

QUIVIRA NATIONAL WILDLIFE REFUGE
Stafford, Kansas

ANNUAL NARRATIVE REPORT
Calendar Year 1978

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

RESOURCE MANAGEMENT ROUTING SLIP

All

*Recd
4/4/79*

____ Beaty
____ Kvernmo
____ Wills
____ Brown

____ Sontag
____ ~~Fowler~~ *W*
____ McCrea
____ ~~Hughes~~ *A*

____ Nelson
____ Quinter
____ Stieglitz

____ ~~Young~~ *D.N.Z.*
____ ~~Frickie~~
____ Baldacchino
____ Wemmerus

____ ~~Belcher~~ *B*

____ Operations
____ Planning

From:

Date:

TABLE OF CONTENTS

I. GENERAL

A. Introduction	1
B. Climatic and Habitat Conditions	1
C. Land Acquisition	2
D. System Status	2

II. CONSTRUCTION AND MAINTENANCE

A. Construction	3
B. Maintenance	4
C. Wildfire	4

III. HABITAT MANAGEMENT

A. Croplands	5
B. Grasslands	5
C. Wetlands	5
D. Forestlands	5
E. Other Habitat	5
F. Wilderness and Special Areas	6
G. Easements for Waterfowl Management	6

IV. WILDLIFE

A. Endangered and Treated Species	6
B. Migratory Birds	7
C. Mammals and Non-Migratory Birds and Others	8

V. INTERPRETATION AND RECREATION

A. Information and Interpretation	9
B. Recreation	9
C. Enforcement	10

VI. OTHER ITEMS

A. Field Investigations	10
B. Cooperative Programs	10
C. Items of Interest	11
D. Safety	11



9000.031

Permanent Personnel

Left to Right:

Wayne E. Dale, Administrative Clerk, GS-5
 Gary D. Hunt, Maintenance Worker, WG-7
 Charles R. Darling, Refuge Manager, GS-11
 Louis F. Wilson, Maintenance Worker, WG-7
 Robert F. Bartels, Refuge Manager, GS-7
 Carl D. Marks, Maintenance Worker, WG-7

Review and Approvals

Charles R. Darling
 Submitted by

2/8/79
 Date

James W. Salzer
 Area Office

3/10/79
 Date

James J. Wilson
 Regional Office

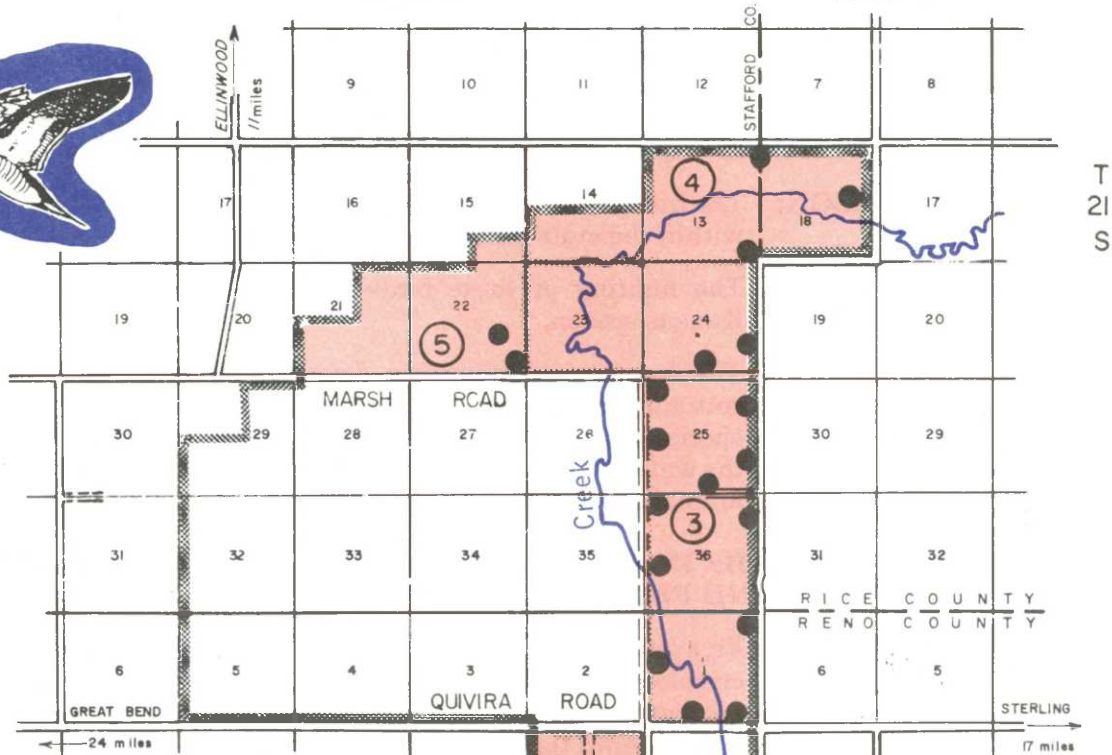
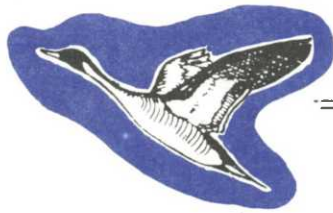
3/10/79
 Date

QUIVIRA NATIONAL WILDLIFE REFUGE

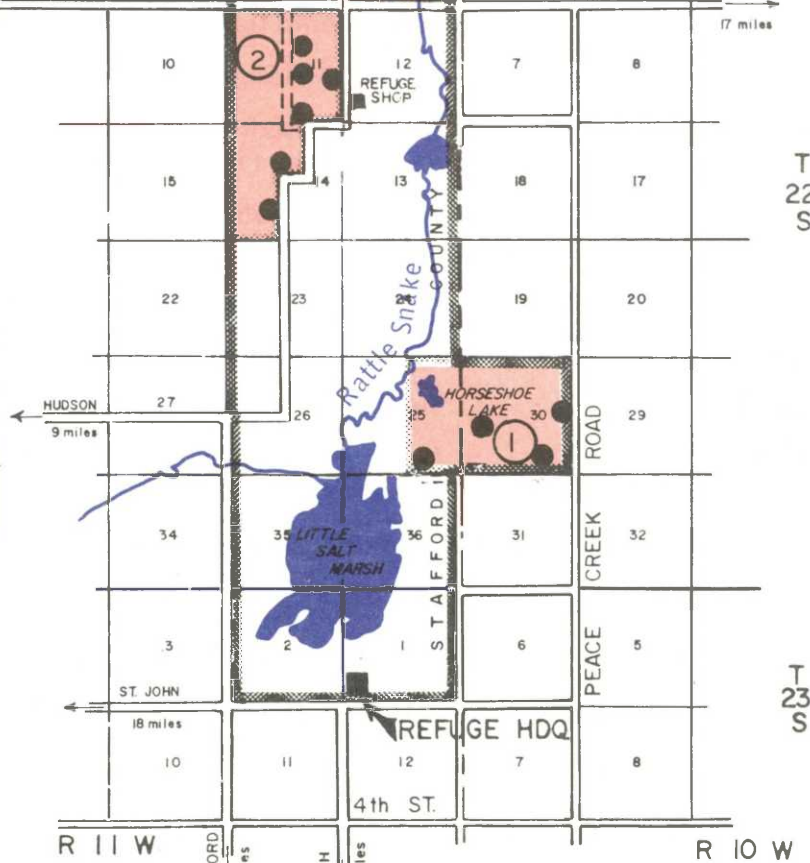
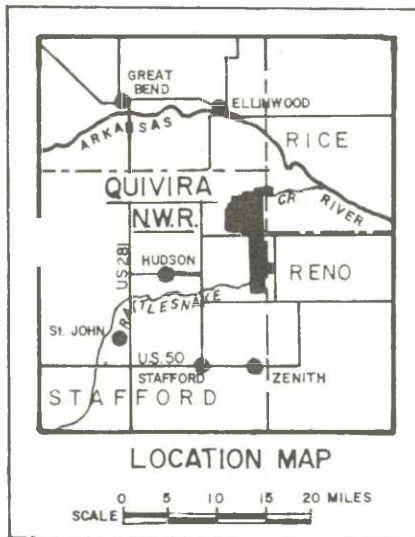
STAFFORD, RICE, AND RENO COUNTIES, KANSAS

R 11 W

R 10 W



T 21 S



T 22 S

T 23 S

LEGEND

- PARKING AREAS
- ② NUMBERED HUNTING AREAS
- REFUGE BOUNDARY



HUNTING REGULATIONS

QUIVIRA NATIONAL WILDLIFE REFUGE STAFFORD, KANSAS

Refuge hunting areas will open September 1 and remain open through the Kansas waterfowl and upland bird seasons.

- WATERFOWL SEASON:** The hunting of ducks, coots, geese, and mergansers is permitted within the state seasons.
- PHEASANTS AND BOBWHITE :** The hunting of these birds is permitted within the regular Kansas season.
- OTHER SPECIES :** The hunting of mourning dove, snipe, rails, squirrels, and cottontail rabbits is permitted when the state season for these species is within the period from September 1 through the close of the waterfowl or upland bird season, whichever is later. All other animal species are protected.

ALL HUNTING WILL BE IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS

- HUNTING AREA :** Five areas as posted and shown on map on reverse side. Dead or crippled birds cannot be retrieved from closed areas. Hunting is not permitted from or across roads, trails and parking areas. Hunt *behind* the green "Public Hunting Area" signs.
- PARKING :** Limited to designated areas.
- GUNS :** Hunting permitted with shotguns only. The possession of rifles and handguns is prohibited.
- BOATS :** The use of boats is prohibited.
- DOGS :** Hunting dogs, not to exceed two per hunter, may be used for the purpose of hunting and retrieving.
- BLINDS :** Permanent blinds or pits may not be constructed.
- FIRES :** No fires of any type permitted within the refuge.
- CAMPING :** Overnight camping is not permitted. Hunters must leave the area at the end of each day.

For further information contact a refuge officer.

**BE A SAFE HUNTER
DON'T BE A LITTERBUG**



**FISH AND WILDLIFE SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR**



I. GENERAL

A. Introduction

The Quivira Refuge is located in south central Kansas in the transitional zone of eastern and western flora and fauna. Sandy soils are characteristic to the refuge and for variable distances to the north, east, and west. Heavier soils are predominant south of the refuge.

The Little Salt Marsh and the Big Salt Marsh are ancient basins with historical waterfowl use. They were utilized for commercial hunting after the turn of the century and private gun clubs monopolized waterfowl hunting when acquisition began in 1957. Rattlesnake Creek enters the refuge west of the Little Marsh. It did not flow directly into the Little Marsh until the gun clubs dug a permanent channel in the early 1930's. A canal was constructed in 1968 to divert water into the Big Marsh from the creek and other water units.

Acquisition was completed early in 1969 for 21,820 acres.

B. Climatic and Habitat Conditions

Temperatures during January and February were well below normal with subzero temperatures persisting into the first week of March. Snowfall totaled 20.5 inches during this period. April was mild and dry and May provided thirteen rainy days and almost five inches of rain. Rattlesnake Creek was at flood stage at the end of May. The new spillways on Unit 5 and Unit 11, which washed out just a year earlier and then refilled with dirt, were crested in early June and sustained additional damage. The Unit 5 dike was washed deep enough that levels in the Little Marsh soon dropped below the old spillway. A coffer dam was still in place in front of the control structure and all of the creek flow was diverted to the east side of the refuge. Water levels were nearly three feet below normal before the washout could be plugged. Evaporation caused additional loss during the hot summer months and no diversion could be made to the smaller units until fall. Water acreage was confined to the seriously depleted Little and Big Salt Marshes for all migrant water birds. The small water units began to freeze by the time they were filled.

The last killing frost was April 21. This was only three days after the normal date, but was sufficient to kill the native wild plums and other early fruits which had flowered in a previous period of moderate temperatures. There was a partial killing frost Oct. 14, four days before the normal date, but hard freezes did not occur until mid-November.

Above normal temperatures prevailed after mid-June and the summer months were dry and hot. Several good rains fell during September and the year ended with a total of 18.32 inches of precipitation. This is 5.42 inches below the thirty year average and the lowest yearly amount received since 1966.

Agricultural crops were very good on and off the refuge during the year. The irrigated corn fields twenty miles west of the refuge provided an abundance of food for geese, mallards, and sandhill cranes in addition to milo and winter wheat.

C. Land Acquisition

Not applicable.

D. System Status

1. Objectives

The primary objective of the refuge is management for providing food, water, resting area and protection for Central Flyway migratory waterfowl on their semiannual migrations. The refuge objectives which were approved several years ago now require revision.

2. Funding

The basic O&M funds have remained about the same for several years. Cyclic maintenance and rehabilitation funds have increased the station budget and permitted more extensive maintenance of facilities.

Bicentennial Land Heritage Program funds provide for the establishment of an additional maintenance worker, and for equipment replacement and facility rehabilitation.

Activity	FY76 w/TQ	FY77	FY78
1210			
Base	114,214	88,000	93,200
Cyclic Maint			18,000
Rehabilitation	10,000	14,000	16,000
1220	1,602	10,000	17,800
1230	1,000	1,000	200
1240	5,100	6,000	5,500
6810	3,000	3,000	3,300
	<u>135,916</u>	<u>123,000</u>	<u>155,000</u>
Construction (flood damage repair)	307,822		



1
0003.143
New Roller Gate in A-2 Structure, Little Salt Marsh,
Prior to Assembly.

BLHP	FY77	FY78
Headquarters rehab PDW#3	12,800	
Flood damage, roller gate and dike gravel	97,000	
Shop building & garages, PDW # 17,18,19.		272,400
Dike Rehab & Flood Damage PDW # 4&6		284,200
Equipment Replacement PDW# 2		171,500
Fencing PDW # 10		11,700
	<u>109,800</u>	<u>739,800</u>

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Westhoff Construction Co. was unable to accomplish much work under Contract No. 14-16-0006-77-113 until April because of weather conditions. This BLHP project was started late last year and provided for gravel on six miles of dike for Units 14a, 14b, 58, 61, 63 and part of the Big Salt Marsh dike. New concrete wingwalls and apron were constructed for the A-2 control structure on the Little Salt Marsh. There were continuous delays in the manufacture of the stainless steel roller gates for this structure. The contract was completed in October about thirteen months after it was awarded. The coffer dam in front of the structure was removed in November.

Contract No. 14-16-0006-78-006 was awarded to North Denver Roofing & Siding Co., Denver, CO late last year for the replacement of windows in the office and residences. This contract was completed in May. The residential bathroom portion of the headquarters rehab project was finally accomplished by local bid solicitation in October.

Contract No. 14-16-0006-78-058 for canal repair and clean-out and Contract No. 14-16-0006-78-057 for spillway repair and to complete raising the dikes on Unit 11 and the Big Salt Marsh were awarded to Cummings Construction Co., Garden City, KS in early July. The canal cleanout was completed in September. Additional flood damage occurred to the Unit 5 and Unit 11 spillways between the bid acceptance and award and considerable modifications were required. The dike and spillway work were completed in early December subject to the acceptance or rejection of cracks in the top of the concrete spillway next spring.

Contract No. 14-16-0006-78-146 was awarded to Kan-Ark Industries, Inc., Hutchinson, KS in October for the construction of a shop building and garages in the headquarters area. Two previous solicitations had been made for the garages without success. Work progressed satisfactorily through bad weather in December.



10000.013

New Caterpillar D-5 Dozer.



10000.010

Two New Massey Ferguson Farm Tractors



10000.016

New John Deere 444 High Loader and 670 Motor Grader



10000.017

Contract No. 14-16-0006-78-116 was awarded to Clark Well & Equipment for drilling a new water well for the shop building in October but work has not started.

BLHP funding provided for the replacement of ancient major equipment. A Caterpillar D-5B bulldozer, a John Deere 444 loader, a John Deere 670 grader, two Massey Ferguson 255D tractors, and a pumping unit for a fire truck were received during the year. The chassis for a fire truck, dump truck and stake truck were on order.

Fencing project funds were utilized for material procurement to be used by YACC. YACC completed 6.25 miles of new and replacement fences by the end of the year for grazing management.

B. Maintenance

The June flooding created the same repair conditions required a year ago. However, the arrival of new equipment permitted it to be accomplished by force account. The breach in the Unit 5 spillway was filled inside the dike line to permit working room for the spillway replacement by the contractor. The after-hunting season fence maintenance early in the year was followed by YCC crews patrolling nearly ten miles of fencing, removing 8.5 miles of old fence, and constructing one-half mile of new fence. YCC repainted the outside woodwork on the refuge shop and YCC headquarters building, restained and repainted a large assortment of small signs, removed mud and beaver dams from water control structures, and trimmed tree limbs in the headquarters area and along roads and trails. YCC constructed the forms and completed a concrete tank for a windmill and concrete curbing for an artesian well west of the Little Salt Marsh.

Cyclic maintenance funds were used for repair of buildings, equipment, structures and facilities.

C. Wildfire

An apparent lightning fire occurred near the northwest boundary on July 14 and burned about ninety acres within the refuge and thirty acres of private land. The fire burned itself out in the subirrigated area of salt grass, sedges, and cord grass with some control assistance by refuge personnel and a local county fire unit.

A fire started near a contractor's backhoe on July 18 and burned about twenty acres of grass and cottonwood trees. The fire was reported as being caused by exhaust sparks but careless smoking was suspected.



Washout of Soil Cement Spillway on Little
Salt Marsh. June 1978.

0003,107



New Concrete Spillway on Little Salt Marsh
Completed October 1978.

0003,152

III. HABITAT MANAGEMENT

A. Croplands

All farming operations are conducted under cooperative agreements. Six permittees planted 540.6 acres of wheat, 583.2 acres of milo, and ten acres of oats. One permittee returned twenty-five per cent of the harvested wheat on part of his operation for 200 bushels. Twenty-five per cent of all other wheat ground was plowed under in the spring for green manure since there is no demand for the harvested grain. One permittee returned 400 bushels of milo to refuge bins and the remaining permittees left one-third of the milo in the fields. Fifty bushels of oats were returned to the refuge.

Salt Plains Refuge, Oklahoma received 207 bushels of wheat. Bitter Lake Refuge, New Mexico came after 300 bushels of milo.

Canada geese and mallards utilized the croplands north of the Little Marsh and east of the Big Marsh throughout the hunting season.

B. Grasslands

Twelve grazing permittees utilized 6,332 acres for 3,641.5 AUMs and returned \$10,924.50. About half of the YACC fencing project replaced deteriorated fencing in grazing units, the remaining construction will permit rotational grazing.

Eight haying permittees harvested 640.6 tons of native hay from approximately 700 acres and returned \$3,203.00. One former haying permittee declined and was replaced this year. Sandhill cranes used the hay meadows on the west side of the Big Salt Marsh for loafing areas.

C. Wetlands

All of the small water units were dry during the summer because of drought and the inability to divert water from Unit 5. Silvex was used to aerial spray 330 acres of salt cedar, Tamarix gallica, around the Little Salt Marsh to retard the spread of seed into upstream water units.

D. Forestlands None.

E. Other Habitat None.



YCC Crew Removing Old Barbed Wire Fence and
Constructing New Fence. June, 1978. 7014.010



7014.011

Table I

NESTING HABITATS - 1978

Habitat Type	Acres Searched	Number of Nests Found *			
		Waterfowl		Other Species	
Hayfields	36	None		R/W Blackbird	1
		Total	0		1
Native Grass (Tall, rank)	20	None		None	
		Total	0		0
Native Grass (Mixed grasses)	18	B/W Teal	5	None	
		Total	5		0
Pastures (Grazed previous spring-Not grazed during survey)	36	B/W Teal	2	None	
		Total	2		0
Pastures (Grazed previous spring, and during survey)	30	B/W Teal	1	Am. Bittern	1
		Total	1		1
Flooded Marsh	10	Redhead	1	Am. Coot	3
				P/B Grebe	7
				L. Bittern	1
				Y/H Blackbird	5
		Total	1		16
TOTALS	150		9		17

*Only Active Nests Are Noted On This Table

F. Wilderness and Special Areas

The Santana Natural Area of 362 acres was established to be representative of native prairie. The area is being invaded by cottonwood, willow and Russian olive and YCC crews spent several days removing some of the invading trees.

The Commanche Archeological Site, 14SF301, was entered on the National Register of Historic Places on September the 18th, 1978.

G. Easements for Waterfowl Management

None.

IV. WILDLIFE

Population estimates for output bird species are obtained from weekly bird counts conducted on the refuge. All censusing is conducted from the ground. A bird count worksheet is used to record all data while in the field. This information is later transferred to more permanent record sheets and output reports.

Brood count data is obtained as a result of observations made during the regular weekly census.

Several limited waterfowl nest search transects were run. YCC enrollees provided the necessary manpower to pull a rope drag and watch for flushing ducks.

A. Endangered Species

Whooping cranes made two stops at Quivira during the fall of 1978. Two adult cranes arrived on the Big Salt Marsh in the afternoon of October 24. They departed by 9:20 the next morning. In the evening of November 9, two adult whooping cranes were located on the Big Salt Marsh. They were present all day Nov. 10. Since the waterfowl season was open and the Kansas upland game bird season was due to open the next morning, the refuge was closed to all hunting. It remained closed until 10:30 a.m. Nov. 11 when it was sure that the cranes had departed. All whooping crane observations are reported directly to the Pierre Reporting Center. Quivira was designated as Critical Habitat for the whooping crane effective June 14, 1978. This was published in the Federal Register Vol. 43, No. 94 May 15, 1978. Table II outlines the history of whooping crane use at Quivira National Wildlife Refuge.

Bald eagle use was about normal with a peak population of

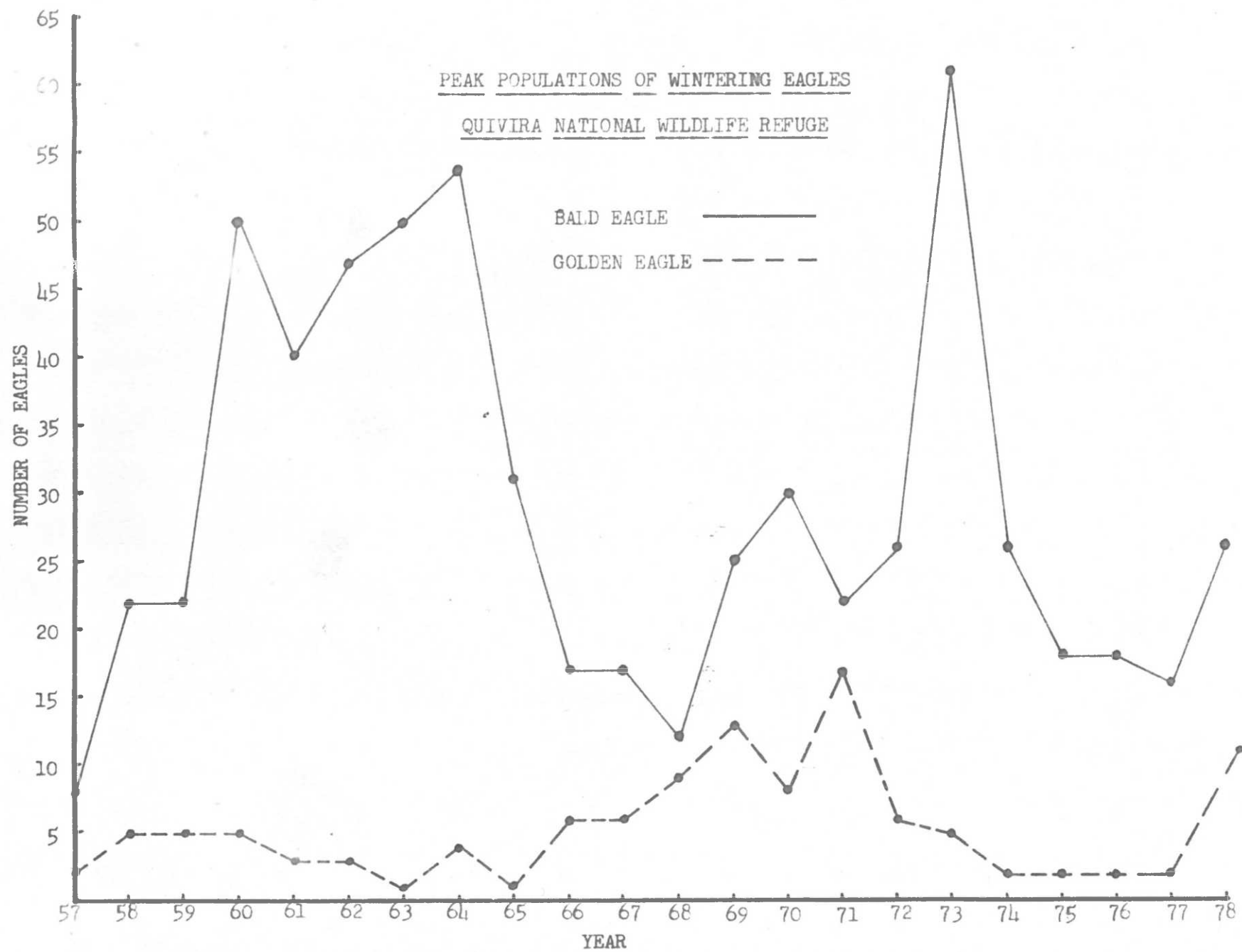
WHOOPIING CRANE USE

Table II

QUIVIRA NATIONAL WILDLIFE REFUGE

YEAR	TOTAL BIRDS OBSERVED	ARRIVAL DATE	USE DAYS
1961	2 (Adults)	04-26	2
1964	3 (2 Adults) (1 Juvenile)	11-01	3
1965	3 (2 Adults) (1 Juvenile)	10-30	6
1967	6 (Adults)	03-31 10-26	6
1972	5 (Adults)	10-20	9
1973	2 (Adults)	10-16	2
1974	9 (8 Adults) (1 Juvenile)	10-20	79
1975	3 (Adults)	03-29	18
1976	5 (4 Adults) (1 Juvenile)	10-31	5
1977	10 *	04-08 10-27	10
1978	4 (Adults)	10-23	8

* The number of juveniles present is not known. Probably, no more than two juveniles present.



twenty-six occurring in January. This period corresponds to the peak mallard population. Bald eagles concentrate around the Little and Big Salt Marshes. The mallards disperse after the hunting season or leave the area when food is unavailable, and then the eagle population declines.

One peregrine falcon was seen on the refuge in early February.

B. Migratory Birds

1. Waterfowl

The total number of goose use-days was the second highest record in the history of the refuge. Unusually large concentrations of white-fronted and Canada geese were present on the undeveloped north end of the Big Salt Marsh during the first two weeks of March. Melt from heavy late winter snow provided enough moisture to flood the usually dry mud flats and salt grass areas with several inches of water.

Total duck use days for 1978 were at an all time high. This was due to 212,000 mallards in January when there was no snow cover on the food supply, and the fall concentration when there was no water on surrounding areas.

No waterfowl banding was conducted during the year because of no advice quota.

2. Marsh and Water Birds

The spring migration of sandhill cranes was below normal. Sandhill crane's use of the Big Salt Marsh peaked at over 6,600 birds in early November. The populations and occurrence of other marsh birds was considered normal during the year.

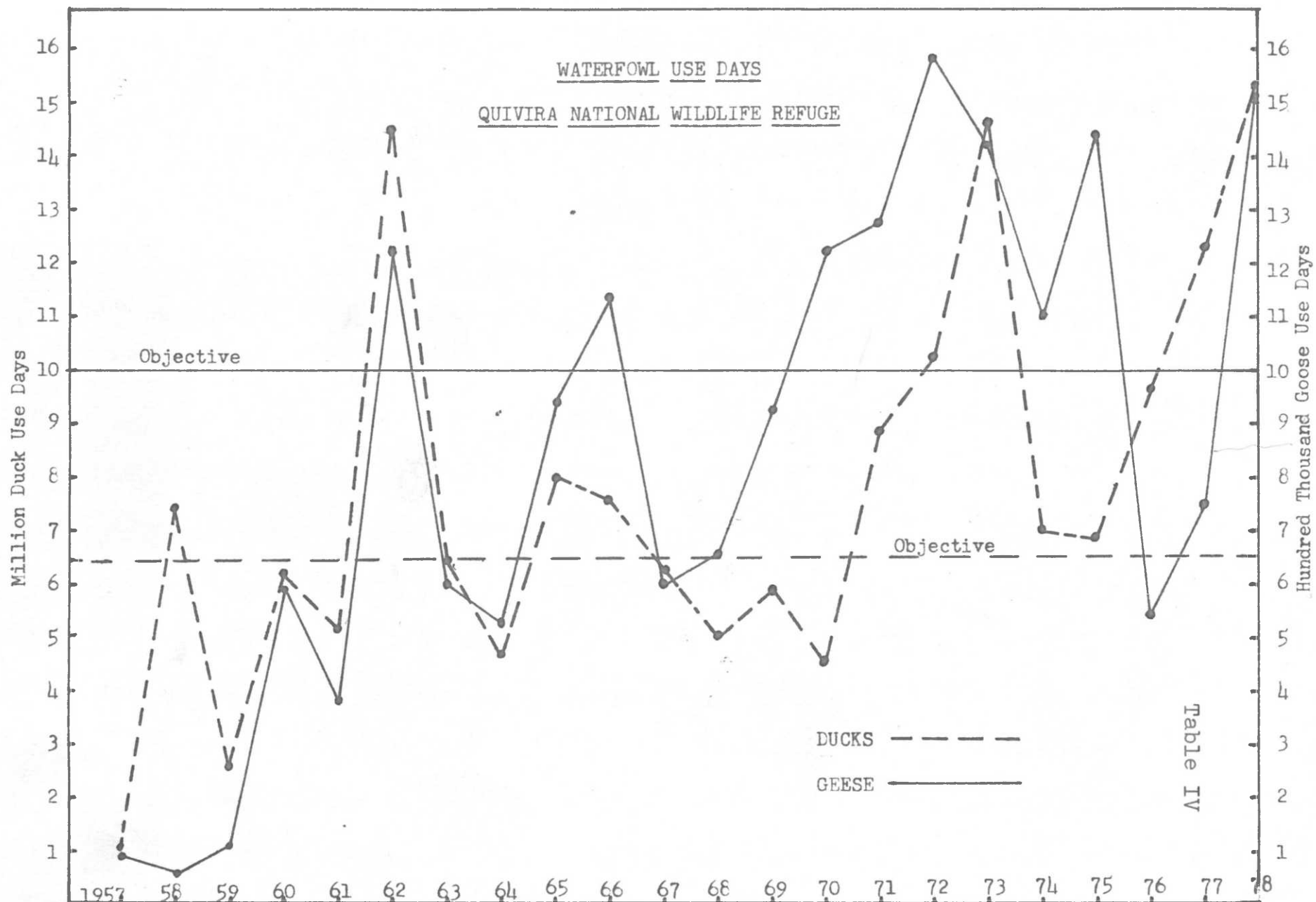
3. Shorebirds, Gulls, Terns and Allied Species

Nesting activity of least terns on the Big Salt Marsh was checked with YCC crews during July. Twenty-six nests were located, but their ultimate success was not recorded. The hatch occurred during a time when the refuge staff had other commitments.

The first documented successful nests of the black-necked stilt in the state of Kansas occurred in June. At least two nests produced young.

4. Raptors

Golden eagle use was above normal. A peak of eleven



golden eagles occurred in January. This peak coincided with the peak 212,000 mallard population.

YCC crews erected six perching roosts from old power line poles with attached cross arms on the west side of the Little Salt Marsh. These perches were utilized by eagles and other raptors.

5. Other Migratory Birds

A Townsend's solitaire was seen near the refuge office in November. There have been only two other documented sightings of this bird.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Whitetail deer are frequently seen on the refuge. Their population seems to remain fairly constant. One buck was a road kill victim on the blacktop road north of the refuge shop. No known poaching incidents occurred. The deer move freely over the refuge boundary to adjacent land. There were two reported successful deer hunters on the land adjacent to the refuge during the firearms season.

2. Other Mammals

During the winter, coyotes are hunted with dogs on the land adjacent to the refuge. The refuge population undoubtedly increases until this hunting pressure ceases. Coyotes also increase around the water units as the waterfowl populations increase. Coyotes become especially visible on the ice after the first freeze up as they search for crippled ducks and geese.

During February and March there were two sightings of a bobcat near the refuge shop. Later in the spring two bobcats frequented the water unit near the refuge shop.

Beaver continue to cause problems in the water control structures. They push brush and other debris into the whistle tube structures, and on several occasions gnawed the redwood planks in these structures. The extremely dry summer and fall probably had a detrimental effect on the muskrat population.

The transplanted blacktail prairie dogs north of the Little Salt Marsh experienced good production. The taller grass around the dog town was kept mowed to encourage expansion. The prairie dogs responded and have begun expanding into this area.

3. Resident Birds

Bobwhite and ring-necked pheasants experienced very good production in the spring. The lack of any major thunder storms and the overall drier spring seemed to favor these birds.

4. Other Animal Life

Cedar Bluff National Fish Hatchery stocked 10,500 two inch channel catfish and 115 four inch white bass in the Little Salt Marsh in September.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

Eleven guided tours were given to 281 people. This was less than half of the objective level.

2. Off-Refuge

Thirty-four programs were given to 1,439 participants. This is about 150% of the objective level, and a slight decrease over the previous year. There were 272 public inquiries concerning hunting and fishing use, almost twice that of the previous year. Questions on steel shot regulations for waterfowl hunting accounted for some of this increase. Twelve news releases were issued during the year.

B. Recreation

1. Wildlife Oriented

Warmwater fishing was not very productive. As the extremely dry summer progressed, the water levels in the Little Salt Marsh declined and the fisherman use decreased.

The dry summer and fall had a detrimental effect on waterfowl hunting conditions. Several of the usually productive hunting areas were dry. An estimated 1,868 waterfowl hunters retrieved 1,699 ducks and 60 geese. This hunter use is considerably less than last year. The hunter success decreased from last year's 1.45 bird/hunter to .94 bird/hunter. Non-toxic steel shot was required in 12 gauge shotguns for all refuge waterfowl hunting.

Upland game hunting success declined from last year. An estimated 1,365 hunters bagged 550 pheasants and 350 bobwhite for an average success rate of .65 bird/hunter. There was an excellent population of pheasants going into the hunting season, but the hunters were not able to get close enough to the birds as the season progressed.

A special use permit was issued to the Jayhawk Retriever Club for their 13th annual field trial. This event grows every year.

2. Non-Wildlife Oriented

The Duggan-Hamilton annual trail ride was not held in late October this year. Its future is uncertain.

C. Enforcement

Refuge personnel apprehended seventeen violations during the hunting seasons.

There has been a general decline in hunting violations in the past few years and most notably in hunting in Closed Areas.

VI. OTHER ITEMS

A. Field Investigations

Dr. Zuleyma T. Halpin, University of Missouri-St. Louis, continued her study of the social behavior and dispersal of blacktail prairie dogs. The reestablished refuge dog town she is investigating continues to expand.

B. Cooperative Programs

Quivira Refuge had its third non-resident YCC camp in June and July. Enrollment was twenty youths. Dr. George C. Stone, Education Department, Sterling College, returned for his second year as Camp Director. Marvin Stoss, teacher and coach, Nickerson High School, was Environmental Specialist. Group Leaders included: Rita Allen, a former home economics teacher; Benny Linville, biology teacher; and Tina Fischer, a recent college graduate in elementary education. The enrollees did an excellent job in all of their work projects.

A YACC non-resident camp was started at Quivira in August with an authorized strength of fourteen enrollees. Work Leaders are Gregg Roberts, Sylvia, KS and Leonard Murray, Great Bend, KS. There has been a good deal of turnover of enrollees, with their number down to five at the end of the year. No more can be hired until the federal hiring freeze is lifted. The YACC crews have done a good job in some major fence construction projects. Overall, the YACCs have been a real benefit to the total refuge program.



YCC Crew Removing Beaver Dam From Canal and
Clearing Storm Damaged Trees. June 1978. 7014.012



7014.013

C. Items of Interest

Holl Oil Co. drilled a successful oil producing well near the north boundary of the refuge in September. A seismic survey of six shot holes was conducted southeast of the Big Salt Marsh after a more extensive survey the previous year. A well was drilled in this area in December but was not completed at the end of the year.

The assistant manager position, vacant since September, 1977, was filled by Robert F. Bartels in January, 1978. Mr. Bartels transferred from the Wetland Acquisition Office, Aberdeen, South Dakota. Shortly after reporting for duty, Mr. Bartels attended the four week Refuge Manager's Academy at Beckley, West Virginia.

In May, Mr. Bartels was sent to Churchill, Manitoba for three weeks to represent Area 3 in a cooperative Eastern Prairie Population Canada goose nesting study. The weather was very poor, with a great deal of wind, rain and snow. This adverse weather had a very detrimental effect on initiation of nesting. The few Canada goose nests that were initiated during his stay were predated. Photo illustrates the snow and arctic fox problems that confronted Canada geese attempting to nest.

Wayne Dale prepared sections IA & B. Bob Bartels completed sections IV, V, and VIA & B.

D. Safety

Monthly staff and safety meetings were conducted. There were no injuries which required medical attention for refuge, YCC or YACC personnel. The year ended with 4,838 days without a lost time accident.

A refuge vehicle was backed into while parked and another refuge vehicle backed into a private vehicle.

Eight hours of first aid training were given to YCC enrollees, two group leaders and two refuge personnel. Three refuge employees and one group leader received eight hours of Defensive Driving training.

A fire occurred in the refuge shop on Sunday August 13. The exact cause was undetermined. The fire was in a small storage room with windows on the south and west sides. The temperature had exceeded one hundred degrees for two days over the weekend. Spontaneous combustion may have occurred in grass seed or other material. Two boxes of rocket charge propellant were stored in a locked closet with some pyrotechnic supplies. One of the boxes exploded

and blew the steel door open and apparently blew the door closed to the outer room and confined the fire. There was no other damage in the closet to shelving or supplies.



Black-necked Stilt Nest With Eggs and Newly Hatched Chicks. This was first documented successful nest of this species in the state of Kansas. 3101.001



Arctic Fox with Canada Goose Egg at Cape Churchill, Manitoba. May 1978.

KANSAS ORNITHOLOGICAL SOCIETY

BULLETIN

September, 1978

BLACK-NECKED STILTS NEST AT QUIVIRA NATIONAL WILDLIFE REFUGE

Robert F. Bartels

The black-necked stilt (*Himantopus mexicanus*) is listed as a rare, transient in Kansas (Johnston, 1965). Jurck and Leach (1977) felt the black-necked stilt was a transient species with irregular status in Kansas. Parmalee, et al. (1969) described this species as an irregular, rare transient at Cheyenne Bottoms, an area about 30 miles northwest of Quivira National Wildlife Refuge. Quivira's bird checklist carries this bird as a rare migrant.

Although sight records of the black-necked stilt have occurred almost every year since the mid-1960's in this area of the state, no evidence of nesting was discovered until recently. Goss (1986) stated that the black-necked stilt probably nested in southwestern Kansas, but he had no proof of nests. Neither Parmalee, et al. (1969), nor Johnston (1965) included any nesting records.

The first documented indication that nesting of this species may occur in Kansas was in 1974 at Cheyenne Bottoms (Schwilling, 1974). Mr. Schwilling (pers. comm.) stated that he saw two adults and three fledged young on 10 and 11 August 1974. However, he was unable to locate the nest.

In 1976, Ed Martinez reported seeing flightless, young black-necked stilts at Cheyenne Bottoms (Schwilling, pers. comm.). Again, no nest site was located. Refuge records at Quivira National Wildlife Refuge show that a pair of black-necked stilts attempted to nest on the Big Salt Marsh this same year. This nest was found by Assistant Refuge Manager, Larry Veikley, but was destroyed before the clutch was complete. This is the first documented sighting of a black-necked stilt nest structure in Kansas.

On 19 June 1978, I located another active black-necked stilt nest on Quivira's Big Salt Marsh, close to the area described by Veikley in 1976. The nest contained a four egg clutch, and appeared to be well into incubation. The two adults were very aggressive in their defense of the nest. This same day, I located two other pairs of stilts on the Big Salt Marsh that were displaying territorial behavior. However, no other nest structures were located.

The black-necked stilt nest was located in a shallow water area with inland salt grass (*Distichlis stricta*) and salt marsh bulrush (*Scirpus robustus*) the predominant emergent vegetation. The nest structure was a salt grass platform built up about two inches out of the water. The eggs were very similar to those of the American avocet (*Recurvirostra americana*).

On 27 June, 1978, Charles Darling, Refuge Manager, and I rechecked the nest. There were two newly hatched chicks, and an egg that was being pipped by a third chick. The fourth egg showed no signs of hatching. The next day I returned to the nest area and found the adults with four chicks about 50 feet from the empty nest. About 400 yards from this brood, I located a second pair of black-necked stilts with four chicks on the edge of a mud flat. These chicks also appeared to be about one day old. The third pair of stilts in the area still displayed territorial behavior, but no nest or young birds were seen.

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CHRISTMAS BIRD COUNT

By: Charles R. Darling, Refuge Manager
 Robert F. Bartels, Asst. Refuge Manager
 Wayne E. Dale, Administrative Clerk
 Louis F. Wilson, Maintenance Worker
 Carl D. Marks, Maintenance Worker
 Gary D. Hunt, Maintenance Worker

Quivira National Wildlife Refuge, Stafford, Kansas,
 38°09'N, 98°29'W, elevation 1725', (all points within a
 15 mile diameter circle with the center at Refuge sub-
 headquarters), as described in 1972. Pastureland 50%,
 Farmland 30%, Water 20%.

December 20, 1978; 7:30 AM to 5:30 PM. Temp. 28° to 40°F.;
 wind NW 15-20 mph, Fair, Six observers in three parties,
 total party hours 27, 2 on foot, 25 by car. Total party
 miles 198, 3 on foot, 195 by car.

Canada Goose	10800	Short-eared Owl	2
White-fronted Goose	90	Y-S Flicker	18
Snow Goose (white)	1	R-S Flicker	32
Mallard	197285	Hairy Woodpecker	3
Pintail	200	Downy Wookpecker	4
Green-winged Teal	1100	Blue Jay	13
American Wigeon	75	Common Crow	384
Common Goldeneye	6	Black-capped Chickadee	29
Common Merganser	10	Robin	23
Red-tailed Hawk	29	Loggerhead Shrike	10
Rough-legged Hawk	9	Starling	5
Golden Eagle (2 i)	2	House Sparrow	60
Bald Eagle (6a, 15i)	21	Meadowlark sp.	177
Marsh Hawk	57	Red-wing B-Bird	1311
Sparrow Hawk	28	Cardinal	14
Bobwhite	48	Slate-colored Junco	141
Ring-necked Pheasant	36	Oregon Junco	15
Ring-billed Gull	18	Tree Sparrow	703
Mourning Dove	2	Harris' Sparrow	118
Horned Owl	8	Song Sparrow	3

Seen in area during count period but not on count day:
 Killdeer. 40 species, 1 additional race.
 212,893 individuals.