

QUIVIRA NATIONAL WILDLIFE REFUGE
Stafford, Kansas

ANNUAL NARRATIVE REPORT
Calendar Year 2001

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
NATIONAL WILDLIFE REFUGE SYSTEM

QUIVIRA NATIONAL WILDLIFE REFUGE

Stafford, Kansas

ANNUAL NARRATIVE REPORT

Calendar Year 2001

**U.S. FISH AND WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR**

REVIEW AND APPROVAL
QUIVIRA NATIONAL WILDLIFE REFUGE
Stafford, Kansas
ANNUAL NARRATIVE REPORT
Calendar Year 2001


Refuge Manager

7/18/02
Date


Refuge Supervisor

7-29-02
Date


Regional Office Approval

8/8/02
Date

- Notice -

The annual narrative report is an important historic document for the Refuge. However, due to the thousands of other responsibilities, the Refuge no longer has time to follow the time honored format. Historically, we would write the Monthly Activity Reports throughout the year, then re-write, and cut and paste those into an entirely new document to produce the Narrative Report. After discussions with other refuges, most stations admitted they only had time to look at the photos on most narratives. To save staff time and still maintain the historic importance of the document, this new format was developed.

HIGHLIGHTS

2001 HIGHLIGHTS

January

- A news release with a \$1000 reward was issued for information on two deer poaching incidents on Quivira NWR. Kansas Bowhunters Association add \$250 to the reward fund.
- Eco-team meeting was conducted on 1/9-10 at the Great Plains Nature Center, Wichita. A retirement part for Refuge Supervisor Larry Shanks was also conducted. He is missed!

February

- Good snowfall, over 34 inches from December to February, results in good moisture conditions for early migrants.
- The annual Volunteer Appreciation Dinner, previously postponed by snow, is finally completed on 2/23. Olin Allen is named the "Volunteer of the Year".

March

- The "Focus on Quivira" event, 3/17, sponsored by the Friends, to celebrate the NWRS Birthday is a big success, with over 150 visitors. "Teddy Roosevelt", a historic re-enactor was a great plus for the occasion.
- Judging for the Junior Duck Stamp Design Contest was conducted on 3/28, with over 1000 entries from all over the state.

April

- T-21 road project gets into full swing, with trucks hauling rock for Quivira's public roads, 12 hrs per day, 6 days a week.
- The Friends of Quivira help sponsor a "Wings and Wetlands" weekend, with Cheyenne Bottoms and the Great Bend Visitors and Convention Bureau on 4/28-29.

May

- Over 6 inches of rain fall during May, well above the 3.77 inch long term average for the month.
- The Friends of Quivira sponsored a "Father's Day Out" on the Saturday before Mother's Day. Fathers bring the kids to the Refuge for crafts, games, nature walks, and food. It was a big hit with kids and Dads.

June

- John Putnam from the NPS and three biologist from Hungary visited Quivira NWR to discuss our management, since they also manage a inland salt marsh area.
- On June 6th, Chuck Alderson, staffer from Senator Brownback's office visited the Refuge for a "Show Me" tour.

July

- Hot, Hot, Hot! Temperatures over 100 degrees for 19 days and 5 others over 95. This and high winds took a lot of water from the wetlands.
- Work continued on the borrow area fill project on Unit 25.

August

- Heat and high winds continue to sap water from the Refuge wetlands. Eleven days over 100, with 6 of the remaining over 95.
- Dry conditions result in a county wide burn ban and a National Level 5, that severely hampers our cattail burning program on the Refuge.

September

- On September 13, the Big Salt Marsh officially went totally dry. All other wetlands, except the Little Salt Marsh, were dry as well, the worse conditions since 1991.
- "Monarch Mania, our butterfly tagging event on September 15, was well attended but cool weather had stalled the monarch migration and no butterflies were tagged, down from over 300 last year.

October

- The Friends sponsored "Step Back In Time" event, a historic activity on October 20th, drew 350-400 visitors. They came for wagon rides, food, live animal shows, muzzleloader and tomahawk demonstrations, historic crafts and a visit by "Merewether Lewis", a historic re-enactor.
- The first segment of the KS duck season, scheduled to start on 10/27, was suspended due to the presence of the endangered whooping cranes on Quivira.

November

- Lorrie Beck, from EVS in Denver, enters on duty at the Great Plains Nature Center, filling a position vacant since Suzanne Fellows left, almost a year earlier.
- Several hunting seasons open on the Refuge in November but the success is very limited, mainly due to the drought conditions during the late summer and fall.

December

- Acting FWS Director Marshall Jones visited Quivira on 12/7 and Secretary of Interior Gale Norton and her Father, a Friends of Quivira member, visited the Great Plains Nature Center during December.
- Duck numbers are poor as the drought conditions persist and warmer weather allows the ducks to stay further north than normal for this time of year. Local hunters are not happy!

MONTHLY ACTIVITY REPORTS

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. JAN

Memorandum

February 19, 2001

To: Associate Manager, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, January , 2001

A. HIGHLIGHTS

- Refuge Manager Hilley attends latest ECO-TEAM meeting in Wichita on 1/9-1/10.
- Most hunting seasons end for the year during January with success not as high as first anticipated.
- Newest member added to the Refuge family as FMO Bill Waln welcomes a new daughter, a little early but doing fine.

B. CLIMATIC CONDITIONS

High: 63 degrees F Low: 4 degrees F Precip: 1.64 inches

Total precipitation during January was officially recorded as 1.64 inches, at the official weather station at Hudson, KS, eight miles from HQ. All of the January precipitation came in the form of snow, which fell on five separate days, and totaled about 16 1/2 inches officially. The long term average precipitation for January is 0.57 inches.

Following several extremely mild winters, this winter has been a shock to the locals, both human and wildlife as well.

E. ADMINISTRATION

1. Personnel

Paperwork was started to try and find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November. We were making progress until the federal hiring freeze put a damper on things.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Volunteers helped with the bi-monthly waterfowl surveys and assorted other jobs during January.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland projects such as the borrow area filling project and our cattail and salt cedar control programs remained shut down in January by cold and snow. Most of the wetland units were frozen over except for some units where we were moving water and the flow kept some open areas.

4. Croplands

Several large round bales of the Refuge share of the oats crop, baled by our cooperative farmer, were moved into areas with high deer, pheasant and quail populations, as the ice and snow cover made it harder for the critters to obtain their food.

9. Fire Management

Engine Foreman Tim Keller completed his required two weeks in non-pay status and returned to work on January 8.

The refuge fire budget requests were completed and forwarded to the regional office on January 11. This is for budget year 2002.

Fire Management Officer Bill Waln presented a program to the Region 6 Southern Ecosystem Team January 10 at the Great Plains Nature Center. The presentation was on the US Fish and Wildlife Service Fire Management Mentoring Program.

The Quivira NWR presented retired Stafford County VFD Fire Chief, Mary Miller, with a plaque recognizing her past Service.

Signed and completed Memorandum of Understanding between Quivira NWR and Stafford and Rice Counties was received from the Regional Office. Copies were made and forwarded to the respective county officials.

The Wildlife Drive prescribed fire unit was completed on January 22. This is a 660 acre unit burned primarily to attract migrating waterfowl and shorebirds.

Fire Management Officer Bill Waln completed the prescribed fire plans for Quivira NWR and forwarded them to the CO/KS/NE Zone FMO, Ken Kerr.

Fire Management Officer Bill Waln completed the re-review process on prescribed fire plans for Flint Hills NWR, Marais des Cygnes NWR and Rainwater Basin NWR.

Engine Foreman Tim Keller worked on preparing the prescribed fire units for implementation.

Anticipated training needs for staff at Quivira NWR, Kirwin NWR and Rainwater Basin WMD for the fiscal year 2002 was completed by Fire Management Officer Bill Waln.

G. WILDLIFE

2. Threatened and/or Endangered Species

Bald eagle numbers were recorded at 2 (1-Adult, 1-Imm) on the ½ waterfowl survey and on the 1/23 count, 5 (3-Adults, 2-Imm) were observed.

The annual mid-winter bald eagle survey was conducted on 1/12/01 with a total of 32 bald eagles counted, 21 adults and 11 immatures. Changing weather, small thaws and highly active movements of the local waterfowl have made large fluctuations in the eagles using the Refuge. Now they are here, now they are not!

3. Waterfowl

Two bi-monthly waterfowl counts were conducted in January. On 1/2, counters found 1125 ducks and 1777 geese, standing on the ice, all on the Little Salt Marsh. All of the water areas were frozen when this count was completed. This was also the annual mid-winter waterfowl survey so we "killed two birds with a single stone", so to speak!

The second count was conducted on 1/23, a small warm snap had opened some water and 1738 ducks and 11,785 geese were recorded.

4. Marsh and Water Birds

Great blue herons hung around the intake to the Big Salt Marsh center until the extreme cold forced even these individuals to the River. As soon as a small thaw occurred, they were back.

H. PUBLIC USE

1. General

Cold weather, high winds and bitter wind chills continued to keep all but the hardiest souls home during January. Frozen conditions and the birds moving south reduced the public use significantly.

2. Outdoor Classrooms - Students

The Quivira NWR website continues to draw a lot of attention and is really appreciated by the public, as indicated by the E-mail we receive. Over 10,000 hits were recorded in January.

The Friends of Quivira sponsored a Hunter Education Course at the Environmental Education Classroom on 1/20-1/21. This is the third such course offered here this season and they have all been filled.

8. Hunting

Cold weather and frozen wetlands put an end to most waterfowl hunting. A few diehards tried to goose hunt but the birds were few and far between. Pheasant and quail hunters also didn't try to fight the low wind chills.

Duck season ended on 1/7, white-front season ended on 1/28, and 1/31 marked the close of pheasant and quail season.

A special deer herd reduction season occurred, outside the Refuge, from 1/1 to 1/14/2001. Only whitetailed antlerless deer were legal on this special hunt.

7. Law Enforcement

Refuge Officers Hilley and Sellers spent a lot of time answering calls about deer spotlighting or problems with hunters in the wrong place during the month. The large number of very visible does on Quivira was a temptation during the special reduction hunt. Evidence of a deer poached from the Catalpa grove area was investigated. A news release with an up to \$1000 reward offer was circulated to try and obtain information on this incident, as well as the large buck found killed in November. The Kansas Bowhunters Association donated an additional \$250 to the reward fund. Only one call has resulted so far but we are hopeful.

One NOV was issued in January to a pheasant hunter in the wrong location. He also had lead shot and his final question was "Where's a good place to deer hunt on the Refuge?" (Quivira NWR is closed to all deer hunting)

LE physicals were completed during the month and Officer Sellers attended the annual Law Enforcement Inservice in Arizona from 1/29-2/3.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without FOQ. A FOQ board meeting was conducted at HQ on 1/4/2001

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Equipment repairs were done in order to stay warm during the month. Leaks, tires, tune ups and general repairs kept folks near the heaters.

The contract for the crushed rock to be furnished on our public roads through T-21 and the Federal Highway Dept. was opened in November with a Newton, KS, firm the successful bidder. Cold weather continues to delay the delivery of the material but hopes are to start the project soon.

During one small warm spell, the rusted screw gate and culvert on Unit 16, that turned water north, was replaced. This will allow the flooding of approximately 20 new acres that have not been available in many years.

4. Equipment Utilization and Replacement

We were notified in December, by a local car dealer, that our new Suburban had arrived. Unfortunately we had not received any paperwork from GSA so we could not pick up the Suburban until the papers caught up with the vehicle. In January we were able to finally pick up the vehicle.

New reverse osmosis water treatment systems were installed in both Refuge Quarters during the month. Residents were having health problems due to the high salt content in the water and these systems corrected the situation.

J. OTHER ITEMS

3. Training and Items of Interest

Refuge Manager Dave Hilley attended an ECO-TEAM meeting on 1/9-1/10 at the Great Plains Nature Center in Wichita. On the evening of the 9th, the Eco-team had a retirement party for Larry Shanks, Refuge Supervisor. He will be missed!!

From 1/16-1/19, Range Tech Meggers was out for eye surgery. He is doing better now.

On 1/31, Manager Hilley gave a tour for folks from the Great Bend Visitors and Convention Bureau and Ted Eubanks, an ecotourism consultant. The Bureau is interested in promoting Quivira and Cheyenne Bottoms in several future events and programs.

On 1/3, about three weeks early, Mary Waln arrived to add great joy (and a lot of work) to FMO Bill Waln's life. Congratulations to Bill, Missy, and Ty on the event. She's a keeper!!!!

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. FEB

Memorandum

March 8, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, February, 2001

A. HIGHLIGHTS

- Rains and snow melt starts the water distribution season on the Refuge as the wetlands are prepared for the early migrants.
- RM Hilley attends a Eco-Tourism meeting in Great Bend and provides a Refuge Tour.
- The annual Volunteer Appreciation Dinner, postponed once due to bad weather, is successfully completed on 2/23.

B. CLIMATIC CONDITIONS

High: 58 degrees F Low: 0 degrees F Precip: 2.37 inches

Total precipitation during February was officially recorded as 2.37 inches, at the official weather station at Hudson, KS, eight miles from HQ. Snow, which fell on four separate days, totaled about 10 inches officially. The long term average precipitation for February is 0.84 inches.

Following several extremely mild winters, this winter has been a shock to the locals, both human and wildlife as well. Between December and the end of February, the Refuge has received 34 1/2 inches of snow, a little over 12" more than the same time last year.

E. ADMINISTRATION

1. Personnel

Paperwork was started to try and find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November. We were making progress until the federal hiring freeze put a damper on things. The hiring freeze was lifted near the end of the month so we are making some progress again.

Efforts to find a summer intern and a SCEP student were also initiated during the month. We did a lot of outreach so hopefully we will find good candidates.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Volunteers helped with the bi-monthly waterfowl surveys and assorted other jobs during February.

After being canceled earlier by a major storm, the annual Volunteer Appreciation Banquet was finally conducted on February 23, at the Wheatland Cafe in Hudson, KS. Approximately 50 volunteers, spouses and kids attended the event. Olin Allen, Hutchinson, received the Volunteer of the Year Award, a second time winner after a win in 1996. Richard Bond, Stafford, was the recipient of the Volunteer Merit Award. Robin Drake-Woods, Sterling, was selected Volunteer Rookie of the Year and the Tim Tracy Family, Sylvia, was the Volunteer Family of the Year. We thank all of those folks who helped out in 2000!!!

F. HABITAT MANAGEMENT

2. Wetlands

Most of the wetland units were frozen over except for some units where we were moving water and the flow kept open areas. By months end, some snow melt had occurred and the weather had warmed enough for rains, so a lot of water delivery was started. Areas that were mowed for cattail control and areas where salt cedars had been removed were very attractive to early migrants. Prescribed burn areas were also attractive to the waterfowl and cranes.

4. Croplands

Several large round bales of the Refuge share of the oats crop, baled by our cooperative farmer, were moved into areas with high deer, pheasant and quail populations, as the ice and snow cover made it harder for the critters to obtain their food.

9. Fire Management

Quivira NWR sent six Bendix/King radios into the city of Hutchinson. These radios were used by firefighters during the recent emergency. A natural gas leak from a nearby storage facility caused two explosions in Hutchinson causing the evacuation of portions of the city.

Fire Program Technician (FPT), Tim Keller, hauled in two dump truck loads of fire wood into the Salvation Army in Great Bend, KS. The wood was left over from brush thinning and maintenance projects on the refuge.

A 2001 Ford F-150 chassis was received by the refuge. This was outfitted with a flatbed and will be utilized as a fire engine. The truck was delivered to Jeff O'Neill Ford in Hutchinson, KS, on February 1.

Tim Keller traveled to Kirwin NWR on February 5 and 6 to help write burn plans for that refuge.

Range Technician/Firefighter Brent Waters, was placed in pay status on February 12. Brent was brought back on to help prepare for the upcoming prescribed fire season.

Fire Management Officer Bill Waln, helped instruct the S-290, Introduction to Fire Behavior, in Hutchinson, KS. The class was made up mostly of Kansas Department of Wildlife and Parks personnel. The class was held at Hutchinson Community College, February 13-15.

Bill Waln gave a presentation to the Nebraska Game and Parks Commission in Kearney, NE, on February 22, during their burn workshop. The presentation dealt with burning with the US Fish and Wildlife Service vs. Nebraska Game and Parks.

Tim Keller helped instruct S-130/190 in Kearney, NE, February 28-March 2.

The Range Technician position at Quivira NWR opened on February 26. The position is a career seasonal position and will supplement refuge and fire management district staffing.

Bill Waln continued to review prescribed fire plans for Kirwin NWR and Rainwater Basin WMD. These plans will be forwarded to the Zone FMO for technical review.

G. WILDLIFE

2. Threatened and/or Endangered Species

Bald eagle numbers were recorded at 10 (7-Adult, 3-Imm) on the 2/6 waterfowl survey and on the 2/20 count, 18 (6-Adults, 12-Imm) were observed.

3. Waterfowl

Two bi-monthly waterfowl counts were conducted in February. On 2/6, counters found 5259 ducks and 9091 geese, and on the 2/20 count, 18,053 ducks and 78,835 geese were recorded as the spring migration got underway.

4. Marsh and Water Birds

Great blue herons spent most of the month hanging around the intake to the Big Salt Marsh center unit. They were only absent when the extreme cold forced even these individuals to the River. As soon as a small thaw occurred, they were back looking for a meal.

Approximately 100 sandhill cranes were counted on 2/6, and 315 were observed on the 2/20 survey.

H. PUBLIC USE

1. General

Snow and muddy roads discouraged a lot of folks but as the waterfowl numbers increased, so did the visitors.

RM Hilley attended an Eco-Tourism meeting in Great Bend, KS, sponsored by the Visitors and Tourism Board on 2/1. A consultant has been hired by Great Bend to take advantage of the city's connections with Cheyenne Bottoms and Quivira as birding hot spots. A Birding Festival is planned for April 28-29 and Quivira will take part in the program.

2. Outdoor Classrooms - Students

The Quivira NWR website continues to draw a lot of attention and is really appreciated by the public, as indicated by the E-mail we receive. Over 5,000 hits were recorded in February.

8. Hunting

Cold weather and frozen wetlands put an end to most waterfowl hunting. Canada goose season ended on 2/4. A few diehards tried to snow goose hunt but the birds were few and far between. Quivira NWR closed to all hunting on February 28th.

7. Law Enforcement

Refuge Officer Sellers attended the annual Law Enforcement Inservice in Arizona from 1/29-2/3. Officer Hilley attended the Inservice from 2/21-2/26.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without FOQ.

The Annual meeting of the Friends of Quivira was held on February 6th in the Senior Citizens Center, Stafford. Approximately 35-40 people attended for the desert buffet, a program on past and future events, and a demonstration of the new FOQ website, being prepared by the Stafford High School Computer class. Dale Norton, Wichita, won the carved plate and Marty Hilley won the framed print, which she donated to Mr. Taylor, the computer teacher, for his efforts on the website.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Equipment repairs were done in order to stay warm during the month. Leaks, tires, tune ups and general repairs kept folks near the heaters.

The contract for the crushed rock to be furnished on our public roads through T-21 and the Federal Highway Dept. was opened in November with a Newton, KS, firm the successful bidder. Cold weather continues to delay the delivery of the material but hopes are to start the project soon.

The hydraulic system of the Positrack has developed a leak and efforts were started to find the source and repair the problem.

3. Major Maintenance

A lot of time was spent plowing snow and then when it dried enough, grading the roads to remove the ruts from the snow. Fun was had by all!!!

4. Equipment Utilization and Replacement

The new cab and chassis fire truck was outfitted with a new flatbed and other items in prep for getting the tanker attached before the spring fire season. Local welder and old retired FWS employee Henry Hall spent some time welding on the truck. It was just like old times!!

J. OTHER ITEMS

3. Training and Items of Interest

On 2/5-6, Suzanne Fellows, former Quivira employee and now RO folk, visited the Refuge to set up shorebird surveys for this coming season.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. MAR

Memorandum

April 10, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, March, 2001

A. HIGHLIGHTS

- March 17th "Focus on Quivira" event, sponsored by the Friends of Quivira to celebrate the birthday of the NWR System, is a great success, with over 150 visitors to see "Teddy Roosevelt".
- Judging for the Kansas Junior Duck Stamp Design Contest was conducted on 3/28, for almost 1000 entries from young artists throughout the state.
- The Friends of Quivira sponsored a 4-H Wildlife Photography Workshop on 3/31 with over 35 participants.

B. CLIMATIC CONDITIONS

High: 69 degrees F Low: 23 degrees F Precip: 0.90 inches

Total precipitation during March was officially recorded as 0.90 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for March is 1.40 inches.

Temperatures for March remained cooler than normal but there were enough 60 degree plus days to get folks thinking about Spring.

E. ADMINISTRATION

1. Personnel

The process continues to find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November.

Efforts to find a summer intern and a SCEP student were also continued during the month. We did a lot of outreach so hopefully we will find good candidates. It looks like we may have an intern but the SCEP is still hanging.

Brent Waters, a former firefighter, started a SCEP assignment in maintenance, in hopes that he may eventually be the replacement for Henry Hall, who retired last October.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Volunteers helped with the bi-monthly waterfowl surveys and assorted other jobs during March.

F. HABITAT MANAGEMENT

2. Wetlands

Most of the wetland units opened completely in March and were in good shape for the returning migrants. Good moisture in February and adequate flows in Rattlesnake Creek provided enough flow to put most of the wetlands in good shape. Areas that were mowed for cattail control and areas where salt cedars had been removed were very attractive to early migrants. Prescribed burn areas were also attractive to the waterfowl and cranes.

4. Croplands

Enough warm weather was received in March to make the cooperative farmer eager to get started and some were putting soil enrichments on their Refuge fields by months end.

9. Fire Management

The annual fire safety refresher was completed for Quivira NWR fire staff on Friday, March 2. Also attending were firefighters from Flint Hills NWR, NPS Fort Larned NHS and Stafford County VFD.

Eight prescribed fires were implemented at Quivira NWR during the month. The following units with acreage were completed; Hornbaker North for 56 acres, Hornbaker South for 61 acres, Darrynane D Block for 820 acres, Service Road for 67 acres, North HQ for 7 acres, South HQ for 12 acres, West Little Salt Marsh for 1,266 acres and Miller Unit Block A for 640 acres.

The refuge hosted firefighters from J. Clark Saylor NWR, Windom WMD, Ouray-Unita Agency, Hutchinson Community College, Ft. Niobrara NWR, Rainwater Basin WMD and Malheur NWR. These resources assisted with implementing the prescribed fires on Quivira NWR.

Refuge staff responded to several wildfires during the month. The Wagoner fire on March 7 was 7 acres and located ½ mile west of the refuge on the Marsh Road. A natural out wildfire was discovered on the section line road north of Darrynane Lake. On March 23 refuge staff responded to 3 wildfire assists adjacent to the refuge.

Tim Keller attended the Hutchinson Community College Fire Science Advisory Committee meeting for Bill Waln on March 15.

Bill Waln attended the Region 6 Fire Staff Spring Meeting in Valentine, NE, March 13-15.

Bill Waln and Tim Keller traveled on March 31 to Kirwin NWR to present a one day workshop on fire training opportunities to local VFD personnel.

G. WILDLIFE

2. Threatened and/or Endangered Species

Bald eagle numbers were recorded at 4, (2-Adult, 2-Imm), on the 3/6 waterfowl survey and on the 3/20 count, only one adult bald eagle was observed.

3. Waterfowl

Two bi-monthly waterfowl counts were conducted in March. On 3/6, counters found 4134 ducks and 15,492 geese. A lot of ducks and geese were using wetlands in the surrounding crop fields and an estimated 250,000-300,000 geese were in the Refuge vicinity. On the 3/20 count, 2826 ducks and 6837 geese were recorded as the spring migration for waterfowl started to taper off.

4. Marsh and Water Birds

Great blue herons spent most of the month hanging around the intake to the Big Salt Marsh center unit. A few American white pelicans were using the Refuge in March, especially near the outflows where the fishing was easier.

Approximately 450 sandhill cranes were counted on 3/6, and only about 25 were observed on the 3/20 survey. A lot of cranes overflowed the Refuge this spring as weather opened up more along the Platte River in Nebraska.

H. PUBLIC USE

1. General

Visitation increased in March as the warmer days encouraged folks to get out and fight the cabin fever.

2. Outdoor Classrooms - Students

On 3/1, SROS Sellers presented a program at the Burger King in Great Bend in association with the Great Bend Zoo. This evening program was attended by over 300 kids and 250 adults, partly for the program and partly for the burgers.

On 3/6, the Pilgrim Christian School, Hutchinson, KS, was given an orientation program for their tour of Quivira.

7. Other Interpretive Programs

Admin. Assistant Cindy Terry gave a presentation on Quivira NGR and the environmental education opportunities of the Refuge to the spring meeting of the Kansas Assoc. Of Conservation and Environmental Educators (KACEE) at the GPNC on 3/16.

As part of the celebration of the birthday of the NGR System, the Friends of Quivira sponsored a "FOCUS ON QUIVIRA" event on 3/17. John Lehman, an Emporia State University professor, gave an excellent portrayal of Teddy Roosevelt to a crowd of over 150 visitors. Displays of historic items were provided by individuals, the Stafford County Historical Society and the Refuge, as well as a 22 panel exhibit on Teddy, courtesy of the KS Historical Society. "Rough rider vittles" were served by the Friends and a birthday cake was provided for the guests. Local media and politicians were present and helped support the event.

On 3/28 the Kansas Junior Duck Stamp Design contest entries were judged at the State Fairgrounds in Hutchinson. Almost 1000 entries from throughout the state were submitted this year. Suzanne Fellows, RO Migratory Birds, returned to coordinate the judging.

On 3/31, the Friends sponsored a 4-H Nature Photography Workshop. Pansy Fryman, a teacher from Garden City presented the program, designed to encourage kids to take photos to enter in the Friend's Quivira photo contest at the county fair. Eighteen kids and about 15 adults attended the program and the lunch served afterwards.

The Quivira NGR website continues to draw a lot of attention and is really appreciated by the public, as indicated by the E-mail we receive. Over 5,000 hits were recorded in February.

8. Hunting

Quivira NGR closed to all hunting on February 28th. One individual was given a warning when he was contacted hunting snow geese after the closing date , mainly because he had missed all of our efforts to inform the public of the closure.

7. Law Enforcement

The investigation is still on-going concerning the trophy white-tailed deer poached in November, but so far no suspects have been apprehended.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without FOQ.

On 3/6, the Friends of Quivira Board met at the Visitors Center to work on up coming events and programs.

EQUIPMENT AND FACILITIES

2. Rehabilitation

Equipment repairs were done in order to stay warm and get ready for spring. Leaks, tires, tune ups and general repairs kept folks near the heaters.

The contract for the crushed rock to be furnished on our public roads through T-21 and the Federal Highway Dept. was opened in November with a Newton, KS, firm the successful bidder. Cold weather delayed the delivery of the material but plans are to start the project by April 1st. The contractor and FHD inspectors were on site in March to review the work needed.

The hydraulic system of the Positrack had developed a leak and required a return to the dealer's shop for repairs.

3. Major Maintenance

A lot of time was spent grading roads in prep for the rock hauling project.

J. OTHER ITEMS

3. Training and Items of Interest

We want to extend our thanks to Suzanne Fellows, former Quivira employee and now RO folk, for her assistance with the Jr. Duck Stamp Contest. She did an excellent job of coordinating the event and it was appreciated.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. APR

Memorandum

May 7, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, April, 2001

A. HIGHLIGHTS

- T-21 road rehab project gets into full swing, with trucks hauling rock to Quivira, 12 hrs/day, 6 days per week.
- Tom Roster visits Quivira to discuss the possibility of filming a video on the Refuge about how to prevent crippling loss in waterfowl hunting.
- The Friends of Quivira help sponsor a "Wings n' Wetlands" event, with Cheyenne Bottoms and the Great Bend Visitors and Convention Bureau, on 4/28-29.

B. CLIMATIC CONDITIONS

High: 89 degrees F Low: 29 degrees F Precip: 1.82 inches

Total precipitation during April was officially recorded as 1.82 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for April is 2.19 inches.

Temperatures for April were both ends of the scale, as is usual for this time of year in Kansas. There were several days with over 50 degrees difference in the high and low temperatures.

On April 21st, a F4 tornado hit Hoisington, KS, approx. 40 miles north of the Refuge, with over 400 homes lost or severely damaged, one death and 26 injured. This is the time of the year, folks in Kansas keep a watchful eye on the skies!!

E. ADMINISTRATION

1. Personnel

The process continues to find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November.

Efforts to find a summer intern and a SCEP student continued during the month. We did a lot of outreach so hopefully we will find good candidates. We selected an intern but just after the end of the month he declined due to financial reasons. The SCEP student is still hanging.

Brent Waters, a former firefighter, is working on a SCEP assignment in maintenance, in hopes that he may eventually be the replacement for Henry Hall, who retired last October.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Volunteers helped with the shorebird surveys, provided programs to visitors, and assorted other jobs during April.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions in April were excellent as flows in Rattlesnake Creek were sufficient to allow water diversions. Areas that were mowed for cattail control and wetlands where salt cedars had been removed were very attractive to migrants. Prescribed burn areas were also attractive to the waterfowl and cranes.

Replacement of an old screw gate and pipe on Unit 16, that had been completely covered with sand, allowed the flooding of a large area that had previously only had direct precipitation to fill.

4. Croplands

Spring weather made the cooperative farmers eager to get started and some were putting soil enrichments on their Refuge fields by months end. Some areas of winter wheat that did not look good following fall goose browsing and weather conditions were worked up to allow planting of spring crops.

9. Fire Management

Two prescribed fire units were completed, 7-Strips and Darrynane A Block. These two units totaled 1,379 acres and brought the calendar year to date numbers to 10 units completed for 4,968 acres. Local AD/EFF firefighters were used to complete these burns and a RX12 from the Potawatomi Tribe in northeast Kansas.

Refuge staff responded to two wildfires this month. The Wood fire on April 8, blackened 145 acres 2 miles south of the refuge in Stafford County. The fire is believed to be human caused. The Windy Wednesday fire on April 11 scorched 350 acres 2 ½ miles east of the refuge in Rice County. Wind gusts of 65 mph were recorded during this fire. Light fuel conditions and winter wheat fields allowed crews to keep fire relatively small. One residence and several outbuildings were threatened but no reported losses. This fire was a result of an escape control fire on private land. Both fires were a MOU assist.

Richard Todd Schmidt was selected for the career seasonal Range Technician/Firefighter position. Todd's reporting date is May 20. Todd's working title will be Engine Foreman for the refuge and Western Kansas Fire Management District.

Bill Waln and Tim Keller flew in Texas to pick up 2 of the new 200 gallon fire engines purchased by the National Office. One of these engines will stay at Quivira NWR and the other was delivered to the Rocky Mountain Arsenal NWR.

Bill Waln helped instruct the S-216, Driving for the Fire Service, course in Bastrop, TX. This was the first test course for this rewritten fire course. Bill has been working on an interagency team to rewrite this course for over a year. The course was presented to members of the Texas Forest Service.

Tim Keller traveled to LaCreek NWR in SD to assist with their prescribed fires.

G. WILDLIFE

2. Threatened and/or Endangered Species

Whooping cranes stop at Quivira NWR during their spring migration but only briefly, as the breeding urge speeds them northward. This spring only 6 birds were recorded in this area, seen 1N, 3 1/2 E, of Stafford on April 5th. Others probably used Quivira but they normally arrive late in the evening and are usually gone at sunrise, so they are seldom seen by the staff or the public.

3. Waterfowl

Bi-monthly waterfowl counts were discontinued on April 1st, until the fall migration. Good numbers of ducks remained throughout the month, mostly mallards, blue winged teal and northern shovelers.

About 1500 Canada geese remained on the Refuge until about mid month, using Units 14A and B, but by months end all that remained was the Giant Canada geese that make up our resident nesting flock.

4. Marsh and Water Birds

Great blue herons, black crowned night herons, American bitterns, and snowy, cattle and common egrets started to show up in numbers during the last week of the month. American white pelicans were using the Refuge more in April, especially near the outflows where the fishing was easier.

5. Shorebirds, Gulls, Terns and Allied Species

Black-necked stilts, American avocets, dowitchers, yellow legs, and a mass of smaller shorebirds descended on Quivira in April. Good water conditions produced ideal habitat and several units had been drawn down to provide the shallow water these birds need.

Snowy plovers arrived and began to look over the nesting pads in the predator exclusion fence. Water on the north flats has prevented the Refuge staff from rehabing this fenced nesting area but it will be done before the arrival of the endangered interior least terns in May.

H. PUBLIC USE

1. General

Visitation increased in April as the warmer days encouraged folks to get out. With the shorebird migration in full swing the Refuge was very popular with birders.

2. Outdoor Classrooms - Students

On 4/7, Professor Greg Farley and his class used the Refuge bunkhouse as a base for studies on Quivira NWR.

The faculty of Emporia State University, Emporia, KS used the EEC and bunkhouse on 4/28 as a staff retreat.

On 4/30, John Wachholz, Salina High School used Quivira for a field trip and were given a Refuge orientation. They also used the EEC as part of their program.

7. Other Interpretive Programs

Late last month the Kansas Junior Duck Stamp Design contest entries were judged at the State Fairgrounds in Hutchinson. Almost 1000 entries from throughout the state were submitted this year. Suzanne Fellows, RO Migratory Birds, returned to coordinate the judging. Emily Bucher, a 15 year old girl from Louisberg, KS, was the winner of the Best of Show, for a pair of mallards taking off.

On 4/9-10, SROS Sellers and SCEP student Brent Waters attended a two day workshop, presented in Salina, KS, by Tom Roster, on preventing waterfowl crippling losses. On 4/14, Tom Roster, from the Cooperative North American Shotgunning Education Program and Wayne Doyle, KDWP, were given a Quivira tour and discussed the possibility of using the Refuge as a filming site for future videos.

On 4/27, RM Hilley presented a slide program on Quivira to the RAMSAR committee at a meeting in Great Bend, KS. This meeting was held in conjunction with a 4/28-29 "Wings and Wetlands" weekend, a joint effort to develop eco-tourism, by the Refuge, Cheyenne Bottoms, and the Great Bend Visitors and Convention Bureau. As part of this weekend, the Friends of Quivira hosted an early morning birding tour and breakfast for the weekend participants. Over 80 people took part in the sunrise activity.

The Quivira NGR website continues to draw a lot of attention and is really appreciated by the public, as indicated by the E-mail we receive.

7. Law Enforcement

The investigation is still on-going concerning the trophy white-tailed deer poached in November, but so far no suspects have been apprehended.

Turkey season opened on 4/11 outside the Refuge and a lot of time was spent keeping hunters from taking a shot over the fence.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without FOQ.

EQUIPMENT AND FACILITIES

2. Rehabilitation

Work started on the contract for the crushed rock to be furnished on our public roads through T-21 and the Federal Highway Dept.. J. L. Unruh, from Newton, KS, was the successful bidder, and his trucks started to seriously work in April. They have until May 15 to deliver and spread almost 17,000 tons of material that has to be trucked from almost 90 miles away, because of our lack of local rock.

Maintenance Worker Leader Carl Marks and Maintenance SCEP Student Brent Waters worked long and hard to grade the delivered material, make sure it was in the right location and prepare the roads for the rock.

3. Major Maintenance

Egg rock was hauled from a local pit to spread on the non-public access roads from C-1 to C-2 water control structures. The supplier on this material is having difficulty and can only supply about 4 loads per week on our order, so this one may take some time.

A effort was made to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. MAY

Memorandum

June 7, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, May, 2001

A. HIGHLIGHTS

- T-21 road rehab project completed, with all Refuge public access roads getting a new surface. Many good comments received from the public.
- Rain, rain and more rain, as over 6" recorded in the area during May.
- The Friends of Quivira sponsored "Fathers Day Out", on the day before Mother's Day, is a great success. Nature hikes, crafts, live animal programs and food are a big hit with the kids and Dads.

B. CLIMATIC CONDITIONS

High: 95 degrees F Low: 41 degrees F Precip: 6.48 inches

Total precipitation during May was officially recorded as 6.48 inches, at the official weather station at Hudson, KS, eight miles from HQ. The Refuge rain gages accounted for 4.88 inches at Headquarters and 5.51 at the Big Salt Marsh. The long term average precipitation for May is 3.77 inches.

Temperatures for May were warmer than normal according to the Weather Service, with a series of very hot days that helped spawn the thunderstorms that dropped heavy rain and hail in the area. The Refuge was lucky and dodged the hail this time, but some of the neighbors weren't so lucky.

E. ADMINISTRATION

1. Personnel

The process continues to find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November. With the effort to fill the summer firefighter positions, this vacant slot has fallen way down on the list apparently.

Efforts to find a SCEP student continued during the month. A selection was made and we await final word on a reporting date.

Robin Drake-Woods and Tyler McVaugh entered on duty as 1040 hour tractor operators on 5/7, to support the Refuge invasive species reduction program.

Brent Waters, a former firefighter, is working on a SCEP assignment in maintenance, in hopes that he may eventually be the replacement for Henry Hall, who retired last October.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Volunteers helped with the shorebird surveys, provided programs to visitors, and assorted other jobs during May.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions in May were excellent as flows in Rattlesnake Creek were sufficient to allow water diversions. Areas that were mowed for cattail control and wetlands where salt cedars had been removed were very attractive to migrants. Prescribed burn areas were also attractive to the waterfowl and cranes.

Replacement of an old screw gate and pipe on Unit 16, that had been completely covered with sand, allowed the flooding of a large area that had previously only had direct precipitation to fill. The rice dike plow was used to establish a shallow dike to better control water on this area.

A new rice dike was also thrown up around the "Pete's Pond" area, south of Unit 62. This shallow wetland has been very attractive to shorebirds in the past and the small dike will prevent flooding into the road ditch.

4. Croplands

Abundant May rains made the winter wheat really take off and it looks like a better than expected harvest on Refuge fields, as long as we can continue to avoid the hail.

7. Grazing

The 2001 grazing season started on May 1st, with most of our cooperative grazers moving cattle onto the Refuge on that date.

The Refuge and one cooperative grazer have received unsigned notes opposed to livestock grazing on the Refuge. We will watch the situation but until we get some info on who is writing, it is impossible to respond. The letters only have "SC Freedom" on the return address.

9. Fire Management

Tim Keller traveled to R-3 for a prescribed fire detail. Tim assisted with prescribed fires on three Service units in Minnesota. The detail lasted from May 6-18.

Todd Schmidt reported for duty on May 21. Todd accepted the new career seasonal Range Technician/firefighter position for the refuge. Todd has worked for the Service for 5 seasons prior as a wildland firefighter. He has worked at Ft. Niobrara-Valentine NWR, Brown's Park NWR and Rainwater Basin WMD. Todd's working title will be Engine Foreman for the refuge.

Matt Krause reported for duty also on May 21. Matt is filling one of two temporary Range Technician/Firefighter positions for the refuge. Matt complete his medical physical prior to reporting for duty. Matt successfully completed the pack test on June 1.

Bill Waln traveled to Eagle Butte, SD, to take delivery of the Model 52 fire pumper. This unit was ordered in the fall of 1999 and arrived May 14, 2001. It will replace one of two existing light engine for the refuge. The unit was built by the USFS in Montana, and mounted the BIA Model 52 shop in Eagle Butte. The pumper unit was mounted on a F-450 chassis.

Bill Waln met with the staff of Kirwin NWR on May 25. This meeting was to review a potential hazard fuel reduction project along the shore of Kirwin NWR. The Kirwin NWR Fire Management Plan was also a topic. Bill will work with Kirwin NWR to assist in the revision/update of this plan.

Todd Schmidt traveled to Keller, Texas, to pick up a new fire engine for Devil's Lake WMD. This engine will later be transported to Valentine, NE, to transfer to Devil's Lake WMD personnel.

Bill Waln participated in a telephone conference regarding the Kansas Interagency Fire Agreement. The agreement when completed will be a stepping stone for all Federal, State and Local agencies in Kansas to jointly work on Fire Management Operations.

The fire reports, DI-1202's, from the spring burn season were finished this month. Just under 5,000 acres were burned this year to date averaging near \$5.00 per acre to implement.

The Memorandum of Understanding between Kansas NWR's and Hutchinson Community College has been reviewed and will be abandoned. This MOU was established prior to DOI agencies having authority to hire emergency firefighters for hazard fuel reduction projects. All Hutchinson Community College students are hired as casual firefighters under this authority so it has been determined that there is no longer any need for this agreement.

G. WILDLIFE

2. Threatened and/or Endangered Species

The interior least terns returned in May and started to establish nests on the pads and the surrounding areas within the predator exclusion fence on the north salt flats. The fence and the elevated nesting structures were in good shape for their arrival, but the heavy May rains washed away most early nesting attempts. The high water also created havoc with trying to maintain the charge on the electric fence. Hopefully they will be more successful on their renesting attempts.

A very unusual sighting was made by RM Hilley and a visiting outdoor writer team on May 31st, when an immature bald eagle was observed on the rip rap along the Wildlife Drive on the Big Salt Marsh. This date was very late for the area but the young bird may have been one of those raised a few years back by the bald eagle pair that nested along the Ninnescah River, south of Stafford.

3. Waterfowl

No official counts were conducted in May but good numbers of ducks remained throughout the month, mostly mallards, blue winged teal and northern shovelers.

The resident Giant Canada goose flock has been very productive this year and goose broods were observed in several wetland units.

4. Marsh and Water Birds

Great blue herons, black crowned night herons, American bitterns, and snowy, cattle and common egrets were evident in good numbers during the month. American white pelicans were heavily using the Refuge in May, especially near the outflows where the fishing was easier.

5. Shorebirds, Gulls, Terns and Allied Species

Black-necked stilts, American avocets, dowitchers, yellow legs, and a mass of smaller shorebirds descended on Quivira during May. Good water conditions produced ideal habitat and several units had been drawn down to provide the shallow water these birds need.

Snowy plovers were abundant and made early use of the nesting pads in the predator exclusion fence on the north salt flats. High water during May destroyed a lot of snowy plover nests and they were very visible along the road edges late in the month, as they looked for higher ground.

H. PUBLIC USE

1. General

Visitation increased in May and with the shorebird migration in full swing, the Refuge was very popular with birders.

2. Outdoor Classrooms - Students

On 5/7, Salina Central High School used Quivira for a field trip and were given a Refuge orientation. They also used the EEC as part of their program.

Professor Dwight Moore from Emporia State University brought his 12 biology students to Quivira NWR on 5/24-25. They used the Bunkhouse as an overnight spot.

7. Other Interpretive Programs

On 5/12, the day before Mother's Day, the Friends of Quivira sponsored a "FATHER'S DAY OUT". This event is designed to get fathers and kids to the Refuge and give mother a little time off as a gift. Activities include nature hikes along the Migrant Mile trail, led by Joyce Lent from the Great Plains Nature Center, live animal shows, games, and crafts where the kids make Mom a Mother's Day gift. The kids then cook lunch for themselves and Dad, hot dogs and toasted marshmallows, of course! About 65 people attended and the event was a great success.

Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOQ.

A Friends of Quivira Board meeting was held on 5/8 at the Visitors Center.

RM Hilley made plans to travel to Morris WMD, Minnesota, and to Bitter Lake NWR, New Mexico, to help with Friends groups on those stations, as part of the Washington Office National Friends Mentoring Initiative.

EQUIPMENT AND FACILITIES

2. Rehabilitation

Work was completed on the contract for the crushed rock to be furnished on our public roads through T-21 and the Federal Highway Dept.. J. L. Unruh, from Newton, KS, was the successful bidder, and his trucks delivered and spread almost 17,000 tons of material that has to be trucked from almost 90 miles away, because of our lack of local rock.

Maintenance Worker Leader Carl Marks and Maintenance SCEP Student Brent Waters worked long and hard to grade the delivered material, make sure it was in the right location and prepare the roads for the rock.

We have received a lot of good comments from the visiting public as a result of this road upgrade. Wet weather during May really made the value of this rock evident, as the Refuge roads were better than the surrounding County and Township roads by months end.

3. Major Maintenance

Work continued on hauling egg rock from a local pit to spread on the non-public access roads from C-1 to C-2 water control structures. The supplier on this material is having difficulty and can only supply about 4 loads per week on our order, so this one may take some time.

Efforts continued, weather permitting, to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

8. Other

A lot of effort was spent this month preparing for the "Father's Day Out" event and also preparing for the Kid's Fishing Clinic and Derby planned for early next month.

J. OTHER ITEMS

3. Training and Items of Interest

On 5/16, RM Hilley and SROS Sellers traveled to Kearney, NE, to attend RMIS/MMS training.

Ducks Unlimited personnel were on site on 5/10 to review the work planned for the borrow area fill project that DU is helping fund.

On 5/29, Rhoda Lewis, Regional Archeologist, was on site to survey and clear locations that may be needed as fill sources for the weir/water measurement structures being designed by the Bureau of Reclamation.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR.JUN

Memorandum

July 30, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT
From: Refuge Manager, Quivira National Wildlife Refuge
Subject: Monthly Activity Report, June, 2001

A. HIGHLIGHTS

- ▶ June began with flood conditions and ended in near drought.
- ▶ Refuge visited by biologists from Hungary and their NPS host. (E.7)
- ▶ Refuge visited by Chuck Alderson from Senator Brownback's office (E.8)
- ▶ Maintenance Worker Stan King off work as treatments for throat cancer continue.
- ▶ Kid's Fishing Day draws 150 participants young and not so young (H.8)

B. CLIMATIC CONDITIONS

High: 96 degrees F Low: 50 degrees F Precip: 4.42 inches

Total precipitation for June, recorded at the official weather station at Hudson, eight miles from Refuge Headquarters, was 4.42 inches. Unofficial gauges on the Refuge measured 3.74 inches at HQ and 3.75 on the Big Salt Marsh. The first eight days of the month accounted for virtually all moisture, with rain on six days. No measurable precipitation was recorded at Hudson or the Big Salt Marsh after June 8; one isolated thunderstorm provided .42 inches at Headquarters on June 20. Long term average precipitation for Hudson for June is 3.67 inches.

Temperatures continued above normal again in June, with only four days below 90 degrees after June 8. Hot, dry, windy weather rapidly altered water levels and the growth of vegetation.

C. LAND ACQUISITION

3. Other

On June 8, Refuge Manager Hilley met with a team of appraisers who are evaluating the Vamco Oil installation on the North end of the Refuge.

E. ADMINISTRATION

1. Personnel

Heidi Tangerman, a graduate student at Utah State University, began work as a SCEP Student (Wildlife) on June 25. Heidi has been most recently employed by FWS-ES in Alaska, and previously by the State of Utah. We are looking forward to having her help, and offering her some Refuge -specific experience in Oil and Gas, Public Use, Endangered Species (Least tern) and habitat management.

One seasonal range technician / firefighter started work June 5. (See F.9)

The process continued with increased interest and involvement by the RO in attempting to fill behind Suzanne Fellows at the Great Plains Nature Center. We learned the package was "waiting" on one desk for someone else to act - but the rest of us didn't know "someone " needed to. Hopefully, the process will speed up now we are all - hopefully - on the same page.

2. Youth Programs

Refuge staff are feeling mixed emotions at the lack of YCC this year. Numerous "odd jobs" always reserved for YCC youth are having to be done by regular staff, or not done at all. However, there is a sigh of relief when there are many high-priority items to be dealt with, and no one has to stop to oversee, help, or direct YCC youth. We are glad we were able to arrange with Flint Hills to take our two positions this year, but sincerely hope to have someone available to supervise them next year, so the "other" jobs can get done too.

7. Technical Assistance

John Putnam from the National Park Service and three biologists from Hungary visited Quivira to discuss management. They are from a major National Park in Hungary, also a salt marsh area, so were very interested in our management.

8. Other

Chuck Alderson from U.S. Senator Brownback's office visited the Refuge for a "show me" tour on June 6. He was very impressed and made tentative plans to get the Senator to visit, perhaps in October during National Wildlife Refuge Week.

RONs updates were completed and forwarded to the RO prior to the June 15 due date.

F. HABITAT MANAGEMENT

2. Wetlands

Summer drawdowns were initiated on approximately 15 units during the month. Units targeted were to allow rehab of dikes or borrow areas (Unit 25); and to facilitate vegetative manipulation including mowing, discing and burning. Units were planned to insure water drawn from one unit could be diverted to another downstream unit on the Refuge.

However, by month's end, it has become apparent that unless the weather pattern changes, there will be no excess to worry about.

5. Grasslands

Tractor Operators Drake-Woods and McVay continued aggressive mowing efforts against Sandhill's plum invading Refuge grasslands. If the dry weather and heat continue, this summer's efforts could be particularly effective.

9. Fire Management

Michael Fenske, seasonal range technician/firefighter, started work on June 5. Michael is a Hudson, KS, native and is planning on attending Hutchinson Community College to complete his Fire Science degree.

Bill Waln and Tim Keller completed the mandatory annual 4 hour refresher training for EEO/Diversity. This training was held at the Great Plain Nature Center in Wichita, KS, on June 6.

Tim Keller and Todd Schmidt attended the Government Retirement Seminar in Emporia, KS, on June 12-13. Todd's wife Amy also attended.

Todd Schmidt, Michael Fenske and Matt Krause completed the S-133, Standards for Survival, training on June 7. The training was held at Quivira NWR.

Michael Fenske and Matt Krause completed the ATV operator orientation on June 13. This training was held at Quivira NWR and conducted by the NRCS.

Todd Schmidt, Michael Fenske and Matt Krause completed the S-212, Wildland Fire Powersaws, course on June 12-14. The course was held at Kirwin NWR. Tim Keller and Bill Waln helped instruct this course.

Bill Waln was lead instructor for S-230/231, Crew Boss/Engine Boss, training in Valentine, NE. This training was held June 25-29.

Michael Fenske and Matt Krause traveled to Browns Park NWR to staff their engine. Browns Park NWR was unable to fill their seasonal range technician/firefighter positions this year. Michael and Matt left for Colorado on June 25.

Tim Keller and Todd Schmidt traveled to Flint Hills NWR to assist in the implementation of four prescribed fires. Tim and Todd filled the burn boss (RXB3) position for these burns.

Bill Waln entered preliminary FY-03 fire budget information for refuges in the Western Kansas Fire Management District the week of June 25.

G. WILDLIFE

2. Threatened and/or Endangered Species

Dr. Roger Boyd from Baker University has been studying the Least Tern colony on the Refuge for years. On June 20, Dr. Boyd found a total of 19 pairs of terns, with 14 nests identified. Of these, 17 pair were inside the predator enclosure and 2 pair on an old oil pad along the Wildlife Drive. Dr. Boyd also noted 26 snowy plovers in the same vicinity.

On June 29, Dr. Boyd returned to find 7 tern nests, and a noted absence of snowy plover chicks. On the morning of June 30, he found 2 of the 7 nests had been depredated by a mammalian predator.

On June 21, a great horned owl was seen inside the main predator enclosure, going from mound to mound. Over a period of days, the owl was also observed sitting on the posts comprising the electric fence.

4. Marsh and Water Birds

Lowering water levels brought more birds into view. Great blue herons, black crowned night herons, American bitterns, snowy, cattle and common egrets continued to be extremely visible, with an apparent increase in numbers.

5. Shorebirds, Gulls, Terns and Allied Species

Lowering water levels produce ever better habitat for shorebirds throughout the month, with American avocets, Black-necked stilts, dowitchers, yellowlegs and sandpipers utilizing several of the units.

H. PUBLIC USE

2. Outdoor Classrooms - Students

On the weekend of June 9, Dr. Chris Smith and approximately 12 college students from Emporia State used the Environmental Education Classroom for weekend lodging and learning.

7. Other Interpretive Programs

On June 2, the Friends of Quivira sponsored the annual Kid's Fishing Clinic at the refuge's Kid's Fishing Pond. Approximately 150 kids, parents and grandparents participated. The day's events included a work shop with a round-robin of learning sites, teaching water safety, fishing equipment handling and casting, knot tying, fish identification, and rules and ethics. Following the workshop, youth and their guests - friends, parents and grandparents - adjourned to the pond for a wonderful day of fishing. What could be better than the beaming face of a toddler with his first fish, or a six-year old girl with a 6 pound bass! The morning was topped with hot dogs and goodies provided by the Friends, and tons of prizes for the kids, donated by many area merchants and individuals.

17. Law Enforcement

Several items of surveillance equipment were ordered for Law Enforcement use. Counters which will log the date and time of activity on roads and trails will be used to establish a pattern to use, including night trespass. An infrared camera with motion sensor and data logger will be used to attempt to identify trespassers at specific problem sites.

18. Cooperating Associations

Refuge Manager Hilley and Curt Buchholtz from the Rocky Mountain National Park Nature Association traveled to Bitter Lake NWR in New Mexico for a Friends Mentor Visit. The June 18-21 trip was designed to assist the Bitter Lake staff in establishing and motivating their Friends group.

More and more, we realize that the Friends of Quivira is one of our strongest tools to reach out and serve the public and the Refuge. Without them to sponsor and conduct events like the annual Kid's Fishing Clinic, we would be severely hampered in our efforts to reach our greatest resource - our community.

On June 9, the Great Plain's Nature Center hosted its annual "Walk With Wildlife". The Friends of Quivira assisted with the event, and staffed a "walking wildlife station".

I. EQUIPMENT AND FACILITIES

3. Major Maintenance

The maintenance crew continued hauling rock from a local pit to spread on non-public access roads, and to stockpile at strategic sites for future repairs.

As work loads and weather permitted, efforts continue to level and disk, or remove, spoil piles along canals. Major headway was made, but with miles yet to go.

J. OTHER ITEMS

3. Training and Items of Interest

The monthly Staff and Safety Meeting was held Monday, June 4. In light of a recent Regional Safety Memo, the meeting focussed on trailers, loading, and hauling equipment and cargo.

On June 6, Dave Hilley, Tim Keller, Jim Sellers, and Bill Waln attended Diversity training at the Great plains Nature Center in Wichita. The training was put on by DCR staff from the RO.

Five staff members (Dave Hilley, Tim Keller, Carl Marks, Todd Schmidt, Brent Waters) and some spouses attended a Pre-retirement seminar in Emporia, KS, on June 12-13.

On June 13, the Refuge hosted ATV training, sponsored and arranged by the NRCS. Several Department of Agriculture and Service seasonal staff were given National Safety Council certified training.

Jim Sellers attended NCTC-sponsored training, "Oil and Gas Management on National Wildlife Refuges" in Lafayette, LA June 25-29. Probably the strongest message learned was that there is NO Service - wide standard procedure; ALL oil and gas activities are subject to the individual states' regulations, with MINOR regulation by EPA. We found we are as up to speed as anyone in our dealings with the industry, and are doing about all that can be done unless circumstances result in death of migratory birds, changing the focus to a law enforcement issue.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. JUL

Memorandum

August 14, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, July, 2001

A. HIGHLIGHTS

- Hot ! Hot ! and more Hot ! That's the best way to describe Kansas this July as heat records fell almost daily throughout the State.
- Work continued on the borrow area fill project on Unit 25 as the heat and dry winds allowed easy travel in the wetland basin.
- One prescribed fire, to burn cattails in a dry East Lake, created some problems, as over 105 degree conditions took a lot out of a very stressed Refuge crew.

B. CLIMATIC CONDITIONS

High: 106 degrees F Low: 64 degrees F Precip: 3.52 inches

Total precipitation during July was officially recorded as 3.52 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for July is 2.93 inches. This does not sound bad until the temperatures are factored in the system.

Temperatures for July were over 100 degrees for 19 days out of the month and 5 of the cooler days were over 95 degrees. Add to this the strong Kansas winds and the wetlands went down in a hurry.

E. ADMINISTRATION

1. Personnel

The process continues to find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November. With the effort to fill the summer firefighter positions, this vacant slot has fallen way down on the list apparently.

Heidi Tangermann, our SCEP student worked on a lot of projects during the month, from shorebird surveys, least tern nesting projects, to developing a Jr. Refuge Manager Program for kids. On 7/23, SROS Sellers and Heidi traveled to the Great Plains Nature Center to meet the staff and introduce Heidi to the work done at the Center. She then spent several days assisting with on-going GPNC projects.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Even in the hot weather, volunteers helped with a variety of jobs but the numbers were down due to the heat.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions that were excellent, following the abundant rainfall in May, began to suffer with the winds and 100 degree days of July. Some wetland units lost a measured 4" within a 24 hour period during July.

But when life gives you lemons, you make lemonade. The dry weather allowed our tractor operators to work on mowing the thick cattail stands and getting the marshes ready for when the rain eventually do arrive. The area on the northwest corner of the Little Salt Marsh that was so productive for goose use last fall was again mowed to remove the thick, 7' cattail stand. This area had over 10,000 geese and lots of ducks during most of the fall migration last year.

Units 30, 14c, 14b, portions of 14a, East Lake and parts of Unit 7 were mowed during July. Also mowed were the spillways, and south of the "y" on the RC canal. Work continues on the filling of the borrow area on Unit 25 and the unit was mowed and disked during the month to make the area easier to work with a scraper.

The heat and lack of good moisture has prevented all but a few stalks of the Japanese millet planted on Units 29 and 49 from sprouting. Well, there is always next year.

4. Croplands

Hot, dry conditions made the cooperative farmers delay any field preparation work because the Kansas sun would soon sap out any moisture from freshly turned earth. A couple of persistent weed patches were disked and the sun soon took care of any weed problems.

7. Grazing

The 2001 grazing season continues but regrowth has not been as good as anticipated and cattle numbers were reduced in one cell. The cattle have been moved to several wetland units and they have been assisting our cattail reduction problem.

No other incidences of calls or letters opposed to grazing have been received by the Refuge or the grazing permittees and it appears now it might have been a personal attack on one of the permittees, instead of anti-grazing. This permittee has had his cattle on the Refuge for about a month with no problems.

9. Fire Management

Tim Keller was selected to receive a Region 6 safety award. Tim was nominated due to his extreme safe work practices while completing fire management operation for the FWS. Tim also works with all staff to ensure they use the correct PPE for all management activities on the refuge.

Prescribed fire units East Lake and WU 25 were implemented in July. WU 25 was burned on July 9 with East Lake being completed on July 25. Both units were burned in an attempt to reduce cattail density. Units will now be disced and then filled in late August or early September. One casual firefighter assisted with the WU 25 burn.

Quivira NWR sent out AD/EFF Bob White from Hutchinson Community College as an ENGB for the Rainwater Basin WMD engine. This engine was detailed to the Comanche National Grasslands in eastern Colorado.

Mike Fenske and Matt Krause returned to Quivira NWR after spending a two week fire detail to Browns Park NWR. Mike and Matt were involved in several wildland fires while in northwestern Colorado.

Todd Schmidt, Quivira NWR Engine Foreman, traveled to the Grand Canyon NP in Arizona on a HECM trainee detail. Todd will be working at the South Rim Helibase in an attempt to complete his HECM taskbook.

Bill Waln attended the FWS Fire Management Mentoring Steering Committee meeting in Rockport, ME, July 16-20. Selections were made for the 2001 class which will meet in November at NCTC.

Bill Waln completed FireBase inputs for the three refuges that make up the Western Kansas Fire Management District. The FY-2002 input were refined and updated with the FY-2003 prescribed fire projects inputted.

A burn ban was put in place for Stafford County on July 30. This ban will be reviewed on a weekly basis by county commissioners.

G. WILDLIFE

2. Threatened and/or Endangered Species

The endangered interior least terns have been busy nesting on the salt flats on the north end of the Big Salt Marsh during the month. Most tern pairs have established nests on the elevated nesting pads and on the surrounding areas, within the predator exclusion fence. The electric fence and the elevated nesting structures were in good shape for their arrival in May, but heavy Spring rains washed away most early nesting attempts. High temperatures in July were also very tough on the young terns trying to find cool and shade on the flats.

With the huge shorebird numbers on Quivira NWR during July, peregrine falcons took advantage of the easy food source and several were sighted throughout the month.

3. Waterfowl

Some duck production occurred on Quivira this year as broods of all sizes were frequently observed. Mostly mallards, some blue winged teal and wood ducks were the primary species observed.

The resident Giant Canada goose flock has been very productive this year and goose broods were observed, along with the molting adults, in several wetland units.

4. Marsh and Water Birds

Great blue herons, black crowned night herons, American bitterns, and snowy, cattle and common egrets were evident in good numbers during the month. American white pelicans were heavily using the Refuge in July, especially in areas where the shallow water had concentrated the drought stricken carp.

White-faced ibis were much in evidence during July and over 500 in one flock were reported by a local birder on 7/26. Also present was a tri-colored heron that got a lot of birders attention.

A common moorhen with 3 chicks was observed on the east side of the Wildlife Drive, only the third confirmed breeding record in Kansas.

5. Shorebirds, Gulls, Terns and Allied Species

Shorebirds were the big news in July as the drought reduced wetlands provided ideal shorebird habitat. Add to this the fact that Cheyenne Bottoms had a major thunderstorm drop almost 3 inches on that area, which forced their shorebirds to move south to Quivira.

The most common shorebird early in the month was the stilt sandpiper, of which there were thousands. Other sightings included Wilson's phalaropes, red-necked phalaropes, marbled godwits, black-bellied plovers, avocets, stilts, and many more. Birders reported one day counts with as many as 26 different shorebird species recorded. Estimates of the total number of individual shorebirds ranged as high as 100,000 by several observers. Low water may be tough on some species but the shorebirds responded in masse.

Snowy plovers were abundant and also made use of the nesting pads in the predator exclusion fence on the north salt flats. Black necked stilts had a very productive year, as did the American avocets, as indicated by the number of young seen in the large shorebird concentrations.

H. PUBLIC USE

1. General

The Kansas birder's listserve was alive with talk about the shorebirds on Quivira NWR. When the birds arrived, so did the birders, and the Refuge even experienced some traffic jams as folks tried to get a better view of the large numbers of birds.

2. Outdoor Classrooms - Students

Hot weather and summer vacation sent most kids to the pool instead of to the Refuge.

7. Other Interpretive Programs

The Stafford County Fair was conducted from July 18 - 21, and experienced some of the hottest temperatures of the summer. The Friends of Quivira sponsored a kid's photography contest for the fair, where all of the photos, in three subject classes, had to be taken on Quivira NWR. We have not received word on the winners as of yet.

17. Law Enforcement

On July 12, Jerre Gamble, (Flint Hills NWR) and Jim Sellers and Dave Hilley (Quivira NWR), Refuge Officers were requalified with rifles, shotguns and pistols by Matt Stucker, certified firearms instructor from KS Dept of Wildlife and Parks Law Enforcement.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOR.

A Friends of Quivira Board meeting was held on 7/17 at the Visitors Center, to discuss upcoming events.

RM Hilley made plans to travel to Morris WMD, Minnesota, to help with the Friends group on that station, as part of the WO's National Friends Mentoring Initiative.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Work continued on the project to fill the deep borrow areas around the Unit 25 wetland in order to make better use of available water. The last remaining water was removed with the help of our large trash pump, and the crew spent a great deal of time with the dozer and scraper moving material. Dry conditions made for easy travel but it also hardened the ground so much that a heavy disk had to be used in front of the scraper to aid in moving the fill.

We have received a lot of good comments from the visiting public as a result of the recent road upgrade, funded through T-21. As the weather turned drier the roads really became packed and provided an outstanding base. White dust from the limestone is the only drawback but it is not as bad since a very hard limestone was installed.

3. Major Maintenance

Efforts continued, weather permitting, to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

8. Other

Construction was started on the Kids Pond educational kiosk which will be a big asset to our EE program. Material has been ordered and we are waiting for some back orders to start the framing.

J. OTHER ITEMS

3. Training and Items of Interest

On 7/31, Stan Christianson, a local farmer and trophy hunter was on station to discuss some problems and questions about Quivira management. Hopefully all his questions were answered.

We have been requested by the State and several local individuals to submit an application to the National Committee to have Quivira NWR designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The National Ramsar Committee visited the Refuge in April as part of the "Wings and Wetlands" weekend and urged us to submit an application. A lot of effort during July was put into the extensive paperwork to compile an application.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. AUG

Memorandum

September 26, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, August, 2001

A. HIGHLIGHTS

- Hot ! Hot ! and more Hot ! Weather continued hot and dry for the month of August, and the wetlands show the effects.
- Work was completed on the borrow area fill project on Unit 25, the final unit of the four originally designated for re-contouring.
- Dry conditions result in a County-wide burn ban and a National Level 5 that hampers our cattail burning program.

B. CLIMATIC CONDITIONS

High: 105 degrees F Low: 58 degrees F Precip: 1.08 inches

Total precipitation during August was officially recorded as 1.08 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for August is 2.59 inches. The largest amount of precipitation in a 24-hr period was 0.43 inches and with the high temps and winds this did not help much.

Temperatures for August were over 100 degrees for 11 days out of the month, with 6 of the remaining days over 95 degrees. Fifty percent of the days in July and August were over 100 degrees.

E. ADMINISTRATION

1. Personnel

The process continues to find a replacement for Suzanne Fellows, our FWS representative in the Great Plain Nature Center partnership, who transferred to the Regional Office in November. Some success was achieved as a very qualified individual has requested a direct transfer to this slot. We will wait and see.

Heidi Tangermann, our SCEP student worked on a lot of projects during the month, from shorebird surveys, least tern nesting projects, to developing a Jr. Refuge Manager Program for kids. Heidi's last day was 8/17, as she returned to school in Utah. We thank her for her efforts!!

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Even in the hot weather, volunteers helped with a variety of jobs but the numbers were down due to the heat.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions that were excellent, following the abundant rainfall in May, began to suffer with the winds and 100 degree days of July. By August, the only unit holding much water was the Little Salt Marsh. All outflow from the Little Salt was stopped in August and the unit did not increase one inch, as the winds and high temps took out as much water as was entering from Rattlesnake Creek.

But when life gives you lemons, you make lemonade. The dry weather allowed our tractor operators to work on mowing the thick cattail stands and getting the marshes ready for when the rain eventually do arrive. Units 62, 61, Dead Horse, North of Unit 16, North of Unit 40 and Unit 7 and portions of Unit 21 were mowed during August.

Work was completed on the filling of the borrow area on Unit 25 and the unit was mowed and disked during the month to make the area easier to work with a scraper.

4. Croplands

Hot, dry conditions made the cooperative farmers delay any field preparation work because the Kansas sun would soon sap out any moisture from freshly turned earth. A couple of persistent weed patches were disked and the sun soon took care of any weed problems.

Strips were disked in the area of go-back north of the environmental education classroom to allow the cooperative farmer to plant them to wheat. This is to control a small tree problem that has resulted, since this field was taken out of annual crop rotation.

7. Grazing

The 2001 grazing season continues but regrowth has not been as good as anticipated and cattle numbers were reduced in one cell. The cattle have been moved to several wetland units and they have been assisting our cattail reduction problem.

No other incidences of calls or letters opposed to grazing have been received by the Refuge and it appears now it might have been a personal attack on one of the permittees, instead of anti-grazing or opposition to the Refuge program.

The targeted permittee had his cattle on the Refuge for about a month with no problems, but he continued to receive threatening late night phone calls at home. Shortly after the month ended his cattle were let out of a Refuge pasture. After losing some cattle from a off-refuge pasture, he has contacted the KS Livestock Inspectors and the County Sheriff for assistance.

9. Fire Management

This summer refuge staff participated in a physical fitness challenge. Cindy Terry, Administrative Assistant, was this years winner.

Matt Krause and Michael Fenske resigned effective August 15 and 17 respectively to return to school. Both individuals are seeking a Fire Science degree from Hutchinson Community College.

Todd Schmidt detailed to northern California as a Helicopter Crewmember (HECM). Todd left August 12 and returned August 21. Todd worked on the Observation fire.

Tim Keller was detailed to the Southern Ute Agency in Colorado as an Engine Boss/Incident Commander Type 4 on August 26.

The Region 6 South Zone assembled a nine person Fire Use Module to assist on a WFU incident at the Grand Canyon NP. Todd Schmidt plus three local AD/EFF's as well as firefighters from Flint Hills NWR, Ft. Niobrara NWR and Crescent Lake NWR departed August 26.

One human caused wildland fire was reported on the refuge August 28. A grazing permittee started a fire apparently from the exhaust on his ATV. The individual extinguished the fire which was less then 0.1 acre in size.

The Stafford County Burn Ban was rescinded on August 20. The refuge asked for and was granted permission to complete a burn on the west side of the Big Salt Marsh Lake. Unfortunately weather conditions did not allow for completion of the unit in August. Due to a National Preparedness Level 5 the refuge had to get approval from the Regional Office to implement this burn.

G. WILDLIFE

2. Threatened and/or Endangered Species

Bald eagles are now nesting in several locations in Kansas and are beginning to show up on the Refuge outside their "normal" migration periods. With the drought conditions and the resulting fish kill on the Big Salt Marsh the Refuge was very attractive to all types of fish eaters. On August 8th, an adult bald eagle was spotted in a tree along Unit 7, taking advantage of the easy meal opportunities. A second adult was observed on August 20th on Unit 57, East Lake.

With the huge shorebird numbers on Quivira NWR during August, peregrine falcons took advantage of the easy food source and several were sighted throughout the month.

3. Waterfowl

Some duck production occurred on Quivira this year as broods of all sizes were frequently observed. Mostly mallards, some blue winged teal and wood ducks were the primary nesting species observed.

The resident Giant Canada goose flock was very productive this year and by August, family groups were testing new feathers and flying out to feed in surrounding farm fields.

4. Marsh and Water Birds

Great blue herons, black crowned night herons, American bitterns, and snowy, cattle and common egrets were evident in good numbers during the month. American white pelicans were heavily using the Refuge in August, especially in areas where the shallow water had concentrated the drought stricken carp.

On August 18, a local birder counted over 400 Great egrets on the Big Salt Marsh.

5. Shorebirds. Gulls. Terns and Allied Species

Shorebirds continued to be the big news for birders in August as the drought reduced wetlands provided ideal shorebird habitat. Cheyenne Bottoms WMA continued to have major thunderstorms and the high water forced their shorebirds to move south to Quivira.

The most common shorebird in August was the stilt sandpiper, of which there were thousands. One birding group estimated over 10,000 stilt sandpipers on the Big Salt Marsh alone. Other sightings included Wilson's phalaropes, red-necked phalaropes, marbled godwits, black-bellied plovers, avocets, stilts, and many more. Birders reported one day counts with as many as 25 different shorebird species recorded.

Over 1000 Wilson's phalaropes were recorded on August 6. Estimates of the total number of individual shorebirds ranged as high as 100,000, by several observers. One group of birders recorded 107 species between Cheyenne Bottoms and Quivira on one day long outing. Low water may be tough on some species but the shorebirds responded in masse.

Snowy plovers were abundant and also made use of the nesting pads in the predator exclusion fence on the north salt flats. On August 30, a snowy plover was observed with 3-4 day old chicks, a very late nesting effort for this species. Black necked stilts had a very productive year, as did the American avocets, as indicated by the number of young seen in the large shorebird concentrations.

H. PUBLIC USE

1. General

The Kansas birder's listserve was alive with talk about the shorebirds on Quivira NWR. When the birds arrived, so did the birders, and the Refuge even experienced some traffic jams as folks tried to get a better view of the large numbers of birds.

2. Outdoor Classrooms - Students

Hot weather, drought conditions, end of summer vacation and the start of school kept most kids busy during August.

On August 25-26, Refuge Volunteer Tim Tracy conducted a state certified Hunters Education program at the EEC.

7. Other Interpretive Programs

On August 1, SCEP student Heidi Tangermann represented the Refuge at the Kansas Hunting and Fishing Alliance meeting in Great Bend. This group is attempting to encourage eco-tourism in this area of the State.

Refuge Manager Hilley and Friends of Quivira President Gordon Hedrick were interviewed for the half hour radio show "Kansas Outdoors" by Robin Jamison from Salina, KS. The show aired on August 25th.

Deputy Project Leader Sellers participated in the Kansas Wildlife and Parks weekly radio show from Great Bend, with personnel from Cheyenne Bottoms WMA, on 8/23.

The North American Waterfowl Management Plan committee, approx 30 individuals, was given a tour of Quivira NWR on 8/29 by Sellers and Meggers.

17. Law Enforcement

During August, one individual Refuge grazing permittee received several harassing phone calls, late at night, by persons threatening his cattle operation. The County Sheriff, and a special investigator for the livestock association were brought in to assist the rancher but by months end nothing had been resolved. We are still trying. We feel that the attacks are personal and not directed to the Refuge but this may not be the case. We are being very vigilant and hopefully will get some results.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOR.

A Friends of Quivira Board meeting was held on 8/7 at the Visitors Center, to discuss upcoming events, such as the "Monarch Mania" in September and the "Step Back in Time" event for NWR week.

RM Hilley made plans to travel to Morris WMD, Minnesota, to help with the Friends group on that station, as part of the WO's National Friends Mentoring Initiative.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Work was completed on the project to fill the deep borrow areas around the Unit 25 wetland in order to make better use of available water. The crew spent a great deal of time with the dozer and scraper moving material. Dry conditions made for easy travel but it also hardened the ground so much that a heavy disk had to be used in front of the scraper to aid in moving the fill. Several areas along the dike were covered with erosion cloth and rip rap to prevent damage by wave action. Now all we need is the rains and some water.

3. Major Maintenance

Efforts continued, weather permitting, to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

Beaver damage to dikes was also repaired as the drought conditions allowed access.

4. Equipment Utilization and Replacement

Quotes were solicited and received for the materials and labor needed to construct two volunteer trailers pads adjacent to the EEC.

A small enclosed trailer was obtained for the Great Plains Nature Center, to assist transport of their live animals from program to program.

8. Other

Construction was started on the Kids Pond educational kiosk which will be a big asset to our EE program. Material has been ordered and we are waiting for some back orders to start the framing. The concrete floor was poured in August.

The Refuge maintenance staff traveled to Alamosa NWR, CO to attend the annual maintenance workshop on 8/6-10.

J. OTHER ITEMS

3. Training and Items of Interest

We have been requested by the State and several local individuals to submit an application to the National Committee to have Quivira NWR designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The National Ramsar Committee visited the Refuge in April as part of the "Wings and Wetlands" weekend and urged us to submit an application. A lot of effort during August was put into the extensive paperwork to compile an application. Support letters were requested and received from numerous individuals during the month.

On August 11, the Staff Picnic was held at Sterling Lake and a good time was had by all.

On August 27-31, RM Hilley traveled to Missoula, Montana, to attend the Regional Centennial Team meeting. A lot of ideas were discussed and the prospects are great for a successful event.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. SEP

Memorandum

October 16, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, September, 2001

A. HIGHLIGHTS

- Rain at last! After a very long dry spell we did receive some much needed moisture in September but it will not last long. High winds move the water around in the basins and increase evaporation.
- The Friends of Quivira "Monarch Mania", on September 15, was a success but colder temperatures had stalled the monarchs migration and very few were available to tag.
- The terrorist attacks on 9/11 forced the cancellation of Mgr. Hilley's Friends mentoring visit to Morris WMD in Minnesota.

B. CLIMATIC CONDITIONS

High: 94 degrees F Low: 43 degrees F Precip: 3.00 inches

Total precipitation during September was officially recorded as 3.00 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for September is 2.42 inches. Slightly more rain was received on Quivira with 3.19 inches at HQ and 3.46 inches on the Big Salt Marsh. Almost all of this rain was received in one storm period from 9/15-9/18.

Winds were high during most of the month and while the rains helped the wetlands, the winds moved the water around in the basins and speeded up evaporation.

E. ADMINISTRATION

1. Personnel

Lorrie Beck, from the Regional EVS office, was selected for a direct transfer to the position at the Great Plains Nature Center, vacated by Suzanne Fellows' transfer to the RO in November. Lorrie will report for duty in early November and the GPNC staff is very excited to get the help.

Maintenance Worker Stan King has been fighting throat cancer, has taken over 40 radiation treatments, and has returned on a limited work schedule.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Special events, waterfowl surveys, and providing tours to groups have all been jobs the volunteers have taken on in September.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions that were excellent, following the abundant rainfall in May, began to suffer with the winds and 100 degree days of July. By August, the only unit holding much water was the Little Salt Marsh. The drought conditions continued into September and on September 13, the Big Salt Marsh officially went completely dry. Over 3 inches of rain fell from September 15-18, putting shallow surface water over approximately 80% of the Big Salt Marsh. By month's end, the high winds had moved the water around enough to reduce that percentage to about 60% coverage.

Early September dry weather allowed our tractor operators to work on mowing the thick cattail stands and getting the marshes ready for when the rain eventually does arrive. Units 48, portions of Unit 7, and south of the RC canal were mowed during September. Unit 49 and portions of Unit 25 were seeded to winter wheat, so if we don't get enough water to fill them, at least we will produce some browse for the geese.

4. Croplands

Hot, dry conditions had made the cooperative farmers delay any field preparation work because the Kansas sun would soon sap out any moisture from freshly turned earth. In September, the cooperative farmers got down to seeding winter wheat following the mid-month rains.

Strips were disked in the area of go-back north of the environmental education classroom and the cooperative farmer planted them to winter wheat. This is to control a small tree problem that has resulted, since this field was taken out of annual crop rotation.

7. Grazing

The 2001 grazing season ended on September 30 and most cows, except some really wild individuals, were removed shortly thereafter. Cattle were used in the final days of the season to prepare some areas for potential use by booming prairie chickens in the Spring and for reduction of cattail regrowth in wetland units previously mowed.

The harassment of a Refuge grazing permittee continued in the form of letters and late night threatening phone calls. In early September his cattle were let out of a Refuge pasture. After losing some 120 steers from a off-refuge pasture, he contacted the KS Livestock Association Special Investigator and the County Sheriff for assistance. He also pulled his cattle off the Refuge about two weeks early due to the harassment.

Shortly after the permittee pulled his cattle off the Refuge, there was a threatening message left on the Headquarters answering machine saying "We got rid of Tom, guess who is next?" We have taken steps to investigate this call. As with most of these situations, all we can do now is wait. No other permittees received any calls or letters during the grazing season.

9. Fire Management

Tim Keller returned from fire detail to Southern Ute Agency in Colorado. Tim went out as ICT4 and ENGB. Tim assisted on four fires while in Colorado.

Todd Schmidt plus three local AD hires returned from the Grand Canyon NP. This group along with 6 others from refuges in Kansas and Nebraska were detailed out as a Fire Use Module.

An attempt to burn Water Unit 7 on September 7 failed due to unpredicted precipitation. Around 5 acres were completed when refuge received around .25 inches of rain. The unit was completed on September 21.

Refuge fire management staff assisted with manning Fish and Wildlife Service booth at State Fair.

Refuge fire staff visited with three group of children from three local middle schools about fire prevention.

Light bars were mounted to two new fire engines.

Performance evaluations were completed by Bill Waln for Todd Schmidt and Tim Keller. New performance evaluations for FY-02 were reviewed and signed.

Tim Keller worked on prescribed fire plans for Kirwin NWR and Quivira NWR.

Fire Management Staff worked on end of fiscal year spending and inventories.

G. WILDLIFE

2. Threatened and /or Endangered Species

Bald eagles visited the Refuge in August and early September, probably from the nesting attempts in several locations in Kansas. With the drought conditions and the resulting fish kill on the Big Salt Marsh the Refuge was very attractive to all types of fish eaters. However, no bald eagles have been sighted as yet for the Friends of Quivira sponsored contest for local kids to guess when the eagles will return in the fall to Quivira.

Peregrine falcons took advantage of the easy food source, with the abundance of shorebirds on the shallow water of the Big Salt Marsh and several were sighted throughout the month.

3. Waterfowl

Teal started to show up in September but the drought conditions, especially on the north flats and Big Salt Marsh were less attractive than the abundance of water on nearby Cheyenne Bottoms.

Two waterfowl surveys were conducted in September as part of the Bi-weekly Survey program, in conjunction with all other sites in Kansas. On 9/11, a total of 2725 ducks, and 78 geese were counted, mostly teal and mallards. The survey on 9/25, found 2961 ducks and 152 geese.

4. Marsh and Water Birds

Great blue herons, black crowned night herons, American bitterns, and snowy, cattle and common egrets were evident in good numbers during the month. American white pelicans were heavily using the Refuge in September, especially in areas where the shallow water had concentrated the drought stricken carp.

5. Shorebirds, Gulls, Terns and Allied Species

Shorebirds continued to be the big news for birders in early September as the drought reduced wetlands provided ideal shorebird habitat. Cheyenne Bottoms WMA continued to have major thunderstorms and the high water forced their shorebirds to move south to Quivira.

One group of birders counted over 1000 American avocets in one flock on the BSM early in the month. The birdserver website was filled with people reporting the excellent shorebirding on Quivira but the end was in sight.

By months end, the water on the Big Salt Marsh had evaporated so much that the majority of shorebirds had migrated out of the area.

H. PUBLIC USE

1. General

The Kansas birder's listserve was alive with talk about the shorebirds on Quivira NWR. On any given day the Wildlife Drive was crowded, and the Refuge even experienced some traffic jams as folks tried to get a better view of the large numbers of birds.

2. Outdoor Classrooms - Students

On September 4, DPL Jim Sellers, Volunteer Coordinator Olin Allen and Bob Gress, GPNC Director, took Akila, a live golden eagle, to visit all five of the elementary schools in the area. This was to kick off the "When will the eagles land?" contest, whereby the kids guess the date and time the first bald eagle will return to Quivira NWR on the fall migration. Since some "local" eagles had already visited in August, this year the aim was to pick the time for the first migrant bald eagle, following the classroom visit. Over 503 students and 50 adults heard the presentation with Akila. A local funeral home provides prize money for this Friends of Quivira sponsored contest.

On September 19, all of the fifth graders in the county schools visited Quivira NWR as part of the annual, NRCS sponsored, Education Field Day. Students traveled to various stations throughout Quivira covering the Refuge System, trees and windbreaks, rainfall simulator, soils, conservation planning, groundwater management, and surface water quality. Lunch was conducted in the Environmental Education Classroom.

Refuge Manager Hilley participated in the Hudson School Career Day on 9/28, giving presentations to 63 students in four classes.

7. Other Interpretive Programs

From 9/7 - 16, the Refuge coordinated and staffed, with help from Kirwin and Flint Hills NWR's, the FWS booth at the Kansas State Fair in Hutchinson. Numbers were down due to the terrorist attacks on America of September 11 but a lot of people heard our message. The booth won an "Outstanding Exhibitor Award" and Range Specialist Pete Meggers received a plaque and ribbon for Quivira, from Governor Bill Graves.

On September 15 the Friends of Quivira sponsored "Monarch Mania" our annual butterfly tagging event. Rain early in the day and cold temps reduced attendance to approx. 60 folks, down from 165 on a beautiful day last year.

A local butterfly rancher and a husband and wife gardening team presented programs, as well as Pam Martin of the FOQ, who explained how to tag monarchs. While the weather improved later in the day, and the folks tried hard, no monarchs were captured this year (over 300 were tagged last year).

17. Law Enforcement

During September, one individual Refuge grazing permittee continued to receive harassing phone calls, late at night, by persons threatening his cattle operation. The County Sheriff, and a Special Investigator for the Kansas Livestock Association were brought in to assist the rancher but by months end nothing had been resolved. We are still trying. We feel that the attacks are personal and not directed to the Refuge but this may not be the case. We are being very vigilant and hopefully will get some results.

The permittee did have over 120 steers stolen from an off refuge pasture and his cattle were released from one Refuge pasture onto a township road. Due to the problems, the permittee removed his cattle to pasture closer to his home, pulling off the Refuge about 2 week early. Shortly after his cattle were removed, a similar threatening phone call was received on the Refuge answering machine, stating "We got rid of Tom, now guess who is next?". We have turned this problem over to the phone company to investigate. No other calls have been received and no other Refuge permittees were harassed.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOR.

RM Hilley made plans to travel to Morris WMD, Minnesota, to help with the Friends group on that station, as part of the WO's National Friends Mentoring Initiative. However, the September 11th terrorist attacks caused this trip to be canceled. It will be rescheduled in the Spring.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

A major project this month was the rehab of the rip-rap along the Wildlife Drive on the Big Salt Marsh. All of the rip-rap was pulled up and reset, new surge rock was obtained and spread over the larger rip-rap to help fill the voids and reduce erosion caused by wave action through or over the large rocks. Also a water control structure was rehabed and a new outlet ditch constructed to better move water to the center of the Wildlife Drive area.

3. Major Maintenance

Efforts continued, weather permitting, to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

Beaver damage to dikes was also repaired as the drought conditions allowed access.

4. Equipment Utilization and Replacement

Quotes were solicited and received for the materials and labor needed to construct two volunteer trailers pads adjacent to the EEC.

Roof materials were obtained to allow re-roofing of the two Refuge residences. Also new air conditioning units were obtained to replace older, inefficient models, for which parts were hard to obtain.

8. Other

Construction continued on the Kids Pond educational kiosk which will be a big asset to our EE program.

J. OTHER ITEMS

3. Training and Items of Interest

We have been requested by the State and several local individuals to submit an application to the National Committee to have Quivira NWR designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The National Ramsar Committee visited the Refuge in April as part of the "Wings and Wetlands" weekend and urged us to submit an application. By months end, we had received over 23 letters of support from numerous individuals, the Governor, Senators, etc.

Several members of the Refuge Staff received blood tests during September in an effort to find a bone marrow donor for two individuals in the local community.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. OCT

Memorandum

November 5, 2001

To: Refuge Supervisor, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, October, 2001

A. HIGHLIGHTS

- High winds, and above normal temperatures continue to sap water from the already shallow wetlands, especially the Big Salt Marsh. Only 0.20 inches of rainfall recorded, unofficially, at Headquarters during October.
- The Friends of Quivira "Step Back In Time" event, as part of the celebration of NWR Week, was a huge success with 350-400 people attending.
- The first segment of the duck season, scheduled to start on October 27, was suspended on Quivira due to the presence of endangered whooping cranes.

B. CLIMATIC CONDITIONS

High: 85 degrees F Low: 28 degrees F Precip: 0.14 inches

Total precipitation during October was officially recorded as 0.14 inches, at the official weather station at Hudson, KS, eight miles from HQ. Rainfall at Headquarters was 0.20 inches and the Big Salt Marsh received a whopping 0.50 inches. The long term average precipitation for October is 1.80 inches.

Winds were high during most of the month and moved the water around in the basins and speeded up evaporation.

E. ADMINISTRATION

1. Personnel

Lorrie Beck, from the Regional EVS office, was selected for a direct transfer to the position at the Great Plains Nature Center, vacated by Suzanne Fellows' transfer to the RO in November. Lorrie will report for duty in early November and the GPNC staff is very excited to get the help.

Maintenance Worker Stan King has been fighting throat cancer, has taken over 40 radiation treatments, and continues to work on a limited schedule.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Special events, waterfowl surveys, and providing tours to groups have all been jobs the volunteers have taken on in October.

F. HABITAT MANAGEMENT

2. Wetlands

Wetland conditions that were excellent, following the abundant rainfall in May, began to suffer with the winds and 100 degree days of July. By August, the only unit holding much water was the Little Salt Marsh. The drought conditions continued into September and on September 13, the Big Salt Marsh officially went completely dry. Over 3 inches of rain fell from September 15-18, the last significant moisture, putting shallow surface water over approximately 80% of the Big Salt Marsh. By the end of September, the high winds had moved the water around enough to reduce that percentage to about 60% coverage.

This drought cycle continued into October with little rainfall and high winds quickly taking more water out of the wetlands. On October 16, all water diversions from the Little Salt Marsh were stopped in the hopes that flows in Rattlesnake Creek would raise the head enough to resume moving water to nearby wetland units. By months end the Creek flow had failed to overcome evaporation and the marsh had only risen about 0.04 inches.

Wheat planted in the newly re-contoured bottom of Unit 49 is providing some goose and deer browse but it would sure look better with water over it.

4. Croplands

Winter wheat planted by the cooperative farmers looks very good for the moisture received, but what little rain that did fall came at just the right time for the wheat.

Strips were disked in the area of go-back north of the environmental education classroom and the cooperative farmer planted them to winter wheat. This is to control a small tree problem that has resulted, since this field was taken out of annual crop rotation.

9. Fire Management

Individual Development Plans were reviewed and updated for Tim Keller and Todd Schmidt.

Smokey Bear and a Refuge Engine participated in the Oktoberfest Parade in Stafford. Tim Keller played Smokey Bear.

Refuge Fire Management Staff traveled to South Hutchinson Elementary and Stafford Elementary to present a Fire Prevention Program. Presentation included an appearance by Smokey Bear.

Tim Keller and Todd Schmidt traveled to Kirwin NWR to look at 5 burn units planned for next year. Tim and Todd will write the plans for these units.

Bill Waln traveled to Kirwin NWR on October 16 to take part in a career fair. Bill presented a program on career fields in Fire Management to 125 area middle school students.

Bill Waln, Todd Schmidt and Tim Keller traveled to Kirwin NWR October 26-28 to present the S-130/190 course to area Volunteer Firefighters.

Bill Waln, Todd Schmidt and Tim Keller assisted in preparations for National Wildlife Refuge week activities.

Fire experience and qualifications were updated for all personnel in the Western Kansas Fire Management District in the Fire Management Information System.

G. WILDLIFE

2. Threatened and /or Endangered Species

Bald eagles visited the Refuge in August and early September, probably from the nesting attempts in several locations in Kansas. With the drought conditions and the resulting fish kill on the Big Salt Marsh the Refuge was very attractive to all types of fish eaters. However, the first "official" bald eagle of the fall migration was not observed until 12:07PM on October 22. This sighting is important to the local school students for the "When will the eagles land?" contest.

Whooping cranes were sighted on 10/23 when one adult was found among the sandhill cranes using the Refuge. By months end a total of 17 individual whoopers had been recorded, with a family group of 3 remaining on the Refuge after having arrived on 10/26.

3. Waterfowl

Two waterfowl surveys were conducted in October as part of the Bi-weekly Survey program, in conjunction with all other sites in Kansas. On 10/9, a total of 2828 ducks, and 546 geese were counted, mostly teal and mallards. The survey on 10/23, found 2429 ducks and 6149 geese.

4. Marsh and Water Birds

Great blue herons continue to use the Refuge as well as American white pelicans, especially in areas where the shallow water had concentrated the drought stricken carp.

Sandhill crane numbers increased significantly as the month progressed. Less than a 1000 were present on 10/9 and over 13,000 were counted on the 10/23 waterfowl count. By months end, folks were estimating 60,000 plus sandhills and more were arriving by the hour.

5. Shorebirds, Gulls, Terns and Allied Species

A few late shorebirds continued to hang around during October, especially American avocets and least sandpipers. By months end, the water on the Big Salt Marsh had evaporated so much that the majority of shorebirds had migrated out of the area.

H. PUBLIC USE

1. General

The Kansas birder's listserve was alive with talk about the sandhill cranes, geese and whooping cranes on Quivira NWR. On any given day the Wildlife Drive was crowded, and the Refuge even experienced some traffic jams as folks tried to get a better view of the large numbers of birds.

2. Outdoor Classrooms - Students

On October 22, at 12:07PM an adult bald eagle was observed, ending the guesswork for the "When will the eagles land?" contest, whereby local school students guess the date and time the first bald eagle will return to Quivira NWR on the fall migration. A classroom presentation with a live golden eagle from the Great Plains Nature Center preceded this contest. A local funeral home provides prize money for this Friends of Quivira sponsored contest.

7. Other Interpretive Programs

On 10/6, the Refuge "Giant Canada Goose" float, a 12ft tall goose that completely covers an ATV, was ridden by Manager Hilley in the Stafford Oktoberfest parade. Following the goose was a Refuge fire truck with Smokey the Bear (aka, Tim Keller) who was very popular with the younger crowd. A crowd of about 2500 people viewed the parade and we received a lot of good PR.

Manager Hilley met on 10/11 with Ted Eubanks, an ecotourism consultant, who is working with the Great Bend Convention and Visitors Bureau on bringing more visitors to the area.

On 10/20, as part of the celebration of NWR Week, the Friends of Quivira sponsored "Step Back in Time" a historic event. The area around the Kid's Fishing Pond was transformed into a Mountain Man camp with the help of Cris Zordel, Youth Director for the KS Muzzle loaders Association. Joyce Lent from the Great Plains Nature Center presented continuous live animal shows, while in period costume, and the Sternburg Museum provided a station with historic activities, dating back to the dinosaurs. Kids were taught historic games and crafts, there was a muzzleloader shoot and tomahawk throwing demo, plus horse drawn wagon rides. KS Dept of Wildlife and Parks set up their laser shooting system for folks to try their luck. The FOQ provided a chili and beef stew supper, cooked over an open fire at the chuck wagon. Following all of these activities, Phillip Thomas, a history professor from Wichita State, did an historic re-enactment of Merewether Lewis, sponsored by the KS Humanities Council. Between 350-400 people attended the event and we received a lot of excellent PR and media coverage.

17. Law Enforcement

For most of the summer, one individual Refuge grazing permittee received harassing phone calls, late at night, by persons threatening his cattle operation. The County Sheriff, and a Special Investigator for the Kansas Livestock Association were brought in to assist the rancher but nothing has been resolved. We are still trying. We feel that the attacks are personal and not directed to the Refuge but this may not be the case. We are being very vigilant and hopefully will get some results.

The Kansas Youth Waterfowl season, limited to kid's, was open on October 13-14, but with our water conditions the Refuge saw few hunters. The same was true for the early goose season on October 21-21.

On October 27th, the first segment of the Kansas duck season started but the presence of whooping cranes on Quivira closed our hunting areas until the birds depart.

The spotting scope at the Big Salt Marsh was returned to the company in California for repairs on lens damage caused by vandals with a few rocks. No suspects have been captured but we still are looking.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOR. On 10/30, Manager Hilley attended the FOQ board meeting at the Visitors Center.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

A major project this month was the rehab of the C-1 water control structure outlet and canal. The area was re-contoured to better move water and allow the canal to be cleaned out better when cattail growth is a problem.

3. Major Maintenance

Efforts continued, weather permitting, to disk the spoil piles left from the canal cleanouts of the last couple of years. Darrynane Canal was started but we have miles of canals to go.

Beaver damage to dikes was also repaired as the drought conditions allowed access.

The main entrance road was watered and graded but the efforts were short lived. We desperately need moisture to be able to level some of the ruts in the road system. Areas where the crushed limestone was installed earlier under the T-21 contract are still excellent.

4. Equipment Utilization and Replacement

Quotes were solicited and received for the materials and labor needed to construct two volunteer trailers pads adjacent to the EEC.

Roof materials were obtained to allow re-roofing of the two Refuge residences. Also new air conditioning units were obtained to replace older, inefficient models, for which parts were hard to obtain.

8. Other

Construction was completed on the Kids Pond educational kiosk two days before the Step Back in Time event, so we cut it short but made it. This kiosk will be a big asset to our EE program.

J. OTHER ITEMS

3. Training and Items of Interest

We have been requested by the State and several local individuals to submit an application to the National Committee to have Quivira NWR designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The National Ramsar Committee visited the Refuge in April as part of the "Wings and Wetlands" weekend and urged us to submit an application. By month's end, we had received over 23 letters of support from numerous individuals, the Governor, Senators, etc. and the application package was sent to Washington for review.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR.NOV

Memorandum

To: Associate Manager, (KS, NE) CO/KS/NE/UT, Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, November, 2001

A. HIGHLIGHTS

- Lorrie Beck, EODs at The Great Plains Nature Center on November 5, filling a position vacant for almost a year.
- Drought conditions persist and the wetlands continue to suffer. This is the worse drought conditions that have occurred since 1991.
- Several hunting seasons opened in November but the drought was making prospects slim for a good year.

B. CLIMATIC CONDITIONS

High: 80 degrees F Low: 8 degrees F Precip: 0.03 inches

(Precipitation statistics from official observation site at Hudson, 8 miles west of Refuge - NOT SURE if the Refuge got QUITE this much!!)

Highs were in the 60's and 70's through Nov. 23; only 10 nights got below freezing. The extreme lack of moisture resulted in the Big Salt Marsh drying up completely - making it hard to remember that we were in FLOOD conditions in mid-June!.

D. PLANNING

4. Compliance with Environmental and Cultural Resource Mandates

Arrangements were finalized with Asbestos Removal and Maintenance, Inc. Of Wichita to remove chrysolite asbestos wrap from pipe recently re-discovered in the field. Target date for mitigation is the first two weeks of December.

E. ADMINISTRATION

1. Personnel

The vacant position at the Great Plains Nature Center is at long last no longer vacant! On Nov. 5, Lorrie Beck reported for duty. Lorrie abandoned the Regional Office for a taste of the good life - much to the joy of all of us involved with the GPNC. Lorrie has a variety of unfinished carry-over tasks to deal with in the near future, but we are looking forward to her pleasant, energetic personality. Welcome, Lorrie!

4. Volunteer Program

Volunteers assisted in conducting programs including "When will the eagles land?", the Rolling Hills Wildlife Refuge Eco-Meet, and with deer and waterfowl censuses and surveys.

6. Safety

The Station Safety Committee met to review Manager Hilley's accident and injury. Minor modifications were made to the ATV hauling trailer to improve the ability to hitch and unhitch it alone. A safety meeting will be held to review or train staff in safe hitching techniques.

F. HABITAT MANAGEMENT

2. Wetlands

Refuge wetlands were in "poor" condition throughout the month; no rain and little water flowing into the Refuge resulted in a continued drying up of the few units with water remaining.

9. Fire Management

Fire staff Bill Waln, Tim Keller and Todd Schmidt attended the South Zone Fire management Staff meeting in Kearny, NE, Nov. 6-8.

Bill Waln and Todd Schmidt attended the FWS Fire management Mentoring Orientation course at NCTC Nov. 26-29. Bill Waln was selected as a Mentor, and Todd Schmidt as a Mentee. Bill will be working with two individuals from Region 6 and Todd will be working with David Brownlee from Region 4.

On Nov. 1, approximately 3 acres of 5 acres encompassed by an oil spill in late October was burned off. The grass was mowed and burned as soon as possible to remove excess oil in an effort to reduce exposure risk to wildlife and water.

Refuge water unit #22 was burned to reduce / remove cattails.

The area along the Little Salt Marsh, adjacent to the spillway between water control structures C-1 and A-2 was burned. Trees and Salt Cedar in the area were then cut and treated. The area had not burned within the known history, and was extremely matted and overgrown with trees.

Refuge Fire Management Staff continued to work on prescribed fire plans for the units in the fire Management District.

Todd Schmidt took his mandatory two weeks off without pay from Nov. 12 - 23.

G. WILDLIFE

2. Threatened and/or Endangered Species

Whooping cranes were observed on the Refuge or in the area through the third week of November. A family group of three stayed intermittently on Unit 14A for two weeks, and was occasionally seen elsewhere in the area.

3. Waterfowl

Poor water conditions coupled with warm weather to the North resulted in low numbers of waterfowl throughout the month. The month began with just over 20,000 geese and barely 2000 ducks and ended with approximately 55,000 geese and 2000 ducks.

4. Marsh and Water Birds

November began with between 60 and 100 thousand Sandhill cranes on the Refuge. The birds were willing to stand huddled on dry ground around the few acres of water left in the Big Salt Marsh, watching the coyotes wander through their ranks - until crane season began. Shortly after season opened on Nov. 3, the cranes began to move, with 63,000 cranes left on the Refuge on Nov. 6, and 22,500 on Nov. 20. Even though the Refuge is closed to crane hunting, it appeared they were willing to put up with the absence of water, but not with the combination of no water and hunting disturbance around the Refuge.

8. Game Animals

The pre-hunting season deer survey was conducted Nov. 19. A total of 310 animals were observed on the spotlight survey, compared with 192 on the corresponding survey in 2000. Forty seven bucks, with a significant number of very large bucks, were noted.

H. PUBLIC USE

3. Outdoor Classrooms - Teachers

The Kansas Association of Conservation and Environmental Educators met in Great Bend on November 2-3. Over the years, the Refuge has hosted several teacher workshops in affiliation with the Association. This year, numerous of the attendees took advantage of the nice weather and Quivira NWR for informal field trips.

7. Other Interpretative Programs

Assistant Manager Sellers attended a planning meeting for "Wings and Wetlands", a three day, two evening organized birding tour and program at Great Bend. The program is organized by the Great Bend Visitor and Convention Bureau, Great Bend Chamber of Commerce, and is sponsored by multiple organizations and individuals. The program includes organized birding tours to Quivira NWR and Kansas Wildlife and Parks' and Nature Conservancy's Cheyenne Bottoms management areas.

On Friday, Nov. 23, Refuge Assistant Terry hosted a coffee open house at the Stafford Senior Center for members of the Stafford Chamber of Commerce and guests. The informal program provided an introduction and update to the Refuge and its activities to about 35 persons.

Volunteers Tyler McVay and Robin Drake-Woods assisted with the Eco-Meet at the Rolling Hills Wildlife Refuge (a private foundation operated nature center at Salina, KS.) The November 7 event hosts student teams from throughout the area to compete in environmentally focussed competitions including animal and animal identification, natural history and habits, hydrology, etc.

8. Hunting

Pheasant and quail hunting began with the special Kansas Youth Upland Bird season on November 3-4. A FEW hunters ventured out for a beautiful weekend of hunting - but VERY little shooting. The regular season opened on November 10, with LOTS of hunters, and VERY FEW birds. Two years of dry, hot summers in a row and a severe cold winter between have rendered upland bird hunting marginal at best.

Canada and White front goose seasons also reopened on Nov. 3. Duck season ran Oct 27 - Nov 4, and reopened Nov. 10. Due to the drought conditions and mild weather, waterfowl hunting continued to be marginal at best throughout the month.

Sandhill crane season opened in the area Nov. 3; however, the Refuge is closed to crane hunting. Hunters immediately west of the Refuge took advantage of the situation, actively hunting cranes on the west boundary. Their zeal netted several warnings and one citation for hunting in a closed area, specifically shooting from private land across the township road into the Refuge.

9. Fishing

With the lack of water throughout much of the area, fishing continued on a regular basis in the Little Salt Marsh. The mild weather made FISHING great, though CATCHING seemed to leave a great deal to be desired.

Contacts with people at the Kid's Fishing Pond suggested that the low water may have resulted in at least a partial die-off of fish there, as a couple of experienced fisher-kids advised they had no luck on successive trips.

11. Wildlife Observation

A great number of visitors took advantage of the mild, inviting weather, good roads and concentrations of birds to observe the Sandhill and Whooping cranes. Numerous people traveled from a distance to observe and photograph deer as well.

17. Law Enforcement

An active enforcement presence by Refuge Officers Hilley and Sellers and a visit by Special Agent Medina resulted in an amazingly problem free hunting season so far. Several minor warnings were issued, and SRA Medina issued two citations for hunting in a closed area and lead shot violations.

During the past few years, there have been several incidents of deer poaching on the Refuge. Several potential perpetrators have been identified, two groups of which are particularly of concern. Although several of these parties have been observed regularly on or near the Refuge, no evidence of poaching has been found. Due to the high number of trophy class white tail deer on the Refuge, these intense patrols and enforcement activities will continue.

The biggest problem with the hunting season revolved around two relatively isolated parking lots where hunters have a habit of leaving trash, toilet paper and human waste in the lot. Personal contacts were emphasized in these areas, and windshield "notices" were left on vehicles advising that if the problem continued, the lots would be closed. "Leave No Trace" information was also included in the notices in an attempt to educate the hunters to acceptable behavior and practices. By month's end, the program appears to have produced positive results with a significant reduction in problems.

The accessible Photo Blind at the Migrant's Mile Nature Trail was vandalized - similarly used as a privy for depositing of trash and human waste. The use was particularly aggravating, as it is 1/8 mile to the open public rest rooms at the Environmental Education Classroom. The blind was locked and posted, with a key made available for check out at the Visitor Center.

Investigation continued in coordination with the Service's Special Agent, Stafford County Sheriff and Special Investigator for the Kansas State Department of Agriculture regarding threats to permittee cattle on the Refuge, alleged theft of cattle near the Refuge, and related concerns. A new component was added when Refuge staff received a telephone message at home, claiming ownership of property seized and held by the Refuge as part of the case.

Kansas firearms deer season opened on November 28. Refuge Officer Hilley contacted two hunters who had successfully spotted, sneaked on, bagged and tagged a fine white tail buck. They were dragging their deer, nearing their vehicle when Officer Hilley arrived. The excitement of the hunt diminished rapidly when Dave pointed out the parts of the Refuge Hunting and Fishing brochure and Kansas regulations pamphlet which notes that the "Public Hunting Area" of the Refuge was NOT open to deer hunting. Following receipt of their Violation Notices, it is anticipated the duo will read more carefully in the future!

18. Cooperating Associations

The Friends of Quivira Activity Committee met November 12 at the Quivira NWR Visitor Center. Refuge Manager Hilley and Assistant Manager Sellers also attended. Activities for 2001 were reviewed, with all present agreeing that the year was a HUGE success. Activity proposals for 2002 were discussed and changes recommended. A draft calendar and agenda of 2002 events was developed, with a refined agenda and budget estimates to be presented to the FOQ Board of Directors in December.

I. EQUIPMENT AND FACILITIES

3. Major Maintenance

The Refuge staff capitalized on continued severe drought conditions to complete some critical maintenance and repair of water related structures.

- ▶ Work was completed on straightening, sloping and stabilizing the sides of the canal from C-1 to C-2, primarily immediately downstream of the C-1 outlet.
- ▶ Work was completed on recovering rip-rap and stabilizing banks along the Wildlife Drive and Big Salt Marsh. Surge rock was hauled and placed on top of the rip-rap to reduce erosion of soil from behind the larger material.
- ▶ Numerous "one day" type projects were undertaken to take advantage of the unseasonably mild weather and drought.

J. OTHER ITEMS

3. Training and Items of Interest

On November 7, Range Management Specialist Gary Meggers completed Commercial Pesticide Applicator's recertification in Wichita.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
QUIVIRA NATIONAL WILDLIFE REFUGE

01MAR. DEC

Memorandum

January 24, 2002

To: Refuge Supervisor, (KS, NE), Region 6 (60130)
From: Refuge Manager, Quivira National Wildlife Refuge (64620)
Subject: Monthly Activity Report, December, 2001

A. HIGHLIGHTS

- Above normal temperatures continue, with little relief from the drought. Only 0.12 inches of precipitation were recorded officially during December.
- Acting FWS Director Marshall Jones visited Quivira NWR on December 7th. Sec. of Interior Gale Norton visited the Great Plains Nature Center, with her father who is a member of the Friends of Quivira and resides in Wichita, KS.
- The annual Christmas Bird Count was conducted on December 14, by a group of Refuge volunteers. Drought significantly cut the number of bird species sighted.

B. CLIMATIC CONDITIONS

High: 71 degrees F Low: 05 degrees F Precip: 0.12 inches

Total precipitation during December was officially recorded as 0.12 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for December is 0.77 inches.

Our last significant precipitation was in mid-September and we have had only a little more than 0.25 inches since that time.

Winds were high during most of the month and moved the water around in the basins and continued to speed up evaporation.

E. ADMINISTRATION

1. Personnel

Maintenance Worker Stan King has been fighting throat cancer, has taken over 40 radiation treatments, and continues to work on a limited schedule.

4. Volunteer Program

Volunteers continued to assist the Refuge with a variety of tasks during the month. We could not do the job without them. Special events, waterfowl surveys, and providing tours to groups have all been jobs the volunteers have taken on in December.

F. HABITAT MANAGEMENT

2. Wetlands

Wetlands have suffered due to the worse drought conditions we have experienced since 1991.

Wetland conditions that were excellent, following the abundant rainfall in May, began to suffer with the winds and 100 degree days of July. By August, the only unit holding much water was the Little Salt Marsh. The drought conditions continued into September and on September 13, the Big Salt Marsh officially went completely dry. Over 3 inches of rain fell from September 15-18, the last significant moisture, putting shallow surface water over approximately 80% of the Big Salt Marsh. By the end of September, the high winds had moved the water around enough to reduce that percentage to about 60% coverage.

This drought cycle continued into October with little rainfall and high winds quickly taking more water out of the wetlands. On October 16, all water diversions from the Little Salt Marsh were stopped in the hopes that flows in Rattlesnake Creek would raise the head enough to resume moving water to nearby wetland units. Only 0.03 inches of moisture in November did nothing to help.

The groundwater inflow or "underflow" as the locals call it, started in late fall and this flow helped put some water in the Big Salt Marsh. This flow starts from the NW corner of the BSM after the local irrigation stops and the trees stop taking up moisture. With this increased underflow throughout the watershed, there is usually an increase in Rattlesnake Creek flow. On December 28, the level in the Little Salt Marsh had increased to allow some water diversions to nearby wetland units.

4. Croplands

Winter wheat planted by the cooperative farmers had looked fair for the moisture received, what little rain that did fall came at just the right time for the wheat. In December, large flocks of geese descended on these fields and by the end of the month any sign of green had disappeared.

Strips were disked in the area of go-back north of the environmental education classroom and the cooperative farmer planted them to winter wheat. This is to control a small tree problem that has resulted, since this field was taken out of annual crop rotation.

9. Fire Management

Bill Waln and Todd Schmidt attended the RX-410, Smoke Management, course in Denver, Colorado, December 10-14.

One human caused wildland fire was reported on the refuge. The fire was less than 0.1 acres in size and located at intersection of 140th Street and 140th Ave. No suppression action was taken and will be reported as a natural out. The fire was believed to have been started on December 20. The fire was reported by Dave Hilley, Project Leader.

Refuge Fire Management Staff concentrated on preparing the spring 2002 burn units for implementation. Unit boundaries were mowed and raked.

Tim Keller drove a refuge fire truck in the Holiday parade in Sterling.

G. WILDLIFE

2. Threatened and /or Endangered Species

Bald eagles were recorded on the bi-weekly waterfowl surveys as they took advantage of any slow ducks. On the 12/4 survey, 6 bald eagles (A-3, I-3) were observed and on the 12/18 survey, 9 bald eagles (A-7, I-2) were recorded.

3. Waterfowl

Two waterfowl surveys were conducted in December as part of the Bi-weekly Survey program, in conjunction with all other sites in Kansas. On 12/4, a total of 12,449 ducks, and 69,819 geese were counted. The survey on 12/18, found 34,734 ducks and 64,577 geese.

Warmer than normal temperatures allowed the ducks to stay further north and the large numbers of waterfowl we have experienced in the last few years had not materialized by month's end.

4. Marsh and Water Birds

Great blue herons continued to use the Refuge as the wetlands dried up, exposing the last remaining fish.

Sandhill crane numbers dropped as the month progressed. The count on 12/4 was 20,320 sandhills and by 12/18 that number had dropped to 1515 cranes.

8. Game Animals

On 12/10, the spotlight deer survey, following the regular firearms season, was conducted with staff and volunteers. A total of 277 deer were counted during the late night efforts.

H. PUBLIC USE

1. General

As the migrants moved south and the number of birds decreased, so did the Refuge visitors. Hunters continued to try their luck but all but the hard core birders turned to more inside activities.

7. Other Interpretive Programs

The International Association of Fish and Game Agencies had their annual meeting in Wichita, KS on 12/3-7. As a result, Quivira NWR and the Great Plains Nature Center received some high level visitors. Acting FWS Director Marshall Jones visited QVR and was given a tour, along with other Washington Office personnel. Secretary of Interior Gale Norton visited the Great Plains Nature Center while in Wichita. Gale Norton's father lives in Wichita and is a member of the Friends of Quivira and he accompanied his daughter on the tour.

8. Hunting

The Kansas firearms deer season ran from December 1- 9, 2001. While Quivira NWR is not open for deer hunting there is a lot of activity along our boundaries.

17. Law Enforcement

A lot of time was spent making sure that the Refuge trophy white-tails did not tempt some hunter too much during the firearms season. With all the effort we go through to inform the public about Refuge hunting regulations, it seems not everyone gets the message. RM Hilley was going through the Refuge in the middle of the day and encountered two individuals dragging a large white-tail buck up to their car. When approached with the news that deer hunting was not permitted on QVR, they admitted they had not read the regulation leaflet. The shooter was from California but his helper was a local individual. They had heard about our large deer, had seen a public hunting sign and did not check further. It was an expensive mistake.

Refuge Officers completed their annual physicals in preparation for attending Law Enforcement Inservice later this winter.

18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge and many of the activities now offered to the public would not be possible without the FOR. On 12/6, Manager Hilley attended the FOQ board meeting at the Visitors Center.

I. EQUIPMENT AND FACILITIES

2. Rehabilitation

Rip rap was added to the major rehab project of the C-1 water control structure outlet and canal. The area was re-contoured to better move water and allow the canal to be cleaned out better when cattail growth is a problem.

3. Major Maintenance

Efforts continued to disk the spoil piles left from the canal cleanouts of the last couple of years.

Beaver damage to dikes was also repaired as the drought conditions allowed access.

The roof on the south residence was replaced during December. This roof had been a problem and leak damage in the living room can now be fixed as the new shingles are in place.

A couple of old asbestos covered oil field pipes on the Refuge were de-contaminated by a local asbestos removal company and the pipes were salvaged.

4. Equipment Utilization and Replacement

New air conditioning units were installed at each refuge quarters to replace older, inefficient models, for which parts were hard to obtain.

J. OTHER ITEMS

3. Training and Items of Interest

We have been requested by the State and several local individuals to submit an application to the National Committee to have Quivira NWR designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The National Ramsar Committee visited the Refuge in April as part of the "Wings and Wetlands" weekend and urged us to submit an application. We received over 23 letters of support from numerous individuals, the Governor, Senators, etc. and the application package was sent to Washington for review. Indications are that the application will be successful and Quivira NWR will be the 18th site so designated in the United States, and the first new site in the U.S. in 3 years.

The annual Christmas Bird Count, in cooperation with the Audubon Society, was conducted by Refuge volunteers on 12/14/01. A total of 75 species and 115,014 individuals were recorded in 2001, compared to 80 species and over 237,000 individuals in 2000.

TABLES

Table 1. Quivira NWR Personnel, 2001

	Name	Title	Appt.	EOD
1.	J. David Hilley	Refuge Manager	PFT	5/89
2.	James Sellers	SROS	PFT	9/00
3.	William W. Waln	FMO	PFT	2/99
4.	Lorrie Beck	ORP	PFT	11/01
5.	Gary F. Meggers	Rangeland Mngmnt Specialist	PFT	5/85
6.	Cynthia E. Terry	Administrative Assistant	PFT	7/96
7.	Carl D. Marks	Maint Worker Leader	PFT	7/74
8.	Stanley A. King	Maintenance Worker	PFT	9/82
9.	Brent A. Waters	Maintenance Worker	PFT	10/01
10.	Timothy V. Keller	Range Tech/Firefighter	FTS	2/98
11.	R. Todd Schmidt	Range Tech/Firefighter	FTS	5/01
12.	Matt Krause	Range Tech/Firefighter	TFT	5/01

Table 2. Quivira NWR Staffing, 1997-2001

Year	Permanant		Temporary	YCC	Total
	Full Time	Part Time			
2001	9	1	2	2	10.22
2000	9	1	2	2	10.22
1999	9	1	2	2	10.22
1998	9	1	2	2	10.22
1997	9	0	2	2	9.25

Table 3. Quivira NWR Funding, FY 1997-2001

Account	2001	2000	1999	1998	1997
1130	\$2,000.00	\$0.00	\$0.00	\$0.00	\$0.00
1261	\$528,000.00	\$398,550.00	\$391,300.00	\$371,300.00	\$371,300.00
1262	\$163,000.00	\$45,000.00	\$65,000.00	\$15,000.00	\$15,000.00
2810	\$0.00	\$0.00	\$0.00	\$6,360.00	\$0.00
2821	\$0.00	\$20,000.00	\$1,987.00	\$4,800.00	\$0.00
6860	\$28,000.00	\$30,000.00	\$30,000.00	\$30,600.00	\$30,000.00
8610	\$9,325.00	\$2,400.00	\$2,700.00	\$6,600.00	\$7,500.00
9251	\$104,000.00	\$72,150.00	\$105,300.00	\$97,800.00	\$102,200.00
9263	\$40,000.00	\$14,300.00	\$0.00	\$0.00	\$0.00

Table 4. Quivira NWR Grazing Program, FY 2001

PERMITEE	LIVESTOCK# & CLASS	AUMS	ACRES GRAZED	AUMS/ ACRE
Hamilton	300 Yearlings/10 Bulls	1225.0	2338	1.91
Hornbaker	60 CC Pair/2 Bulls	387.5	300	1.29
Miller	180 CC Pair/9 Bulls	1181.25	1357	.87
Turner	164 CC Pair/3 Bulls	445.44	955	.47
Schweizer G.	200 CC Pair/10 Bulls	1287.5	1786	.72
Schweizer B.	100 CC Pair/5 Bulls	643.3	1308	.49
Hilley	2 Horses	27.0	34.5	.78
Sellers	5 Horses	37.5	42.0	1.61
Total	300 Yrl 704 CC Pair 39 Bulls 7 Horses	5264.49	8120.5	1.05 Avg

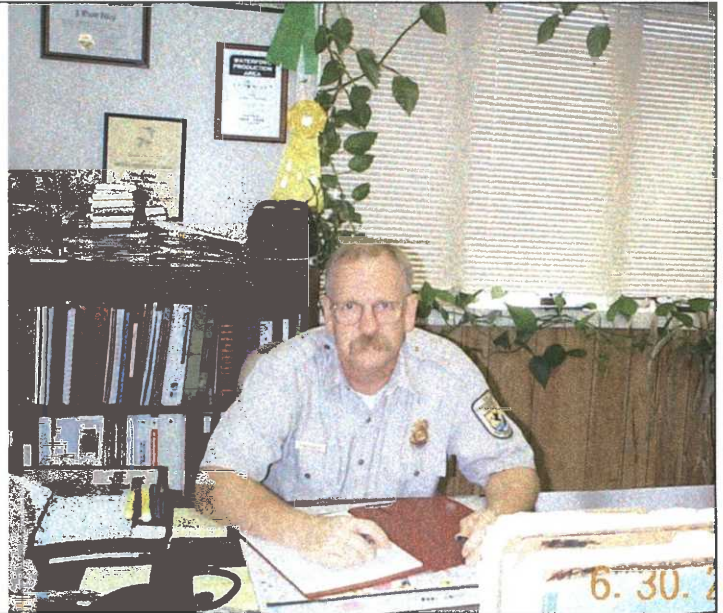
PHOTOS

2001 PHOTO CAPTIONS
Annual Narrative Report

Figure 1. Staff Photos

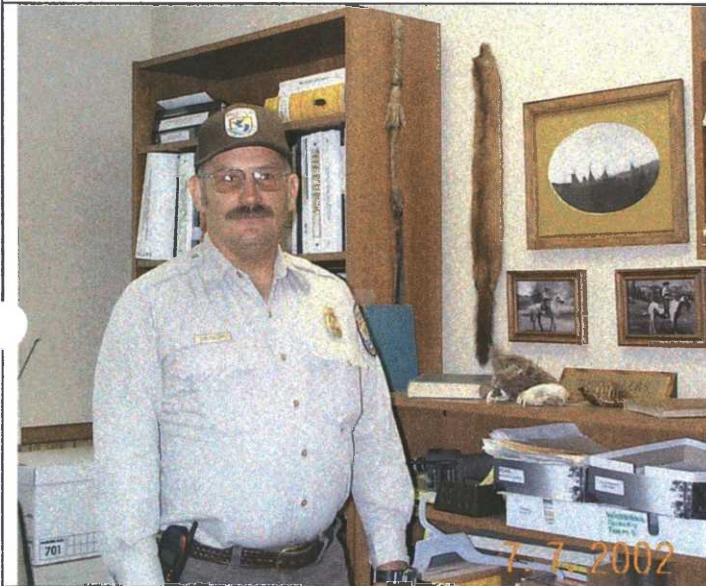
Project Leader extraordinaire Dave Hilley sits at his desk directing the day to day operations required to keep the Refuge running smoothly.

CT-01

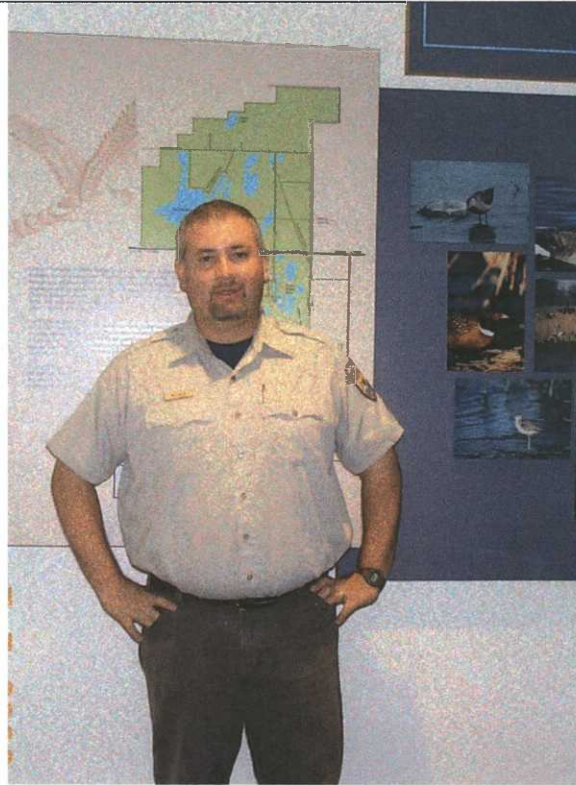


Assistant Refuge Manager, Jim Sellers is right at home at Quivira these days!

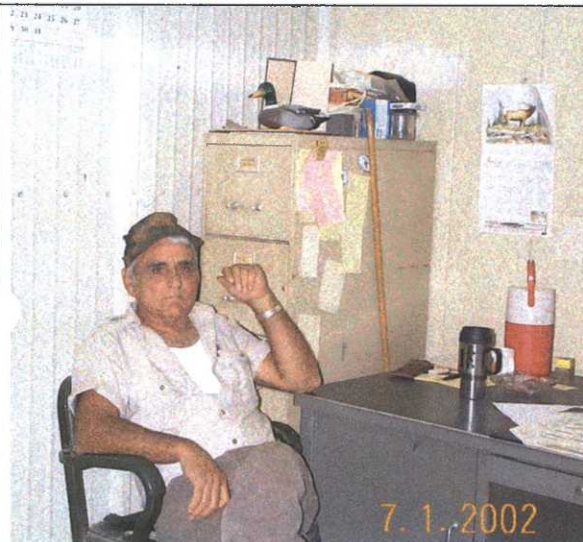
CT-01



Fire Management Officer, Bill Waln is one heckova pyromaniac! Quivira typically burns more acres than anyone else around!



CT-01



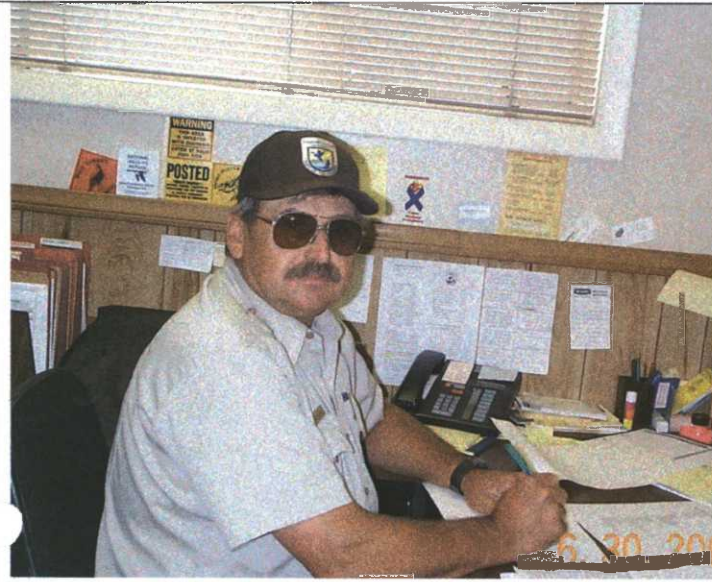
Maintenance Work Leader, Carl Marks, the newest member of the KMA Club, keeps the maintenance crew in line as he waits to retire!

CT-01

Administrative Support Assistant, Cindy Terry! (Everyone knows SHE is really in charge!)



CT-01



Rangeland Management Specialist, Gary "Pete" Meggers, keeps ALL of us in line! If he's out working hard, we are, too!

CT-01

Maintenance Worker, Brent Waters, the newest member of the maintenance crew. It was a lucky day when he walked through the door!

CT-01

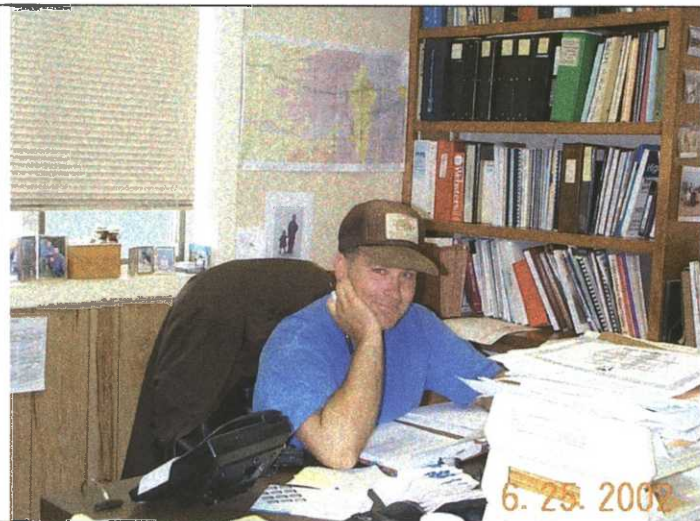


Maintenance Worker, Stan King (right) has put in over 30 years doing this type of work, and is showing the new kid on the block a thing or two.

CT-01

Firefighter, Tim Keller loves it when the boss 's gone...yup, when the rat's away the mice will play!

CT-01





Firefighter, Todd Schmidt, became a first time dad this year, severely limiting his ability to go put out fires! Boo hoo, boo hoo as every firefighter knows!

CT-01

Outdoor Recreation Planner Lorrie Beck, keeps busy the Great Plains Nature Center in Wichita. Lorrie joined the staff of Quivira in November and we have heard nothing but good things about her so far!

CT-01





Figure 2. Winds in Kansas can even blow away little girls and their dogs! This wind storm destroyed the G-5 windmill by blowing a 1000 gallon fiberglass stock tank out of the fenced area and through the windmill, carrying the tank almost a quarter mile away. **01-GM**

Figure 3. The Volunteer Appreciation Dinner was held at the Wheatland Cafe in Hudson on February 23, 2001. Approximately 50 volunteers, spouses and kids attended. **01-CT**





Figure 4. Olin Allen of Hutchinson won the "Volunteer of the Year" Award, a second time winner after a win in 1996. Olin, and his wife Donna, do everything from shorebird counts to tour groups and are a real asset to the Refuge. 01-CT

Figure 5. Early rainfalls were normal but the drought hit in early summer with no rain, extreme temperatures and high winds. All wetlands except the Little Salt Marsh went completely dry, the worse conditions since 1991. This should be the Big Salt Marsh but the unit went dry on September 18th. 01-DH



Figure 6. Drought conditions are like the old saying, "When life gives you lemons...make lemonade". The drought allowed the Refuge to carry out management on the thick cattails in most wetland units. This is the BEFORE conditions of Unit 30. 01-DH

Figure 7. A DURING shot shows one of the hazards of mowing thick cattails. "Now where am I and where is that road?" **01-RDW**



Figure 8. An AFTER shot shows the unit waiting for rains and ducks. **01-DH**

Figure 9. The high intensity/short duration grazing program worked, even in the drought, but some cattlemen pulled out early and the late grazed units did not respond as well due to the lack of rainfall.

01 -GM



Figure 10. The dry conditions necessitated more monitoring of the range conditions on the Refuge grasslands. Tractor Operator Tyler McVey and Range Management Specialist Pete Meggers look over a plot to determine management plans.

01-RDW



Figure 11. Prescribed fire is an important management tool on Quivira NWR. Plans are in place to allow burning of the entire Refuge on a 3-4 year cycle. Here, the fire crew torches off the switch grass south of the Refuge headquarters.

01 -GM

Figure 12. Before each burn, a planning and safety briefing is conducted. Fire crews from the BIA, Hutchinson Community College and other FWS facilities assisted in burns on QVR in 2001.

01-GM





Figure 13. Firefighters Martin and Katie Janette from Malheur NWR, OR, were on QVR in 2001 to assist with prescribed burns and get experience in our fuel types.

01-BW

Figure 14. FMO Bill Waln scouting a burn unit through a typical fuel type on Quivira NWR.

01-GM



Figure 15. The electric predator exclusion fence around the endangered interior least tern nesting area has to be lowered in the fall to prevent a hazard for endangered whooping cranes that also use the area. After the whoopers pass through in the spring, the fence is raised, all artificial nesting pads are rehabed, and the fence charged. A smelly dog and cat food mixture, spread on the electric wires, entices the local predators, mainly coyotes, to examine the fence with their nose. An electric shock quickly teaches the coyotes to avoid the tern nesting area.

01-RDW





Figure 16. As the water receded in the wetlands due to the drought conditions, the waterfowl concentrated on the remaining marshes.

01-GM

Figure 17. The drought conditions were rough on the Refuge fisheries resources. Huge wind rows of dead carp lined the edges of the last remaining water in most wetland units. Turtles, raccoons, coyotes, and vultures fed well, as the birders had to hold their noses to view the shorebirds attracted by the receding water.

01-DH



Figure 18. As the water levels in most wetland units declined, the shorebirds took advantage of the abundant shallow areas and the Refuge experienced one of the best fall shorebird migrations in recent history.

01-DH

Figure 19. On the Saturday before Mother's Day, the Friends of Quivira sponsor a *Father's Day Out* event. Dads bring their kids to the Refuge for a variety of activities, one of which is making Mom a Mother's Day gift. This one is a beautiful pine cone filled with peanut butter and rolled in bird seed.....Won't Mom be surprised?

01-GM



Figure 20. To wrap up Father's Day Out the kids cook lunch for their dads...what else but roasted hot dogs and marshmallows.

01-GM

Figure 21. In early June, the Friends of Quivira sponsor a *Kid's Fishing Clinic and Derby*. The kids pass through a variety of stations on everything from fish ID, fishing equipment, ethics, boating safety and knot tying. **01-DH**





Figure 22. Boating safety is a fun part of the Kid's Fishing Clinic. "Drunk Glasses", which simulate the effects of alcohol, are used to show the students how alcohol can be a hazard on the water.

01-DH

Figure 23. The casting contest is a very popular part of the Kid's Fishing Clinic. Anyone in range had better watch out! *01-DH*



Figure 24. In 2001, over 100 kids and almost as many adults moved to the Kid's Fishing Pond, following the Clinic to try their luck.

01-DH

Figure 25. The Friends of Quivira served lunch for the crowd and every child present won something, thanks to the gifts donated by local supporters.

01-DH



Figure 26. KS Department of Wildlife and Parks supported our event by stocking the pond with old brood stock for the Pratt Hatchery. Some nice catfish over 8 lbs were caught. **01-DH**

Figure 27. Much to everyone's surprise, this young lady caught a 5 ½ lb large mouth bass, on a 2 ft long fishing rod. Bass had not been stocked for several years but this sure increased the dad's interest in bringing out the kids to fish, the only way dad can wet a line. **01-DH**



Figure 28. The Refuge annually sponsors an FWS booth at the KS State Fair in Hutchinson during September. Tractor Operator Tyler McVay (shown) , and a lot of staff and volunteers from all of the Kansas NWR's helped staff the booth. Over 500,000 folks are contacted during the Fair.

01-RDW

Figure 29. Range Management Specialist Gary Meggers, who coordinated the Fair Booth, accepts the "Outstanding Exhibitor Award, 2001 Grand Champion" plaque from KS Governor Bill Graves. Good Job, Gary!

01-CT



Figure 30. The KS Junior Duck Stamp Design Contest is coordinated through the Great Plains Nature Center. Suzanne Fellows, who had transferred to the Regional Office, came back to help with the 2001 contest. Winning entries were displayed at the KS State Fair. **01-RDW**

Figure 31. In mid-September, the Friends of Quivira sponsor a very popular event, *Monarch Mania*, a butterfly educational event and a tagging exercise. Here Jim and Betty Taylor, local butterfly gardeners explain what to plant to attract the critters.

01-DH



Figure 32. June Updegrove, a local "Butterfly Rancher" explains the life cycle of the monarch to event visitors.

01-DH

Figure 33. Following a presentation by Pam Martin on tagging techniques, everyone took net in hand and went monarch hunting.

01-DH



Figure 34. Though not for a lack of spirit and trying, the cold weather prevented any butterfly captures in 2001. In 2000, over 300 monarchs were tagged on the same date. It all depends on the weather. *01-DH*



Figure 35. Olin Allen, Refuge Volunteer, coordinated the "When will the eagles land?" contest in September, whereby students receive a classroom presentation on eagles, with a visit by a live eagle from the GPNC. Then the students guess the date and time the first bald eagle of the fall migration will land on Quivira NWR. A local business furnished prizes for the contest. *01-CT*





Figure 36. In October, during NWR Week, the Friends of Quivira sponsored a "Step Back In Time" event, to celebrate the history of this area. Staff, Friends and volunteers dressed in frontier clothes to greet the visitors.

01-CT

Figure 37. Chris Zordel, from the Kansas Muzzleloaders Assoc., set up a mountain man camp as part of the event.

01-CT

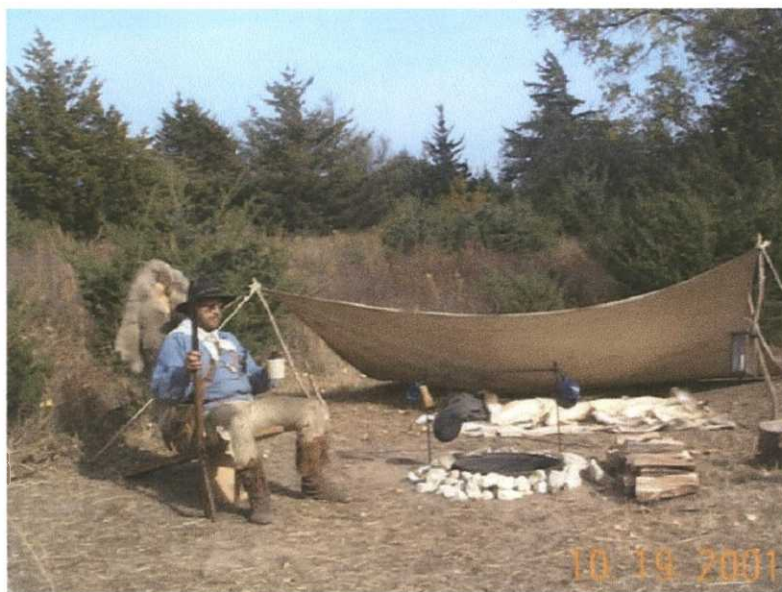




Figure 38. Joyce Lent, a teacher for the Wichita School District stationed at the GPNC, presented a live animal show in period costume.

01-

RDW

Figure 39. Refuge staff and families, along with the KS Muzzleloader Assoc., gave a tomahawk and knife throwing and a muzzleloader shooting demonstration. (L to R) Michael Sellers, Adam Hilley and Manager Dave Hilley participated in the demonstration.

01-

CT





Figure 40. The chuck wagon was the center of attention, as a "range meal" was served to all visitors, along with a demonstration of Dutch oven cooking techniques.

01-CT

Figure 41. Jan and Dave Turner, local volunteers, provided a wagon and team to transport folks from one part of the event to another.

01-RDW



Figure 42. The topper for the evening was a visit by Merewether Lewis, in the form of historic re-enactor Phillip Thomas, Professor from Wichita State Univ., sponsored by the Kansas Humanities Council.

01-RDW

Figure 43. Someone took a dislike to the spotting scope on the Big Salt Marsh. Vandals used a rock to break the glass in both ends of the scope and to damage the informational signs at the site. No suspects have been determined.

01-DH



Figure 44. This large white-tail buck was shot and left near the highway crossing the Refuge. Refuge Officers, State Conservation Officers, and Special Agents set up a stake out for an entire night but no poachers returned to the scene. The buck is now mounted in the Refuge Visitors Center.

01-DH

Figure 45. As part of the Rattlesnake Creek Management Plan, the Refuge is filling the deep borrow areas on four wetland units to allow more efficient use of the available water to flood the area. Unit 25 was completed in 2001, with the help of funds from Ducks Unlimited. **01-DH**



Figure 46. The Refuge will no longer have to use so much water to fill the borrow area, before the water spreads out over the flats to provide the desired depth for migratory birds. **01-DH**

Figure 47. A new educational kiosk was constructed, for account, at the Kid's Fishing Pond. This structure was designed large enough to allow EE presentations to groups under the shade. **01-DH**





Figure 48. A contract through the Federal DOT, under T-21, provided enough AB-3 crushed limestone to cover all of the Refuge public roads.

01-GM

Figure 49. Unruh Trucking hauled the material from over 90 miles away, and the Refuge crew prepared the roads and graded out the material.

01-GM



Figure 50. The resulting road surface provides all weather access for visitors to the Refuge, and does not require constant grading, as did the previous surface.

01-GM

Figure 51. A new, 4-WD, Chevy Suburban was added to the vehicle fleet in 2001. **01-GM**



Figure 52. Two new fire trucks were also added to the vehicle fleet in 2001. This truck is being prepared by the Refuge Crew for the fire tank/pump to be installed on contract. **01-GM**

Figure 53. An oil pipeline, in a road ditch adjacent to the Refuge, was hit by a township grader operator. The spill would not have been as bad except there was a very strong south wind which blew the oil spray over several acres of the Refuge, covering everything in a fine mist of oil. **01-GM**





Figure 54. The pipeline company repaired the leak, and cleaned up the site. The Refuge fire crew burned the area to remove any remaining oil misted vegetation.

01-GM

Figure 55 Todd Schmidt, Quivira's newest Range Tech/Firefighter, was presented with a Plaque from Rainwater Basin WMD, in appreciation of a job well done!

01-BW

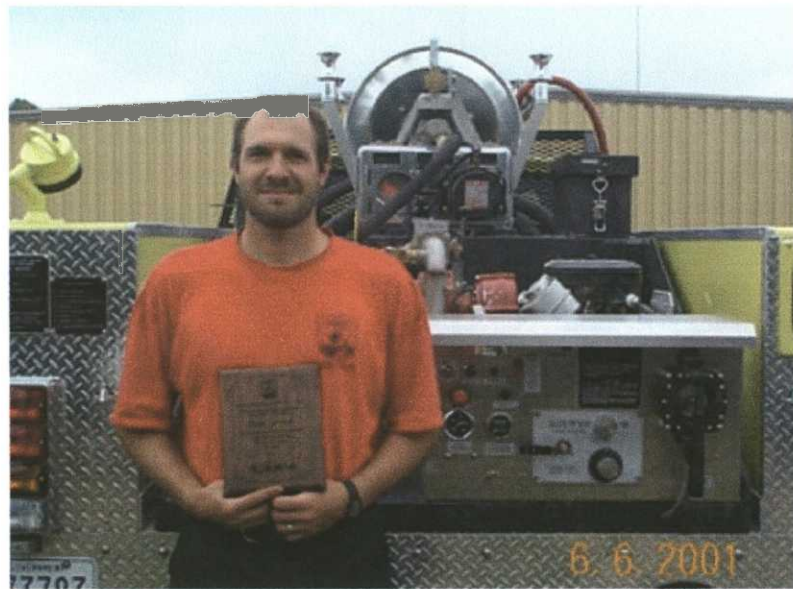


Figure 56. Quivira NWR was named a "GLOBALLY IMPORTANT BIRD AREA", in 2001 by the American Bird Conservancy.

01-DH





Figure 57. As the sun
slowly sinks into the
west, it was another
good year at Quivira.

01-GM

LEAFLETS

U.S. Fish & Wildlife Service

Quivira

*National Wildlife
Refuge*





For untold years, the Big and Little Salt Marshes of Quivira National Wildlife Refuge have attracted thousands of migratory waterfowl, providing them with food, cover, and a place to rest during their long flights between breeding and wintering areas.

© Bob Gress

About the Refuge



This blue goose, designed by J.N. "Ding" Darling, has become the symbol of the National Wildlife Refuge System.

A Place Known for Wildlife

Quivira National Wildlife Refuge (NWR) located in south central Kansas, lies in an area where the eastern and western prairies meet and blend. In 1955, the Migratory Bird Commission approved the purchase of land to create the Refuge, thus providing food, water, and nesting areas for migratory waterfowl in this area of Kansas. Quivira NWR is one of a network of over 500 refuges across the United States. Refuges are vitally important, providing habitat for hundreds of species of birds, mammals, reptiles, amphibians, fish, and plants. National Wildlife Refuges are managed to protect endangered plants and animals, to provide for the needs of migratory birds, to preserve natural diversity, and to provide places for people to understand and enjoy wildlife.

The name "Quivira" comes from a Native American tribe living in the area when the Spanish explorer, Coronado, visited in 1541. In quest of gold, treasures, and the fabled "Seven Cities of Cibola," he found instead fertile grasslands, abundant wildlife, and small agricultural villages. The Native Americans, and later, the early settlers, hunted waterfowl in these marshes. Shortly after the turn of the century, commercial hunting provided wagon loads of waterfowl to Kansas City restaurants and other eastern cities.

With the decline of commercial hunting came the establishment of hunting clubs. The lands bought up by these clubs helped preserve valuable waterfowl habitat from further development. Moreover, these hunting clubs worked to improve the habitat to attract migrating birds. Canals and water control structures were later added, providing the entire area with a more dependable water supply. Today, these marshlands remain a major stopover for thousands of migrating birds.

Wildlife Throughout the Seasons

Located where the relatively lush vegetation of the east blends into the more arid grasslands of the west, Quivira NWR supports numerous and varied plant communities. This variety of plant communities attracts birds common to both eastern and western North America. Over 300 bird species have been observed on the Refuge.

Fall Flights

Thousands of Canada geese, ducks, and other migratory birds, such as sandhill cranes and shorebirds, pass through the Refuge from September to December. The shallow west edge of the Big Salt Marsh is a favorite roosting area for the sandhill cranes. Endangered whooping cranes may make a brief visit as they move along their migration routes from mid-October through November. This is the best time to view these rare visitors. The whooping cranes may make a return visit in mid-March through mid-April on their way north to nesting areas.

*Sandhill cranes
silhouetted at sunset.*



© Bob Gress

Winter and Spring Visitors

Bald and golden eagles winter on the Refuge from November until March. Over 500,000 ducks and geese visit the Refuge until severe weather drives them southward to winter along the Gulf Coast and in Mexico. During March and April, the Refuge becomes a staging area once again for ducks, geese, shorebirds, American white pelicans, gulls, and other migrants en route to traditional nesting grounds in the prairie potholes of the north central United States and Canada.

*American white
pelicans in the marsh.*



© Bob Gress

Summer Residents

Summer residents include Swainson's hawks and Mississippi kites, while northern harriers, American kestrels, and red-tailed hawks are common throughout the year. Ring-necked pheasants and bobwhite quail are often seen in the Refuge grasslands and grain fields. Look for wild turkey along the edge of tree groves and shelter belts where they often seek food and cover.

Dave Hilley, USFWS



Wild turkey (above left), black-tailed prairie dog (above right), white-tail deer (middle), mallards (far right)



© Bob Gress

Common summer nesting species on the Refuge include snowy plovers and American avocets. Black-necked stilts and white-faced ibis nests have been recorded in recent years. In addition, a colony of endangered least terns use the salt flats at the north end of the Refuge as nesting habitat. Other wildlife frequently seen on the Refuge include white-tailed deer, black-tailed prairie dogs, beaver, raccoons, badgers, and coyotes. Bird watchers can pick up a Refuge bird list containing more detailed information at the Refuge headquarters.

Managing Land for Wildlife - the Work of the Refuge

Quivira NWR is managed primarily to provide migratory waterfowl with food, water, and shelter. Other migratory birds, endangered species, and resident wildlife, such as deer and pheasant, also benefit from habitat management programs. Primary habitat management programs conducted on the Refuge include cooperative farming, grazing, prescribed burning, and water control.

Dave Hilley, USFWS



Farming for Wildlife

In the cooperative farming program, crops are planted on the Refuge by local farmers who work on a share basis. Over 1,300 acres are planted with crops to provide food for the migrating birds and resident wildlife. The fields are rotated between winter wheat and milo, with cow peas planted periodically to enrich the soil.

The farmers harvest their two-thirds share of the milo, leaving the Refuge share standing in the field as food for wildlife. Wheat fields are completely harvested, with the farmers receiving a three-quarters share. The remaining quarter of the harvest is left on the Refuge as food and cover for wildlife. Migrating geese browse on the tender young shoots of wheat growing in these harvested fields.

Grazing Now and Then

Historically, great herds of bison grazed the grasslands of this area. They would graze an area only for a short time, then move on, thus allowing the native grasses to regrow and continue the cycle. Since bison no longer roam the Great Plains, Quivira NWR imitates this natural cycle of high intensity grazing over a short period of time with cattle. Through this management

Dave Hilleg, USFWS



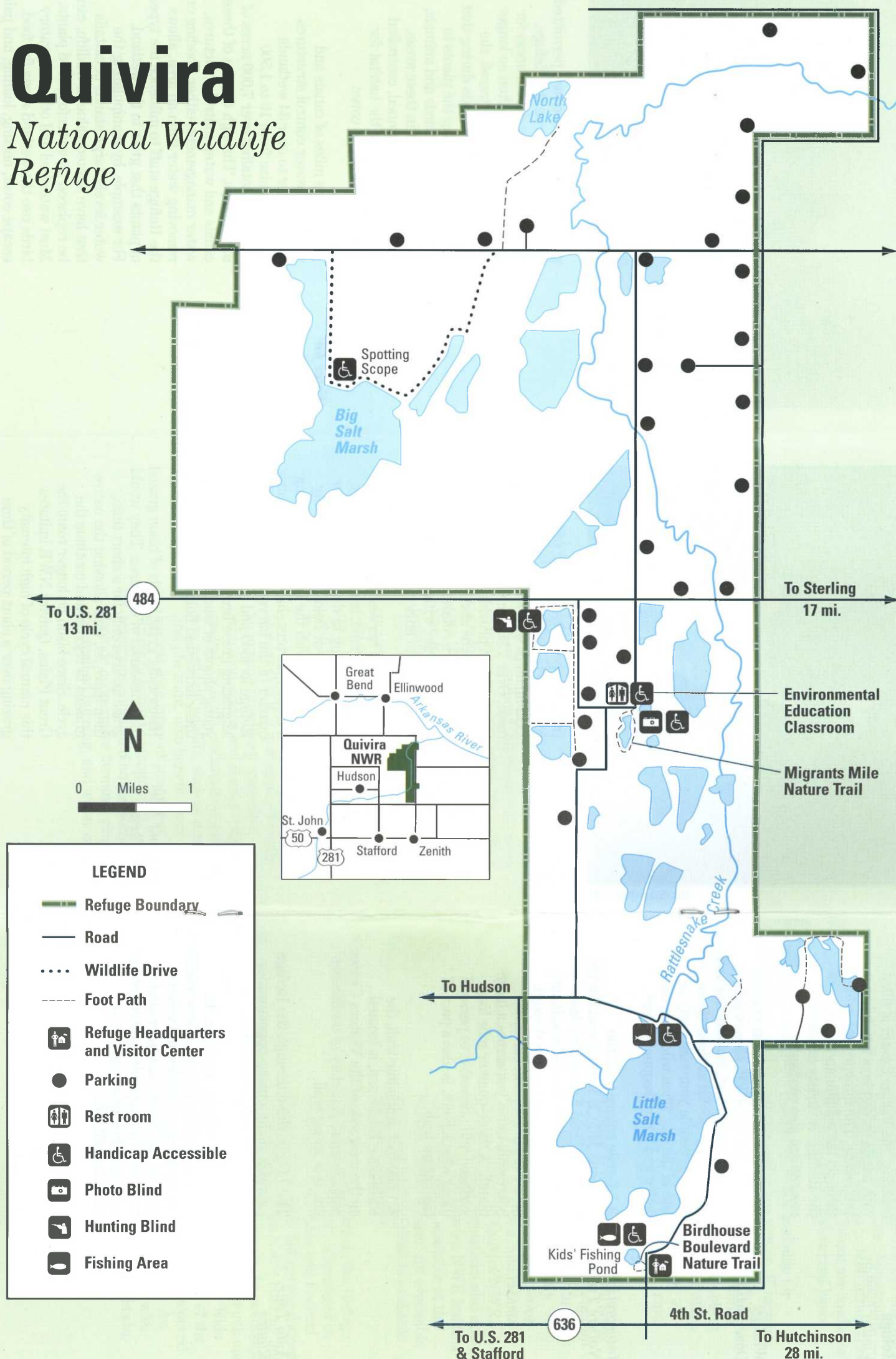
program, local ranchers are permitted to graze their cattle on the Refuge, but only in specially chosen areas for short periods of time, often no longer than a few days. Once grazed, the area is seldom used again during that season, thus allowing the plants to regrow. Grassland birds and animals, feed, nest, and rest in these areas. Deliberate, well-planned, controlled burns also improve the habitat for wildlife nesting and cover.

Water for Wildlife

Twenty-one miles of canals and numerous water control structures divert water to over 34 wetlands ranging in size from 10 to 1,500 acres and totaling over 7,000 acres of marshlands. Through the use of these canals and water control structures, water management, either flooding or removing water from an area, allows the Refuge staff to influence the types of plants that grow in the wetland. For example, by manipulating the water levels, large stands of cattails that have limited value to wildlife, can be replaced by waterfowl food plants. Most waterfowl and other migratory birds use the wetland areas for food, escape cover, nesting, loafing, and pair bonding during breeding season.

Quivira

National Wildlife Refuge



**Enjoying the
Refuge**
Visitor Center

Located in the Refuge Headquarters building, the Visitor Center is filled with hands-on displays for children and adults. The interpretive exhibits focus on the wildlife and habitats of the Refuge. A variety of wildlife mounts are also on display.

*Wildlife
Observation*

Spring and fall are the best seasons to visit Quivira NWR, since wildlife, especially waterfowl, is abundant and more easily viewed at these times. Try to schedule your visit early or late in the day when wildlife is most active and more frequently seen.

*Interpretive
Nature Trails*

A 1.2-mile nature trail, the Migrants Mile, is located south of the Environmental Education Classroom. It loops through shaded woodlands, along marshy edges, and through native grasslands. An elevated boardwalk takes you across a large marsh. A three-quarter mile loop, surfaced and accessible to persons using wheelchairs, is also a part of the nature trail.

A 1,000-foot accessible trail, the Birdhouse Boulevard, is located on the west side of the Visitors Center parking area. A variety of birdhouses line this scenic trail.

*Auto Tour
Routes*

The 14-mile drive through the Refuge provides visitors many opportunities to pull over and view wildlife.

The 4-mile Wildlife Drive, at the north end of the Refuge, offers wildlife watching opportunities and views of the Big Salt Marsh and surrounding habitats. An accessible spotting scope is provided to assist visitors in watching wildlife.

*Wildlife
Photography*

Photography blinds are located at the Little Salt Marsh and on the Migrants Mile nature trail. The photography blind on the Migrants Mile nature trail is accessible. Both blinds are available on a first-come, first-served basis.

*Environmental
Education*

Guided tours are available for schools and other groups. Educators are encouraged to investigate one of the many different educational activities for field trips available at the Refuge. Please call the Refuge staff for more information or to schedule guided tours, field trips, and/or teacher workshops.

Hunting

Hunting is permitted on 8,000 acres of the Refuge. The hunting program is managed in accordance with State and Federal regulations. Only waterfowl, pheasants, quail, dove, snipe, rails, squirrels, and rabbits may be hunted on Quivira NWR. Special Refuge regulations also apply, as listed in the Quivira NWR hunting and fishing leaflet available at the Refuge Visitor Center. An accessible waterfowl hunting blind is available by reservation only.

Fishing

Fishing is permitted on the Refuge. The fishing program is managed in accordance with State and Federal regulations. Special Refuge regulations, listed in the Quivira NWR hunting and fishing leaflet, also apply. An accessible fishing area is located on the north end of the Little Salt Marsh. The "Kids Fishing Pond" is located west of the Visitor Center. This pond is reserved for kids 14 years and younger. An accompanying adult may fish with the youth. An accessible pier is also located at this pond.

Refuge Regulations

Although the following rules and regulations may seem inconvenient or overly restrictive to some, they are necessary for the protection of wildlife and their habitats, and, in some instances, for the safety of visitors. By observing these rules, visitors will make the Refuge a better place for themselves and the wildlife they come to enjoy.

Visiting Hours

The Refuge is open to visitors from daylight to dark. The Visitor Center is open from 7:30 am to 4:00 pm, Monday through Friday.

Access and Parking

Motorized vehicles are permitted only on developed roads and parking areas. Driving off-road or on roads closed by signs or barriers is prohibited. Parking in front of gates, on bridges, or on water control structures is prohibited.

Rest Rooms

There are rest rooms at the Visitor Center, inside the Environmental Education Classroom building, and just outside the Classroom building. All rest rooms are fully accessible.

Access for Visitors with Disabilities

Equal opportunity to participate in and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of physical or mental disability. For visitors using TDD, contact the Kansas Relay Service at 1 800/766-3777. For more information or to address accessibility needs, please contact Refuge staff at 316/486-2393 or the U.S. Department of the Interior, Office of Equal Opportunity, 1849 C Street, NW, Washington, D.C. 20240.

Hiking

All of the Refuge is open to hiking.

Camping

Overnight camping is not permitted. All visitors must leave the Refuge at the end of each day.

Bicycling

Bicycling is permitted on the Refuge but restricted to established roads and trails. Bicycles are prohibited on both interpretive nature trails.

Horseback Riding

Horseback riding is permitted, but for safety purposes, Refuge staff must be notified before any riding activities take place. Horses are restricted to established roads and trails. Horses are prohibited on both interpretive nature trails.

Boating

The use of boats and canoes is not allowed on the Refuge.

Fires

No fires of any type are permitted within the Refuge.

Firearms

The possession of firearms is prohibited except as authorized during the hunting season.

Littering

Littering is prohibited on the Refuge. Please remove all trash from the Refuge.

Nearby Accommodations

Gas, food, and lodging can be found in the nearby communities of Stafford, Sterling, Hutchinson, and Great Bend.

Refuge Signs and Their Meaning



Refuge Boundary - Authorized entry only



Public Hunting Area - Area behind this sign open to hunting



No Hunting Zone - Area behind this sign closed to all hunting.



Non-toxic Shot Zone - Non-toxic shot must be used for all hunting

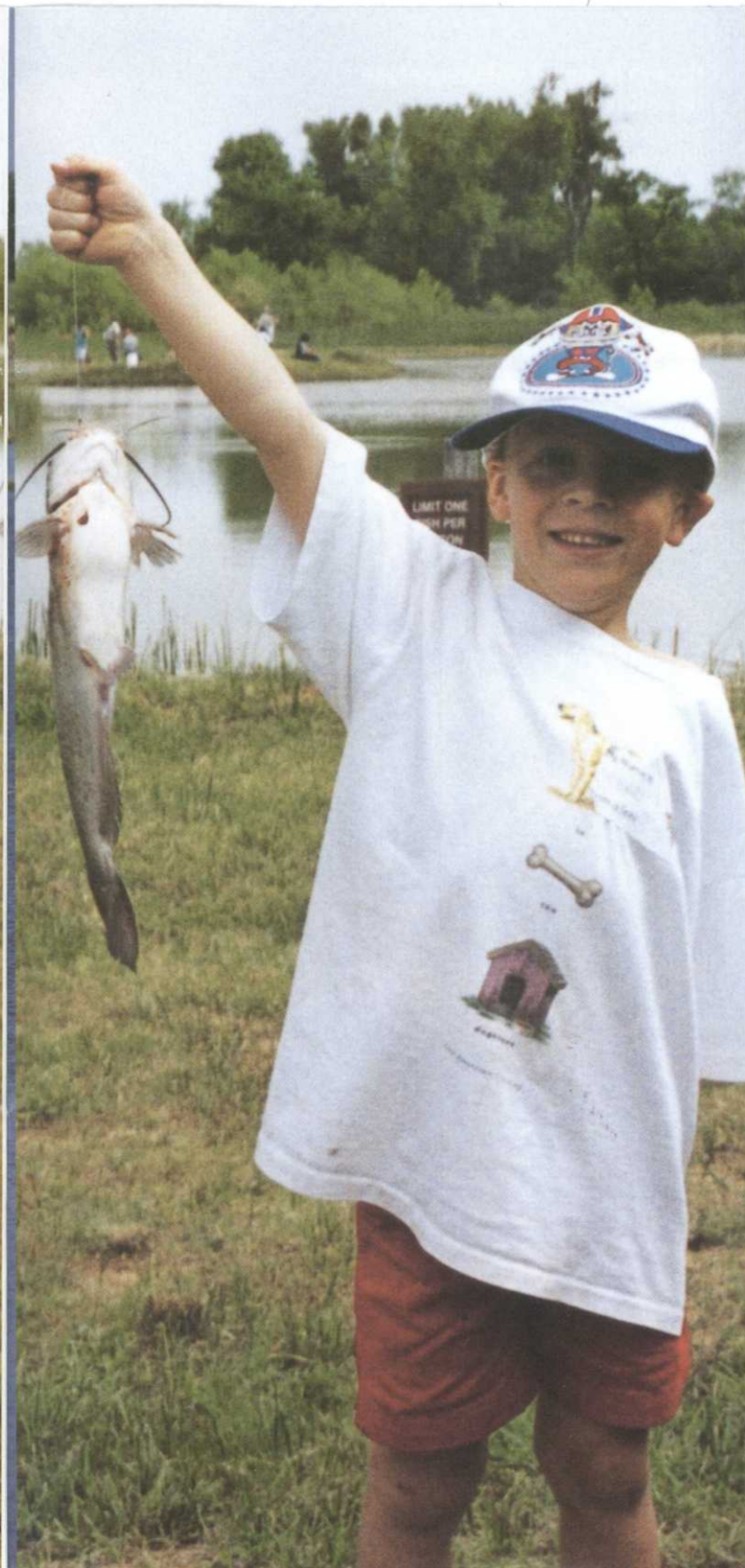


**Would You
Like To Help?**
*Friends
of Quivira*

The Friends of Quivira is a nonprofit group established in 1998 to assist the Refuge with their environmental education and stewardship goals. This group sponsors and volunteers at educational events held throughout the year. Some annual events include: the "Peeps and Pastries" birding tour; "Fathers' Day Out," a father and child event; the Kids' Fishing Clinic; "Monarch Mania," a butterfly tagging event; and a week-long celebration of National Wildlife Refuge Week. For more information about the Friends of Quivira, contact:

Friends of Quivira
c/o Quivira National Wildlife Refuge
RR #3, Box 48A
Stafford, KS 67530

Gary Meggers, USFWS



Quivira National Wildlife Refuge
RR 3, Box 48A
Stafford, KS 67578
316/486 2393
r6rw_qvr@fws.gov
quivira.fws.gov

Kansas Relay Service
TDD: 1 800/766 3777

U.S. Fish & Wildlife Service
<http://www.fws.gov>

For Refuge Information
1 800/344 WILD

January 2001



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U.S. Fish & Wildlife Service

Quivira

*National Wildlife
Refuge*

Bird List



About the Refuge

Quivira National Wildlife Refuge (NWR) is located in south-central Kansas within the transition zone of the Great Plains. In this zone, the relatively lush vegetation of the eastern prairie blends with the more arid grasslands of the western prairie. The blend of varied plant communities and the presence of the Big and Little Salt Marshes, major water features on the Refuge, attract birds common to both eastern and western North America. Over 300 species of birds have been observed in the marshes, grasslands, farmlands, and low sandhills of Quivira NWR.

Seasonal Highlights

Fall Flights and Winter Visitors

From September to December, up to 500,000 Canada geese and ducks pass through Quivira NWR on their way to wintering grounds along the Gulf Coast and in Mexico. Other migratory birds, such as sandhill cranes and shorebirds, can also be seen. Endangered whooping cranes may make a brief visit as they move along the Central Flyway. Both bald and golden eagles winter on Quivira NWR from November until March.

Spring Staging

During March and April, Quivira NWR becomes a staging area for over 200,000 ducks and geese. Shorebirds, American white pelicans, gulls, and other migrants can also be seen. The majority of these birds stopover on their way to traditional nesting grounds in the prairie potholes of the north-central United States and Canada.

Spring and Summer Residents

Snowy plovers, American avocets, black-necked stilts, and white-faced ibis are some of the more common nesting species found on the Refuge. A colony of endangered interior least terns use the salt flats on the north end of Quivira NWR as nesting habitat. Swainson's hawks and Mississippi kites are common during the summer months, while northern harriers, American kestrels, and red-tailed hawks are commonly seen throughout the year. Look for ring-necked pheasants and bobwhite quail in

the grasslands and grain fields. Wild turkey can be seen along the edge of tree groves and shelter belts where they often look for food and shelter.

Watching Wildlife

Spring and fall are the best seasons to visit Quivira NWR since wildlife, especially waterfowl, is abundant and more easily viewed during these times. Try to schedule your visit early or late in the day when wildlife is most active and more frequently seen. Take a drive through the Refuge and along its boundaries; the best viewing is along the scenic tour route and the Wildlife Drive. See the Refuge general information leaflet for a map and more information.

The U.S. Fish and Wildlife Service seeks to afford persons with disabilities full accessibility or reasonable accommodation. Contact Refuge staff for information or to address accessibility needs. For the hearing impaired, use your State Relay System for the Deaf.

About this Checklist

This list of 311 birds follows the format of the Seventh A. O. U. Checklist (1998). Accidental species appear at the end of the checklist. Since most birds are migratory, their seasonal occurrence and relative abundance are coded as follows:

Seasons:

Sp Spring (March-May)
Su Summer (June-August)
F Fall (September-November)
W Winter (December-February)

Seasonal Abundance:

a abundant—a common species which is numerous
c common—a species certain to be seen in suitable habitat
u uncommon—a species which is present but not certain to be seen
o occasional—a species seen only a few times during the season
r rare—a species seen at intervals of 2 to 5 years

Other Codes

• birds that nest on the Refuge
italicized name=endangered species in the United States

	Sp	Su	F	W
Loons				
___ Common Loon	o	r	o	r
Grebes				
___ •Pied-billed Grebe	c	c	c	o
___ Horned Grebe	u		u	o
___ •Eared Grebe	c	u	c	r
___ Western Grebe	r	r	o	o
Pelicans				
___ American White Pelican	a	a	a	o
Cormorants				
___ Neotropic Cormorant	o	o		
___ •Double-crested Cormorant	a	c	a	u
Hérons				
___ •American Bittern	u	u	u	o
___ •Least Bittern	o	u	o	
___ •Great Blue Heron	c	c	c	u
___ •Great Egret	c	c	c	
___ •Snowy Egret	c	c	c	
___ •Little Blue Heron	c	c	u	
___ Tricolored Heron	r	r		
___ •Cattle Egret	a	a	c	
___ •Green Heron	u	u	o	
___ •Black-crowned Night-Heron	c	c	c	
___ •Yellow-crowned Night-Heron	u	u	u	
Ibises				
___ White Ibis	r	r	r	
___ Glossy Ibis	r	r	r	
___ •White-faced Ibis	c	c	c	
Vultures				
___ Turkey Vulture	c	u	u	
Whistling Ducks				
___ Black-bellied Whistling Duck		r		
Geese				
___ Greater White-fronted Goose	c	r	a	a
___ Snow Goose	c		u	c
___ Ross' Goose	o		u	u
___ •Canada Goose	c	c	a	a
___ Brant	r		r	r
Swans				
___ Trumpeter Swan			r	r
___ Tundra Swan	o		o	r

	Sp	Su	F	W
Ducks				
___ •Wood Duck	c	u	u	o
___ •Gadwall	a	u	c	c
___ •American Wigeon	a	u	c	c
___ American Black Duck	r		r	r
___ •Mallard	a	c	a	a
___ Mottled Duck	r	r		
___ •Blue-winged Teal	a	c	a	
___ •Cinnamon Teal	u	o	o	o
___ •Northern Shoveler	a	u	a	c
___ •Northern Pintail	a	u	c	a
___ •Green-winged Teal	a	o	a	c
___ •Canvasback	c	o	c	c
___ •Redhead	a	c	c	a
___ Ring-necked Duck	c	r	c	u
___ Greater Scaup	o			o
___ •Lesser Scaup	c	o	c	c
___ Oldsquaw	r		o	r
___ Bufflehead	c		c	c
___ Common Goldeneye	c	r	c	c
___ •Hooded Merganser	u	o	u	o
___ Common Merganser	u			c
___ Red-breasted Merganser	r	r	o	
___ •Ruddy Duck	a	c	a	u
Hawks, Kites, Eagles				
___ Osprey	o	r	o	
___ •Mississippi Kite	u	u		
___ Bald Eagle	u		u	u
___ •Northern Harrier	c	o	c	c
___ Sharp-shinned Hawk	u		o	u
___ •Cooper's Hawk	u	o	u	u
___ Northern Goshawk			r	r
___ Red-shouldered Hawk			r	
___ Broad-winged Hawk			r	
___ •Swainson's Hawk	c	c	u	
___ •Red-tailed Hawk	c	c	c	c
___ Ferruginous Hawk	o		o	o
___ Rough-legged Hawk	u			u
___ Golden Eagle	o		o	o
Falcons				
___ •American Kestrel	c	u	c	u
___ Merlin	o	r	o	o
___ <i>Peregrine Falcon</i>	o	o	o	o
___ Prairie Falcon	o	r	o	o

	Sp	Su	F	W
Gallinaceous Birds				
— •Ring-necked Pheasant	c	c	c	c
— •Greater Prairie-Chicken	r	r	r	r
— •Wild Turkey	c	c	c	c
— •Northern Bobwhite	c	c	c	c
Rails, Gallinules				
— •Black Rail	u	u		
— •King Rail	u	u	o	
— •Virginia Rail	c	c	o	
— •Sora	u	u	o	
— •Common Moorhen	o	u	o	
— •American Coot	a	c	a	u
Cranes				
— Sandhill Crane	a		a	o
— Whooping Crane	o		o	r
Plovers				
— Black-bellied Plover	u	u	u	r
— American Golden Plover	u	o	o	
— •Snowy Plover	c	c	c	
— Semipalmated Plover	c	c	u	
— Piping Plover	u	o	o	
— •Killdeer	c	c	c	o
— Mountain Plover	r		r	
Stilts, Avocets				
— •Black-necked Stilt	c	c	u	
— •American Avocet	c	c	c	
Sandpipers				
— Greater Yellowlegs	c	c	c	o
— Lesser Yellowlegs	a	c	a	r
— Solitary Sandpiper	u	u	u	
— Willet	u	u	u	
— Spotted Sandpiper	c	c	u	
— •Upland Sandpiper	c	u	u	
— Whimbrel	o	o	o	
— Long-billed Curlew	o	o	o	
— Hudsonian Godwit	u	r		
— Marbled Godwit	u	u	u	
— Ruddy Turnstone	o	o	o	
— Red Knot	o	o	o	
— Sanderling	c	o	c	
— Semipalmated Sandpiper	a	c	a	
— Western Sandpiper	c	c	c	
— Least Sandpiper	a	c	a	
— White-rumped Sandpiper	a	a	o	

	Sp	Su	F	W
— Baird's Sandpiper	a	c	a	
— Pectoral Sandpiper	c	c	c	
— Dunlin	u	o	u	r
— Stilt Sandpiper	a	c	a	
— Buff-breasted Sandpiper	o	r	o	
— Ruff	r	r		
— Short-billed Dowitcher	u	u	o	
— Long-billed Dowitcher	c	c	c	
— Common Snipe	u	o	u	
— American Woodcock	r		r	
Phalaropes				
— •Wilson's Phalarope	a	c	a	
— Red-necked Phalarope	o	r	o	
— Red Phalarope	r		r	
Jaegers				
— Parasitic Jaeger		r	r	
Gulls				
— Laughing Gull	r	o		
— Franklin's Gull	a	u	a	
— Bonaparte's Gull	r	r	o	o
— Ring-billed Gull	c	u	c	u
— Herring Gull	o		o	o
— Sabine's Gull		r	r	
Terns				
— Caspian Tern	r	o	r	
— Common Tern	o	o	o	
— •Forster's Tern	c	c	u	
— •Least Tern	u	u	o	
— •Black Tern	c	c	u	
Pigeons, Doves				
— •Rock Dove	u	u	u	u
— •Mourning Dove	a	a	a	o
Cuckoos				
— Black-billed Cuckoo	r	r		
— •Yellow-billed Cuckoo	o	u	r	
Owls				
— •Eastern Screech-Owl	u	o	o	o
— •Great Horned Owl	u	u	u	u
— Snowy Owl			r	r
— •Burrowing Owl	o	o		
— •Long-eared Owl	r	r	r	o
— Short-eared Owl	r		r	r

	Sp	Su	F	W
Goatsuckers				
— •Common Nighthawk	u	c	u	
— Common Poorwill.....	o	o		
— •Chuck-will's-widow	o	o		
Swifts				
— •Chimney Swift	u	u	u	
Hummingbirds				
— Ruby-throated Hummingbird		r		
Kingfishers				
— Belted Kingfisher.....	u	u	u	o
Woodpeckers				
— •Red-headed Woodpecker	c	a	u	
— •Red-bellied Woodpecker	u	u	u	u
— •Downy Woodpecker	u	u	u	u
— •Hairy Woodpecker	u	u	u	u
— •Northern Flicker	c	c	c	c
Flycatchers				
— Olive-sided Flycatcher	o		o	
— •Eastern Wood-Pewee	u	u		
— Willow Flycatcher	o		o	
— Least Flycatcher	u		u	
— •Eastern Phoebe	u	u		
— Say's Phoebe.....	o		o	
— •Great-Crested Flycatcher	u	u		
— •Western Kingbird	c	c	o	
— •Eastern Kingbird.....	c	c	o	
— •Scissor-tailed Flycatcher	u	u		
Shrikes				
— •Loggerhead Shrike	u	u	u	o
— Northern Shrike.....	r		o	o
Vireos				
— •Bell's Vireo	u	u		
— •Warbling Vireo	u	u		
— Red-eyed Vireo.....	o	o	r	
Jays, Magpies, Crows				
— •Blue Jay.....	c	u	c	u
— •Black-billed Magpie.....	o	o	o	o
— •American Crow	c	u	c	u
Larks				
— •Horned Lark.....	c	u	u	c
Swallows				
— •Purple Martin.....	o	o		

	Sp	Su	F	W
— •Tree Swallow.....	u	o	o	
— •Northern Rough-winged Swallow.....	u	o	u	
— •Bank Swallow	c	a	o	
— •Cliff Swallow	a	a	o	
— •Barn Swallow	a	a	c	
Chickadees, Titmice				
— •Black-capped Chickadee.....	c	u	u	c
— Tufted Titmouse			o	o
Nuthatches				
— •White-breasted Nuthatch.....	u	o	o	o
Creepers				
— Brown Creeper.....			o	o
Wrens				
— Carolina Wren.....	o			o
— •Bewick's Wren	o	o		
— •House Wren	c	c	u	
— Sedge Wren.....	o		o	
— Marsh Wren	u		u	u
Kinglets				
— Golden-crowned Kinglet	o			o
— Ruby-crowned Kinglet	u		u	o
Gnatcatchers				
— •Blue-gray Gnatcatcher	u	u	r	
Thrushes, Bluebirds				
— •Eastern Bluebird	u	u	u	o
— Mountain Bluebird.....				r
— Townsend's Solitaire	r			o
— Swainson's Thrush.....	o		o	
— Wood Thrush.....	r			
— •American Robin	c	c	c	u
Thrashers				
— •Gray Catbird.....	c	u	o	
— •Northern Mockingbird	u	u	u	o
— •Brown Thrasher.....	c	c	o	r
Starlings				
— •European Starling	c	c	c	c
Pipits				
— American Pipit	u		u	
Waxwings				
— Cedar Waxwing	r	o	o	o

	Sp	Su	F	W
Warblers				
— Tennessee Warbler.....	r			
— Orange-crowned Warbler	u		u	
— Nashville Warbler	o		o	
— Yellow Warbler	u	r		
— Yellow-rumped Warbler.....	u	r	u	
— Palm Warbler	o			
— Blackpoll Warbler	r			
— Black-and-white Warbler	r		r	
— American Redstart	o		o	
— Northern Waterthrush	o			
— •Common Yellowthroat.....	c	c	u	o
— Wilson's Warbler	o		o	
— •Yellow-breasted Chat.....	o	r	r	
Towhees, Sparrows				
— Spotted Towhee	u		c	u
— American Tree Sparrow	u		c	a
— Chipping Sparrow	c	r	c	
— Clay-colored Sparrow	c		o	
— •Field Sparrow	c	u	u	u
— Vesper Sparrow	u	r	o	r
— •Lark Sparrow.....	c	o	o	
— Lark Bunting	o	r		
— Savannah Sparrow.....	u	r	u	o
— •Grasshopper Sparrow	u	u	o	
— LeConte's Sparrow	o		o	r
— Nelson's Sharp-tailed Sparrow	o		o	
— Fox Sparrow	o		o	
— Song Sparrow	c		c	u
— Lincoln's Sparrow	o		u	
— Swamp Sparrow	u		u	u
— White-throated Sparrow	o		u	o
— Harris' Sparrow	c	r	c	c
— White-crowned Sparrow	u		u	o
— Dark-eyed Junco	c		c	c
— Lapland Longspur	r		o	u
— Chestnut-collared Longspur	r			r
Grosbeaks, Buntings				
— •Northern Cardinal.....	c	u	u	c
— Rose-breasted Grosbeak.....	o			
— •Black-headed Grosbeak	o	r		
— •Blue Grosbeak	o	o		
— Lazuli Bunting	r			
— •Indigo Bunting	u	o		
— •Dickcissel	c	c	r	

	Sp	Su	F	W
Blackbirds, Orioles				
— •Bobolink	u	u		
— •Red-winged Blackbird.....	a	a	a	a
— •Eastern Meadowlark.....	c	c	c	c
— •Western Meadowlark	c	c	u	c
— •Yellow-headed Blackbird.....	a	a	c	r
— Brewer's Blackbird	o	o	o	o
— •Common Grackle	c	c	c	o
— •Great-tailed Grackle	c	c	c	r
— •Brown-headed Cowbird	c	c	c	c
— •Orchard Oriole	u	u	o	
— •Baltimore Oriole.....	c	c	r	
Finches				
— •House Finch	o	o	o	o
— Pine Siskin.....	o		o	u
— •American Goldfinch	c	o	u	c
Old World Sparrows				
— •House Sparrow.....	c	u	u	u
Accidentals				
— Clark's Grebe				Red-breasted Nuthatch
— Brown Pelican				Rock Wren
— Greater Flamingo				Winter Wren
— Fulvous Whistling Duck				Veery
— Surf Scoter				Gray-cheeked Thrush
— White-winged Scoter				Sprague's Pipit
— Black Scoter				Bohemian Waxwing
— Barrow's Goldeneye				Golden-winged Warbler
— Curlew Sandpiper				Magnolia Warbler
— Black-legged Kittiwake				Blackburnian Warbler
— Gull-billed Tern				Prothonotary Warbler
— Greater Roadrunner				Worm-eating Warbler
— Groove-billed Ani				Ovenbird
— Barn Owl				Mourning Warbler
— Barred Owl				Canada Warbler
— Northern Saw-whet Owl				Summer Tanager
— Whip-poor-will				Henslow's Sparrow
— Yellow-bellied Sapsucker				McCown's Longspur
— Pileated Woodpecker				Smith's Longspur
— Yellow-bellied Flycatcher				Snow Bunting
— Yellow-throated Vireo				Painted Bunting
— Philadelphia Vireo				Rusty Blackbird
— Western Scrub Jay				Bullock's Oriole
— Violet-green Swallow				Purple Finch
— Carolina Chickadee				Common Redpoll
				Evening Grosbeak

Quivira National Wildlife Refuge
Rt. 3 Box 48A
Stafford, KS 67578
620 / 486 2393
620 / 486 2315 fax
fw6_rw_quivira_nwr@fws.gov
<http://www.quivira.fws.gov>

Kansas Relay Service
TDD: 711 or 1 800 / 766 3777

U.S. Fish & Wildlife Service
<http://www.fws.gov>

For Refuge Information
1 800 / 344 WILD

September 2001



Quivira

National Wildlife Refuge



**Hunting & Fishing
Regulations**

TAKE PRIDE IN AMERICA

America's Federal, State, and local public lands provide important opportunities for YOU to enjoy the outdoors and learn about your natural surroundings and cultural heritage. Each year millions of Americans just like YOU camp, hike, boat, swim, hunt, fish, bird-watch, sight-see, and learn about the natural and historical diversity of America's public lands.

To help insure that public lands continue to meet increasing demands for recreation, Americans must develop a greater sense of ownership, pride, and responsibility for public lands.

What can YOU do? Be proud of your public lands and use them wisely. Pickup litter when you see it. Report vandalism and misuse. Volunteer your time for special projects. Contact your local land managers to learn more about how you can help by taking pride in America.



The U.S. Fish and Wildlife Service seeks to afford persons with disabilities full accessibility or reasonable accommodation. Contact Refuge Headquarters for information or to address accessibility problems. For the hearing impaired, use your State Relay System for the Deaf.

For Further information, Write:

Refuge Manager
Quivira National Wildlife Refuge
Route 3, Box 48A
Stafford, Kansas 67578
or call: 620 / 486 2393
fw6_rw_quivira_nwr@fws.gov

U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service



Revised December 1996

HUNTING REGULATIONS

Hunting is permitted in accordance with applicable State and Federal regulations and the following special regulations.

SEASONS—Refuge hunting areas are open September 1 through February 28. **Refuge hunting areas may be closed to hunting without notice when whooping cranes are present or if other emergencies arise.**

LEGAL SPECIES—Waterfowl, pheasants, quail, dove, snipe, rails, squirrels, and rabbits may be hunted during the regular Kansas seasons, **except that the Refuge is closed to all hunting from March 1 through August 31.**

All other wildlife species are protected.

GUNS—Shotguns only are permitted for Refuge hunting. The possession of rifles or handguns is prohibited.

NON-TOXIC SHOT—Steel shot or bismuth is required in all gauges when hunting any game on the Refuge. The possession of lead shot in the field is prohibited.

HUNTING AREAS—Parts of the Refuge are posted as "Public Hunting Area" and are shown on the reverse side of this leaflet. Hunting is not permitted outside the shaded areas or from or across roads, trails, and parking areas.

RETRIEVING—Retrieving game from areas closed to hunting is prohibited. Regulate your shooting so that game does not fall into no hunting zones of the Refuge.

DOGS—The use of dogs for hunting and retrieving is encouraged.

BLINDS—Portable devices or temporary blinds of natural vegetation are permitted. Permanent blinds or pits may not be constructed.

HOURS—Hunters may not enter Refuge hunting areas (to set up decoys, etc.) until 1 hour prior to legal shooting time. All decoys must be removed within 1 hour following the end of the legal shooting time.

REFUGE SIGNS—KNOW THEIR MEANING



Refuge Boundary—authorized entry only



Public Hunting Area—area behind this sign is open to hunting



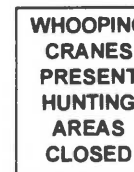
No Hunting Zone—area behind this sign is closed to all hunting



Steel Shot—non-toxic shot or bismuth must be used for all hunting

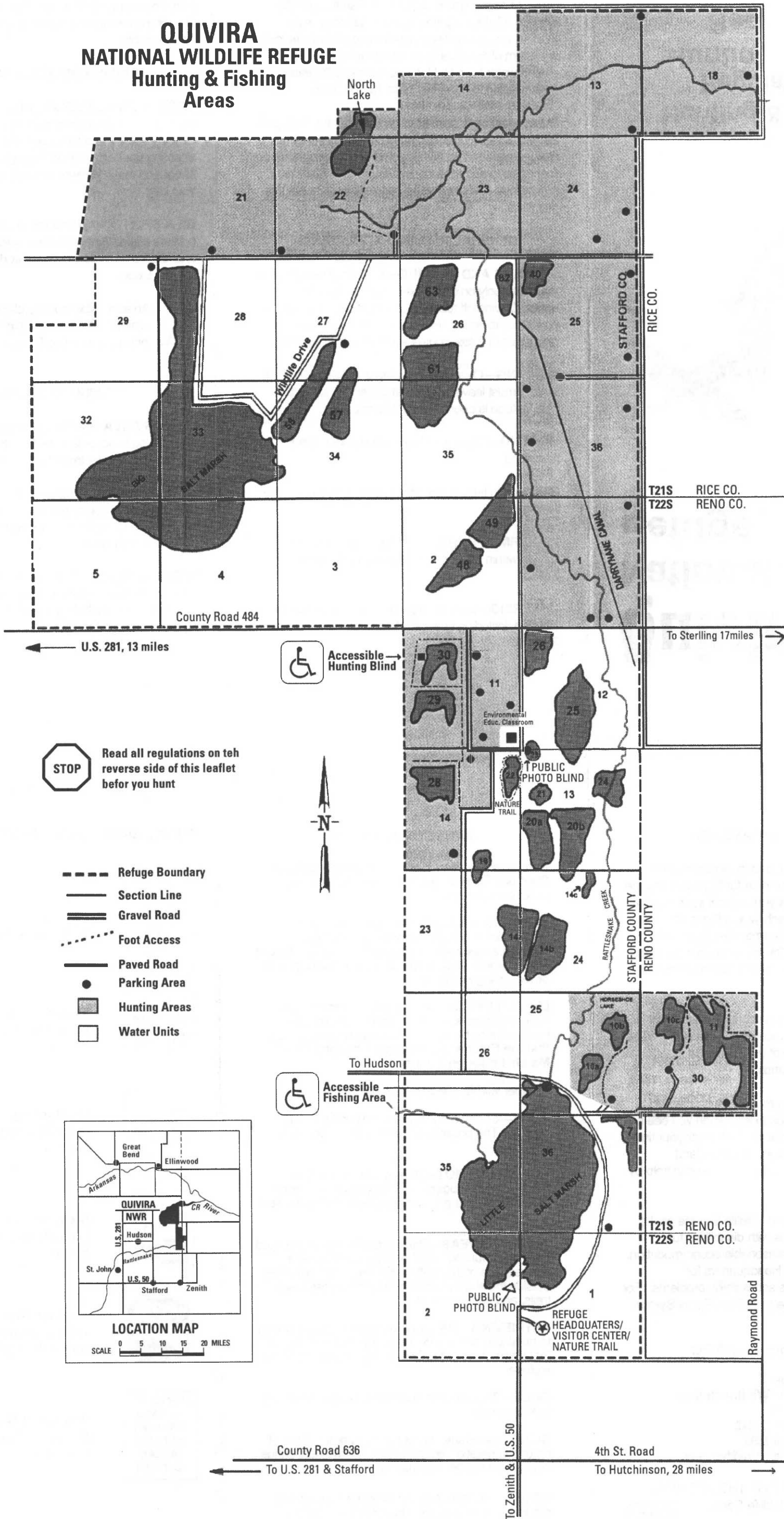


Vehicles Prohibited—no vehicles allowed; you may walk in from this point



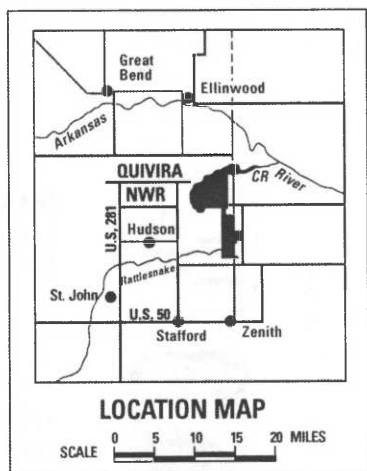
Whooping Cranes—area is closed to all hunting until sign is removed

QUIVIRA NATIONAL WILDLIFE REFUGE Hunting & Fishing Areas



STOP Read all regulations on the reverse side of this leaflet before you hunt

- Refuge Boundary
- Section Line
- == Gravel Road
- - - Foot Access
- Paved Road
- Parking Area
- Hunting Areas
- Water Units



INFORMATION

Quivira National Wildlife Refuge is one of a system of Refuges administered by the U.S. Fish and Wildlife Service. Quivira is primarily managed to provide food, water, and resting areas for migratory waterfowl. A system of canals and water control structures diverts water from Rattlesnake Creek to 30 water units ranging in size from 10 to 15,000 acres.

Public Hunting is permitted on 8,000 of the Refuge's 22,135 acres. Public fishing is permitted on all Refuge waters. The hunting and fishing programs are managed in accordance with State and Federal regulations and the special regulations listed in this brochure.

GENERAL REFUGE REGULATIONS

VEHICLES AND PARKING—Motorized vehicles are permitted only on developed roads and parking areas. Driving off roads or on roads closed by sign or barrier is prohibited. Parking in front of gates or on bridges or water control structures is prohibited.

CAMPING—Overnight camping is not permitted. All visitors must leave the area at the end of each day. The Refuge is open dawn until dusk.

BOATING—The use of boats and canoes is not permitted.

FIRES—No fires of any type are permitted within the Refuge.

FIREARMS—Possession of firearms is prohibited except within the hunting areas during hunting season.

LITTERING—Littering is prohibited. Please remove all trash, including spent shell casings, from the Refuge.

WATER SAFETY

CAUTION DEEP WATER—Water levels fluctuate from one season to the next. Use caution when crossing open water areas as deep channels may not be visible.

HUNTING RECOMMENDATIONS

DECOYS AND CALLS should be used to bring waterfowl into ideal shooting range. When setting out decoys, place the outer decoy at 40 yards from your shooting position. This will help you judge when to shoot and result in fewer cripples and more birds in your bag.

BE A SPORTSMAN and respect the rights of other hunters afield. When entering or leaving the field, try to avoid flaring birds which are working another hunter decoys.



An accessible hunting blind is available on Unit 30. Blind is available by reservations only by contacting Refuge Headquarters.

FISHING REGULATIONS

FISHING AREA—All Refuge waters are open to sportfishing in accordance with Kansas fishing regulations with the exceptions listed below.

EXCEPTIONS—Fishing with trotlines and setlines is prohibited. The use of seines for taking bait is not permitted. Fishing from water control structures and bridges is prohibited.

LEGAL SPECIES—Fish species listed in the Kansas fishing regulations may be taken. All other wildlife species including turtles, frogs, and snakes are protected on the Refuge.