasons.

C. Wildfire

Nothing to report.

III. HABITAT MANAGEMENT

A. Croplands

Nothing to report.

B. Grasslands

Nothing to report.

C. Wetlands

Weis Lake, a backwater lake of the Illinois River, and a small area flooded by a low level dike make up the wetlands of this unit. Water levels are completely controlled by fluctuating river levels in the 328 acre lake. River levels are influenced by the lock and dam located 34 miles down stream at Peoria.

An interior 3,500 foot low level dike constructed in 1969 has deteriorated, due to lack of maintenance. The existing beaver population continues to repair small breaks in the dike flooding 15-20 acres during the summer.

Willow invasion continues along the periphery of Weis Lake and on croplands converted to moist soil units. Moist soil vegetation has been diminished by this growth.

D. Forestlands

The Cameron Unit contains 385 acres of bottomland hardwoods. The predominate species are silver maple, elm, cottonwood and black willow.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

The Cameron Unit has one designated Natural Area. This area is located south of Crow Creek. The Cameron Research Natural Area consists of 177 acres of silver maple and American elm (SAF type 62).

G. Easements for Waterfowl Management

Nothing to report.





The Illinois Chapter of the Nature Conservancy contacted the refuge concerning a 1,000 acre tract adjacent to the Cameron Unit. The Duck Club wished to divest the corporation. Acquisition of this land would provide management of Weis Lake. Follrath, Wilds and Winship (RO) met with Ralph Brown (TNC) along with Refuge Manager Sanford and Dr. Frank Bellrose (INHS).

(R-938,P-8,TSS)

(7-15-80)

IV. WILDLIFEA. Endangered and Threatened Species

The northern bald eagle is the only Federally endangered species to have used the Cameron Unit in 1980. Total use days were 545, which is 320.6% more than in 1979. During the 1980-81 winter, a peak of 2 eagles was recorded in December. The 1980 spring peak was 5 eagles - 3 adults and 2 immatures in March.

TABLE IV-1 PEAK BALD EAGLES OBSERVED BY MONTH

(ADULT/IMMATURE)

	<u>1980-81</u>	<u>1979-80</u>	<u>1978-79</u>	<u>1977-78</u>	<u>1976-77</u>
November	1/0	2/0	2/0	1/1	3/1
December	1/1	2/1	3/0	4/2	1/1
January	0/0	1/0		4/1	

Thirteen of the thirty-three Illinois-designated endangered bird species were recorded on the Cameron Unit in 1980. Total use was up 26% from 1979. The breakdown is as follows:

TABLE IV-2 STATE ENDANGERED SPECIES USE - 1980

<u>Species</u>	<u>Use Days</u>	<u>Peak</u>
Great egret	2,345	52
Bald eagle	545	5
Black tern	525	15
American bittern	500	7
Marsh hawk	410	4
Double-crested cormorant	300	8
Black-crowned night heron	275	4
Red-shouldered hawk	225	3
Common tern	200	5
Cooper's hawk	155	2
Short-eared owl	110	1
Wilson's phalarope	65	5
Osprey	10	1

## B. Migratory Birds

### 1. Waterfowl

Spring and fall aerial surveys for the Cameron Unit were conducted by the Illinois Natural History Survey from March 18 to April 17, and from September 8 to December 11. The spring waterfowl population peaked at 6,090 on March 18. This is about 43% higher than in 1979, but well below the 1974-79 average.

Total waterfowl use days dropped to a record low of 124,252 in 1980, which is 7.7% lower than 1979's use day total. Duck use was up 0.4% from 1979, and goose use was 53% below last year's numbers. See tables IV-3 and IV-4 for a summary of 1980 waterfowl use.

Migratory waterfowl numbers have been on the decline for several years at Cameron. The primary reason for this is degradation of Weis Lake due to siltation from the Illinois River. The Cameron Unit is not actively managed, and thus water levels cannot be controlled to slow down this deteriorating action.

Table IV-5 shows the decreasing trend of the waterfowl population over the past six years, as expressed in fall peak numbers of individual species. While the Cameron Unit is experiencing a decrease in use, total waterfowl use along the Illinois River is not similarly declining.

Wood duck production for 1980 was estimated at 85. Wood duck nest boxes have been removed from this unit, except for two boxes. The major production is from natural cavities. The only other breeding duck on the unit is the mallard. Production was estimated at 50 young.

### 2. Marsh and Water Birds

Coot use dropped again this year, 59.1% less than in 1979, to 14,490 use days. The spring population peaked at 800 on March 27, and fall numbers reached 150 on October 6.

TABLE IV-3 WATERFOWL USE DAYS

<u>Ducks</u>						
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	43,823	15,312	22,760	1,024,565	1,106,460	
1975	49,687	16,992	41,000	642,998	750,677	-32.2%
1976	140,850	47,680	57,925	59,395	305,750	-59.3%
1977	162,330	39,475	36,320	224,850	462,975	+51.4%
1978	22,835	58,465	34,986	60,405	176,691	-61.8%
1979	47,185	27,785	14,745	24,520	114,235	-35.3%
1980	66,196	11,481	16,950	20,045	114,672	+0.4%
Average	76,129	31,027	32,098	293,825	433,066	
Percent	17.6%	7.2%	7.4%	67.8%		

TABLE IV-4 WATERFOWL USE DAYS

<u>Geese</u>						
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	1,585	400	1,050	32,620	35,655	
1975	2,050	150	1,200	34,665	38,065	+6.8%
1976	140,235	1,650	900	5,432	148,217	+289.4%
1977	16,020	600	1,650	19,415	37,685	-74.6%
1978	4,030	3,000	1,350	6,605	14,985	-60.2%
1979	18,075	150	300	1,850	20,375	+36.0%
1980	7,905	300	300	1,075	9,580	-53.0%
Average	27,129	893	964	14,523	43,509	
Percent	62.4%	2.1%	2.2%	33.4%		



TABLE IV-5 PEAK FALL WATERFOWL POPULATION BY SPECIES

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>5-yr. average 1975-1979</u>
Mallard	28,000	1,200	7,920	750	375	300	7,649
Black Duck	600	40	140	30	20	15	166
Gadwall	200	-	40	25	-	-	53
Pintail	500	80	150	115	80	-	185
Green-winged Teal	800	450	65	450	350	175	423
Blue-winged Teal	425	1,700	340	650	150	175	653
American Wigeon	600	150	350	150	85	40	267
Shoveler	75	60	30	25	-	25	38
Wood Duck	250	225	185	250	140	210	210
Red Head	20	-	30	-	-	-	10
Ring-necked Duck	50	45	150	120	-	-	73
Canvasback	35	-	115	-	-	-	30
Lesser Scaup	275	100	100	300	50	30	825
Bufflehead	20	-	-	-	-	-	4
Ruddy	30	-	20	-	-	-	10
Common Merganser	35	20	20	60	25	20	32
Common Goldeneye	60	65	45	125	100	50	79
Canada Goose	900	215	600	250	65	35	406
Snow Goose	400	75	150	20	50	-	139

TABLE IV-6 MARSH AND WATERBIRDS USE DAYS

(Excluding Coots)

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ%</u>
1974	1,260	345	6,490	2,415	10,510	
1975	480	540	3,655	2,470	7,145	-32.0%
1976	50	540	3,015	1,105	4,710	-34.1%
1977	350	1,240	3,495	620	5,705	+21.1%
1978	250	1,780	5,990	920	8,940	+56.7%
1979	55	905	5,655	780	7,395	-17.3%
1980	100	880	5,270	920	7,170	-3.0%
Average	426	890	4,796	1,319	7,369	
Percent	5.7%	12.0%	65.0%	17.8%		

TABLE IV-7 COOT USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ%</u>
1974	1,650	3,000	750	24,000	29,400	
1975	1,350	3,300	2,040	38,250	44,940	+52.9%
1976	8,700	7,650	1,500	7,800	25,650	-42.9%
1977	4,500	8,250	5,160	37,800	55,710	+117.2%
1978	450	36,750	4,050	17,850	59,100	+6.1%
1979	14,445	9,925	662	10,415	35,447	-40.0%
1980	6,125	2,450	1,995	3,920	14,490	-59.1%
Average	5,318	10,189	2,308	20,005	37,820	
Percent	14.1%	27.0%	6.1%	52.9%		

Great egrets (32.7%) and great blue herons (28.4%) made up the majority of the marsh and water bird use at Cameron in 1980. Ten species in this group were recorded this year, with a total of 7,170 use days. This is fairly stable with respect to 1979's 7,395 use days. Less abundant were sora (10.7%), American bittern (7.0%) and pied-billed grebe (7.1%).

3. Shorebirds, Gulls, Terns, and Allied Species

This year's total of 48,710 use days fell 37.5% from that recorded in 1979, but only dropped 17% from the 1974-79 average.

Pectoral sandpiper (24.3%), herring gull (17.5%) and ring-billed gull (13.7%) accounted for more than half of all use. Less abundant were lesser yellowlegs (8.1%), semipalmated sandpiper (7.3%), killdeer (7.3%) and least sandpiper (5.7%). A total of 27 species were recorded on the unit during the year.

4. Raptors

Raptor use dropped only 6.6% from last year, but maintained numbers well above the 1974-79 average. Fifteen species were recorded at Cameron, totaling 4,530 use days.

The predominant species include barred owl (16.8%), screech owl (15.8%), great horned owl (14.4%) and red-tailed hawk (13.0%). Bald eagle use was up to 7.4% of the total use reported for 1980. Table IV-1 under Endangered and Threatened Species summarizes bald eagle peak populations at Cameron. The trend has been decreasing possibly due to habitat deterioration, public use or both. Public use overflows from the state area located to the south of the refuge.

5. Other Migratory Birds

Mourning dove use was up slightly from 1979, with a mid-September peak of 45, and a total of 6,750 use days. Production for the year was estimated at 10 young.

TABLE IV-8 SHOREBIRDS, GULLS, TERNS, AND ALLIED SPECIES USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	8,100	380	21,240	8,800	38,520	
1975	8,950	480	23,280	15,610	48,320	+25.4%
1976	3,600	1,900	21,950	11,107	38,557	-20.2%
1977	11,300	1,700	23,670	9,345	46,015	+19.3%
1978	8,130	2,860	78,350	14,780	104,120	+126.3%
1979	4,775	1,125	19,240	52,760	77,900	-25.2%
1980	3,260	1,810	29,950	13,690	48,710	-37.5%
Average	6,874	1,465	31,097	18,013	57,477	
Percent	12.0%	2.5%	54.1%	31.3%		

TABLE IV-9 RAPTOR USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>	<u>Δ %</u>
1974	675	275	315	630	1,895	
1975	830	255	285	485	1,855	-2.1%
1976	525	375	655	310	1,865	+0.5%
1977	1,190	915	815	1,585	4,505	+141.6%
1978	1,795	1,215	2,160	1,215	6,385	+41.7%
1979	2,995	1,080	2,475	1,310	7,860	+23.1%
1980	1,680	1,310	2,625	1,725	7,340	-6.6%
Average	1,384	775	1,333	1,038	4,530	
Percent	30.6%	17.1%	29.4%	22.9%		



## C. Mammals and Non-migratory Birds and Others

### 1. Game Animals

The Cameron Unit provides white-tailed deer with more or less of a sanctuary, as no management and no hunting occur there. The bottomland hardwood forest as well as adjacent agricultural fields provide excellent deer habitat and thus support a stable population. A total of 3,750 use days were recorded in 1980, as compared to 2,250 (1979), 2,500 (1978), 2,440 (1977), and 2,505 (1976). The 1980 peak population was 15 deer, with production of 4 young.

### 2. Other Mammals

The primary levee on the Cameron Unit is routinely maintained by the local beaver population. The levee impounds approximately 15-20 acres of water during the year for the benefit of migratory waterfowl. The beaver population is small, but stable, with an estimated peak of 10 animals.

As no hunting or trapping is allowed on the unit, other small mammal populations, such as squirrel, muskrat, woodchuck, rabbit, and red fox, also have remained stable. Total mammal use of Cameron came to 105,150 use days for the year.

### 3. Resident Birds

Plenty of woody cover, particularly along the border with adjacent croplands, offers suitable habitat for ring-necked pheasant and bobwhite quail. Both populations are remaining stable.

### 4. Other Animal Life

Ten species of amphibians, 21 species of reptiles and 26 species of fish have been recorded as residents of the Cameron Unit in the past. However, as siltation of the lake continues, species diversity will undoubtedly decline.

## V. INTERPRETATION AND RECREATION

### A. Information and Interpretation

#### 1. On Refuge

Nothing to report.

#### 2. Off Refuge

Nothing to report.

### B. Recreation

#### 1. Wildlife Oriented

Nothing to report.

#### 2. Non-Wildlife Oriented

Nothing to report.

### C. Enforcement

Nothing to report.

## IV. OTHER ITEMS

### A. Field Investigations

Nothing to report.

### B. Cooperative Programs

The annual eagle count was conducted on January 11. Eagle observations prior to and after the mid-winter count were forwarded to Elton Fawks.

Refuge personnel met with the Marshall County Soil Conservationist and the U.S. Soil Conservation Service watershed planning group. A meeting and field trip were held to consider a watershed program on Crow Creek. The program would deal with land treatment to

reduce erosion of the creek banks and siltation. This creek passes through the Cameron Unit and deposits heavy siltation on the refuge.

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C. Items of Interest

Refuge personnel met with Mr. Dale Mohr concerning property lines on the Cameron Unit. Mohr's property is an inholding on the river between Weis Lake and the Illinois River. This matter has been unanswered for the last ten years. Title to the land had not been filed with the Records Office in Marshall County. Contact with Regional Office realty section finally provided probate documents of the Glen J. Cameron estate in order to register and provide title curative.

Revenue sharing checks totaling \$2,238 were delivered to the Marshall County Treasurer. The first check received in January was for approximately 50% of the amount due the county. Supplemental revenue sharing checks resulted from Congressional appropriation in a special bill. The total of both checks constituted approximately 75% of the amount due.

REVENUE SHARING PAYMENTS

<u>Year</u>	<u>Payment</u>	<u>Year</u>	<u>Payment</u>
1968	\$1,200.00	1975	\$1,244.00
1969	1,200.00	1976	2,682.00 (1)
1970	1,200.00	1977	2,179.19
1971	1,244.00	1978	1,528.49
1972	1,244.00	1979	1,454.00
1973	1,244.00	1980	2,238.00
1974	1,244.00		

(1) 15-month period

Refuge Manager Sanford wrote Section I,II,III,V and VI.

Refuge Manager Trainee Nault wrote Section IV.

D. Safety

See Chautauqua National Wildlife Refuge Narrative.



So ends another year, another narrative and looking ahead to a new year with whatever surprises may be waiting to add variety and challenges during 1981.

(R-934,P-23,TSS)

(5-1-80)