

CHAUTAUQUA NATIONAL WILDLIFE REFUGE
Havana, Illinois

ANNUAL NARRATIVE REPORT
Calendar Year 1977

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

RESOURCE MANAGEMENT ROUTING SLIP

all

Rec'd 6/15/79

____ Beaty
____ Kvernmo
____ Wills
____ Williams

____ Sontag *MS*
____ Fowler *W*
____ McCrea *cm*
____ Hughes *A*

____ Nelson
____ Quinter
____ Stieglitz

____ ~~Young~~
____ ~~Frickie~~ *DM*
____ ~~Baldacchino~~ *MB*
____ ~~Wemmerus~~ *M*

____ Belcher *B*
____ Carney *W*

____ Operations
____ Planning

From:	Date:



Personnel

- | | | |
|----------------------------|--------------------------|-----|
| 1. Thomas S. Sanford | Refuge Manager, GS-9 | PFT |
| 2. Charles W. "Bill" Watts | Maintenance Man, WG-7 | PFT |
| 3. Alice L. Clanin | Clerk/Stenographer, GS-4 | PPT |

Not shown in photo:

- | | | |
|-------------------|---|-----|
| Kenneth L. Walker | Laborer, WG-2
06/06/77-08/05/77 | TFT |
| James R. Tolbert | Biological Aid, GS-4
06/20/77-09/09/77 | TFT |

Reviews and Approvals

Thomas S. Sanford 3/7/79
 Submitted by Date
Howard A. Lipke 3/5/79
 Refuge

[Signature] 4/11/79
 Area Office Date
R. Hayne Steier 4/17/79
 Regional Office Date

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I. GENERAL

A. Introduction

The Chautauqua National Wildlife Refuge, an area that farmers once tried to tame with dikes, pumps and plows, was authorized for purchase by Executive Order 7524 on December 23, 1936. Located in Mason County on the Illinois River, this central Illinois refuge contains almost 4,500 acres of land and water. Lake Chautauqua impounds 3,500 acres of water. Another 800 acres of water and timber bottomlands are located outside the impoundment area. The remaining acreage is upland and timber. Some of the greatest concentrations of wild ducks and geese along the Illinois River can be observed each fall and winter at Chautauqua.

B. Climatic and Habitat Conditions

Climatological records are recorded on the Glen Oest farm, two miles south of the refuge boundary. Total precipitation made up for the past shortage as 42.27 inches of precipitation was recorded. The 35-year average is 33.88 inches. During the period of July through November, 25.25 inches of rain fell. This was 10.5 inches of rain over the normal. The first frost occurred on October 13. Freeze-up occurred November 21 on the coldest day of the season.

The Illinois River reached flood stage in April and May. Elevations in the upper pool peaked at 436.22 on April 6 and 437.25 on May 9. The month of September produced high water levels during the last two weeks. This condition continued to mid-October. Lake Chautauqua peaked at 440.00 on October 11.

440.0

439.0

438.0

437.0

436.0

435.0

434.0

433.0

432.0

pt. Oct. Nov.

River Levels and Precipitation compared to Water Levels
at Cross Dike - Chautauqua

Precipitation
Havana Dis-
trict

8"

7"

6"

5"

4"

3"

2"

1"

Mar

Apr.

May

June

Jul

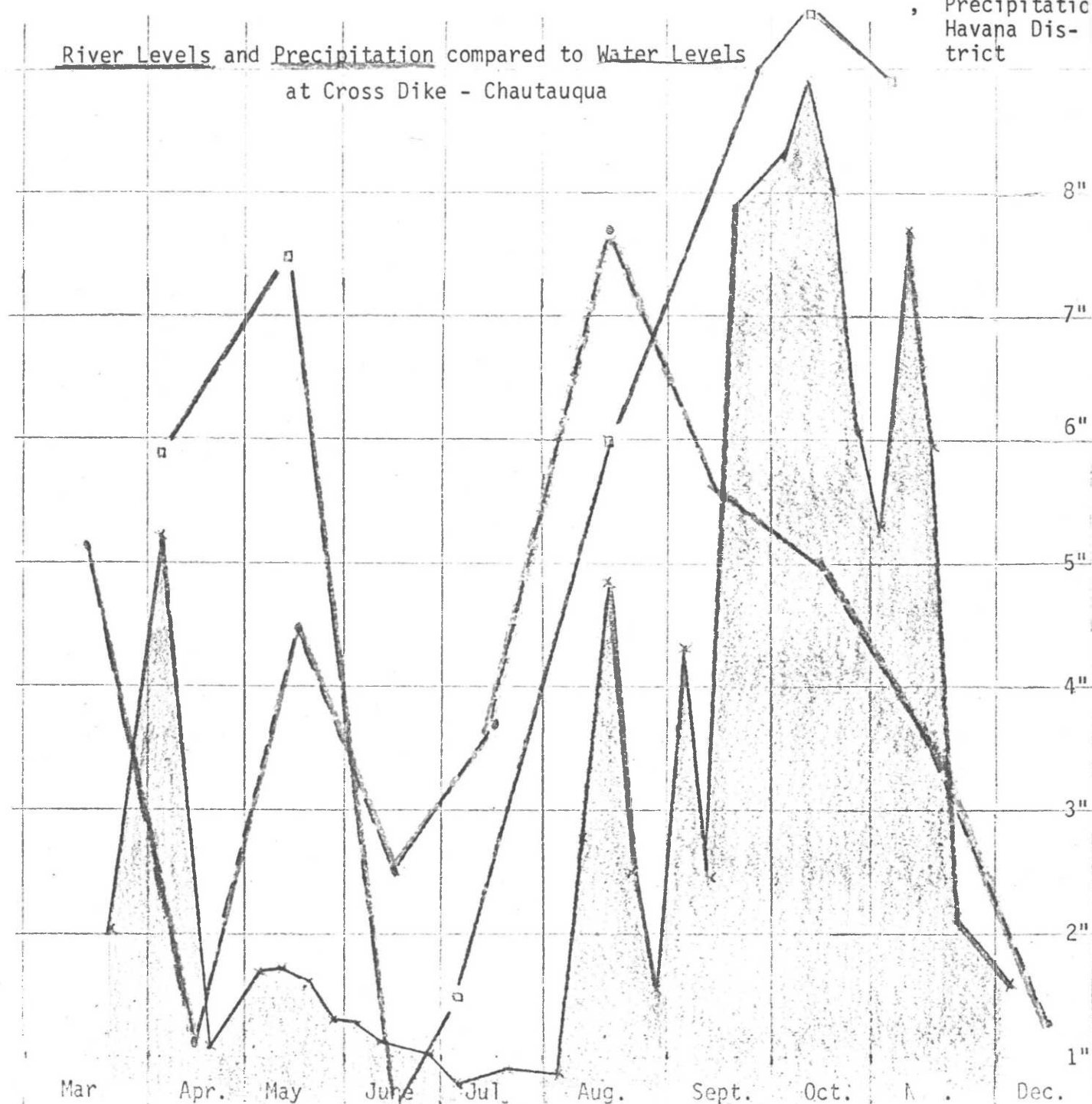
Aug.

Sept.

Oct.

Nov.

Dec.



<u>Month</u>	<u>PRECIPITATION</u>			<u>TEMPERATURE</u>	
	<u>1977</u>	<u>Normal</u>	<u>Snowfall</u>	<u>Maximum</u>	<u>Minimum</u>
January	1.48	1.82	11.0	32	-21
February	1.08	1.53	4.3	66	- 5
March	5.15	2.67	1.0	75	21
April	1.11	3.55		90	30
May	4.44	3.84		96	40
June	2.51	4.09		101	46
July	3.66	3.50		101	49
August	7.71	3.03		92	50
September	5.28	3.60		90	45
October	5.09	2.48		77	28
November	3.51	2.11		74	1
December	1.25	1.66		57	- 5
ANNUAL TOTALS	42.27	33.88	16.3		



(R. 913, P. 20; T.S.)



(R. 913, P. 15; T.S.)

High water conditions flooding crossdike on Lake Chautauqua.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

No construction occurred on Chautauqua during the year; the facilities continue to deteriorate. The break in the cross dike continues to cause irritation to the fishing public. Bird watchers have complained about the hole in the cross dike that inhibits reaching the west side of the refuge and the Melz Slough Public Use Natural Area.

The west spillway, which holds the key to water management, continues to erode with each raise of the Illinois River. Temporary plugs have little effect on controlling the water level.

The most recent event was the damage to the structure on Quiver Creek. This creek provides the major source of water for the refuge. Heavy rains on May 4, 5, and 6 resulted in four inches of rainfall in the Quiver Creek watershed. The stream rose $3\frac{1}{2}$ feet and washed out the north end of the structure and a sizeable section of the south dike.



(R. 908; P. 1; T.S.)



(R. 909, P. 15; T.S.)

Repair of the south dike that washed out adjacent to the Quiver Creek weir.



(R. 911, P. 6; T.S.)

Temporary repair to the Quiver Creek weir next to the washed out section.



(R. 912, P. 19; T.S.)

High water over the Quiver Creek weir and temporary repairs
resulting in washing out the temporary repairs.

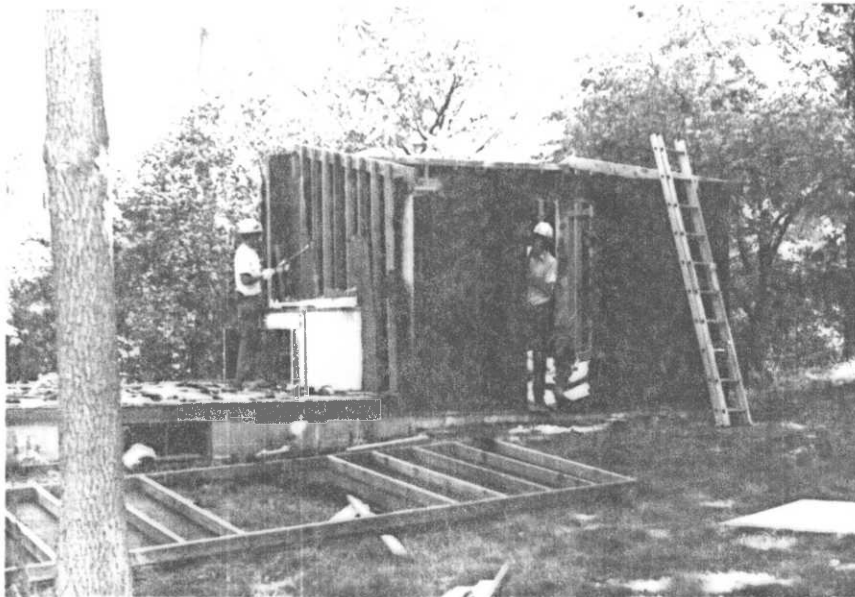
B. Maintenance

The majority of the time was spent on routine maintenance of equipment and buildings. All vehicles received safety checks.

Summer maintenance involved litter pickup, brushing edgings of trails and mowing.

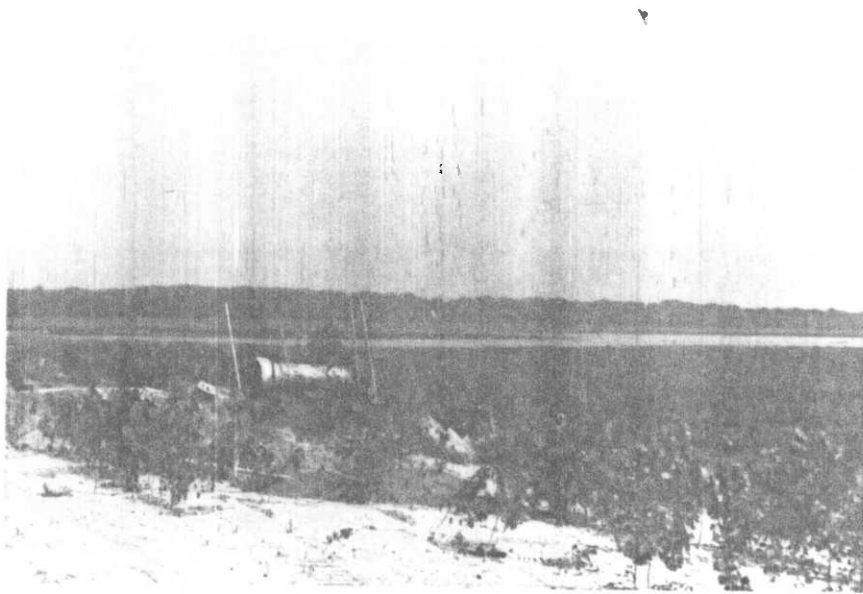
Three abandoned cabins were removed and the sites cleaned up. Only six cabins remain under special agreements with the original owners.

The abandoned concession building at the Recreation Area was salvaged for available lumber. The cement floor was broken up and moved off the site for future rip rap material. After leveling, the site was seeded to grasses.



(R. 909, P. 18; T.S.)

The old pump located on the cross dike was finally removed along with metal posts and cement blocks. The removal of this eyesore and reminder of the past has greatly improved the appearance of the cross dike for public use.



(R. 910, P. 13; T.S.)



(R. 910, P. 19; T.S.)

C. Land Acquisition

1. Fee Title

None.

2. Easements

None.

3. Other

None.

D. System Status

1. Objectives

Management is directed primarily toward providing as near optimum conditions for resting waterfowl as is biologically and economically feasible. Specific conditions cover provisions for adequate protection, water and feed for large numbers of field feeding waterfowl. Chautauqua is located on major mallard and Canada goose flight paths and can be expected to accommodate over 7,000,000 waterfowl use days each year. Also providing as near optimum conditions for wood duck production and rearing as is biologically feasible is a high priority at Chautauqua.

Secondary objectives are to provide: (1) an opportunity for the public to view migratory birds and other wildlife in their native habitat; (2) increased opportunity for the hunting of waterfowl; and (3) a sport fishing opportunity for the public.

Wildlife-oriented recreation and conservation education facilities will attract the public and encourage their support for natural resources conservation. Public use will be permitted as long as it does not interfere with the primary refuge objectives.

Chautauqua is near several large towns and nine colleges or universities. The 15-county area around the refuge has nearly 1 million people. Good, hard surfaced roads lead to the refuge from all directions. The demand for a wildlife interpretative and environmental education program is quite evident. Construction of an interpretive center and interpretive trails will be needed to meet this demand. An interpretative specialist should be added to the staff to conduct this program on and off the refuge.

NFIO consideration for the refuge would involve substantial staff curtailment. Placing Chautauqua on a caretaker status would require the employment of at least a maintenance worker. An already de-emphasized public use outputs, principally fishing and wildlife observation (95% visits). Loss of the public use could be expected to generate public dissatisfaction and Congressional inquiries.

2. Funding

Present staffing with normal refuge program commitments and additional new commitments has prevented needed involvement to properly monitor management of three refuges located in four counties. An increase in staffing will be necessary to achieve the proper level of involvement. The added benefit of regulated waterfowl hunting opportunity needs to be monitored more closely. This is especially true due to the requirement of steel shot.

Greater involvement in planning, problem solving, evaluation, and liaison phases would lead to better management in the interest of wildlife resources and in conformance with pertinent service agreements, policies and regulations.

III. HABITAT MANAGEMENT

A. Cropland

None.

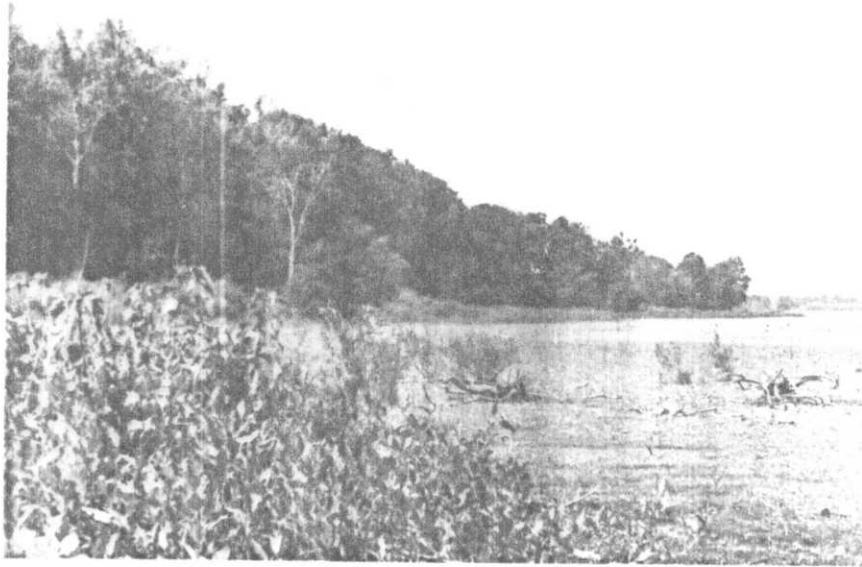
B. Grassland

None.

C. Wetlands

Low pool levels during the month of June and July resulted in the best ever moist soil plant production on Lake Chautauqua. Dr. Frank Bellrose, Illinois Natural History Survey employee and long-time resident of the area, stated that he had never seen such a growth of moist soil plants.

A survey of moist soil plants near the Illinois Natural History Survey lab was made on July 28. Three belts of vegetation were evident. The first thirty yards from the lake shore were mainly cocklebur and swamp smartweed. The second belt of 100 yards width contained cyperus and love grass. The third strip about 200 yards wide was comprised of water hemp, cyperus and smartweed. The height of the water hemp reached 7 - 8 feet.



(R. 908, P. 20; T.S.)



(R. 911, P. 3; T.S.)

High water levels occurred during the last week of September and again in October from the 5th to 15th. The lake level peaked at 440.00 on October 11. The majority of the moist soil plants were flooded and a great deal of the plants were lost.



(R. 912, P. 1; T.S.)

D. Forestlands

None.

E. Other Habitat

None.

F. Wilderness and Special Areas

Chautauqua has two natural areas - Melz Slough Public Use Natural Area (95 acres) and Rountree Research Natural Area (26 acres). Neither area received any management attention beyond protection and patrol.

G. Easements for Waterfowl Management

None.

IV. WILDLIFE

A. Endangered and/or Threatened Species

The Artic peregrine falcon and osprey are the only threatened species reported on the Chautauqua Refuge. An osprey was observed on the refuge during September.

B. Migratory Birds

Six aerial surveys were conducted by Illinois Natural History Survey personnel during early March and mid-April. Teal arrived earlier than usual. The first blue-winged teal were observed on July 18. Blue wings peaked at 6,800 on September 6. The spring migration peaked on March 9 with nearly 61,000 ducks and geese compared to 10,525 last year. Fall surveys started on September 6 and continued to December 12. The fall peak occurred on November 11 with over 159,000 ducks and geese, a 136% increase over last year. Total waterfowl use days for the year was 7,339,456.

Canada geese peaked at 1,950 on October 19 and snows peaked at 2,400 on November 22.

INHS personnel reported that wood ducks (1975 hatch) were finally found using the nest boxes in the Quiver Creek study area. All the existing refuge wood duck boxes were checked for current production. Fertility rate for 1977 was below 1976 by 9%. Wood duck box production of 210 young was down compared to recent years. Total production including natural cavities was estimated at 263 wood ducks.

WOOD DUCK PRODUCTION

<u>Year</u>	<u>Available Boxes</u>	<u>Used Successfully (%)</u>	<u>Young Produced</u>	<u>Average Brood Size</u>	<u>Infertile Eggs (%)</u>
1972	192	42 (22)	384	9.1	25 (6)
1973	174	26 (15)	290	11.1	65 (18)
1974	138	39 (28)	312	8.0	37 (11)
1975	132	59 (45)	554	9.4	212 (28)
1976	138	48 (35)	432	8.6	83 (16)
1977	131	30 (23)	210	7.0	69 (25)



(R. 910, P. 15; T.S.)

WATERFOWL USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1973	105,144	26,396	231,051	4,816,960	5,179,551
1974	218,508	44,795	266,878	5,929,965	6,460,146
1975	641,232	45,310	387,790	8,612,026	9,686,358
1976	790,561	76,455	373,085	2,834,535	4,074,636
1977	1,211,895	185,865	331,750	5,609,946	7,339,456
Average	593,468	75,764	318,111	5,560,686	6,548,029

2. Marsh and Water Birds

The predominant species in abundance were great egret, great blue heron, sora, black-crowned night heron, pied-billed grebe, green heron, and American bittern. The first three species contributed 83% of the total use days. A total of 21,510 use days occurred during the year, which was down from 1976. The major portion of the use was during July - September with 15,400 use days (70%).

MARSH AND WATER USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1973	2,450	2,400	6,440	1,645	12,935
1974	2,820	1,630	19,150	9,665	33,265
1975	720	1,885	11,075	8,275	21,955
1976	8,275	1,515	16,720	2,660	29,170
1977	650	3,150	15,400	2,310	21,510
Average	2,983	2,116	13,757	4,911	23,767

3. Shorebirds, Gulls, Terns and Allied Species

Low water during the last half of July provided good habitat for several thousand shorebirds. Just as the shore bird migration was peaking, the water levels started to increase on August 2. David Bohlen, biologist with the

Illinois State Museum, attempted to band shorebirds. This activity ceased due to high water levels.

A total of 158,145 use days were reported for the year. The major species were herring gull (26%), ring-billed gull (21%), killdeer (20%), pectoral sandpiper (17%), and Lesser yellowlegs (4%).

SHOREBIRDS, GULLS, TERNS & ALLIED SPECIES USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1973	14,800	1,000	1,352,640	73,770	1,442,210
1974	42,030	909	199,290	82,550	324,779
1975	93,460	9,770	178,540	69,339	351,109
1976	47,510	3,110	76,066	16,795	143,481
1977	54,800	6,280	70,720	26,345	158,145
Average	50,520	4,214	375,451	53,760	483,945

4. Raptors

A third of the raptor species continue to account for 65% of the total use days. The most abundant species in ranking were marsh hawk, American kestrel, screech owl, red-tailed hawk and bald eagle.

The bald eagle population peaked at 13 in January and February. During the fall, the first eagle was observed on November 3. The population continued to increase until early December, when 15 birds were observed in the Melz Slough Natural Area. The number of immature eagles observed increased slightly over last year (37% compared to 35%).

RAPTOR USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1973	2,750	1,475	1,065	780	6,070
1974	2,265	1,245	1,640	1,880	7,030
1975	2,900	680	685	2,045	6,310
1976	2,380	740	2,012	2,170	7,302
1977	4,465	1,610	1,607	3,375	11,057
Average	2,952	1,150	1,402	2,050	7,554

5. Other Migratory Birds

Mourning doves peaked at 190 in September. This is down compared to last year's peak of 350. The woody vegetation on the perimeter dike provided nesting cover with an estimated 40 young raised.

C. Mammals and Non-migratory Birds and Other1. Game Animals

The deer population remains small due to the lack of habitat. The population varies from four to ten during the year. No refuge hunting is permitted.

2. Other Mammals

A beaver population of up to 25 occurs on the refuge. The major areas of activity are along Quiver Creek, Liverpool Lake and the Illinois River. A small problem occurred at the Quiver Creek 3' X 3' structure. During low water, a partial blockage had to be removed from the structure.

3. Resident Birds

Bobwhite quail and ring-necked pheasant are the only resident upland game birds. An increase in quail was observed in the vicinity of the refuge headquarters. Winter, recreational feeding may have been a factor in concentrating the birds. Several pheasants were observed near the spring below the headquarters site.

4. Other Animal Life

Twenty-nine new birds were added to the station's bird list. The members of several bird clubs and Dave Bohlen

of the Illinois State Museum assisted in the revision of the refuge bird list. Most of the new sightings were shorebirds and gulls. Attachment 1 lists these birds.

Low water during late summer again resulted in the annual fish kill in Lake Chautauqua. This probably will occur each summer due to the damage to the west spillway and lack of water control facilities.

V. INTERPRETATION AND RECREATION

Public use continues to decrease due to the cumulative deterioration of facilities. The major item that needs attention is the west spillway. Without this structure, control of the water levels in Lake Chautauqua is not possible.

Total public use of 1977 was 41,294 activity hours. This is a 27% decrease from 1976 figure of 56,571. Wildlife observations replaced fishing as the major activity with 23,263 visits (56% of total public use). Fishing activity decreased from 27,520 visits to 15,988 visits (42% decrease). The one activity that did increase was use of the wood duck trail with 1,062 visits compared to 746 last year.

High water levels at the peak of the shorebird migration had a definite effect on wildlife observation. Surprisingly, during periods of high water, the fishing activity did not pickup for some unknown reason.

Public use is recorded by maintaining four traffic counters on the refuge. The number of fishermen that come in from the Illinois River and use the lake and Liverpool Lake are not included in public use figures due to the lack of reasonable use estimates.

A. Information and Interpretation

1. On Refuge

The wood duck trail at the headquarters site received a 43% increase in public use. Information leaflets and a series of different styles of wood duck boxes present the history of the box programs.

Conducted public tours are not offered due to the lack of staffing. Talks on refuge operations were presented to three YCC groups (Pekin and Peoria), Pekin Vocational School (conservation class), and Explorer Scouts (Vermilion County Conservation District).

Two visitors from South Africa visited the refuge: David Sheed, Baberspan Ornithological Research Station and Dr. E. Zaloumis, Advisor on several conservation committees in South Africa.

2. Off Refuge

One hundred Wildlife Portrait Series No. 3 were distributed to teachers in the Mason County School District. The material will be used in the first six grades, an estimated 2,500 students or 55% of the student population.

Several programs were presented during the year to local civic groups. The refuge manager was a guest speaker at the Peoria Audubon Society and the Pekin Ducks Unlimited Annual Banquet.

B. Recreation

1. Wildlife Oriented

Fishing is permitted on the refuge with restrictions during the fall waterfowl migration. One boat launch site at the Recreation Area provides access to the lake. Boat launching sites at Havana and Liverpool provide access via the Illinois River. The ditch located on the north end provides bank fishing. Several individuals operated trot lines on Lake Chautauqua during high water.

Waterfowl hunting is permitted on Liverpool Lake. This 745 acre unit is located between the outer dike system and the Illinois River. Access is only by boat, launching usually from Liverpool on the west side of the river. An early teal season and the general waterfowl season provided hunting opportunities for 632 hunters with the estimated harvest of 260 ducks.

2. Non-wildlife Oriented

A small portion of the public visits the refuge to collect mushrooms, pick berries and gather walnuts and hickories.

C. Enforcement

Illegal commercial fishing activity in Liverpool Lake resulted in the confiscation of 7 trammel nets or hoop nets. Several unmarked trot lines were picked up during patrol.

Squirrel hunting is not permitted on the refuge. Illegal hunting by squirrel hunters increased this season during September. Two hunters were apprehended and increased patrol activity discouraged most of this.

Steel shot was required on the refuge for the waterfowl season. Most of the hunters complied with the regulations. Two cases were made on lead shot.



(R. 912, P. 2; T.S.)

Unusual visit - Special Agent Jerry Somser dropped in at the refuge while checking baiting sites.

VI. OTHER ITEMS

A. Field Investigations

A graduate student at Western Illinois University started field work on moist soil plants on the refuge. Several transects were established and surveyed in the upper pool. Plans for a formal study will be developed next year.

B. Cooperative Programs

The mourning dove census route was run in Fulton County. The number of dove calls was below last year but equal to 1975's total.

A third woodcock route was added to the refuge staff's duties. Only two routes were completed due to the time element and lack of favorable weather conditions to run the third route.

The Illinois Natural History Survey has a 99-year lease on a small tract of land located on the refuge to conduct biological investigation. The survey owns and maintains a lab and a storage building on this tract.

Only six cabin permits remain in effect out of the original fifty-two issued. The cabin owners have a lifetime use of the cottages on the refuge.

C. Items of Interest

Refuge Manager Sanford and Maintenance man Watts attended the 1977 Agricultural Pesticide Dealers and Applicators Clinic in Jacksonville on February 16. They successfully passed the examination for certification as a Pesticide Applicator.

Bill Watts completed a 100-hour law enforcement training school at FLETC, Glynnco, Georgia on March 16.

D. Safety

No lost-time accidents occurred during the calendar year. The station had 8,832 days or 24,607 man days without a lost-time accident. Several safety meetings were held at the Quincy office. The following safety films were used during summer safety meetings held at the Chautauqua Refuge: Space Cushion Driving, Be Your Own Traffic Judge, Identify Highway Signs, Adverse Weather Driving, Down and Out and Isolate and Stabilize.

Birds added to Chautauqua bird list(see page 18 for more information).

Eared grebe
Cattle egret
Sandhill crane
Sharp-tailed sandpiper
Long-billed dowitcher
Marbled godwit
Buff-breasted sandpiper
American avocet
Northern phalarope
Red phalarope
Parasitic jaeger
Iceland gull
Thayer gull
Laughing gull
Franklin gull
Sabine gull
Ivory gull
Least tern
Rock dove
Alder flycatcher
Sedge wren
Philadelphia vireo
Yellow-throated warbler
Wilson warbler
Summer tanager
Evening grosbeak
Common redpoll
Pine siskin
LeConte sparrow
Sharp-tailed sparrow
Harris sparrow
Lapland longspur

CHAUTAUQUA NATIONAL WILDLIFE REFUGE

Cameron Unit
Sparland, Illinois

ANNUAL NARRATIVE REPORT
Calendar Year 1977

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

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I. GENERAL

A. Introduction

The late Glen J. Cameron of Pekin, Illinois donated the Cameron Unit to the U.S. Fish and Wildlife Service on May 17, 1958. The refuge is located in Marshall County approximately two miles north of Sparland, Illinois on the west side of the Illinois River. This 636.5 acre refuge serves as a sanctuary located adjacent to a State hunting area. It consists of approximately 80 acres of cleared fields within the remaining bottomland timber.

B. Climatic and Habitat Conditions

No information available.

C. Land Acquisition

1. Fee Title

None.

2. Easements

None.

3. Other

None.

D. System Status

1. Objectives

Primary objectives are to provide food, cover and resting space for ducks and geese during the spring and fall migrations and to provide nesting habitat for wood ducks. See other objectives detailed in the Chautauqua section.

2. Funding

The Cameron Unit has been placed on standby status due to the reduction of funds and personnel.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

None.

B. Maintenance

None.

C. Wildfire

None.

III. HABITAT MANAGEMENTA. Cropland

None.

B. Grassland

None.

C. Wetlands

None.

D. Forestlands

None.

E. Other Habitat

None.

F. Wilderness and Special Areas

A 177 acre Research Natural Area was previously set aside at the Cameron Unit. The forest cover type is silver maple and American elm (SAF type 62) on this tract. It received no use during this year.

G. Easements for Waterfowl Management

None.

IV. WILDLIFEA. Endangered and/or Threatened Species

Ospreys have been reported on the refuge during the fall period. None were observed this year by refuge personnel.

B. Migratory Birds

1. Waterfowl

The spring migration peaked on March 9 with 6,575 ducks. Spring use days increased 30% to 180,095 use days. The fall peak occurred November 22 with 8,750 ducks and geese, a 272% increase over last year. The fall use days increased to 244,265. Total waterfowl use days for the year were 500,660, a 10% increase over last year.

WATERFOWL USE DAYS

	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1974	45,408	15,402	23,810	1,057,185	1,141,805
1975	51,737	17,142	42,200	677,663	788,742
1976	281,735	49,330	58,825	64,827	454,717
1977	178,350	40,075	37,970	244,265	500,660
Average	139,308	30,487	40,701	510,985	721,481

2. Marsh and Water Birds

Total use days increased from 4,710 to 5,705 during the year. The predominate species were common egret (38%), great blue heron (22%), pied-billed grebe (9%), black-crowned night heron (8%) and green heron (6%).

<u>MARSH & WATER BIRDS USE DAYS</u>					
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1974	1,260	345	6,490	2,415	10,510
1975	480	540	3,655	2,470	7,145
1976	50	540	3,015	1,105	4,710
1977	350	1,240	3,495	620	5,705
Average	535	666	4,164	1,653	7,018

3. Shorebirds, Gulls, Terns and Allied Species

Twenty-three species accumulated an estimated 46,015 use days, a 19% increase over last year. The major species were pectoral sandpiper (29%), herring gull (21%), ring-billed gull (19%), killdeer (7%), lesser yellowlegs (5%), and least sandpiper (5%).

<u>SHOREBIRDS, GULLS TERNS AND APPLIED SPECIES USE DAYS</u>					
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>TOTAL</u>
1974	8,100	380	21,240	8,800	38,520
1975	8,950	480	23,280	15,610	48,320
1976	3,600	1,900	21,950	11,107	38,557
1977	11,300	1,700	23,670	9,345	46,015
Average	7,988	1,115	22,535	11,215	42,853

4. Raptors

An estimated 4,505 use days occurred for fourteen species using the refuge. The major species were great horned owl, American Kestrel, red-tailed hawk, screech owl, marsh hawk and Bald eagle.

Fall surveys of bald eagles found from one to six birds. The first eagle was observed on November 11. Peak numbers of 6 birds (4 adults, 2 immatures) occurred on December 12. The number of immatures observed increased to 38% compared to 27% last year.

	<u>RAPTOR USE DAYS</u>				
	<u>Jan.-March</u>	<u>April-June</u>	<u>July-Sept.</u>	<u>Oct.-Dec.</u>	<u>Total</u>
1974	675	275	315	630	1,895
1975	830	255	285	485	1,855
1976	525	375	655	310	1,865
1977	1,190	915	815	1,585	4,505
Average	805	455	518	752	2,530

5. Other Migratory Birds

The mourning dove population peaked at 40 in September, compared to 50 last year. A total of 3,370 use days was reported with an estimated production of only 8.

C. Mammals and Non-Migratory Birds and Others

1. Game Animals

The deer population remains stable with a peak population of 11 during the month of December. A total of 2,440 use days was reported compared to 2,505 last year.

2. Other mammals

A small population of beaver inhabits the area along with raccoon, opossum, red fox, rabbit and squirrels. Beaver activity benefits the area by plugging breaks in the dike.

3. Resident Birds

The only resident upland game birds found on the refuge are bobwhite quail and ring-necked pheasant. Their populations remain generally stable and medium. The refuge provides the sanctuary while neighboring crop fields provide the feed.

4. Other Animal Life

A fish kill resulted from low water levels during the summer. Flooding and dewatering of the refuge occurred naturally as the Illinois River levels fluctuated.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On Refuge

None.

2. Off Refuge

None.

B. Recreation

1. Wildlife Oriented

None.

2. Non-Wildlife Oriented

None.

C. Enforcement

Posting prior to the waterfowl season has been the major portion of the work on the refuge.

VI. OTHER ITEMS

A. Field Investigation

None.

B. Cooperative Programs

None.

C. Items of Interest

The State of Illinois Department of Conservation has contacted this office concerning availability of money for priority projects at Cameron Unit. The possibility of purchasing approximately 40 acres in two in-holdings owned by Mr. Allen F. Mohr is being pursued by the Illinois Department of Conservation with the stated aim of turning this land over to the U.S. Fish

and Wildlife Service. This would end the disruption of the State's public hunting program (on their adjacent Sparland Conservation Area) by private people hunting on the two in-holdings within the boundaries of the Cameron Division.