

QUIVIRA NATIONAL WILDLIFE REFUGE

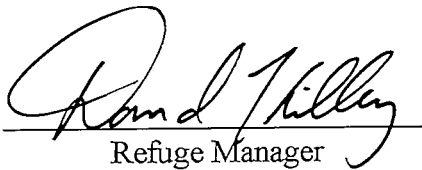
Stafford, Kansas

ANNUAL NARRATIVE REPORT

Calendar Year 2002

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

REVIEW AND APPROVAL  
QUTVIRA NATIONAL WILDLIFE REFUGE  
Stafford, Kansas  
ANNUAL NARRATIVE REPORT  
Calendar Year 2002

  
Refuge Manager

6/30/03  
Date

  
Refuge Supervisor

7-2-03  
Date

  
Regional Office Approval

7/7/03  
Date

### **~~-Notice-~~**

The annual narrative report is a 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 rewrite, 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



## **2002 HIGHLIGHTS**

### **January**

- Antlerless deer season takes a lot of time for Refuge Officers and Special Agents, working to keep Refuge deer and hunters separated.
- Duck season ends with cries of the "worst season in years" due to the drought conditions and warm weather allowing the ducks to stay north.

### **February**

- Quivira receives word that it will be designated a "Wetland of International Importance" by the Ramsar Convention on Wetlands.
- Arsonists start several fires throughout the county, none on Quivira NWR luckily, on the 2/23-24 weekend, keeping Refuge and County fire crews busy.

### **March**

- Quivira NWR and the GPNC hosted the Region 6 Centennial Team on 3/26-28.
- The GPNC celebrates the 99th birthday of the NWRS with live animal shows, programs for all ages, and a visit by "Honker the Blue Goose".

### **April**

- Refuge Manager Hilley travels to the Morris Wetland Management District in Minnesota for a Friends Mentoring visit.
- The judging for the Kansas Junior Duck Stamp Design Contest was held on April 4, with an award ceremony for all winners on April 27th.

### **May**

- On May 4th, Quivira NWR was dedicated as a "Wetland of International Importance" by the Ramsar Convention on Wetlands. The FWS Director, Secretary of Interior, and 350 other folks attended the ceremony.
- Local school students participated in a "Shorebird Sister School Program" on May 3rd, with a visiting teacher from Argentina.

## **June**

- Rains in June made Quivira the envy of all of western Kansas as we received good moisture, over 6.30 inches, and they continued to suffer from a severe drought.
- The annual Kid's Fishing Clinic and Derby was once again a great success, thanks to the staff, a lot of volunteers, and the Friends of Quivira.

## **July**

- The Friends of Quivira sponsored a quilt square contest at the Stafford Fair, to select one to represent the Refuge on the Regional Centennial Quilt.
- A volunteer public use researcher assisted the Refuge in developing procedures to better count the visiting public.

## **August**

- The new accessible photography blind is completed on the Little Salt Marsh, by a local Eagle Scout candidate.
- Four lightening caused fires occur in one night, as a strong storm cell moves through the Refuge.

## **September**

- The Kansas State Fair was in Hutchinson from September 6-15 and thousands of folks viewed and visited the FWS booth, coordinated by Quivira.
- "Monarch Mania", sponsored by the Friends of Quivira on 9/21, drew over 100 participants trying to catch and tag the elusive Monarch butterfly.

## **October**

- The Refuge participates in the Stafford Oktoberfest, and the Friends of Quivira win the chili cookoff with a recipe called "Prairie Wind", which leaves little to the imagination.
- The Friends sponsored "Step Back In Time" event for NWR Week is a big success with food and historic fun for all ages.

## **November**

- The large MMS project for road rock and surge rock delivery takes a lot of time as the crew prepares the sites for the new material.
- Fall waterfowl migrations and related hunting seasons required a lot of extra time for both Refuge Officers.

## **December**

- The Administrative Assistant position to fill the vacancy left by Cindy Terry's move to the Outdoor Recreation Planner, opened from 12/9-12/27.
- The Audubon Society Christmas Bird Count was conducted on 12/18, with a very faithful group of birders recording over 800,000 geese on Quivira, as part of their census efforts.

# MONTHLY ACTIVITY REPORTS

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

02MAR. JAN

Memorandum

February 11, 2002

To: Refuge Supervisor, (KS, NE), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, January , 2002

**A. HIGHLIGHTS**

- Moisture at last!!! Much needed moisture fell as sleet, freezing rain, and snow as a winter storm moved through the area on the last three days of January.
- A great deal of law enforcement effort was spent, by both Refuge Officers and Special Agents, during the KS antlerless deer season, January 1 - 13. Deer on the Refuge are too visible and tempting.
- Duck season ends on January 13, with cries of "The worst season in many years". Drought significantly cut the number of wetlands available and the warmer than normal temperatures kept the ducks further north.

**B. CLIMATIC CONDITIONS**

High: 77 degrees F      Low: 05 degrees F      Precip: 1.37 inches

Some moisture finally came in the form of snow, freezing rain and sleet during a January 30-31 storm. Total precipitation during January was officially recorded as 1.37 inches, at the official weather station at Hudson, KS, eight miles from HQ. The long term average precipitation for January is 0.57 inches.

Our last significant precipitation was received in mid-September and up until the late January storm, we had received only a little more than 0.25 inches since September.

January temperatures were much higher than normal with 12 days during the month topping the 60 degree mark and one "scorcher" at 77 degrees.

## **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 January.

## **F. HABITAT MANAGEMENT**

### **2. Wetlands**

Wetlands throughout the summer and fall suffered due to the worse drought conditions we experienced since 1991.

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. In late December, the level in the Little Salt Marsh had increased to allow some water diversions to nearby wetland units.

These diversions continued throughout January and slowly but surely the wetlands are beginning to re-fill. By months end, Units 7, 10a, 10b, 10c, 11, 20a, 20b, 14c, 24, 34, 58, and the LSM and BSM all had water over most of their surface.

Cattail mowing to open up marshes for better waterfowl and shorebird use was conducted on Unit 21, and the wetlands along the east boundary and north of Darrynane.

### **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. Use by the large flocks of geese was severe in some fields and with the low moisture, some areas look like a total failure.

### **9. Fire Management**

Three prescribed fire units were implemented this month. They included: Wildlife Drive for 660 acres, Whooper for 5 acres and Turner for 593 acres.

Betsy Schenk, Assistant FMO, from Columbia NWR detailed to Quivira NWR to complete a trainee assignment as prescribed fire burn boss. She completed trainee assignment on Turner unit.

January 9-11 Bill Waln presented the S-201/281, Wildland Fire Supervision, course at the Great Plains Wildland Fire Academy in Sterling, Colorado. While at the academy Bill also completed the I-100 and I-200, Introduction to ICS, courses.

Todd Schmidt completed the S-215, Wildland Fire in the Urban Interface, course at the Great Plains Wildland Fire Academy in Sterling, Colorado.

Brent Waters completed the S-230, Crew Boss, and S-231, Engine Boss, at the Great Plains Wildland Fire Academy in Sterling, Colorado.

Due to prolonged dry and unseasonably dry conditions Stafford County implemented a burn ban starting January 30. This was the same day it started to snow!!

## **G. WILDLIFE**

### **2. Threatened and /or Endangered Species**

Bald eagles were recorded on the bi-weekly waterfowl surveys and on the standardized mid-winter bald eagle survey in January. as they took advantage of any slow ducks. On the 1/7 waterfowl survey, 7 bald eagles (A-3, I-4) were observed and on the 1/22 bi-weekly survey, 14 bald eagles (A-10, I-4) were recorded. The mid-winter survey on 1/11 found 16 bald eagles (A-5, I-11) as part of a standardized statewide effort.

### **3. Waterfowl**

Two waterfowl surveys were conducted in January as part of the Bi-weekly Survey program, in conjunction with all other sites in Kansas. On 1/7, a total of 32,614 ducks, and 98,250 geese were counted. The survey on 1/22, found 48,439 ducks and 53,714 geese.

Warmer than normal temperatures allowed the ducks to stay further north for most of the fall and the large numbers of waterfowl we have experienced in the last few years had not materialized. Shortly after the close of the Kansas duck season, we started to receive an influx of ducks, much to the displeasure of the local waterfowlers.

### **4. Marsh and Water Birds**

Great blue herons continued to use the Refuge, even after the major wetlands started to freeze over, finding small open water areas.

Sandhill cranes were absent on the 1/7 count, but 23 sandhills were counted on the 1/22 survey. We don't know if they were going north or south.

## 6. Raptors

A snowy owl was seen several times during the month on the Big Salt Marsh flats. Several others have been reported throughout the state this year.

## 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

A Kansas Conservation Officers meeting was held on 1/24 in the Environmental Education Classroom.

Work started on the pre-planning for several E/E events scheduled by the Friends of Quivira this year, including Fathers Day Out, a new 4-H Field Day, and the Kid's Fishing Clinic and Derby.

RM Hilley set up Refuge Centennial Coordinators meetings in Kansas and Colorado as part of the Regional Centennial Team efforts to keep everyone up to speed on the celebration.

### 8. Hunting

The Kansas Special Antlerless deer season ran from January 1 - 13, 2002. This season is designed by the State to reduce the growing deer population to more tolerable levels with the public. While Quivira NWR is not open for deer hunting, there is a lot of activity along our boundaries as antlerless deer are very visible along Refuge roads.

Several hunting seasons came to an end in January. The "worse duck season in years" closed on 1/13 with most ducks still further north. Just after the closing, cooler weather brought in a large number of ducks, rubbing salt into the wounds of the local waterfowlers. On 1/25, the white-fronted goose season closed, and on 1/31, pheasant and quail seasons closed as well.



## 17. Law Enforcement

A lot of time was spent making sure that the folks hunting antlerless white-tails during the special season did not stray onto the Refuge. Last year the sight of deer near the roads caused some folks to be unable to resist temptation. On the last day of the season, 1/13, Special Agents Kenny Kessler and Manny Medina along with Refuge Officers Hilley and Sellers set up a surveillance operation to cover most of the problem areas. No violators were observed but we gave it a shot.

Refuge Officer Sellers attended annual LE Inservice from 1/29 - 2/3 in Arizona.

## 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 FOQ.

# I. EQUIPMENT AND FACILITIES

## 2. Rehabilitation

Canal cleanouts were completed on Units 28, 29, and 30, to allow more efficient water delivery to these units. Spoil piles along canals previously cleaned were leveled.

## 3. Major Maintenance

Repairs were started on leaks and other problems with the J. Deere tractors in preparation for summer field work.

A new welding trailer was started to allow safer transport of welding equipment and cutting torch supplies. A safety cage was added and new chains to prevent any tank damage in transport.

# 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.

Jack Hise, RO Realty, was on site on January 8 - 9, to make an offer on an oil lease that is in the middle of a major wetland area on the Big Salt Marsh. We keep our fingers crossed.

On 1/4 the Refuge Staff had their Holiday Party. Everyone was too busy over Christmas and New Years and this was the first date we could all get together. Fun was had by all the staff.

On 1/24, Admin. Asst. Terry and RM Hilley participated in a conference call with the RO on budget issues.

The Refuge has been without Internet service since December 6th due to a federal judges ruling on a court issue. We do not know when we will have service restored. Our phone calls and letters requesting information have risen dramatically since our website went off the air.

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

02MAR.FEB

March 7, 2002

Memorandum

To: Refuge Supervisor, (KS, NE), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, February, 2002

**A. HIGHLIGHTS**

- Quivira NWR received official word of its designation as a Wetland of International Importance under the Ramsar Convention on Wetlands. A formal dedication is planned for Saturday, May 5, 2002.
- The Friends of Quivira annual meeting and the annual Volunteer Recognition dinner were combined and presented on 2/16.
- Arsonists strike Stafford County on the weekend of February 23-24 and start fires that keep the volunteer fire dept. and the Refuge fire crews busy.

**B. CLIMATIC CONDITIONS**

High: 73 degrees F      Low: 1 degrees F      Precip: 0.47 inches

Outside of one blast of winter and a couple minor storms, the month was warm and dry - only one day which did not get above freezing all month! It was a month of variety, as we experienced summer temperatures with 73 degrees on one day and on another day over 3 inches of snow was recorded.

**E. ADMINISTRATION**

1. Personnel

Selections were made and forwarded to RO for (2) seasonal Range Technicians / fire fighters.

We are in the process of advertising one of our 1040 hr. tractor operator positions after we learned the employee had been terminated without our knowledge; hopefully this can all be done in time to have the position re-filled before Spring.

## 2. Youth Programs

Proposals were submitted for additional YCC funds; we hope to obtain funding for a Work Leader/ Supervisor; if that comes to pass, we would then hope to have two additional youth. However, without additional supervision, any increase would be unmanageable.

## 3. Other Manpower Programs

Several contacts were made in attempt to find suitable summer interns, but without success so far.

## 4. Volunteer Program

The Refuge and the Friends of Quivira partnered to host a Volunteer Recognition Evening at the Hudson Community Center. The event was attended by 41 people. Donna Allen of Hutchinson was named Volunteer of the Year. Donna has spearheaded efforts to develop a grassland wildflower interpretive trail on the Refuge, as well as being active in many other volunteer programs. The Friends also took the opportunity to hold their annual business meeting when the food would help attract a good turnout.

## 6. Safety

The Monthly Staff and Safety Meeting was held Feb. 5, combined with a half-day orientation to purchasing rules and procedures. A potluck lunch made the long day in the Conference room tolerable! The crew agreed we should try to do a similar get together at least quarterly.

## 8. Other

Refuge Manager Hilley chaired the Kansas Refuge System Centennial Coordinators meeting at the GPNC in Wichita on Feb. 7. Plans were made for the celebration of the Centennial throughout the state, with everyone working together.

Annual Water Reports, Annual Water Management Plan, Annual Work Plan and other regularly required reports were completed and submitted.

# F. HABITAT MANAGEMENT

## 2. Wetlands

Dry conditions allowed effective prescribed burning of several units; following burning, Refuge staff was able to use the brush cutter on the posi-track to remove numerous trees and salt cedar in Unit 14B.

Rattlesnake Creek and the underflow continued to flow steadily into the Refuge, allowing slow-but-sure, the refilling of Refuge wetlands. Water conditions are the best they have been since mid-summer. Barring unforeseen occurrences, we anticipate reasonable wetland conditions for the Spring migration.

## 9. Fire Management

Three prescribed fire units were implemented this month. They included: Turner B and C blocks (518 acres), McMurphy A block (750 acres) and East LSM A block (250 acres).

Eric Earhart from Windom WMD and Steve Rawsley from Big Stone NWR detailed to refuge to assist with prescribed fire operations.

Bill Waln was lead instructor/coordinator for Prescribed Fire Planning and Implementation course held in Rapid City, South Dakota, February 11-15.

Bill Waln presented a program to National Weather Service in Topeka, KS, February 20. The program focused on how we use weather in our fire management operations.

Todd Schmidt assisted with Fire Program Readiness Review as Florida Panther NWR in Florida. Todd also detailed to several other refuges in Region 4 to assist with prescribed fire.

Tim Keller completed his Prescribed Fire Burn Boss ICS Type 2 taskbook.

Todd Schmidt traveled to Browns Park NWR in Colorado. Todd assisted refuge in writing two prescribed fire plans.

Due to prolonged dry and unseasonably dry conditions, Stafford County implemented a burn ban starting February 22.

Bill Waln attended Regional Fire Management Officer meeting in Spearfish, SD, February 25 - March 1.

The refuge assisted Stafford County VFD on 6 wildland fires February 22 and 23. Fire were all suspected of being started by an arsonist. One fire, 4<sup>th</sup> Street fire, threatened the Hornbaker Easement and was managed by refuge staff. This fire was 175 acres and occurred on February 22. One engine from Flint Hills NWR was requested to assist refuge staff with mop up and patrol. That resource was on the refuge on February 23 and 24.

### 11. Water Rights

Refuge Manager Hilley served on a water rights panel at an event hosted by the NRCS as a farmer information day. The Feb. 28 event was disappointingly not well attended.

## G. WILDLIFE

### 3. Waterfowl

Approximately 18,000 ducks and 34,000 geese enjoyed the generally mild weather and usually open water of the Refuge during the month. As units, which dried up last summer and fall, are reflooded, the migrating waterfowl rapidly locate and utilize them.

## H. PUBLIC USE

### 4. Interpretive Foot Trails

The mild weather continued to encourage visitors to come to the Refuge throughout the winter; in spite of lower than normal water conditions, people continued to enjoy the Migrant's Mile Nature Trail and Birdhouse Boulevard.

Refuge Volunteer Donna Allen spent significant time and energy promoting volunteers and sponsors to assist in developing a proposed grassland / wildflower trail connecting to Birdhouse Boulevard. The entire process may take several years, but plans are rapidly taking shape.

### 5. Interpretive Tour Routes

As with the nature trails, there seemed to be a steady stream of traffic around and across the Refuge, utilizing the Tour Route and Wildlife Drive.

### 8. Hunting

The Refuge closed to hunting at the end of February; even though the Light Goose season continues off-Refuge. After one somewhat intense inquiry as to why the Refuge was closed, the staff noted only one snow goose was checked all season, and there were less than 10,000 snow geese on the Refuge during the month. The concern for the welfare of other migrating species greatly overrides the potential for Quivira to contribute to the reduction of the snow goose population.

## 17. Law Enforcement

On Feb. 23, refuge staff found the stoplogs removed from several water control structures. A suspect vehicle was observed, but no positive ID was obtained.

Refuge fire crews and LE personnel spent much of Feb. 23-25 either fighting wildfires near the Refuge, or patrolling the Refuge in an attempt to discourage any other suspicious fire starts. It is believed that the Flint Hill's fire crew may have "scared off" the arson suspects on Sunday, Feb. 24.

## 18. Cooperating Associations

The Friends of Quivira held a board meeting on Feb. 7 and their Annual Meeting on Feb. 16. Donita Hedrick was elected to serve out the unexpired term of Don Vanoy who resigned from the Board of directors due to health issues. Other officers and board members were re-elected. Much of the Friends' planning for the upcoming year revolved around highlighting the Refuge System Centennial and the May 4 dedication of Quivira as a "Wetland of International Importance".

# I. EQUIPMENT AND FACILITIES

## 3. Major Maintenance

Maintenance personnel spent significant time removing beaver dams plugging water control structures in preparation of spring water management activities.

All "seasonal" equipment - tractors, mowers, etc, are being given a thorough going over, servicing and repair to be ready for the field season.

## 4. Equipment Utilization and Replacement

A request was prepared and forwarded to the RO proposing replacement of ATV's with extra MMS monies. We have become very concerned with the un-reliability of our ATV's- several of which are simply worn out, and the newest of which cannot be driven in water!

A new Dodge Dakota pickup ordered last year was delivered to the Dodge dealer in Pratt where the Refuge picked it up. The vehicle will be outfitted with grill guard, headache rack, radio, and lights for Law Enforcement use.

## 5. Communications Systems

Refuge is attempting to locate broad spectrum low-band radios which will permit programming with FWS and local Law Enforcement and Fire suppression channels. New low band radios available are partial band, requiring three radios to cover ours plus cooperators frequencies. The Refuge also identified fire radio needs to include portables and mobiles to insure all personnel on fires have access to radios.

## **J. OTHER ITEMS**

### **3. Training and Items of Interest**

Refuge Officers Sellers and Hilley completed the annual law Enforcement Refresher at Marana, AZ. Sellers attended Session 2, Jan. 30 - Feb. 3; Hilley attended Session 3, Feb 20-25.



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

02MAR.MAR

April 10, 2002

Memorandum

To: Refuge Supervisor (KS,NE), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, March, 2002

**A. HIGHLIGHTS**

- 99TH Birthday of the NWRS celebrated with a birthday party at Quivira and a major event at the GPNC including live animals, programs and visits by "Honker" the Blue Goose.
- Work continued on the preparations for the May 4th. dedication of Quivira NWR as a "Wetland of International Importance" under the Ramsar Convention on Wetlands.
- Quivira and the GPNC hosted the Region 6 Centennial Team on 3/26-28.

**B. CLIMATIC CONDITIONS**

High: 77degrees F      Low: -3 degrees F      Precip: 0.29 inches

In like a lion, out like a lamb was true for the month of March, which started out with below zero temps and ended with 77degree. The big problem continues to be a lack of precipitation. A total of 0.29 inches of moisture fell, most in the form of snow, which was far less than the 1.40 inches of precipitation that is the long term average for March.

**E. ADMINISTRATION**

1. Personnel

Selection was made on the Tractor Operator position that had been terminated without our knowledge by Personnel. We were trying to re-hire the position prior to the field season and hopefully the paperwork won't take too long.

## 2. Youth Programs

Additional funding was received to allow the hiring of a work leader/supervisor for the YCC Program and we are starting to seek suitable applicants. This should considerably improve the YCC program and allow staff to fulfill other duties.

## 3. Other Manpower Programs

One Intern applicant has committed for about 4-6 weeks during the summer and should be a help with a variety of projects.

## 6. Safety

The monthly safety meeting was held on March 5 and the subject was the annual fire safety refresher.

# **F. HABITAT MANAGEMENT**

## 2. Wetlands

Water diversions continued to utilize the available Rattlesnake Creek flow and the groundwater inflow before the irrigation season starts and the trees begin to take up moisture. Water was moved to Units 14A, 14B, 14C, 23, 26, 16, and into the center of the Wildlife Drive. All of these units, except 23 and 26, had been burned previously to reduce vegetative cover and make the areas more attractive to the shorebirds that will be migrating through soon.

The burned over wetlands filled last month have been receiving very high use by migrating waterfowl. The burns expose the seeds of the waterfowl food plants and give the birds a good view and also expose the available water.

On 3/12 Meg Estep, RO Water Resources and Tom Huntzinger and Bruce Falk, KS Div. Of Water Resources, were on station to review the water distribution system and our water measurement procedures.

## 4. Croplands

Winter wheat is really suffering on the Refuge, first from the drought and then from the large flocks of waterfowl and now from the high March winds. Some fields have more sand than wheat showing as the winds move the dry soil.

## 9. Fire Management

Due to continued hot, dry, conditions only two prescribed fires were completed on the Refuge. The East LSM-Block D was completed for 75 acres and the Darrynane-Blocks C and D were completed for 1,002 acres.

Due to prolonged drought, Stafford County re-implemented a burn ban starting on March 18th.

The Refuge assisted local VFD's with six wildland fires during March, all of which were human started.

Ryan Cumbow from Ft. Niobrara NWR was detailed to Quivira NWR from March 28-30 to assist with prescribed and wildland fire operations.

The Refuge hosted 20 wildland student firefighters from Hutchinson Community College on March 23-29. The student were trained and introduced in a variety of fire operations. On March 27, ten of these firefighters, led by Ryan Cumbow, were detailed to Marais des Cygnes NWR to assist with a wildland fire.

The annual fire safety refresher was completed on March 5. All Refuge staff that assist with fire operations and local AD's attended.

Tim Keller and Todd Schmidt assisted the National Park Service's Tall Grass Prairie National Preserve with a black-lining operation on March 15-16.

Southern Zone FMO Ken Kerr visited the Refuge on March 11 to become familiar with Quivira and our fire program.

## **G. WILDLIFE**

### **2. Threatened and/or Endangered Species**

Bald eagles are recorded on the bi-weekly waterfowl counts, with 10 (A-3, I-7) recorded on 3/5 and by the 3/19 count only 1 immature was still hanging around, most others having followed the waterfowl flocks northward.

### **3. Waterfowl**

Two bi-weekly waterfowl counts were conducted as part of a statewide program. On 3/5, 6,785 ducks, mostly mallards, and 33,265 geese, mostly Canada, were recorded. Most wetland units were still frozen with only a few open spots. On the 3/19 survey, 1,413 ducks and 3,741 geese were counted. Most of the ducks were still mallards as the late migrants had not yet arrived.

### **4. Marsh and Water Birds**

The spring sandhill crane migration passed through the Refuge during March. On 3/5, only 14 sandhill cranes were recorded and on 3/19 the count recorded 1,010 sandhills. However these counts missed the main sandhill crane migration and on March 13, the peak in 2002 was estimated at approx. 60,000 cranes.

The statewide coordinated sandhill crane count was conducted on 3/26 and 2,100 cranes were on Quivira and another 4,225 were just south of the Refuge. We do not build up as many sandhills in the Spring as in the Fall, because the birds are in a hurry to move north and as soon as some move in, some move out.

A group of 25 American white pelicans, the first of the season, were observed on 3/9 on Unit 58, adjacent to the Big Salt Marsh.

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

Almost as soon as the first ice was off the wetlands, a group of greater yellowlegs were recorded on Unit 14A on 3/11. This unit was burned prior to refilling and the black, vegetation free areas appear to be very attractive to the shorebirds.

#### 10. Other Resident Wildlife

On 3/7, a nine banded armadillo was observed adjacent to the Little Salt Marsh. While still rare, the armadillos appear to be moving northward into Kansas and more are seen each year.

### H. PUBLIC USE

#### 1. General

The waterfowl migration and the huge flocks of sandhill cranes drew large numbers of birdwatchers and casual wildlife observers during March.

#### 7. Other Interpretive Programs

On 3/5-7, Refuge Manager Hilley traveled to Denver to conduct the Refuge Centennial Coordinators meeting with the Colorado field stations.

On 3/14, the 99th birthday of the NWRS was celebrated with a birthday cake and open house at the Quivira Visitors Center. Friends of Quivira provided volunteer help and the refreshments. Over 65 people attended the celebration.

A NWRS birthday celebration was conducted at the Great Plains Nature Center on 3/14 that continued into Sat. March 18th. Videos, live animal programs, birthday programs, cupcakes, crafts, centennial exhibits and nature tours were presented to over 300 visitors. Lorries Beck appeared on KISS Talk Radio-Countryman's Kansas-to promote the NWRS Centennial.

A college group of 25 students from Oklahoma State University used the EEC for an overnight stay while visiting Quivira on 3/16-17.

The Regional Centennial Coordination Team met at the GPNC on 3/26-27. The Team toured Quivira NWR on 3/28.

Prep work continued on the plans for the May 4th dedication of Quivira as a "Wetland of International Importance". Invitations were sent out by both the Refuge and the Friends of Quivira. Dan Sobieck and Karen Miranda Gleason, RO External Affairs were on station and reviewed the site and event plans.

Lorrie Beck and others from the GPNC assisted with the Flint Hills NWR Open House on March 21, taking live animals to present with the program.

#### 18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge. As part of the Centennial celebration they have commissioned a set of solid brass belt buckles, one with a Centennial message and one with a FOQ logo.

A memorial fund for a FOQ member has indicated they plan to donate over \$3000 to the Refuge for development of a wildflower/butterfly trail near the Visitors Center.

### I. EQUIPMENT AND FACILITIES

#### 1. New Construction

A new handicapped accessible pad with a sidewalk connecting to the accessible parking spot was constructed near the front of the Visitors Center. This pad will be used during the Ramsar dedication and as a wildlife viewing spot following that event.

Work also was completed on getting the speaker stand site prepared for the Ramsar event. Mowing, tree trimming and other prep was made.

#### 3. Major Maintenance

The heavy fire truck had broken a front drive line and that was repaired during the month.

Beaver damage was repaired to a lot of areas on the canals and dikes. The drought conditions had concentrated the beaver into smaller areas where they had been very busy.

#### 4. Equipment Utilization and Replacement

The refuge shop entered the "Computer Age" when the new computer system was put into service in March. Vehicle records, repairs and a lot of other information will now be available over the computer.

## **J. OTHER ITEMS**

### **3. Training and Items of Interest**

On 3/21, John Meisner, ES, Manhattan, KS, was on station to conduct a Level III contaminants survey on the Vamco oil facilities, within the Wildlife Drive of the Big Salt Marsh.

Lorries Beck attended the Junior Duck Stamp judging training in Fargo ND on March 22. Migratory Birds assisted with the costs involved.

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

02MAR.APR

May 8, 2002

Memorandum

To: Refuge Supervisor (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, April, 2002

**A. HIGHLIGHTS**

- Refuge Manager Hilley travels to Morris Wetland Management District, Minnesota, for a Friends Mentoring visit.
- Refuge Staff spend a large amount of time in preparation for the dedication of QVR as a "Wetland of International Importance" under the Ramsar Convention on Wetlands.
- The judging for the Kansas Junior Duck Stamp Design Contest was held on April 4. An award ceremony was held on April 27 for all of the winners.

**B. CLIMATIC CONDITIONS**

High: 94 degrees F      Low: 19 degrees F      Precip: 2.44 inches

Temperature highs varied from 48 to 94 and lows from 19 to 65 making it tough to figure what to wear for the weather in April. A total of 2.44 inches of moisture fell, slightly above the 2.19 inch long term average for April. One storm on April 20 dropped 1.47 inches of rain on the official weather station at Hudson, KS, eight miles west of Quivira NWR. This was the first rainfall over 1 inch that the area had received in seven months.

On 4/17, a hail storm went through a small strip of the Refuge, south of the EEC. The storm dropped hailstones up to 1 1/2" in diameter, leaving 1" deep pock marks in the ground. No structural damage was discovered.

**E. ADMINISTRATION**

1. Personnel

Tyler McVay entered on duty on April 22, after being selected for the Tractor Operator position that had been terminated without our knowledge by Personnel.

A lot of time was spent on the RONS and MMS updates, due during April.

## 2. Youth Programs

Additional funding was received to allow the hiring of a work leader/supervisor for the YCC Program and we are seeking suitable applicants. This should considerably improve the YCC program and allow staff to fulfill other duties.

All YCC applications were received in April.

## 3. Other Manpower Programs

One Intern applicant has committed for about 4-6 weeks during the summer and should be a help with a variety of projects.

## 6. Safety

The monthly safety meeting was held on April 2, and the subject was lightening safety and stress.

Pete Meggers and Tim Keller attended a chain saw safety presentation by company representatives at Fairfield Service on the evening of 4/8.

# **F. HABITAT MANAGEMENT**

## 2. Wetlands

Water diversions continued to utilize the available Rattlesnake Creek flow and the groundwater inflow before the irrigation season starts and the trees begin to take up moisture. Water has been moved to Units 14A, 14B, 14C, 23, 26, 16, 48, 49, 61, 20A&B, 29, 30, and into the center of the Wildlife Drive. Most of these units had been burned previously to reduce vegetative cover and make the areas more attractive to migrating shorebirds.

The burned over wetlands have been receiving very high use by migrating waterfowl and shorebirds. The burns expose the seeds of the wetland food plants and give the birds a good view and also expose the available water.

The over 1 inch rainfall on April 20 put much needed sheet water on the North Flats, much to the delight of the shorebirds. It is amazing how well the Refuge wetlands look even after coming out of the drought conditions we have been experiencing.



#### 4. Croplands

Winter wheat is really suffering on the Refuge, first from the drought and then from the large flocks of waterfowl and now from the high Spring winds. Some fields have more sand than wheat showing as the winds move the dry soil. The moisture received in April helped but it may be a case of too little, too late.

#### 9. Fire Management

The two seasonal Range Technicians/Firefighters for Quivira NWR started this month. They are TJ Rockenbach and Jeff Dunlap. This will be TJ's second season as a wildland firefighter and the first for Jeff.

Fire Management Officer, Bill Waln, gave a one hour presentation on Leadership in Wildland Fire Management at the Hutchinson Community College. The presentation was directed to those enrolled in the Leadership and Supervision course.

Jeff Dunlap completed S-130/190.

The Refuge assisted Stafford County VFD on a 270 acre wildland fire in southern Stafford County.

The McMurphy prescribed fire unit was completed for 1,100 acres on April 23.

Tim Keller and Jeff Dunlap traveled to Ft. Larned NHS to assist with 5 prescribed fires.

Fire Management Officer Bill Waln attended the Hutchinson Community College Fire Science Advisory Meeting on April 15.

Refuge fire staff assisted Kirwin NWR with implementation of the Bow Creek prescribed fire unit.

The Stafford VFD Fire Chief and Assistant Fire Chiefs attended a training held at Quivira NWR on Sunday, April 21. Focus of the training was on use of a drip torch.

Todd Schmidt completed the Bureau of Land Management Plant Monitoring course in Boise, ID.

### G. WILDLIFE

#### 2. Threatened and/or Endangered Species

Preparations were made in April to get the electric predator exclusion fence and artificial nesting pads ready for the return of the endangered interior least terns. A few least terns were observed around the Big Salt Marsh at the end of April.

### 3. Waterfowl

The bi-weekly waterfowl counts, conducted as part of a statewide program during the spring and fall migrations, were discontinued in April. Late migrants dominated the area in April, as Northern Shovelers made their way north. Blue-winged teal were very numerous during the month with a lot appearing to be selecting nesting sites. The extensive burn areas have produced good green up and the thick grass may be encouraging more teal to nest this year.

The first brood from the resident population of giant Canada geese, a group of 6, were recorded on the Little Salt Marsh on 4/28.

### 4. Marsh and Water Birds

American white pelicans and double crested cormorants began to show up in good numbers in April. They might have difficulty in finding fish since the entire Refuge, except the Little Salt Marsh, went dry last fall. They appear to be doing well so fish must have moved out of the LSM into the other units with the water distribution this Spring.

White-faced ibis have returned and are making heavy use of the burned and newly flooded areas for feeding.

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

The burned marshes that have recently received some water are the spots that are attracting the largest numbers of shorebirds. Yellow legs, American avocets, black-necked stilts, dowitchers, and a lot of other species are here in abundance. The numbers in any one spot are not high but there are shorebirds in spots that they do not normally use on Quivira and the total population on the Refuge is very good.

Wilson's phalaropes are abundant and can be seen "spinning" up a lunch in almost every wetland.

### 10. Other Resident Wildlife

Wild turkeys were sighted in areas of the Refuge they have not been seen in the past. They are observed feeding frequently in the spring burn areas.

## H. PUBLIC USE

### 1. General

The shorebird migration is in full swing and this activity drew large numbers of birdwatchers and casual wildlife observers to Quivira during April.

## 7. Other Interpretive Programs

On 4/2, Deputy Project Leader Sellers presented a series of seven, 25 minute, programs at the Children's Water Festival at McPherson College. Jim used the Enviroscape Kit for part of his program and contacted approximately 140 youth and 30 adults during the Festival.

The Kansas Junior Duck Stamp Design Contest judging was conducted on 4/4. Over 530 entries were received for the Contest, down from previous years, but still not bad since we had changed coordinators when Suzanne Fellows transferred out and Lorrie Beck transferred into the GPNC. Emily Bucher, a 16 year old sophomore at Louisburg High, Louisburg, KS, was the Best of Show winner. This was her second year to enter the Contest and the second year in a row she received the Best of Show honor. Her painting of a pair of green-winged teal took over three months to complete! An awards ceremony was held on 4/27 for all 1st, 2nd and 3rd place winners.

On 4/6-7, a Refuge volunteer Tim Tracey, conducted a Hunter Safety course at the EEC. Tim is a state certified instructor.

A Care Group from Calvary Baptist Church was given a Refuge Tour on 4/21, with about 20 participants.

On 4/24, 75 students and 20 adults from Earhart Environmental Magnet School, Wichita spent the day on Quivira NWR, using the trails, Visitors Center and EEC.

A group of college students, 40 total, led by Greg Farley, used the EEC on 4/26-27 as an over night stop while collecting biological data on Quivira.

A group of approx. 60 people from New Generation tours were given a very good trip through the Refuge on 4/24. Olin Allen, Volunteer Coordinator and Gordon Hedrick, Friends of Quivira President led the event. The group was so impressed they donated \$200 to the Friends.

Prep work continued on the plans for the May 4th dedication of Quivira as a "Wetland of International Importance". Invitations were sent out by both the Refuge and the Friends of Quivira. A stage was constructed along with visitor seating for approx. 200 folks.

## 18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge. As part of the Centennial celebration they has commissioned a set of solid brass belt buckles, one with a Centennial message and one with a FOQ logo.

A FOQ Board meeting was conducted at the Visitors Center on 4/2.

The FOQ also held a Ramsar dedication planning session on 4/12, following the New Generation Tour.

On 4/3-7, Refuge Manager Hilley traveled to Morris Wetland Management District, MN to conduct a Friends Mentor Workshop. RM Hilley is on the National Friends Initiative Mentoring Team and he along with Molly Krival, from the Ding Darling Wildlife Society worked to help the Friends of the Morris WMD on a variety of issues. It was a long but very productive trip.

## **I. EQUIPMENT AND FACILITIES**

### **1. New Construction**

The new handicapped accessible pad, with a sidewalk connecting to the accessible parking spot, was completed near the front of the Visitors Center. This pad will be used during the Ramsar dedication and as a wildlife viewing spot following that event. The area was re-seeded in April and a new bench was installed to finish the project.

### **3. Major Maintenance**

The township road from 4th Street to the Refuge main entrance was reworked on a cooperative agreement with the township. New ditches were graded into the road and \$2000 worth of egg rock was added to firm up the surface.

Beaver damage was repaired to a lot of areas on the canals and dikes. The drought conditions had concentrated the beaver into smaller areas where they had been very busy.

Service Master was used to clean all Visitor Center carpets and rehab the tile areas in prep for the Ramsar dedication.

### **4. Equipment Utilization and Replacement**

Signs throughout the Refuge were replaced, painted, re-installed, or generally upgraded during the month. Several much needed directional signs were added to assist visitor access.

Four new "management" interpretive signs were installed to describe the management programs of grazing, burning, disking cattails and mowing brush. These signs will be moved as the areas under these management practices change each year.

## J. OTHER ITEMS

### 3. Training and Items of Interest

DPL Sellers attended the "Wings and Wetlands" festival meeting on 4/3. This event is scheduled to be a part of the Quivira Ramsar dedication.

Admin. Asst. Cindy Terry attended the Administrative Workshop in the Regional Office from 4/15 to 4/19.

On 4/24, Cindy received gifts and thanks from the staff to celebrate "Administrative Assistants Day, formerly Secretary's Day.

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

02MAR.MAY

June 6, 2002

Memorandum

To: Refuge Supervisor (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, May, 2002

**A. HIGHLIGHTS**

- On May 4, 2002, Quivira NWR was dedicated as a "wetland of International Importance by the Ramsar Convention on Wetlands.
- Approx 350 folks, including the Secretary of Interior and the Director of the Fish and Wildlife Service attended the Ramsar dedication on 5/4.
- Refuge Staff and Friends participated in the "Wings and Wetlands Weekend" sponsored by the Great Bend Convention and Visitors Bureau on 5/4-5.
- Local school students participated in a "Shorebird Sister School Program" on May 3rd, with a visiting teacher from Argentina.

**B. CLIMATIC CONDITIONS**

High: 96 degrees F      Low: 40 degrees F      Precip: 1.59 inches

Mild temperature persisted throughout the majority of the month, with the first really hot temperatures not arriving until the last couple of days in May. A total of 1.59 inches of moisture fell, less than half of the 3.77 inch long term average for May. We hope this is not the start of another long hot, dry summer like 2001.

**E. ADMINISTRATION**

1. Personnel

On 5/15, Jessica Schmitt, from Salina, KS, entered on duty for 6 weeks as our summer intern. Jessica is seeking experience to help her make career choices. We are very glad to have her help with wildlife surveys and a lot of public use activities.

## 2. Youth Programs

Additional funding was received to allow the hiring of a work leader/supervisor for the YCC Program and we are seeking suitable applicants and going through the paperwork. This should considerably improve the YCC program and allow staff to fulfill other duties.

Two YCC applicants were drawn and hopefully will be available to start in June.

## 6. Safety

The monthly safety meeting was held on May 7, and the subject was the Ramsar Dedication event review and public event safety needs and concerns.

# **HABITAT MANAGEMENT**

## 2. Wetlands

Water diversions continued to utilize the available Rattlesnake Creek flow and the groundwater inflow before the irrigation season starts and the trees begin to take up moisture. Water has been moved to Units 14A, 14B, 14C, 23, 26, 16, 48, 49, 61, 20A&B, 29, 30, and into the center of the Wildlife Drive. Most of these units had been burned previously to reduce vegetative cover and make the areas more attractive to migrating shorebirds.

The burned over wetlands continue to receive very high use by migrating shorebirds. Shorebirds appear to like the openness of the burns and they find suitable feeding conditions in the burned units.

## 4. Croplands

Winter wheat really suffered on the Refuge, first from the drought and then from the large flocks of waterfowl and from the high Spring winds. Some fields have more sand than wheat showing as the winds move the dry soil. The moisture received in April and May helped fill out some wheat heads but it may be a case of too little, too late.

## 5. Grasslands

Mowing was started on the sandhill plum brush in an area north of Unit 10C, in order to discourage the brush and stimulate the growth of the prairie grasses.

## 9. Fire Management

Tim Keller, Todd Schmidt, TJ Rockenbach and Jeff Dunlap were detailed to Arrowwood NWR in North Dakota to assist with their prescribed fire workload. While in North Dakota they assisted with implementing 14 burn units for 4,000 acres. They departed on May 5 with everyone except Bill Waln returning on May 21.

Bill Waln traveled to Arrowwood NWR in North Dakota on May 5 to spend a week working with his mentee DJ Rieger. This mentor/mentee relationship was established through the US Fish and Wildlife Service Fire Management Mentoring Program.

Bill Waln spent May 21-23 at Kirwin NWR. Bill had requested a formal review of the implementation of the Bow Creek prescribed fire unit. Two smoke complaints were received that have resulted in Tort Claims being filed.

Tim Keller completed CPR and first aid refresher at Hudson, KS, on May 29. This was offered by the Stafford County Volunteer Fire Department.

A new Honda ATV was purchased. It will primarily be used to assist with fire management operations.

## **WILDLIFE**

### **2. Threatened and/or Endangered Species**

Least terns returned in May and quickly started nest preparation on the artificial nesting pads in the area enclosed by the electric predator exclusion fence. Snowy plovers, a species of concern for Kansas, also use the nesting pads within the fence.

### **3. Waterfowl**

The resident flock of giant Canada geese was very successful this year as broods were evident in most Refuge wetlands.

Blue-winged teal, northern shovelers, mallards and a few pintails, plus a variety of diver species, remained on the Refuge through May, several of which were flushed from nests in the new grass in the prescribed burn areas.

### **4. Marsh and Water Birds**

American white pelicans and double crested cormorants began to show up in good numbers. They might have difficulty in finding fish since the entire Refuge, except the Little Salt Marsh, went dry last fall. They appear to be doing well so fish must have moved out of the LSM into the other units with the water distribution this Spring.

White-faced ibis have returned and are making heavy use of the burned and newly flooded areas for feeding.

A tricolored heron was reported by local birders in late May, in breeding plumage.



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

Wilson's phalaropes, black-necked stilts, and American avocets are abundant and can be seen either on the nest or with young, throughout the Refuge.

## 10. Other Resident Wildlife

On May 27th, a group of reliable birders recorded a roadrunner, along the county road near the Big Salt Marsh. This species has been recorded previously but is very rare.

# **H. PUBLIC USE**

## 1. General

The shorebird migration began to decline by months end and so did the steady stream of birders that were on site last month.

## 2. Outdoor Classroom - Students

On May 1st, the Earhart Environmental Magnet School from Wichita, brought 50 students and 20 adults for a field day on Quivira.

The Stafford Schools 5th grade class participated in a "Shorebird Sister School Program" on QVR on May 3rd. Heather Johnson, Dario Bard, and Brad Andres from the WO, Suzanne Fellows, RO, and Hilary Chapman, NCTC, assisted with this program. Adriana Cafferata, the South American Shorebird Sister School Program coordinator also attended the event and exchanged gifts from South American and Stafford students.

On 5/15, the entire student body (over 200 kids) of Stafford Elementary Schools came to Quivira for their spring field day. Students participated in a variety of activities and fished at the Kid's Pond.

## 7. Other Interpretive Programs

On 5/3-4, the second "Wings and Wetlands Weekend", a birding festival, was conducted in cooperation with the Great Bend Visitors and Convention Bureau, The Nature Conservancy, and KS Wildlife and Parks. Over 150 folks participated in the tours, programs and all attended the Quivira Ramsar dedication as part of their weekend.

On May 4th, Quivira NWR was dedicated as the USA's 18th "Wetland of International Importance", under the Ramsar Convention on Wetlands. This dedication was attended by over 350 visitors including the Secretary of Interior Gale Norton, FWS Director Steve Williams, Senator Pat Roberts, Lt. Governor Gary Sherrer, KDWP Secretary Mike Hayden, and Regional Director Ralph Morganweck. Dozens of RO and WO folks helped organize the event and also staff from many other Refuges. The Friends of Quivira cooked and served a meal to all visitors. Lots of media activity resulted in very good press for the FWS and Quivira. Following the dedication ceremony, Refuge Manager Hilley was able to take Secretary Norton, her Father and several others on an over 2 hour tour of Quivira.

On 5/11, (the day before Mother's Day) , the Friends of Quivira sponsored a "Father's Day Out " event, whereby Dads and Kids come to the Refuge for games, crafts and nature walks. The kids make a Mother's Day gift for mom and then cook dinner for their Dad. Have you ever seen a Dad eat a hot dog roasted in the coals by a four year old...it's good!!! Over 65 folks attended the event.

A dozen student and professors from KSU, used the bunkhouse/EEC on May 17-19 as a base for a major field trip to QVR and Cheyenne Bottoms.

On 5/22, a group of 6 senior citizens from Nickerson, KS were given a program at the Visitor's Center and then toured the refuge, having lunch at the EEC.

#### 18. Cooperating Associations

The Friends of Quivira continue to be a real asset to the Refuge. Between cooking and serving over 350 folks at the Ramsar dedication, sponsoring Fathers Day Out, the Wings and Wetlands Weekend and all the other thing involved it is hard to believe how anyone could do without a Friends group....we sure could not!

As part of the Centennial celebration they has commissioned a set of solid brass belt buckles, one with a Centennial message and one with a FOQ logo, as well a hat pins. These were sold at the Ramsar event and were very popular.

On 5/14 the FOQ held a wrap up Board Meeting at the Visitors Center to start planning for the fall events and review for the upcoming Kid's Fishing Clinic, scheduled for June 1.

## I. EQUIPMENT AND FACILITIES

### 1. New Construction

A new handicapped accessible viewing pad and bench , with a sidewalk connecting to the accessible parking spot, was completed in April near the front of the Visitors Center. In May, a new Refuge Centennial interpretive sign was added and the site is now very popular with Refuge visitors.

### 3. Major Maintenance

The township road from 4th Street to the Refuge main entrance was reworked on a cooperative agreement with the township. New ditches were graded into the road and \$2000 worth of egg rock was added to firm up the surface. More work is needed, as this is the visiting public's first impression of the Refuge.

Additional surge rock rip rap was added to the dikes on Unit 14A to reduce wave action and to make the old concrete rubble rip rap look more natural.

Water was pumped out of the F-line canal near Unit 14C in an effort to discourage a beaver family that had taken up residence in the canal and was cutting some ancient cottonwood trees. Looks like the attempt was successful, as the beavers moved to a location where they can do less damage.

Several needed repairs were completed on the Refuge tractors during May, in prep for upcoming field work.

### 4. Equipment Utilization and Replacement

A attempt to drive to the Rocky Mountain Arsenal to pick up a surplus tractor turned into an adventure as one of the rear tires blew on the trailer, destroying a brace and portion of the trailer floor. Luckily the trailer was empty and the crew were not too far from home so the trip was aborted and will be rescheduled.

## J. OTHER ITEMS

### 3. Training and Items of Interest

The entire Quivira Refuge staff received a much deserved award for all of their efforts on the Ramsar dedication and other activities this spring.

A local family has been working with the Refuge to develop a Butterfly/Wildflower Interpretive trail in memory of their mother/wife. Work was started in May on the planning and initial preparation for this trail, located south of the Visitors Center.

On May 21, an emergency meeting was called of the Great Plains Nature Center Steering Committee, of which Manager Hilley is Chairman. Due to budget cuts from the State, the Wichita School District has proposed to no longer fund the two teaching positions they have had located at the GPNC. The Steering Committee and the Friends of the GPNC are working to find a compromise solution to save these valuable positions.

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

02MAR.JUN

July 29,2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, June, 2002

**A. HIGHLIGHTS**

- June was the month for training - Aviation, Interpretation, Motor and Air boat, and Fire.
- Rains in June made Quivira the envy of all of western Kansas as we received good moisture and they continued to suffer from a severe drought.
- The annual Kid's Fishing Clinic and Derby is a major success, thanks to the staff, a lot of volunteers, and the Friends of Quivira.

**B. CLIMATIC CONDITIONS**

High: 99 degrees F      Low: 54 degrees F      Precip: 6.31 inches rain

The 6.31 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was well above the 3.67 inch long term average for June.

Unofficial Station precipitation measurements were 5.04" at Headquarters, 4.9" at the EEC, and 5.4" up north on the Big Salt Marsh.

This area has been very fortunate in receiving rain as only a few miles west of the Refuge they are experiencing the worst drought in many years. Even weeds are not growing in some parts of western Kansas.

**D. PLANNING**

**5. Research and Investigations**

David Zook from the Big Bend Groundwater Management District was on the Refuge on June 25, continuing gathering data for an ongoing study project evaluating water use on the Refuge.

## **E. ADMINISTRATION**

### **1. Personnel**

Tractor Operator Robin Drake -Woods returned to work on June 3. It would have been very good to have her back on duty earlier this spring, however Robin is a 1040 hour seasonal - and her time was maxed out last year. So....GREAT to have her back now!

Jessica Schmitt was hired effective June 9 as a seasonal Biological Technician to serve as Work Leader for the YCC. Jessica had previously been at the Refuge as a Volunteer Intern and is a very welcome addition to the staff.

Maintenance Worker Stan King was off all but the first few days of the month due to illness and is sorely missed. We continue to hope for his recovery from his complications and his bout with cancer.

The recruitment package to fill the Outdoor Recreation Planner position at Quivira NWR was sent to the Regional Office; advertisement of the position is anticipated beginning about July 7. We hope to be able to fill this position yet this Fiscal Year, hopefully in time for involvement in upcoming fall programs and the fall migration and it's related influx of visitors.

### **2. Youth Programs**

Two Youth Conservation Corps enrollees were hired this year; Celena Sherrill from Stafford, and Kyle Gillespie from Chase. Special funding permitted hiring Jessica Schmitt to lead and supervise the youth. Without Jessica, the program would be virtually impossible to manage with staff shortages and non-youth type work to be accomplished as well. The trio has been a great boon to the Refuge, accomplishing numerous great things, including revamping the Kid's Fishing Day equipment and supplies, pulling out posts from abandoned electric fence facilitating mowing for invasive species management, helping set up and finish new volunteer office work space. They seem to go home daily covered in paint or poison ivy, but smiling and looking forward to the next days work.

### **4. Volunteer Program**

Volunteers Olin Donna Allen conducted or coordinated the bi-weekly shorebird surveys being conducted in cooperation with the Kansas Department of Wildlife and Parks.

A variety of volunteers assisted members of the Friends of Quivira and Refuge staff in making the Kid's Fishing Clinic and Derby a success. (H. 9)

The National Park Service at the Ft. Larned National Historic Site has cooperated with the Refuge on a variety of activities - providing training to Refuge staff, volunteering supplies and people on occasion to make special programs possible. Assistant Manager Sellers and his son Robert volunteered in reverse - they participated in a National Park Service volunteer training course, and now volunteer intermittently as living history interpreters in the Fort's blacksmith shop.

## 6. Safety

The Monthly Staff and Safety Meeting was held on June 11. Topic for the meeting was Tractor Rollovers, featuring a new video on the subject recently obtained from John Deere. The video covered ROPS, and operating tractors without ROPS - like riding lawn mowers.

## F. HABITAT MANAGEMENT

### 1. General

June began with all habitats in "acceptable" condition; wetlands were relatively full, grasslands were in above average condition; crops were green and growing, though in stressed condition. By month's end, wetlands were in good shape - for shorebirds - as water levels dropped; grasslands were very dry, but showed the positive effects of good long term management; wheat harvest had begun on a sparse but existent crop and later maturing crops were in reasonably fair shape due to the few but timely rains.

### 7. Grazing

The benefits of properly planned use of grazing to manage grassland was obvious this month as Refuge grasslands showed vigor and growth, adding to our ability to impact invasive species through healthy grasslands, while much of the surrounding pasture land suffered from more traditional use under the prolonged effects of drought.

### 9. Fire Management

Fire management staff attended several training courses during June, either as students or as instructor. (See sec. J.3)

Bill Waln hosted the FWS Fire Management Mentoring Program Committee June 5-7. The committee met at the Great Plains Nature Center to select mentoring program participants for 2002.

The wildfire situation in the West resulted in several staff being dispatched to a variety of assignments during the month.

Bill Waln assisted with the Missionary Ridge Fire in Colorado. Bill was a Strike Team Leader-Engine and Task Force Leader trainee on this assignment. Bill departed for Durango, Colorado, on June 19.

Tim Keller was the engine foreman on a engine assigned to the Hayman fire in Colorado. Tim was a Single Resource Boss evaluator for a trainee from Flint Hills NWR.

Jeff Dunlap was assigned to an engine that traveled to Grand Junction, Colorado, on a severity detail. He was one of 3 FWS employees that staffed an engine from Rainwater Basin WMD.

#### 10. Pest Control

Invasive species reduction programs geared up with both tractor operators back on duty, actively working on plum, salt cedar and other brush reduction.

An eruption of salt cedar occurred on the Big Salt Marsh following last year's drought-induced dry up. A combination of efforts were tested including spraying, pulling, cutting, and flooding. Results are still undetermined.

### G. WILDLIFE

#### 2. Threatened and/or Endangered Species

Electric fences were maintained as predator barriers around Least Tern nesting areas. The wires were treated twice during the month with a "bait" consisting of cat food, sardines, and several secret ingredients, designed to attract coyotes, bobcats, etc, encourage them to smell or lick the wires, and thus "educate" them to the folly of viewing the tern nesting area as a potential restaurant. Rains during the month made it necessary to raise the lower wire(s) in places to keep the fences from shorting out; rapid water loss to evaporation later in the month required the wires to be replaced.

#### 4. Marsh and Water Birds

Water conditions on the Refuge seem to be ideal for a variety of birds, with great, snowy and cattle egrets, white faced and glossy ibis, tricolored herons, bitterns, and a variety of others present.



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

A significant number of species of shorebirds were noted on the Refuge this month; one regular birding visitor noted 20 species in one day, a notable variety for this time of year. Species often seen included black-necked stilt, American avocet, lesser yellowlegs, stilt sandpipers, Dunlin, long-billed dowitchers, and the ever common killdeer. The lowering water conditions on the Refuge and in the area seem to have drawn many birds.

## 8. Game Animals

Refuge staff and YCC assisted the Kansas Department of Wildlife and Parks in locating and observing a potentially ill white tail buck just south east of the Refuge. The deer exhibited strange behavior, allowing people to approach very closely, being "stopped" by easily crossed barbed wire fences, being out standing in open fields next to roads in 100+ degree midday heat. He did not demonstrate any symptoms consistent with diseases of common concern. The animal was collected by the State disease biologist, with test results pending.

# H. PUBLIC USE

## 1. General

A relatively large number of visitors traveled to Quivira during the month, thanks to the numbers of birds in the area, the relatively moderate temperatures, and the good water conditions on the Refuge.

## 2. Outdoor Classrooms - Students

On June 27, the Refuge hosted an organizational meeting of the Stafford County 4-H Black powder Shooting Sports group. The session was attended by youth and adults interested in the program and has great promise as an outreach and educational opportunity for the Refuge in the community as well.

## 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center.

## 7. Other Interpretative Programs

On June 5, Cindy Terry gave an introduction and orientation to the Refuge to approximately 45 members of an Extension tour at the Visitor Center. Following the orientation, the group spent the remainder of the morning touring the Refuge.

On June 14, Cindy gave an education introduction to approximately 40 youth and leaders from Dodge City Community College's Upward Bound program. Following the program, the group toured the Refuge and conducted a self-taught session while they ate lunch at the Environmental Education Classroom. The program is a summer session for "at risk" youth in the Dodge City area .

#### 9. Fishing

The annual Kid's Fishing Clinic and Derby sponsored by the Friends of Quivira was a huge success. Approximately 150 youth, parents, grandparents, and mentors took advantage of a beautiful day with relatively few mosquitos. The kids caught everything from 3 -inch bluegill to 8+ lb catfish! Many of the families who came to the Clinic were seen throughout the remainder of the month taking advantage of the Kid's Pond and the good supply of fish available. Several of these families noted that they never knew before that this opportunity existed for their children in the area. The population of the pond was very well supplemented by the Kansas Department of Wildlife and Parks who donated over 600 additional catchable fish.

#### 11. Wildlife Observation

A significant number of brave souls ventured out in the heat to visit the Refuge and enjoy an unusual diversity of shorebirds.

#### 17. Law Enforcement

On June 25, Dave Hilley, Jim Sellers and Special Agent Manny Medina attended a four county interagency coordination meeting to discuss information and strategies to address a significant level of potentially interrelated criminal activity ranging from trespass to Methamphetamine production to poaching and rustling, centered in an area immediately east of and including Quivira NWR.

#### 18. Cooperating Associations

On June 1, the Friends of Quivira sponsored the annual Kid's Fishing Clinic and Derby at the Quivira NWR Kid's Pond.

On June 25, Sellers, Beck and Hilley met with members of the Friends' Board of Directors to plan the National Wildlife Refuge Week "Step Back In Time" celebration. The theme selected for this year's event to be sponsored by the Friends, is "Quivira NWR: 1802 to 1902." Next year's Centennial event will then be "Quivira NWR: 1903-2003."

## **I. EQUIPMENT AND FACILITIES**

### **1. New Construction**

Construction of two Volunteer trailer pads progressed with force account concrete work approximately 75% complete. Water and electrical work are scheduled for some time in July.

### **2. Rehabilitation**

Force-account rehab of the upstream face of the F-2 water control structure was begun. Old concrete and rusted away steel portions were removed; new stainless steel channels and supports were fabricated. Final rebuilding will require pouring of new concrete head wall and support, installation of new stainless, and tying to remaining concrete of the old structure

Work was begun on rehab of the spoil berms on the canal from Unit 26 to Units 48/49. Old dredged spoil is being removed to provide access along the side of the canal for cleaning and maintenance.

The last of the Refuge's stockpiled surge rock was hauled to Unit 25; further stabilization of erosion west of the outlet structure will wait until rock being bought under MMS this year is contracted and arrives. The new rock is currently being bid out by CGS, with a July 16 closing date.

### **3. Major Maintenance**

A significant amount of maintenance work was accomplished in spite of a short work crew. However, efforts are under way to find ways to contract several projects which would normally be "everyday business" for our skilled staff if all were healthy and able.

The majority of Refuge roads both Public and Service were mowed and a variety of repairs ranging from grading to hauling rock into major holes was completed.

A great deal of assistance was received from the YCC and their work leader. Major headway was made on cleaning and reorganizing the Office / Visitor Center basement, setting up Volunteer work space to be used by various volunteers and Interns; replacement of deteriorated signs throughout the Refuge; cleaning and painting of signs along the Refuge Auto Tour;

### **4. Equipment Utilization and Replacement**

Following an aborted trip last month, due to tire failure on the equipment trailer, Maintenance staff traveled to Denver - on NEW tires - to pick up a Case-IH tractor at the Rocky Mountain Arsenal. The "new"-er tractor with cab and air conditioning will replace an old Massey tractor used for mowing, dragging roads, drilling seed, etc.

The John Deere 4055 used for invasive species management was serviced and prep'd for the June 3 return to duty of Tractor Operator Drake-Woods. However, it seems to be spending more time in the shop than on the Refuge working. Problems include overheating, hydraulic failure, and electrical inconsistencies.

A new straight truck was ordered this year under MMS; a tentative delivery date of November, 2002 was received from GSA this month.

#### 5. Communications Systems

The telephone system at Headquarters appeared to have been effected by a lightning strike somewhere nearby. Two telephone desksets were damaged and the master control set had to be reprogrammed.

### J. OTHER ITEMS

#### 1. Cooperative Programs

The majority of the materials for a new photo blind were delivered to the Refuge. The blind is planned to be constructed, transported and installed on the Little Salt Marsh by an Eagle Scout candidate and various volunteers.

#### 3. Training and Items of Interest

Cindy Terry attended a highly interactive course on interpretation at Ft. Larned National Historic Site, June 3-7. Special thanks go to the National Park Service staff at Ft. Larned who enabled our staff to participate in a fully booked course.

Gary Meggers attended motorboat and air boat operator training at Manhattan, KS June 4-7.

Refuge staff attending Basic Aviation Training B-3 at Kirwin NWR June 18 included Gary Meggers, T.J Rockenbach, Bill Waln, and Brent Waters; Dave Hilley and Jim Sellers attended B-3 and, on June 19, Aviation for Supervisors M-3.

Tim Keller completed S-330, Task Force/Strike Team Leader, at the Colorado Wildfire Academy in Alamosa, Colorado.

Bill Waln traveled to Valentine, Nebraska, on June 9 to assist instructing the S-234, Ignition Methods, course. However due to increased fire activity nationally this course was canceled, but not until after Bill drove all the way to Valentine.

On June 12, Dave Hilley met with the Friends of the Great Plains Nature Center to be a part of the discussion of how the FGPNC plan to address the loss of two Wichita School District teaching positions at the GPNC. Loss of these positions will greatly impair the Center's outreach and Environmental Education efforts directed to those who most benefit - school age youth.

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

02MAR.JUL.

August 12, 2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, July, 2002

**A. HIGHLIGHTS**

- Centennial quilt contest sponsored by the Friends of Quivira was a big success at the Stafford County Fair.
- Above normal precipitation during July keeps us out of the severe drought but hot, windy, weather starts and the wetlands begin to falter.
- A volunteer public use researcher assisted the Refuge in developing some procedures to better count visitors.

**B. CLIMATIC CONDITIONS**

High: 105 degrees F      Low: 62 degrees F      Precip: 3.91 inches rain

The 3.91 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was above the 2.93 inch long term average for July. On July 2, three inches of rain hit the Headquarters area, all falling in about 2 hours, while Stafford, 13 miles away got nothing. Maybe we are living right this year.

This area has been very fortunate in receiving rain as only a few miles west of the Refuge they are experiencing the worst drought in many years. Some counties in western Kansas have received less than 5 inches of rain in the last TWO years.

## **E. ADMINISTRATION**

### **1. Personnel**

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he is sorely missed. We continue to hope for his recovery from his illness and have initiated paperwork for a possible disability retirement.

The recruitment package to fill the Outdoor Recreation Planner GS 7/9 position at Quivira NWR was advertised in July and a cert received by month's end. We hope to be able to fill this position yet this Fiscal Year, hopefully in time for involvement in upcoming fall programs and the fall migration and its related influx of visitors.

### **2. Youth Programs**

Two Youth Conservation Corps enrollees were hired this year; Celena Sherrill from Stafford, and Kyle Gillespie from Chase. Special funding permitted hiring Jessica Schmitt to lead and supervise the youth. The trio has been a great help to the Refuge, accomplishing numerous projects during July, including putting up new directional signs, basement reorganization, developing new volunteer office work space. They all have a very good attitude and are fun to watch attack a new task.

### **4. Volunteer Program**

Volunteers Olin and Donna Allen conducted or coordinated the bi-weekly shorebird surveys being conducted in cooperation with the Kansas Department of Wildlife and Parks.

### **6. Safety**

The Monthly Staff and Safety Meeting was held on July 24th. Topic for the meeting was equipment maintenance and cleaning and accident reporting.

The "closest call award" for the month goes to Pete Meggers for his adventures during the airboat survey for endangered least terns on the Arkansas River. An electric fence line, suspended under a bridge, caught Pete and the airboat, forcing the boat to shore under too much power. The steep bank resulted in the rear of the airboat taking in water and sinking. With the help of several State Conservation Officers, the boat was pulled out, emptied and put back in service with only minor damage. The fence line only cut a small gash on Pete but it could have been much worse. Everyone had on life jackets and we are now installing a line/brush guard on the boat for future use. Pete had just completed the airboat training last month!

## **F. HABITAT MANAGEMENT**

### **1. General**

July had above normal precipitation but hot weather began to take it's toll on the Refuge wetlands. We are better than last year and much better than places not too far west but it is still Kansas and more hot windy weather is ahead. Refuge grasslands are in good shape and the grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

### **7. Grazing**

Refuge grasslands are showing vigor and growth following the rains we have received. The cattle passing through the units has stimulated the grass and the regrowth is such that it is almost impossible to tell that the area has been grazed, shortly after the cattle have moved onto another unit. In grazing, timing is everything.

### **9. Fire Management**

Bill Waln returned from his wildfire assignment in Colorado on July 4.

Tim Keller took a fire assignment as ENGB in Colorado on the Rio Grande NF. Tim went out as an Single Resource Evaluator for a firefighter from Rainwater Basin WMD.

Dave Carter, Region 6 WUI Coordinator, Rich Sterry, South Zone WUI Coordinator and Gayln Green Region 6 Fire Ecologist completed the WUI/HFR assessment for Quivira NWR July 15-17. This assessment will be used for planning and budget purposes.

Site preparation tasks completed for the North Lake prescribed fire unit. This unit will be implemented as soon as National Preparedness level allows.

Fire reports were brought up to date for Quivira NWR.

A fire effects transect was established in the North Lake prescribed fire unit. This transect will be monitored to see if objectives of burn were met. The East Lake prescribed fire unit, which was implemented July of 2001, was evaluated to determine effects of a summer burn on upland vegetation community. No adverse effects were discovered with good success noted on woody vegetation.

## 10. Pest Control

Invasive species reduction programs continued in July with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, has caused much concern. Efforts have been made to keep the plants flooded as long as possible, followed by spraying, cutting and re-flooding if water is available at the proper time.

## G. WILDLIFE

### 2. Threatened and/or Endangered Species

Electric fences were maintained as predator barriers around the endangered Interior Least Tern nesting areas on the salt flats. When the fences are energized, the wires are treated with a "bait" consisting of cat food, sardines, and several secret ingredients, designed to attract predators and encourage them to smell or lick the wires, and thus "educate" them to keep their distance.

Least tern, snowy plovers, and killdeer use elevated artificial nesting sites (gravel piled on a bed of larger rocks), within the predator exclusion fence, that help prevent flooding of the nests during heavy thunderstorms. During July, young of all three species were abundant within the fenced area.

Range Management Specialist Pete Meggers served as air boat captain for a joint FWS, and KDWP survey of potential least tern nesting habitat on the Arkansas River, near Wichita. The low water made this a real challenge with sand bars, debris and lines in the River. No tern nests were located after covering over 35 miles of the Arkansas.

### 4. Marsh and Water Birds

Birders reported a wide variety of water birds on Quivira during July, much to their delight. These included great, snowy and cattle egrets, white faced and glossy ibis(in breeding plumage), tri-colored herons, great blue herons, yellow and black crowned night herons, least and American bitterns, and a variety of others present.

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

As the water levels dropped and more mud flats were exposed, the shorebirds responded in large numbers. One birder reported the young of American avocets, black-necked stilts, killdeer, and snowy plovers around them like "little cotton balls on sticks".



At total of 22 species of shorebirds were seen in one visit by a local birder. The one that got the most attention during July was a **curlew sandpiper**, observed on the Big Salt Marsh on July 12th. Lots of folks came out to see this bird, or at least look.

## 8. Game Animals

In June, Refuge staff assisted the Kansas Department of Wildlife and Parks in locating and collecting a potentially ill white tail buck just south east of the Refuge. The deer exhibited strange behavior, and was determined to have a brain abscess, with test results for CWD pending.

Manager Hilley, responding to a call from the public, located a Fallow deer approximately three miles east of the Refuge. Working with the KS Dept of Wildlife and Parks, attempts were made to locate an owner with no success. The presence of tame deer in the area brings up the concern for the possibility of CWD infection. We are still working on the case of the deer's ownership and history.

## H. PUBLIC USE

### 1. General

A relatively large number of visitors traveled to Quivira during July, mostly to view the shorebird migration.

### 2. Outdoor Classrooms - Students

On July 9th, the Refuge hosted a group for the Pratt Recreation Commission, with 40 kids, for a field day on Quivira.

### 3. Outdoor Classrooms - Teachers

On July 24-26, the Great Plains Nature Center presented a Teachers workshop to introduce educators to the opportunities on FWS lands in Kansas. On July 25, the group spent the day on Quivira to look over our facilities and educational program. The workshop was sponsored by Friends University, Wichita, KS.

### 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hot weather has put the concrete work on this trail on hold.

## 7. Other Interpretative Programs

On July 17, Dr John Davis, University of Vermont, started his volunteer effort to help Quivira establish a method to more accurately determine the number of folks using the Refuge. Dr. Davis worked on methods to use our new traffic counters to determine the information we need about our visitation, volume and timing. We are grateful for a man of his knowledge volunteering time to help Quivira.

The Stafford County Fair was conducted from July 17-23. The Friends of Quivira sponsored a Centennial Quilt Square Contest, with judging by public vote, to select a square to represent Quivira in the Regional Quilt. This quilt will be displayed throughout the Region during 2003. Sharon Allen, Stafford, won out over 14 other very beautiful efforts. She will duplicate her winning design and the Friends of Quivira will have the other squares made into a quilt for local display and possible raffle.

## I. EQUIPMENT AND FACILITIES

### 1. New Construction

Construction of two Volunteer trailer pads continued with force account concrete work finished and the water system and electrical supply installed during July.

### 2. Rehabilitation

Force-account rehab of the upstream face of the F-2 water control structure to Unit 14C, was continued in July. A new concrete head wall and support, installation of new stainless, and tying to remaining concrete of the old structure is in progress.

Work continued on rehab of the spoil berms on the canal from Unit 26 to Units 48/49. Old dredged spoil was removed to provide access along the side of the canal for cleaning and maintenance. Some of the spoil was used to widen a section of the Refuge road around the Little Salt Marsh for a safety concern.

The bid opening on the new rock and rip rap order was completed on July 16th and came in a little higher than anticipated. CGS will begin change negotiations with the successful bidder and we should begin delivery in late August.

### 3. Major Maintenance

Refuge roads, both Public and Service, were mowed and a variety of repairs ranging from grading to hauling rock into major holes was completed.

## **J. OTHER ITEMS**

### **1. Cooperative Programs**

The majority of the materials for a new photo blind were delivered to the Refuge. The blind is planned to be constructed, transported and installed on the Little Salt Marsh by an Eagle Scout candidate and various volunteers.

### **3. Training and Items of Interest**

All staff members completed the required IT security training during the month.

Manager Dave Hilley continued to met with the Friends of the Great Plains Nature Center to discuss how the FGPNC plan to address the loss of two Wichita School District teaching positions at the GPNC. Loss of these positions will greatly impair the Center's outreach and Environmental Education efforts directed to those who most benefit - school age youth.

A group of Friends and GPNC staff visited the Wichita School Board meeting to discuss the options, however a follow up meeting was not successful in reaching a compromise. The only hope now to replace the lost help is a NFWA grant that might provide funding for program assistance. We are keeping our fingers crossed.

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

02MAR.AUG.

September 16, 2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, August, 2002

**A. HIGHLIGHTS**

- The new accessible photography blind on the Little Salt Marsh was completed as an Eagle Scout project during the month.
- Above normal precipitation during August surprises the locals, as areas to the west and north continue to suffer a severe drought.
- Four lightening caused wild fires occur on one night, as a strong storm cell passes through the Refuge.

**B. CLIMATIC CONDITIONS**

High: 100 degrees F      Low: 56 degrees F      Precip: 4.87 inches rain

The 4.87 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was above the 2.56 inch long term average for August. The unofficial rainfall totals for Quivira have recorded 13.47 inches at HQ, 16.00 inches at the EEC, and 15.94 inches at the Big Salt Marsh, from June 1st until the end of August.

This area has been very fortunate in receiving rain as only a few miles west of the Refuge they are experiencing the worst drought in many years. Some counties in western Kansas have received less than 5 inches of rain in the last TWO years.

## **E. ADMINISTRATION**

### **1. Personnel**

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he is sorely missed. We continue to hope for his recovery from the illness.

The Outdoor Recreation Planner, GS 7/9 position, at Quivira NWR was filled in August, when Cindy Terry (Administrative Support Assistant) gave up the budget, personnel and all the other paperwork shuffling duties and accepted the ORP position. We will advertise the Admin. Support Position soon and fortunately Cindy will still be available to train her replacement.

### **2. Youth Programs**

Two Youth Conservation Corps enrollees were hired this year; Celena Sherrill from Stafford, and Kyle Gillespie from Chase. Special funding permitted hiring Jessica Schmitt to lead and supervise the youth. The trio has been a great help to the Refuge, accomplishing numerous projects, including putting up new directional signs, basement reorganization, developing new volunteer office work space. In August, we lost all three as they prepared to return to school.

Volunteers Olin and Donna Allen conducted or coordinated the bi-weekly shorebird surveys being conducted in cooperation with the Kansas Department of Wildlife and Parks.

### **6. Safety**

The formal Monthly Staff and Safety Meeting was not held in August due to everyone being gone so much for a variety of reasons.

## **F. HABITAT MANAGEMENT**

### **1. General**

August continues with above normal precipitation but hot weather began to take it's toll on the Refuge wetlands. Wetlands are better than last year and much better than places not too far west but it is still Kansas and hot windy weather can take back water very rapidly. Refuge grasslands are in good shape and the grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

## 2. Wetlands

Rainfall prevented a lot of the mowing of cattail that has been accomplished in the past few years. Units 40 and the wetland north of 40 were mowed and Unit 30 was disked during August. Several other wetlands that had been annually mowed to reduce cattails were not a problem this year as a heavy bloom of filamentous algae prevented any cattail growth. As the water receded, the algae formed a shading mat that prevented cattail growth.

## 5. Grasslands

Sandhill Plum mowing to reduce brush growth in the Refuge grasslands were completed in the Natural Area and southwest of the old township road. Over 500 acres of plums were mowed in August to improve the grasslands.

## 7. Grazing

Refuge grasslands are showing vigor and growth following the rains we have received. The cattle passing through the units has stimulated the grass and the regrowth is such that it is almost impossible to tell that the area has been grazed, shortly after the cattle have moved onto another unit. In grazing, timing is everything.

## 9. Fire Management

Bill Waln spent three weeks in August as Acting District Fire Management Officer for the Sandhills Fire Management District in Nebraska.

Todd Schmidt and TJ Rockenbach were assigned to the Nebraska Refuges Severity detail August 5-20. While in Nebraska Todd Schmidt completed his Incident Commander Type 4 (ICT4) taskbook. Todd and TJ assisted on several fires while in Nebraska.

Tim Keller and Jeff Dunlap were also assigned to the Nebraska Refuges Severity detail starting August 21.

Tim Keller and Jeff Dunlap responded to a smoke report on August 13. A strong smell of smoke was in area on east side of refuge in Reno County. After an exhaustive search no fire was found.

Four lightning caused wildfires were ignited on and adjacent to Quivira NWR on August 21. Two of the fires were on refuge land and two were on adjacent private land. The largest fire burned around 115 acres in the Natural Area located on the west side of the refuge. Refuge personnel and Stafford County VFD firefighters combined forces to contain the blazes. One local contract engine was brought in to assist with mop up.

The Refuge fire program purchased a 2002 quad cab truck. This vehicle will be used by fire crew and other refuge staff for travel to training, meetings and fire assignments.

The Regional Office purchased a computrac moisture analyzer for the refuge. This device will be used to measure fuel moisture. This data will greatly enhance the fire programs ability to reach objectives stated in burn plans.

Fiscal year 2003 prescribed fire request was entered in National Fire Plan Operations and Reporting System (NFPORS). This new system is an interagency approach to prioritizing and funding prescribed fire projects.

Tim Keller met with Stafford County VFD officials to plan fire prevention activities for October. A Smokey Bear suit was reserved from Kansas State Forest Service for school visits.

#### 10. Pest Control

Invasive species reduction programs continued in August with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, has caused much concern. Efforts have been made to keep the plants flooded as long as possible, followed by spraying, cutting and re-flooding if water is available at the proper time.

Other areas of salt cedars have been mowed with the Davco brushcutter and resprouting will be sprayed. We find it easier to mow the large salt cedar plants and they use less spray to kill the smaller, more vulnerable resprouts.

### G. WILDLIFE

#### 2. Threatened and/or Endangered Species

Electric fences were maintained as predator barriers around the endangered Interior Least Tern nesting areas on the salt flats. When the fences are energized, the wires are treated with a "bait" consisting of cat food, sardines, and several secret ingredients, designed to attract predators and encourage them to smell or lick the wires, and thus "educate" them to keep their distance.

Least tern, snowy plovers, and killdeer use elevated artificial nesting sites (gravel piled on a bed of larger rocks), within the predator exclusion fence, that help prevent flooding of the nests during heavy thunderstorms.

On August 9, 31 least terns, and 3 nests with eggs were located within the fenced area. On August 12, 19 adults and 2 juveniles were still using the area, late for their normal cycle.

#### 4. Marsh and Water Birds

Birders reported a wide variety of water birds on Quivira during August, much to their delight. These included great, snowy and cattle egrets, white faced and glossy ibis (in breeding plumage), tri-colored herons, great blue herons, yellow and black crowned night herons, least and American bitterns, and a variety of others present.

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

As the water levels dropped and more mud flats were exposed, the shorebirds responded in large numbers. Species recorded include black-necked stilts, American avocets, greater and lesser yellowlegs, dowitchers, marbled godwits, Wilson's phalaropes and stilt, semi-palmated, spotted, western and pectorial sandpipers.

#### 8. Game Animals

In late July, Manager Hilley, responding to a call from the public, located a Fallow deer approximately three miles east of the Refuge. Working with the KS Dept of Wildlife and Parks, attempts were made to locate an owner with no success. The presence of tame deer in the area brings up the concern for the possibility of CWD infection. In August we were still working on the case of the deer's ownership and history. The local fear of CWD is growing as news stories increase in the sporting press.

#### 10. Other Resident Wildlife

A dead armadillo was found along the edge of the FmHA tract, three miles west of Headquarters. This is becoming a more frequent sight as these animals are making a major expansion into Kansas.

### H. PUBLIC USE

#### 1. General

A relatively large number of visitors traveled to Quivira during August, mostly to view the shorebird migration, especially since we were the only area with any water.

#### 2. Outdoor Classrooms - Students

On the weekend of August 9, 10, & 11, the Kansas Junior Duck Stamp display was in Dillard's Court at Towne East Square Mall, Wichita. Lorrie Beck, GPNC, staffed the booth and this resulted in a lot of nice advertising for the program.



#### 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hot weather has continued to put the concrete work on this trail on hold.

#### 7. Other Interpretative Programs

On August 24-25, Tim Tracy, a Refuge Volunteer and Certified Hunter Education Instructor conducted a Hunter Safety Course at the EEC on Quivira.

#### 18. Cooperating Associations

On 8/13, the Friends of Quivira conducted an executive board meeting at the Quivira Visitors Center. Plans were made for upcoming events such as "Monarch Mania" and "Step Back In Time".

### **I. EQUIPMENT AND FACILITIES**

#### 1. New Construction

Construction of two Volunteer trailer pads continued with force account concrete work finished and the water system and electrical supply installed last month. In August, dirtwork around the pads was completed and after a little landscaping and some sewer work, the pads should be ready for volunteers.

A new handicapped accessible photography blind was designed, constructed and erected on the Little Salt Marsh by Matt Skucius, an Eagle Scout candidate from Sterling. Matt and 10 volunteers, which he recruited, worked over 150 hours on the new structure. A new trail and parking spot are being planned to complete the installation.

#### 2. Rehabilitation

Zenor Electric, Hutchinson, rehabed the lights in the Headquarters and Visitor Center to a more efficient unit with much better output. Now we can see to do all sorts of tasks.

Work continued on rehab of the spoil berms on the canal from Unit 26 to Units 48/49. Old dredged spoil was removed to provide access along the side of the canal for cleaning and maintenance.

#### 3. Major Maintenance

The water system at the EEC was reworked to provide better water to visitors and folks staying overnight for a variety of reasons at the Bunkhouse.

## **J. OTHER ITEMS**

### **1. Cooperative Programs**

Jim Putnam, USGS, was on Quivira on 8/28, to review our water distribution system in hopes of coming up with an economical way to continuously monitor flows, as required by the KS Division of Water Resources. Bruce Falk from the local DWR office was also along on the effort.

### **3. Training and Items of Interest**

Carl Marks and Brent Waters attended the Maintenance Workshop at Fort Niobrara, NE, from 8/19-8/23.

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

02MAR.SEP.

October 18, 2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, September, 2002

**A. HIGHLIGHTS**

- The Kansas State Fair was in Hutchinson from September 6-15 and thousands of folks viewed and visited the FWS Booth.
- The classroom visits, for the annual Friends sponsored, "When Will the Eagle Land?" contest, were conducted on 9/12 for the adjacent school districts.
- "Monarch Mania", sponsored by the FOQ on 9/21, drew over 100 participants, trying to catch and tag the elusive Monarch butterfly.

**B. CLIMATIC CONDITIONS**

High: 98 degrees F      Low: 45 degrees F      Precip: 2.36 inches rain

The 2.36 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was almost on the button for the 2.42 inch long term average for September. Most of this rain fell in one storm on 9/15, which dropped 2.05 inches, and only traces fell during the rest of the month.

**E. ADMINISTRATION**

1. Personnel

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he is sorely missed. We continue to hope for his recovery from the illness. Paperwork is being submitted to allow Stan a disability retirement.

The Outdoor Recreation Planner, GS 7/9 position, at Quivira NWR has been filled by Cindy Terry (former Administrative Support Assistant). During September, work was started to find a replacement and fortunately Cindy will still be available to provide training.

#### 4. Volunteer Program

Volunteers Olin and Donna Allen conducted or coordinated the bi-weekly shorebird surveys being conducted in cooperation with the Kansas Department of Wildlife and Parks.

#### 6. Safety

The formal Monthly Staff and Safety Meeting was held on 9/10 and the discussion was about operation of the new 6x6 ATV.

One accident occurred on September 21. DPL Sellers was working with an Eagle Scout on a new handicapped accessible photography blind and a board slipped and the joiner chewed off about 3/8" of the end of Jim's finger. The Eagle Scout was a great help in getting Jim first aid, and we hope he forgets all the "new words" he learned as a result of the accident.

### **F. HABITAT MANAGEMENT**

#### 1. General

September had a normal precipitation total but the majority fell in one storm. Wetlands are better than last year and much better than places not too far west but it is still Kansas and hot windy weather can take back water very rapidly. Refuge grasslands are in good shape and the grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

#### 2. Wetlands

Earlier summer rainfall prevented a lot of the mowing of cattail that has been accomplished in the past few years. During September, Units 63, and Dead Horse Slough were mowed to reduce thick cattails. Several other wetlands that had been annually mowed to reduce cattails were not a problem this year as a heavy bloom of filamentous algae prevented any cattail growth. As the water receded, the algae formed a shading mat that prevented cattail growth. By seasons end these units were still in excellent shape and just needed more water to really shine.

## 5. Grasslands

Sandhill Plum mowing to reduce brush growth in the Refuge grasslands continued southwest of the old township road. This area had been mowed a couple of years past and then subjected to a prescribed burn, so the September mowing was to hit any regrowth.

Trees were removed from an area south of the Big Salt Marsh that will be control burned next year. By cutting the trees now we can let them dry all winter and burn the down residue next spring. The Posi-track and Marshall tree saw are very effective on the Russian olives and eastern Red cedars.

## 7. Grazing

Refuge grasslands are showing vigor and growth following the rains we have received. The cattle passing through the units has stimulated the grass and the regrowth is such that it is almost impossible to tell that the area has been grazed, shortly after the cattle have moved onto another unit. In grazing, timing is everything.

## 9. Fire Management

Tim Keller and Jeff Dunlap returned from the Nebraska Refuges Severity detail which started on August 21. While in Nebraska they were stationed at Ft. Niobrara NWR to assist with severe fire danger.

Todd Schmidt returned to Ft. Niobrara NWR to help enter DI-1202's, fire reports, for the Ft. Niobrara NWR. Over the course of 4 days he entered 60 fire reports into the new occurrence system.

Bill Wain attend the "Supervision; The Next Step" course in Denver, Colorado, September 16-20. This NCTC sponsored course fulfilled the 80 hours of training required for those FWS individuals in supervisory positions.

Refuge firefighters again helped with staffing the FWS booth at the Kansas State Fair.

Brent Water, Refuge Maintenance Staff, completed the ATV Rider Safety Course in Irving, Texas. This training certified Brent to be an ATV operator instructor. The ATV Safety Institute sponsored the course.

Travis Hanncock who was a temporary Range Technician/Firefighter at Flint Hills NWR this summer started work at Quivira NWR. Travis is attending a local community college and will work three days a week for several months this fall.

Purchase of a fire tank and pump to fit on recently acquired 6X6 ATV was completed. This combination of equipment will greatly enhance refuge staff's ability to safely complete fire management operations on the refuge.

Tim Keller and Bill Waln sat on a committee of FWS employees from Kansas, Nebraska and Colorado with the purpose of compiling and prioritizing a FY-03 training list. This training request is for those courses in the field of fire management.

Tim Keller met with Stafford County Volunteer Fire Department Fire Prevention staff to plan activities for the upcoming National Fire Prevention Week.

TJ Rockenbach completed fabrication of the front racks designed to fit on our ATV's. This rack will have allow operators to more efficiently store drip torches, fire tools and spray wand while completing fire management operations.

#### 10. Pest Control

Invasive species reduction programs continued in September with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, has caused much concern. Efforts have been made to keep the plants flooded as long as possible, followed by spraying, cutting and re-flooding if water is available at the proper time.

Other areas of salt cedars have been mowed with the Davco brushcutter and resprouting will be sprayed. We find it easier to mow the large salt cedar plants and they use less spray to kill the smaller, more vulnerable resprouts.

### G. WILDLIFE

#### 2. Threatened and/or Endangered Species

Electric fences were maintained as predator barriers around the endangered Interior Least Tern nesting areas on the salt flats. When the fences are energized, the wires are treated with a "bait" consisting of cat food, sardines, and several secret ingredients, designed to attract predators and encourage them to smell or lick the wires, and thus "educate" them to keep their distance.

Least tern, snowy plovers, and killdeer use elevated artificial nesting sites (gravel piled on a bed of larger rocks), within the predator exclusion fence, that help prevent flooding of the nests during heavy thunderstorms.

Most tern nesting activity was completed by September and the tern fence was lowered for the winter and early spring, to reduce it's hazard to endangered whooping cranes that will soon be using the area. The cranes are not real smart about fences so this reduces the chance of a injury or death due to a fence collision.

#### 4. Marsh and Water Birds

Birders reported a wide variety of water birds on Quivira during September, much to their delight. These included great, snowy and cattle egrets, white faced and glossy ibis (in breeding plumage), tri-colored herons, great blue herons, yellow and black crowned night herons, least and American bitterns, and a variety of others present.

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

As the water levels dropped and more mud flats were exposed, the shorebirds responded in large numbers. Species recorded include black-necked stilts, American avocets, greater and lesser yellowlegs, dowitchers, marbled godwits, Wilson's phalaropes and stilt, semi-palmated, spotted, western and pectorial sandpipers.

### H. PUBLIC USE

#### 1. General

A relatively large number of visitors traveled to Quivira during September, mostly to view the shorebird and waterfowl migration, especially since we were the only area with any water. Cheyenne Bottoms has not received the rains we were fortunate enough to receive and they are very short on water.

Quivira NWR will probably get many of Cheyenne Bottoms' birds this year, as well as a lot of the visitors that normally use that area.

#### 2. Outdoor Classrooms - Students

The annual NRCS Kid's Field Day was conducted on Quivira on September 25th. All of the 5th graders in the County visit the Refuge and go through educational stations on water, erosion, soils, the Refuge, and a variety of topics. This is a much anticipated field day and provides a great opportunity to educate the kids.

On the weekend of September 27-28, Lorrie Beck from the GPNC had the Kansas Junior Duck Stamp display at the "Autumn in the Air" festival in Wichita. This event kicks off the 100th anniversary of manned flight. Lorrie also had make it-take it crafts for the kids.

#### 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hot weather has continued to put the concrete work on this trail on hold.

#### 7. Other Interpretative Programs

On September 4, RM Hilley attended an eco-tourism meeting in Great Bend to discuss the future development of a Cheyenne Bottoms Wetland Center.

On September 5th, Olin Allen, Volunteer Coordinator led a tour of Quivira for the Wichita based First National Bank Travel/Tours.

The Kansas State Fair was September 6 - 15 in Hutchinson, KS. Quivira NWR coordinated our annual FWS booth, this year with a Centennial theme. Personnel from all Kansas NWR's helped staff the booth. Thousands of fair visitors stopped at the booth and also viewed the KS Junior Duck Stamp display.

On 9/12, representatives from the Friends, and Lorrie Beck and Bob Gress from the GPNC visited all local schools to kick off the Friends sponsored "When Will the Eagles Land?" contest. Students pick the date and time the first bald eagle of the fall migration will return to Quivira. A local funeral home donated prizes.

The St. John High School Biology class was on Quivira for a program on 9/18, presented by Cindy Terry. On 9/20, Cindy presented a program to a group from Habitat for Humanities.

"Monarch Mania" the Friends sponsored butterfly tagging event was held on 9/21, with over 100 folks attending. A program by Dr. Greg Sievert, Biology Professor from Emporia State University, started the event, then the crowd broke up into groups to chase the elusive Monarch. The butterflies were flying high and only about 40 were tagged but everyone was excited and the event went well.

On 9/26, Volunteer Coordinator Allen and DPL Sellers led a tour and "Lunch and Learn" program for the St. John Senior Citizens.

#### 8. Hunting

Early teal season ran from September 21 - 29, with some folks beating the mosquitos and trying their luck. Success was limited because of the small hunter turnout did not keep the birds active.



## 17. Law Enforcement

The semi-annual pistol requalification for Refuge Officers was conducted on September 5 at the Quivira NWR range. Officers from all Kansas stations participated in the training.

## 18. Cooperating Associations

The Friends of Quivira continued to serve the Refuge in numerous ways, such as the Monarch Mania event and making plans for the October, "Step Back In Time".

# **I. EQUIPMENT AND FACILITIES**

## 1. New Construction

A new handicapped accessible photography blind was designed, constructed and erected on the Little Salt Marsh by Matt Skucius, an Eagle Scout candidate from Sterling. Matt and 10 volunteers, which he recruited, worked over 150 hours on the new structure. A new trail and parking spot are being planned to complete the installation. In September, the ramps to the blind were completed.

## 2. Rehabilitation

Work continued on rehab of the spoil berms on the canal from Unit 26 to Units 48/49. Old dredged spoil was removed to provide access along the side of the canal for cleaning and maintenance.

The major rehab project was the delivery of AB-3 road rock, under a MMS contract, and dump spreading the material on non-public roads on the Refuge. Roads from C-1 north to the Sterling highway were topped with rock, making them accessible in all weather conditions and greatly improving our ability to manage water in times of heavy rainfall. The contractor delivered and dumped and the Refuge crew spent a lot of time and effort spreading the material as needed.

## 3. Major Maintenance

Work continued on the water system at the EEC to provide better water to visitors and folks staying overnight for a variety of reasons at the Bunkhouse.

# **J. OTHER ITEMS**

## 1. Cooperative Programs

The Refuge continued to provide information to the USGS, which is working on a continuous monitoring water measurement system. This would allow more accurate gaging of the amount of water diverted to Refuge wetlands.

### 3. Training and Items of Interest

On 9/11-14, Brent Waters attended a ATV Instructors Training course in Texas to allow him to train and certify our future ATV jockeys.

The annual Refuge Staff Picnic was held at Sterling Lake on September 21. Everyone had a great time, ate too much, and went home happy.

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

02MAR.OCT

November 18, 2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, October, 2002

**A. HIGHLIGHTS**

- Refuge participates in the Stafford Oktoberfest, and the Friends of Quivira win the chili cookoff with a recipe called "Prairie Wind". Draw your own conclusions!
- The Friends sponsored "Step Back in Time" historic event, in celebration of NWR Week, was a big success with fun and food for all ages.
- The presence of whooping cranes on the Refuge delays the opening of the first segment of the Kansas duck season.

**B. CLIMATIC CONDITIONS**

High: 90 degrees F      Low: 30 degrees F      Precip: 5.30 inches rain

The 5.30 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was considerably above the 1.80 inch long term average for October.

**E. ADMINISTRATION**

1. Personnel

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he is sorely missed. We continue to hope for his recovery from the illness. Paperwork has been submitted to allow Stan a disability retirement.

During October, paperwork was completed and submitted to the Regional Office to hire a replacement for Administrative Support Assistant Cindy Terry, who was selected to fill the Outdoor Recreation Planner, GS 7/9 position, at Quivira NWR. Paperwork was also completed during October to hire a replacement Maintenance Worker.

#### 4. Volunteer Program

Volunteers continued to assist the Refuge in many ways, including keeping the Visitors Center open on selected weekends during the fall migration for visitor's convenience.

#### 6. Safety

The formal Monthly Staff and Safety Meeting was held on 10/1 and the discussion and videos covered electrical safety. All of the Refuge staff participated in a pot luck dinner, which always brings a good crowd to the safety meeting.

In September, DPL Sellers was working with an Eagle Scout on a new handicapped accessible photography blind and a board slipped and the joiner chewed off about 3/8" of the end of Jim's finger. The finger is healing nicely but Jim's typing has suffered greatly due to the large bandage.

### **F. HABITAT MANAGEMENT**

#### 1. General

Moisture in October and cool temperatures helped the Refuge wetlands. Refuge wetlands are better than last year and much better than places not too far west. Refuge grasslands are in good shape and the high intensity/short duration grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

#### 2. Wetlands

Earlier summer rainfall prevented a lot of the mowing of thick cattail stands that has been accomplished in the past few years. However, heavy algae growth and other natural conditions prevented the recovery of some of the thick cattail stands and the wetlands entered the fall migration in excellent shape overall.

Rains in October improved the level in the Little Salt Marsh, our main storage basin, enough that water could be diverted to Units 7, 28, 29, 30, 10a,b,c, and 11. By month's end, enough flow was entering the Refuge to allow diversion up the Rattlesnake Creek drainage to the Darrynane Unit.

## 5. Grasslands

Sandhill Plum mowing to reduce brush growth in the Refuge grasslands was completed southwest of the old township road. This area had been mowed a couple of years past and then subjected to a prescribed burn, so the new mowing was to hit any regrowth.

Trees were removed from an area south of the Big Salt Marsh that will be control burned next year, also from some areas in Rice county and other small tree pockets throughout the Refuge. By cutting the trees now we can let them dry all winter and burn the down residue next spring. The Posi-track and Marshall tree saw are very effective on the Russian olives and eastern Red cedars.

## 7. Grazing

Refuge grasslands are showing vigor and growth following the rains we have received. The cattle passing through the units has stimulated the grass and the regrowth is such that it is almost impossible to tell that the area has been grazed, shortly after the cattle have moved onto another unit. In grazing, timing is everything.

All grazing on the Refuge ends on October 1st.

## 9. Fire Management

TJ Rockenbach, Jeff Dunlap and Travis Hanncock completed the ATV Rider Course on October 2. This ATV operator course covers those basic skills necessary to operate an ATV safely.

TJ Rockenbach and Jeff Dunlap completed the S-211 course on October 1. This course deals with water handling in the wildland fire environment. The course was held at Quivira NWR with Tim Keller as Lead Instructor.

TJ Rockenbach and Jeff Dunlap's last day of work was on October 4<sup>th</sup>. Both of these individuals were temporary Range Technicians and their 1040 hours appoints had expired.

Performance appraisals were completed for Tim Keller, Todd Schmidt, TJ Rockenbach and Jeff Dunlap. These were then forwarded to the Regional Office.

Tim Keller, dressed as Smokey Bear, and Bill Waln represented Quivira NWR in the Oktoberfest Day Parade in Stafford, KS.

Tim Keller coordinated National Fire Prevention Week Activities for the Refuge. Fire Management and Refuge Staff visited classrooms in Stafford and St. John. Smokey Bear was part of each presentation as wildland fire safety was discussed. The Refuge worked hand and hand coordinating these prevention activities with Stafford County VFD. Over 300 contacts were made with area children in the schools and countless others during the Oktoberfest Day activities in Stafford.

Bill Waln attended the Sandhills District Fire Management meeting in Valentine NE October 15 and 16.

Bill Waln and Todd Schmidt attended the South Zone (NE, KS and CO) Fire Management meeting in Valentine, NE, October 16-18.

Bill Waln and Todd Schmidt staffed a FWS Fire Management Booth at the Stafford County Emergency Services Day on October 26. Purpose of this event was to raise awareness of those emergency services and agencies in Stafford county and recruit members.

Bill Waln traveled to Rainwater Basin WMD to present a program on FireBase to fire staff from Nebraska and Kansas.

Todd Schmidt completed two prescribed fire plans for Browns Park NWR.

#### 10. Pest Control

Invasive species reduction programs have been conducted throughout the summer and fall, with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, caused much concern earlier. Efforts have been made to keep the plants flooded as long as possible, and this appears to have been effective in controlling or at least preventing further spread. Efforts to mow the salt cedar over the ice following freeze up will further reduce the plants and should make continuous flooding next Spring easier.

Other areas of salt cedars have been mowed with the Davco brushcutter and resprouting will be sprayed. We find it easier to mow the large salt cedar plants and they use less spray to kill the smaller, more vulnerable resprouts.

### **G. WILDLIFE**

#### 2. Threatened and/or Endangered Species

Endangered whooping cranes began to show up on Quivira and in the surrounding area in October. On October 18, two adult whoopers were observed on the center of the Big Salt Marsh Wildlife Drive.

On October 21, these two or two other whoopers were on the west side of the BSM and on 10/31, five adults were using the center of the Wildlife Drive.

Bald eagles began to show up as the waterfowl numbers (Their Lunch!) began to build up on the Refuge.

### 3. Waterfowl

Bi-weekly waterfowl surveys, in conjunction with a statewide effort, were conducted during the month. The 10/8 survey found 272 geese, and 2860 ducks (plus over 8000 coots) while the 10/22 survey had 1150 ducks and 4290 geese. The fall migration has just started!

### 4. Marsh and Water Birds

Birders reported a wide variety of water birds on Quivira during October. These included great, snowy and cattle egrets, great blue herons, and American bitterns.

Sandhill cranes began to arrive in October, with only 125 on the 10/8 survey and rising to 20,500 by the 10/22 survey.

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

Shorebird species recorded in October included American avocets, greater and lesser yellowlegs, dunlins, least sandpipers, dowitchers, and stilt sandpipers. Western horned and eared grebes were also observed. Lots of gulls used the area with over 3500 Franklins observed one day and increasing to over 15,000 by months end.

## H. PUBLIC USE

### 1. General

Large numbers of visitors traveled to Quivira during October as the hunting seasons and the fall waterfowl migration got into full swing. The endangered whooping cranes on the Refuge also attract a lot of visitors.

### 2. Outdoor Classrooms - Students

On 10/8, a group of home schoolers from the Newton KS area visited and were given some environmental education and tour information.

On 10/26-27, a Certified Hunter Education Course was presented at the Environmental Education Classroom on Quivira NWR. Tim Tracy, a State certified instructor and Refuge volunteer taught the course.

On 10/25-26, Dr Jonithan Fry, McPherson College, used the Environmental Education Classroom and bunkhouse as a part of a Quivira over night field trip.

#### 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hopefully we will be able to pour concrete on this trail during the Fall, 2002.

#### 7. Other Interpretative Programs

The Refuge fire crew drove a station fire pumper and were accompanied by "Smokey the Bear", aka Tim Keller, in the Stafford Oktoberfest Parade on 10/5. The Friends of Quivira won the chili cookoff with a mixture called "Prairie Fire".

On 10/19, the second "STEP BACK IN TIME" historic event was conducted as part of the Friends of Quivira celebration of NWR Week. The activities, centered at the Kid's Fishing Pond area, included historic crafts and games, live animals from the Great Plains Nature Center, dinosaurs from the Sternberg Museum, mountain Men from the KS Muzzleloaders Society, and troops from the NPS, Ft. Larned. There were muzzleloader and tomahawk demonstrations, the calvary troops fired a mountain howitzer, wagon team rides, and everyone was fed a chili and stew supper cooked over the campfire at the chuckwagon. The evening program was Jim Hoy, a cowboy historian, doing a program called "Boots and Stetson", sponsored by the KS Humanities Council. This event was sponsored by the Friends and was a great success with over 250 visitors attending.

On 10/26, Lorrie Beck, GPNC, presented a session on the KS Jr. Duck Stamp Contest, at a KS Art Teachers Conference at Wichita State University. Lorrie also took the Duck Stamp exhibit to Kirwin NWR in early October.

#### 8. Hunting

The annual Youth Duck Hunt was conducted on 10/12-13, but the turnout was once again very low. Fathers can not hunt during this youth only event and most just wait until the regular season when all members of the party can shoot.

An early goose season ran for two days, 10/19-20, with limited success and few hunters in the wetlands. Two whoopers were reported as this special goose season closed and stuck around long enough to delay the opening of the regular duck season on 10/26 for about three days.



## 17. Law Enforcement

Hunting seasons bring lots of law enforcement time and this one was no exception. With whooping cranes present, a lot of effort was spent informing the public and answering questions about the hunting season closures due to the birds.

## 18. Cooperating Associations

The Friends of Quivira continued to serve the Refuge in numerous ways, such as the October, "Step Back In Time" event, described above.

# I. EQUIPMENT AND FACILITIES

## 1. New Construction

Construction of the new concrete interpretive trail was delayed earlier by hot weather and in October by wet weather. We still have our fingers crossed for this fall.

## 2. Rehabilitation

The major rehab project was the delivery of AB-3 road rock, under a MMS contract, and dump spreading the material on non-public roads on the Refuge. Roads from C-1 north to the Sterling highway were topped with rock, making them accessible in all weather conditions and greatly improving our ability to manage water in times of heavy rainfall. The contractor delivered and dumped and the Refuge crew spent a lot of time and effort spreading the material as needed.

## 3. Major Maintenance

Work continued on the water system at the EEC to provide better water to visitors and folks staying overnight for a variety of reasons at the Bunkhouse.

The volunteer trailer pads at the EEC are almost complete and just awaiting some sewer work by a contractor.

A lot of effort by the crew was spent on preparation for the "Step Back in Time" event for NWR Week.

# J. OTHER ITEMS

## 1. Cooperative Programs

The Refuge continued to provide information to the USGS, which is working on a continuous monitoring water measurement system. This would allow more accurate gaging of the amount of water diverted to Refuge wetlands.

### 3. Training and Items of Interest

On 10/21-25, RM Hilley attended the Regional Centennial Team meeting in North Dakota.

Refuge Manager Hilley canceled his Friends Mentoring trip to Big Lake NWR in Arkansas, scheduled for the end of the month, due to the impending arrival of his first grandchild. He is really jumpy when the phone rings now!

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

02MAR.NOV

December 9, 2002

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, November, 2002

**A. HIGHLIGHTS**

- Fall waterfowl migration and assorted hunting season openers required a lot of time during November for both Refuge Officers Hilley and Sellers.
- The contracted delivery of the road rock and surge rock MMS order required the crew to spend time re-arranging the piles, preparing roads and coordinating the hauling of the material.
- The Refuge finally joined the modern age by going wireless for our Internet connection during November. An outdated local telephone system was beginning to significantly impact our ability to use the Net.

**B. CLIMATIC CONDITIONS**

High: 76 degrees F      Low: 16 degrees F      Precip: 0.29 inches rain

The 0.29 inches of "official rainfall" at the Hudson, KS weather station, eight miles from HQ, was below the 0.93 inch long term average for November.

**E. ADMINISTRATION**

**1. Personnel**

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he is sorely missed. We continue to hope for his recovery from the illness. Paperwork has been submitted to allow Stan a disability retirement and we are starting the process to rehire a replacement.

Paperwork has been completed and submitted to the Regional Office to hire a replacement for Administrative Support Assistant Cindy Terry, who was selected to fill the Outdoor Recreation Planner, GS 7/9 position, at Quivira NWR.

During November, personnel received their annual performance evaluations.

#### 4. Volunteer Program

Volunteers continued to help the Refuge in many ways, including assisting with bi-weekly waterfowl surveys and with spotlight deer surveys.

#### 6. Safety

The formal Monthly Staff and Safety Meeting was held on 11/5 and Lorrie Beck was the host and the topic was Winter Safety.

### F. HABITAT MANAGEMENT

#### 1. General

Overall, Refuge wetlands are better than last year and much better than places not too far west. Refuge grasslands are in good shape and the high intensity/short duration grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

#### 2. Wetlands

Earlier summer rainfall prevented a lot of the mowing of thick cattail stands that has been accomplished in the past few years. However, heavy algae growth and other natural conditions prevented the recovery of some of the thick cattail stands and the wetlands entered the fall migration in excellent shape overall.

Water diversions increased in November, with water being moved from the Little Salt Marsh, our main storage basin, to wetland units 14a, 14b and 14c, 25, 26, 40, 62, Adam's pond, and Deadhorse Slough.

#### 5. Grasslands

The short time left on our Tractor Operators appointments reduced the mowing to the last roads and trails and any small areas missed earlier. Sandhill Plum mowing to reduce brush growth in the Refuge grasslands was completed over a large portion of Quivira this year. This mowing allows the regrowth of the grasses, and provides more fuel for a hotter fire, when later in the spring the areas are treated with a prescribed burn.

## 7. Grazing

Refuge grasslands are showing vigor and regrowth this fall, due to some fortunate rains earlier. All grazing on the Refuge ended on October 1st, and November was spent getting equipment and facilities prepared for the winter.

## 9. Fire Management

Bill Waln and Todd Schmidt presented a program to the fourth grade class at St. John, KS, elementary. The program dealt corresponded with the National Weekly Reader articles dealing with Good Fire vs. Bad Fire. The two hour presentation focused on using fire as a management tool.

Bill Waln assisted as a unit instructor for S-390 in Hutchinson, KS. The course was presented to personnel who traveled in from all over the United States.

One prescribed fire unit was implemented in November. The Whooper Pad unit was burned on November 12 for 3 acres.

Shannon Swanson, Prescribed Fire Specialist at Medicine Lake NWR, assisted refuge staff in putting up new weather station. Shannon was here on November 18.

Refuge staff responded to two wildland fires in November. The Fort Duck fire for 7 acres on November 9 and the Artesian Well fire on November 20 for 2 acres. Both fires were off refuge land, however the Fort Duck fire threatened the refuge.

## 10. Pest Control

Invasive species reduction programs have been conducted throughout the summer and fall, with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, caused much concern earlier. Efforts were made to keep the plants flooded as long as possible, and this appears to have been effective in controlling or at least preventing further spread. Efforts to mow the salt cedar over the ice following freeze up will, hopefully, further reduce the plants and should make continuous flooding next Spring easier.

Other areas of salt cedars have been mowed with the Davco brushcutter and resprouting will be sprayed. We find it easier to mow the large salt cedar plants and they require less spray to kill the smaller, more vulnerable resprouts.

## **G. WILDLIFE**

### **2. Threatened and/or Endangered Species**

Endangered whooping cranes began to show up on Quivira and in the surrounding area in October. Most left for southern shores by late October but a total of 17 whooper sightings were recorded in November, on and around Quivira NWR. The last report was 6 whoopers that stayed southeast of Stafford for three days, 11/7-11/10.

Bald eagles began to show up as the waterfowl numbers (Their Lunch!) began to build up on the Refuge. On 11/5, 6 immature and 4 adults (10) and on 11/19, 6 adults and 20 immature(26) bald eagles were recorded on Quivira.

### **3. Waterfowl**

Bi-weekly waterfowl surveys, in conjunction with a statewide effort, were conducted during the month. The 11/5 survey found 316,059 geese, and 4735 ducks (plus over 2000 coots) while the 11/19 survey had 2172 ducks and 689,814 geese. We are not sure what has happened to the ducks but the geese have gone crazy.

A unusual sighting for November was a surf scoter reported by a birder on 11/8.

### **4. Marsh and Water Birds**

Sandhill cranes began to build up in November with 210,000 reported on the 11/5 survey and 125,550 reported on the 11/19 survey.

### **5. Shorebirds, Gulls, Terns and Allied Species**

Shorebird species were mostly gone by November. Franklins gulls were down to about 1500 on the 11/5 survey, from the over 15,000 at the end of October.

### **8. Game Animals**

The first of our spotlight deer surveys was conducted on 11/22 with a total of 356 deer sighted. This is the preseason survey, which will be followed with a survey during the season and one post season survey.

## **H. PUBLIC USE**

### **1. General**

Large numbers of visitors traveled to Quivira during November as the hunting seasons and the fall waterfowl migration got into full swing. The huge numbers of geese and sandhill cranes drew large crowds.

## 2. Outdoor Classrooms - Students

On 11/26, ORP Cindy Terry presented some EE activities and an orientation to students from the Larned Middle School.

On 11/1-2, Lorrie Beck, GPNC, attended the KACEE conference in Atchison, KS and gave a presentation on the Junior Duck Stamp contest.

On 11/6, Lorrie assisted with the State ECO-Meet at Kanopolis Lake.

On 11/14, Lorrie contacted 40 area elementary schools "advertising" an outreach program, "Suitcase for Survival" for all 5th grades.

Lorrie also contacted the new Cabela's Store in Kansas City to make arrangements for the Junior Duck Stamp display to be shown in their store from Jan. 31-Feb. 14, 2003. She also sent out brochures to statewide homeschool contacts and to over 100 public and Catholic schools telling about the Jr. Duck Stamp program.

## 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hopefully we will be able to pour concrete on this trail soon if the weather holds out.

## 8. Hunting

On November 3rd, the first segment of the duck season closed for a week, reopening on November 9th with pheasant and quail seasons. On November 2nd, goose and sandhill crane seasons opened. No crane hunting is allowed on the Refuge but it is popular around the area.

Goose hunters had a good opportunity but ducks number were lower than expected. Pheasant and quail success was spotty as the birds are still building after some disasterous drought years. The Refuge was better than some of the more traditional pheasant areas further west that are still suffering severe drought conditions.

## 17. Law Enforcement

Hunting seasons bring lots of law enforcement time and this one was no exception. With whooping cranes present, a lot of effort was spent informing the public and answering questions.

## 18. Cooperating Associations

The Friends of Quivira continued to serve the Refuge in numerous ways and received a welcome rest period in November, following the very successful and time consuming, "Step Back In Time" event, conducted last month.

### **I. EQUIPMENT AND FACILITIES**

#### 2. Rehabilitation

The major rehab project continued in November was the delivery of AB-3 road rock, under a MMS contract, and dump spreading the material on non-public roads on the Refuge. The delivery of the larger surge rock portion of the contract was started in November and the Refuge crew spent a lot of time and effort placing the material as needed.

#### 3. Major Maintenance

Work continued on the water system at the EEC to provide better water to visitors and folks staying overnight for a variety of reasons at the Bunkhouse.

The volunteer trailer pads at the EEC were completed as the final sewer work was accomplished by a contractor.

Canal cleanouts on the West and the RC canals were accomplished during the month, as permitted by the rock delivery contract.

### **J. OTHER ITEMS**

#### 1. Cooperative Programs

The Refuge continued to provide information to the USGS, which is working on a continuous monitoring water measurement system. This would allow more accurate gaging of the amount of water diverted to Refuge wetlands.

#### 3. Training and Items of Interest

Refuge Manager Hilley canceled his Friends Mentoring trip to Big Lake NWR in Arkansas, scheduled for Nov. 1-2, due to the impending arrival of his first grandchild. As usual the baby was late but Tenacity Marie was born on November 18th, and Granddad could not be happier.

We entered the wireless age as the Refuge was connected to wireless Internet in November. So far it is working well and much faster.



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

02MAR.DEC

January 23, 2003

Memorandum

To: Refuge Supervisor, (KS, NE, CO), Region 6 (60130)  
From: Refuge Manager, Quivira National Wildlife Refuge (64620)  
Subject: Monthly Activity Report, December, 2002

**A. HIGHLIGHTS**

- Administrative assistant position to fill vacancy left when Cindy Terry moved to ORP position opened from 12/9 - 12/27.
- The contracted delivery of the road rock and surge rock MMS order required the crew to spend time re-arranging the piles, preparing roads, and coordinating the hauling of the material. Between weather delays and other duties for the truckers, this was very time consuming for the crew.
- The Quivira Christmas Bird Count, conducted with a faithful group of birder volunteers, was conducted on December 18th.

**B. CLIMATIC CONDITIONS**

High: 67 degrees F      Low: 12 degrees F      Precip: 0.86 inches

The 0.86 inches of "official precipitation" at the Hudson, KS weather station, eight miles west of HQ, was above the 0.77 inch long term average for December. Two snowstorms on the 4th and 24th dropped a total of 4 inches, giving us a white Christmas but not much moisture.

**E. ADMINISTRATION**

**1. Personnel**

Maintenance Worker Stan King has been off since early June, due to continuing struggles with throat cancer, and he has been sorely missed. During December we received some wonderful news, when we were informed that the disability retirement for Stan had been approved through OPM. This eased everyone's minds and hopefully will help Stan's recovery from the illness.

Stan's position will be advertised in January and we are already getting a lot of calls from folks interested in the position.

The replacement Administrative Support Assistant, vice Cindy Terry, who was selected to fill the Outdoor Recreation Planner, GS 7/9 position, at Quivira NWR, was advertised from 12/9 - 12/27. Over 90 applications were received in the RO, up from the three applications received last time this position was open. Go figure!!!

The nationwide problems with the Real Property Inventory and the audit resulted in some changed plans and a lot of concern about missed holiday events.

#### 4. Volunteer Program

Volunteers continued to help the Refuge in many ways, including assisting with bi-weekly waterfowl surveys and with spotlight deer surveys.

#### 6. Safety

No formal Monthly Staff and Safety Meeting was held in December due to holiday and use or lose leave being burned up by most staff members.

### F. HABITAT MANAGEMENT

#### 1. General

Overall, Refuge wetlands are better than last year and much better than places not too far west. Refuge grasslands are in good shape and the high intensity/short duration grazing treatments are having the desired effects, compared to last year when regrowth was very slow.

#### 2. Wetlands

Water diversions continued in December, with water being moved from the Little Salt Marsh, our main storage basin, to wetland units 14a, 14b and 14c, 16, 20A&B, 25, 26, 40, 62, 28, 29, 30, 48, 49, 63, Adam's pond, and Deadhorse Slough.

This is in hopes of getting the majority of the refuge wetlands ready for the spring waterfowl migration, which can peak on Quivira in late February.

#### 5. Grasslands

Sandhill Plum mowing to reduce brush growth in the Refuge grasslands was completed over a large portion of Quivira this year. This mowing allows the regrowth of the grasses, and provides more fuel for a hotter fire, when later in the spring the areas are treated with a prescribed burn.

## 7. Grazing

Refuge grasslands are showing vigor and regrowth this fall, due to some fortunate rains earlier. All grazing on the Refuge ended on October 1st, and December was spent getting equipment and facilities prepared for the winter.

## 9. Fire Management

Bill Waln attended the FWS Fire Management Mentoring Program orientation training in Park City, UT, December 10-12. This program matches FWS employees in a mentor/mentee relationship with the purpose of assisting mentee to reach career goals. Bill will be working with a mentee for the next two years.

Todd Schmidt attended the FWS Fire Management Mentoring Program orientation training in Park City, UT, December 11-12. Todd has been in the program for one year as a mentee. Todd say in on a panel discussion during the training session.

Todd Schmidt completed the Incident Certification and Qualification System (ICQS) training in Phoenix, AZ, December 17-19. The ICQS program is used by DOI agencies to track fire management experience and qualifications for its employees.

A new pump was installed onto the Polaris 6x6 water tank. This new system will greatly assist refuge staff during fire management operations.

## 10. Pest Control

Invasive species reduction programs have been conducted throughout the summer and fall, with both tractor operators actively working on plum, salt cedar and other brush reduction.

The invasion of small salt cedars on some of the exposed mud flats of the Big Salt Marsh, following last year's drought, caused much concern earlier in the year. Efforts were made to keep the plants flooded as long as possible, and this appears to have been effective in controlling or at least preventing further spread. Efforts to mow the salt cedar over the ice following freeze up will, hopefully, further reduce the plants and should make continuous flooding next Spring easier. We are just waiting now for a good freeze that will allow the mowing to be completed.

Other areas of salt cedars have been mowed with the Davco brushcutter and resprouting will be sprayed. We find it easier to mow the large salt cedar plants and they require less spray to kill the smaller, more vulnerable resprouts.

## G. WILDLIFE

### 2. Threatened and/or Endangered Species

Bald eagles began to show up as the waterfowl numbers (Their Lunch!) began to build up on the Refuge. During the Bi-weekly waterfowl surveys, bald eagles are counted as well. On the 12/9 survey, 17 immature and 7 adults (24 total) and on the 12/23 survey, 21 adults and 41 immature (62 total) bald eagles were recorded on Quivira. The birders on the Christmas Bird Count on 12/18 found 32 adults and 55 immature for a total of 87 bald eagles, the highest count this year.

### 3. Waterfowl

Bi-weekly waterfowl surveys, in conjunction with a statewide effort, were conducted during the month. The 12/9 survey found 610,661 geese, (327,936 Canadas, 144,063 white-fronts, and 138,662 snows) and only 9,776 ducks. The 12/23 survey had 8,428 ducks and 372,350 geese. We are not sure what has happened to the ducks but the geese have gone crazy.

On the Christmas Bird Count on 12/18, the birders, with many more eyes on the area, found 817,118 geese and still less than 10,000 ducks.

Five Tundra swans ( 2 adults, 3 immatures) spent much of the month on the wetlands in the middle of the Wildlife Drive.

### 4. Marsh and Water Birds

Only 15 Sandhill cranes were still hanging around on 12/18 for the Christmas Bird Count.

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

Shorebird species were gone by December, or frozen. Ring-billed gulls were around throughout the month to clean up the left overs from the numerous eagle killed geese.

### 8. Game Animals

Two spotlight deer surveys was conducted in December, one during and one following the Kansas firearms deer season. On the 12/9 survey a total of 366 deer were sighted. This is the during-the-season survey, and only found 10 more deer than the pre-season count. On the post season survey, 12/16, a total of 310 deer were recorded.

## H. PUBLIC USE

### 1. General

Large numbers of visitors traveled to Quivira during December as the hunting seasons progressed and reports of the huge migration of geese got around. It's hard to keep over 800,000 geese a secret!

### 2. Outdoor Classrooms - Students

On 12/12, Lorrie Beck, GPNC, traveled to Kirwin NWR to conduct a program on endangered species and the "Suitcase for Survival".

Lorrie has made contact with the new Cabela's Store in Kansas City to make arrangements for the Junior Duck Stamp display to be shown in their store from Jan. 31-Feb. 14, 2003.

### 4. Interpretive Foot Trails

The Friends of Quivira received a donation from a local family in memory of their mother/wife. The donation will be used to help finance the development of a Butterfly/ Wildflower interpretive trail near the Visitor Center. Hopefully we will be able to pour concrete on this trail soon if the weather holds out.

### 8. Hunting

From December 4 - 15, the Kansas firearms deer season was conducted. There is no deer hunting on Quivira NWR, but a lot of time was spent by both Refuge Officers keeping the hunters on their side of the fence. No evidence was found of any deer taken off the Refuge during the season.

Goose hunters continued to be very excited over the number of geese in the area y but duck numbers remained much lower than expected. Pheasant and quail success was spotty as the birds are still building after some disastrous drought years. The Refuge was better than some of the more traditional pheasant areas further west that are still suffering severe drought conditions.

### 17. Law Enforcement

Hunting seasons bring lots of law enforcement time and this one was no exception. Calls for information on where the geese are going out, how high, where would you hunt and how many geese do you have, took up much of the month.

## 18. Cooperating Associations

The Friends of Quivira continued to serve the Refuge in numerous ways and received a welcome rest period during December, following a very successful and event filled year, including the Ramsar dedication and the "Step Back In Time" event, plus many more activities.

### **I. EQUIPMENT AND FACILITIES**

#### 2. Rehabilitation

The major MMS rehab project continued in December was the delivery of the larger surge rock portion of the contract. There were several times during the month that the trucking was delayed or re-routed to other jobs and this caused many headaches for the Refuge crew who were waiting to handle the material.

#### 3. Maintenance

Between the holidays, use or lose leave, the MMS rock project, and the weather a lot of time was spent working on equipment and vehicles routine maintenance.

### **J. OTHER ITEMS**

#### 1. Cooperative Programs

The Refuge continued to provide information to the USGS, which is working on a continuous monitoring water measurement system. This would allow more accurate gaging of the amount of water diverted to Refuge wetlands.

On December 18th, the annual Audubon Society's Christmas Bird Count was conducted on Quivira. A total of 95 species were found by 14 participants, a much better turnout for birds and folks than last year.

#### 3. Training and Items of Interest

On 12/8 the Refuge staff and families had their Christmas party and everyone had a great time.

# TABLES

**Table 1. Quivira NWR Personnel, 2002**

	Name	Title	Appt.	EOD
1.	J. David Hilley	Refuge Manager	PFT	5/89
2.	James Sellers	Deputy Refuge Manager	PFT	9/00
3.	William W. Waln	FMO	PFT	2/99
4.	Lorrie Beck	ORP	PFT	11/01
5.	Gary F. Meggers	Rangeland Management Specialist	PFT	5/85
6.	Cynthia E. Terry	ORP	PFT	7/96
7.	Carl D. Marks	Maintenance 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.	T.J. Rockenbach	Range Tech/Firefighter	TFT	05/02
13.	Jeff Dunlap	Range Tech/Firefighter	TFT	05/02
14.	Robin Drake-Woods	Tractor Operator	TFT	05/01
15.	Tyler McVay	Tractor Operator	TFT	10/01
16.	Jessica Schmitt	Bio Tech	TFT	06/02

**Table 2. Quivira NWR Staffing, 1998-2002**

Year	Permanant		Temporary	YCC	Total
	Full Time	Part Time			
2002	9	2	5	2	18
2001	9	1	2	2	14
2000	9	1	2	2	14
1999	9	1	2	2	14
1998	9	1	2	2	14



**Table 3. Quivira NWR Funding, FY 1998-2002**

Account	2002	2001	2000	1999	1998
1130	\$0.00	\$2,000.00	\$0.00	\$0.00	\$0.00
1261	\$607,200.00	\$528,000.00	\$398,550.00	\$391,300.00	\$371,300.00
1262	\$335,435.00	\$163,000.00	\$45,000.00	\$65,000.00	\$15,000.00
2810	\$0.00	\$0.00	\$0.00	\$0.00	\$636.00
2821	\$0.00	\$20,000.00	\$20,000.00	\$1,987.00	\$4,800.00
6860	\$29,600.00	\$28,000.00	\$30,000.00	\$30,000.00	\$30,600.00
8610	\$10,839.00	\$9,325.00	\$2,400.00	\$2,700.00	\$6,600.00
9251	\$183,766.00	\$104,000.00	\$72,150.00	\$105,300.00	\$97,800.00
9263		\$40,000.00	\$14,300.00	\$0.00	\$0.00
9261	\$63,059.00	\$0.00	\$0.00	\$0.00	\$0.00

**Table 4. Quivira NWR Grazing Program, FY 2002**

Permittee	LIVESTOCK #. & CLASS	AUMS	ACRES GRAZED	AUMS/ ACRE
HAMILTON	150 Yearlings/6 Bulls	582.84	1350	0.43
HORNBAKER	70 CC/PR - 3 BULLS	417.20	350	1.19
MILLER	165 CC/PR-8 BULLS	1003.4	1357	.74
SCHWEIZER G	148 CC/PR-2 BULLS	780.01	1786	.44
SCHWEIZER B	100 CC/PR-5 BULLS	614.4	1308	.47
HILLEY	2 HORSES	27.0	34.5	.78
<b>TOTAL</b>	<b>150 YRL 483 CC/PR 24 BULLS 2 HORSES</b>	<b>3424.85 Aums</b>	<b>6185.5 Acres</b>	<b>.65 Average Aums/acre</b>

**Table 5. Quivira NWR Fiscal Year 2002-Fire Log**

Name	Start Date	Wildland Fire		Prescribed Fire		Fire Number
		FWS Acres	Other Acres	FWS Acres	Other Acres	
Rice Co Oil	11/1/01	3.0				64620-9261-6164
WU 22	11/20/01			6.0		64620-9263-6198
WU 26	12/20/01	0.1				64620-9261-6253
Wildlife Drive	1/17/02			660.0		64620-9263-6251
Turner	1/17/02			1108.0		64620-9263-6255
Whooper	1/20/02			10.0		64620-9263-6254
East LSM	2/13/02			279.0		64620-9263-6256
McMurphy-A	2/20/02			750.0		64620-9263-6283
Dartmouth 1	2/22/02		1250.0			64620-9261-6287
Dartmouth 2	2/22/02		22.0			64620-9261-6288
160 <sup>th</sup> Street	2/22/02		75.0			64620-9261-6289
C <sup>'</sup> nty Line	03/09/02		50.0			64620-9261-6290
Sunday	2/23/02		2.0			64620-9261-6291
4 <sup>th</sup> Street	2/23/02		175.0			64620-9261-6286
Darrynane	3/13/02			775.0		64620-9261-6299
C <sup>'</sup> nty Line 2	3/09/02		0.0			64620-9261-6302
Scott	3/16/02		375.0			64620-9261-6301
Hamilton	4/13/02			1100.0		64620-9263-6305
Preston	4/22/02		300.0			64620-9261-6422
McMurphy-B	3/26/02			0.1		64620-9263-6324
Neola	3/23/02		53.0			64620-9261-6325
St. John	3/26/02		20.0			64620-9261-6328
Ikes	3/28/02		60.0			64620-9261-6713
Reno Assist	3/30/02		215.0			64620-9261-6348
Severity #1	4/01/02					64620-9261-6381

Quivira NWR, Fire Log-Fiscal Year 2002 con't						
Name	Start Date	Wildland Fire		Prescribed Fire		Fire Number
		FWS Acres	Other Acres	FWS Acres	Other Acres	
Sylvia RD						64620-9261-6401
Natarea	8/21/02	195.0				64620-9261-6712
Sonatarea	8/21/02	30.0				64620-9261-6720
Heeter	8/21/02		18.0			64620-9261-6721
Cottonwood	8/21/02		0.3			64620-9261-6722
WU 48 NO	8/21/02	0.1				64620-9261-6782
Totals		228.20	2615.30	4688.10	0	

# PHOTOS

## Staff Photos

Refuge Manager,  
Dave Hilley



Assistant Manager, Jim Sellers

Fire Management Officer,  
Bill Waln





Maintenance Worker Leader, Carl Marks

Maintenance Worker, Brent Waters



Tractor Operator, Tyler McVay





Tractor Operator, Robin Drake-Woods



Seasonal Bio-Tech, Jessica Schmitt



YCC crew,  
Selina Sherril and  
Kyle Glespe





Outdoor Recreation Planner,  
Cindy Terry

Seasonal Firefighter, Jeff Dunlap

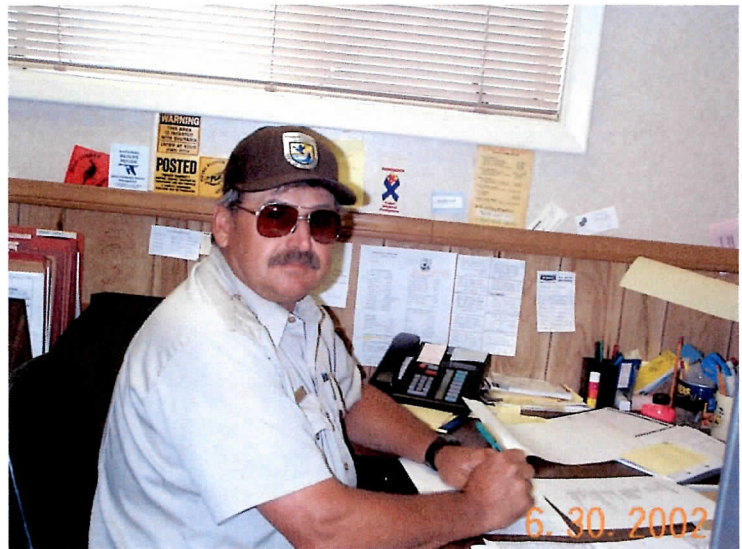


Range Tech, Todd Schmidt





Seasonal Firefighter,  
T.J. Rockenbach



Rangeland Management  
Specialist, Gary "Pete"  
Meggers

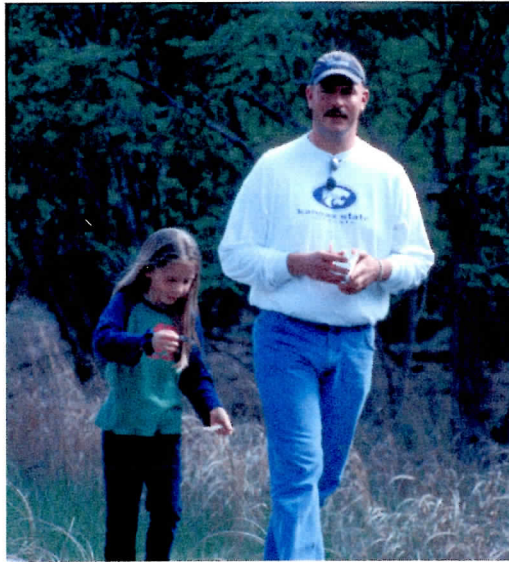


Range Tech, Tim Keller



Lorrie Beck, Outdoor Recreation Planner, on site at the Great Plains Nature Center

PHOTO CAPTIONS  
2002 NARRATIVE



1. Annually, the Friends of Quivira sponsor a “Father’s Day Out” event to get dad and the kids to the refuge. This event is the day before Mother’s Day to give mom the day off. 02-RDW

2. Lorrie Beck and Joyce Lent from the Great Plains Nature Center help with a nature tour/walk for the dads and kids. Following this activity the kids make a Mother’s Day gift for their mom.

02-RDW







3. As part of the Fathers Day Out event the kids cook lunch for themselves and their dads. Refuge Manager Hilley helps keep the “dogs” out of the fire.

02-RDW



4. You have never really eaten lunch until the meal is cooked by a five or six year old. Dads will eat anything!!!02-RDW



5. During 2002, Quivira NWR was named a “Wetland of International Importance” by the Ramsar Convention on Wetlands. Quivira became only the 18th site in the U.S. to be so designated. Over 350 folks attended the dedication event on May 4th. 02-RDW?

6. Speakers for the Ramsar dedication included Secretary of Interior Gale Norton, FWS Director Steve Williams, Senator Pat Roberts, Lt. Governor Gary Sherrer, KDWP Secretary Mike Hayden and Regional Director Ralph Morganweck. Secretary Norton’s parents live in Kansas so it was a homecoming of sorts. 02-RDW





7. FWS Director Steve Williams also had a homecoming of sorts, since he previously served as the Secretary of the Kansas Dept. of Wildlife and Parks.

02-RDW



8. FWS Director Williams presented Refuge Manager Hilley with a plaque acknowledging Quivira National Wildlife Refuge as a “Wetland of International Importance”.

02-RDW



9. A chance to lead Interior Secretary Norton and Director Williams on a short walking tour and later Secretary Norton, the Regional Director, and others on a two hour driving tour of Quivira was a highlight of the event.

02-RDW

10. QVR's Volunteer Coordinator Olin Allen was thrilled to have the opportunity to speak to Director Williams.

02-RDW



11. The Friends of Quivira provided a lunch for the entire crowd, feeding over 350 folks, including the Interior Secretary (visible seated under the Monarch Mania banner). 02-GM





12. Friends, Volunteers, and FWS Staff from the WO, RO, and all KS field stations, were given a photo opportunity with Secretary Norton and the other visiting dignitaries. 02-RDW



13. In June, the Friends of Quivira sponsored the Kid's Fishing Clinic and Derby. Approximately 150 youth, parents, grandparents and assorted relatives, went through the Clinic stations on fishing equipment, knot tying, fish ID and handling, casting, and boating safety. Kids safely learn how to enter a canoe ("floating" on inner tubes) instead of in deep "real water".

02-RDW





14. After the Clinic portion of the event, everyone goes to the Kid's Pond to try their luck.

02-RDW

15. Any size fisherman would be proud of this catfish!!

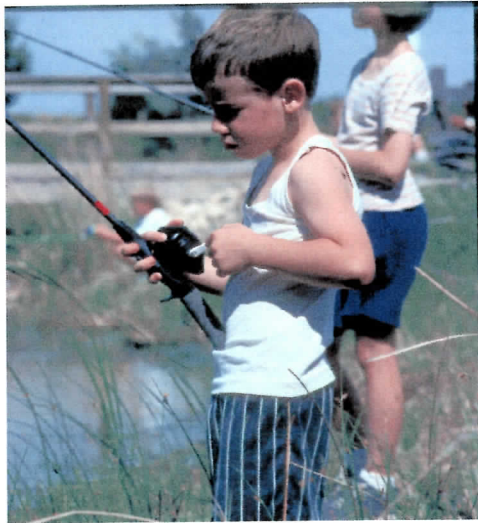
02-RDW



16. Catfish up to 8 lbs were caught by the young anglers. Donated prizes were given for largest, smallest, and several other categories and a fun time was had by all participants.

02-RDW

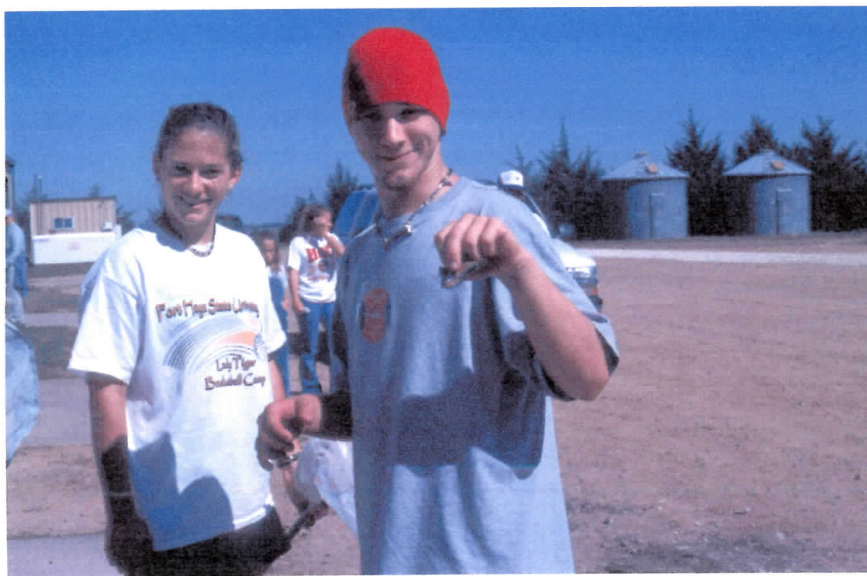




17. To catch a big fish.....you have to hold your tongue just right and be very intense. 02-RDW

18. The annual “Monarch Mania” butterfly tagging event in September is one of the most popular activities the Friends sponsor on Quivira. With this bunch after them, the Monarchs don’t stand a chance.

02-CT



19. Each captured Monarch butterfly receives a wing tag, and over the years several Quivira tagged butterflies have been recovered in Mexico.

02-DH





20. “Smokey the Bear” rode the Quivira fire engine through the Stafford Oktoberfest parade, much to the delight to the kids in attendance.

02-RDW



21. On 10/19, the second annual “STEP BACK IN TIME” historic event was conducted as part of the Friends of Quivira’s celebration of NWR Week. Members of the KS Muzzleloaders Society set up a mountain man camp and demonstrated historic skills.

02-CT



22. The Turner family of Stafford and their trusty team provided wagon rides and transported visitors to the various activity stations during the event. Stations included muzzleloaders and mountain men, live prairie animals with the Great Plains Nature Center, dinosaurs with the Sternberg Museum and calvary troopers, complete with a mountain howitzer, from the NPS at Ft Larned.

02-CT



23. Children were taught old time games and crafts by volunteers in period costume. 02-CT





24. To play “Roll a Hoop” takes a lot of concentration but it’s much more fun than doing those old computer games.

02-CT

25. Numerous new signs, recently received as part of an MMS project, were installed, in part to prepare the Refuge for the 2003 Centennial.

02-DH





26. A series of four new “management signs” arrived and were installed to inform Refuge visitors about our management programs for grazing, prescribed burning, mowing for brush control and disking for cattail control. Visitors that don’t stop at HQ or ask someone, can now understand why certain activities are being conducted on the Refuge. 02-DH

27. The Refuge Fire Crew assisted in placement of new directional signs, to better inform the visiting public.

02-GM







28. The multi-year project to fill the deep borrow areas within several wetland units was completed in 2002. This project takes fill from a thin scraping along the basin, uses that to fill the deeper borrow areas and therefore requires less water to be used to flood the newly re-contoured wetland basin.



02-DH

29. Unit 25 was re-contoured in 2002 and the newly flooded unit allows more water to spread throughout the wetland, rather than requiring the deeper areas to be completely filled before the more valuable, habitatwise, shallow areas are flooded.

02-DH





30. Livestock grazing, replacing the historic prairie grazers... the bison, is used to manage the over 13,000 acres of grasslands on Quivira. New grazing facilities such as this watering tank, are being developed to facilitate the high intensity/short duration grazing program that duplicates the historic bison herd's impacts on the grasses.

02-GM

31. Prior to the Ramsar dedication, the Refuge crew developed a wildlife viewing spot adjacent to the Visitors Center. This spot provides accessible viewing of the Little Salt Marsh and also allowed accessible seating for the Ramsar event.

02-DH



32. In addition to watching grass grow, Maintenance Worker Leader Carl Marks likes to watch concrete dry! In reality, Carl has poured thousands of yards of concrete on Quivira and the place is much better for his efforts.

02-CT





33. During the winter, vandals pulled some stop logs from several Refuge water control structures but the flow in the canals was small and no real damage to the marshes was done.

02-JS



34. A family group of tundra swans spent most of the winter of 2002 on the Big Salt Marsh, offering great viewing opportunities to the Refuge visitors.

02-RDW

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.*

#### About the Refuge



*This 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 540 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.



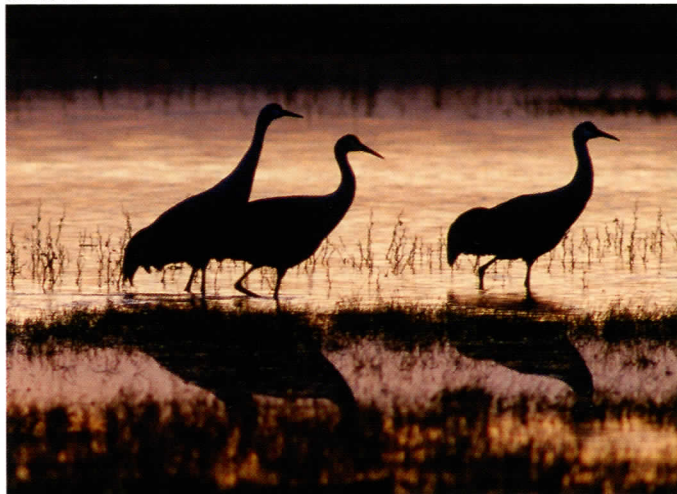
## Wildlife Throughout the Seasons

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 800,000 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.



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

### **Managing Land for Wildlife - the Work of the Refuge**

Common summer nesting species on the Refuge include snowy plovers, American avocets. Black-necked stilts and white-faced ibis. 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.

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.



© Bob Gress

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 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.

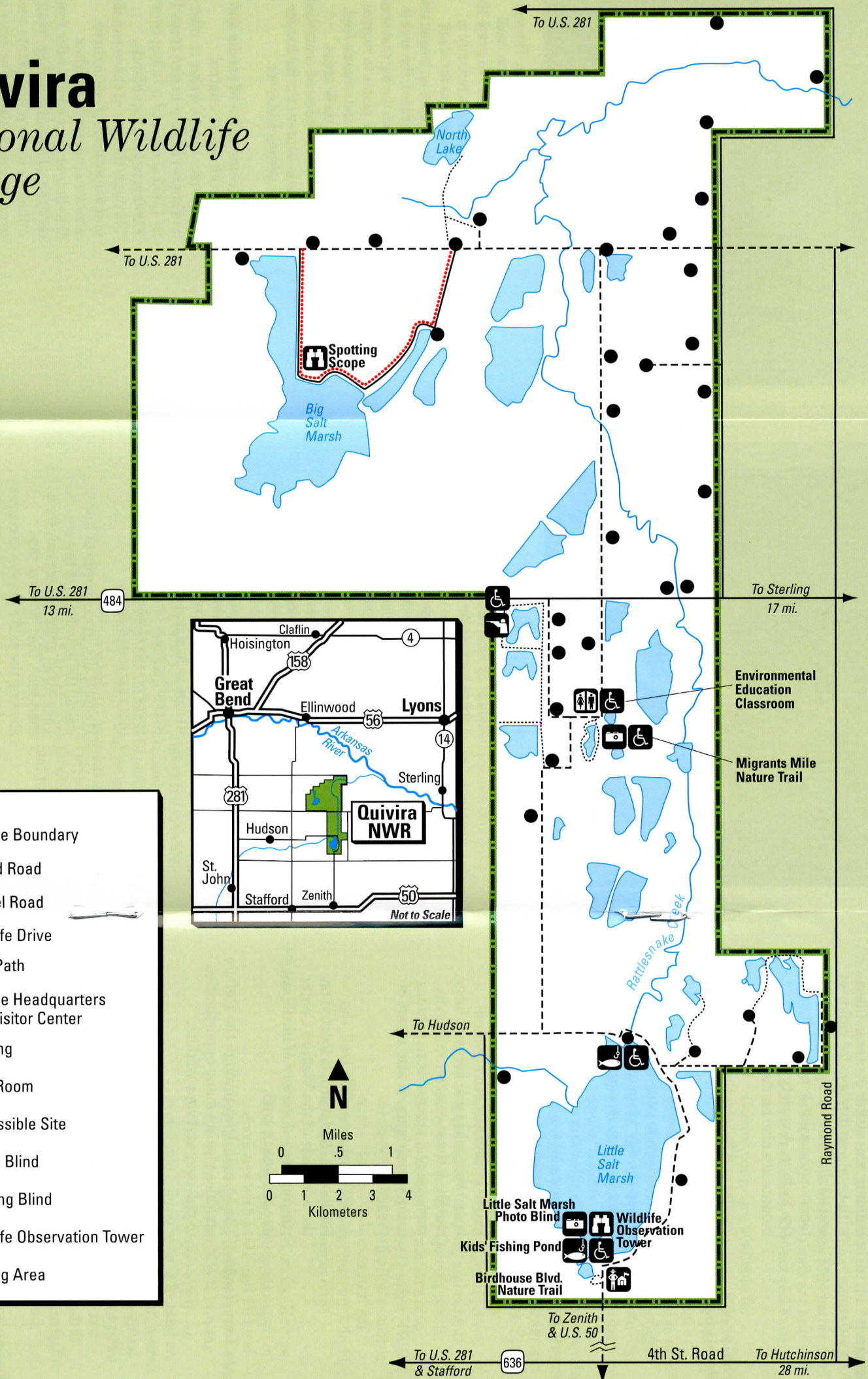
### *Water for Wildlife*

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.



# 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.

**Observation  
Tower**

An accessible wildlife observation tower is located on the south edge of the Little Salt Marsh. This tower allows visitors to get a better view of the Refuge 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, except on Federal holidays.

### *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 ability. Dial 7-1-1 for a free connection to the State transfer relay service for TTY and voice calls to and from the speech and hearing impaired. For more information or to address accessibility needs, please contact the Refuge staff at 620 / 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 is 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.

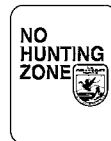
## Refuge Signs and Their Meaning



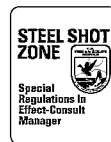
Refuge Boundary - Authorized entry only.



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 67578-9532  
620 / 486 2393  
[quivira@fws.gov](mailto:quivira@fws.gov)  
<http://quivira.fws.gov>

**For State transfer relay service**  
TTY / Voice: 711

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

**For Refuge Information**  
1 800 / 344 WILD

**December 2005**



**Long-billed Dowitcher**  
© Bob Gress

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

Watching Wildlife

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.

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
	<i>italicized name</i>	=endangered species in the United States



	Sp	Su	F	W
<b>Loons</b>				
___ Common Loon .....	o	r	o	r
<b>Grebes</b>				
___ •Pied-billed Grebe .....	c	c	c	o
___ Horned Grebe .....	u		u	o
___ •Eared Grebe .....	c	u	c	r
___ Western Grebe .....	r	r	o	o
<b>Pelicans</b>				
___ American White Pelican .....	a	a	a	o
<b>Cormorants</b>				
___ Neotropic Cormorant .....	o	o		
___ •Double-crested Cormorant .....	a	c	a	u
<b>Hérons</b>				
___ •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	
<b>Ibises</b>				
___ White Ibis .....	r	r	r	
___ Glossy Ibis .....	r	r	r	
___ •White-faced Ibis .....	c	c	c	
<b>Vultures</b>				
___ Turkey Vulture .....	c	u	u	
<b>Whistling Ducks</b>				
___ Black-bellied Whistling Duck .....		r		
<b>Geese</b>				
___ 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
<b>Swans</b>				
___ Trumpeter Swan .....			r	r
___ Tundra Swan .....	o		o	r

	Sp	Su	F	W
<b>Ducks</b>				
___ •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
<b>Hawks, Kites, Eagles</b>				
___ 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
<b>Falcons</b>				
___ •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
<b>Gallinaceous Birds</b>				
— •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
<b>Rails, Gallinules</b>				
— •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
<b>Cranes</b>				
— Sandhill Crane .....	a		a	o
— Whooping Crane .....	o		o	r
<b>Plovers</b>				
— 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	
<b>Stilts, Avocets</b>				
— •Black-necked Stilt .....	c	c	u	
— •American Avocet .....	c	c	c	
<b>Sandpipers</b>				
— 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	
<b>Phalaropes</b>				
— •Wilson's Phalarope .....	a	c	a	
— Red-necked Phalarope .....	o	r	o	
— Red Phalarope .....	r		r	
<b>Jaegers</b>				
— Parasitic Jaeger .....		r	r	
<b>Gulls</b>				
— 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	
<b>Terns</b>				
— 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	
<b>Pigeons, Doves</b>				
— •Rock Dove .....	u	u	u	u
— •Mourning Dove .....	a	a	a	o
<b>Cuckoos</b>				
— Black-billed Cuckoo .....	r	r		
— •Yellow-billed Cuckoo .....	o	u	r	
<b>Owls</b>				
— •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
<b>Goatsuckers</b>				
— • Common Nighthawk .....	u	c	u	
— Common Poorwill .....	o	o		
— • Chuck-will's-widow .....	o	o		
<b>Swifts</b>				
— • Chimney Swift .....	u	u	u	
<b>Hummingbirds</b>				
— Ruby-throated Hummingbird .....		r		
<b>Kingfishers</b>				
— Belted Kingfisher .....	u	u	u	o
<b>Woodpeckers</b>				
— • 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
<b>Flycatchers</b>				
— 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		
<b>Shrikes</b>				
— • Loggerhead Shrike .....	u	u	u	o
— Northern Shrike .....	r		o	o
<b>Vireos</b>				
— • Bell's Vireo .....	u	u		
— • Warbling Vireo .....	u	u		
— Red-eyed Vireo .....	o	o	r	
<b>Jays, Magpies, Crows</b>				
— • Blue Jay .....	c	u	c	u
— • Black-billed Magpie .....	o	o	o	o
— • American Crow .....	c	u	c	u
<b>Larks</b>				
— • Horned Lark .....	c	u	u	c
<b>Swallows</b>				
— • 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	
<b>Chickadees, Titmice</b>				
— • Black-capped Chickadee .....	c	u	u	c
— Tufted Titmouse .....			o	o
<b>Nuthatches</b>				
— • White-breasted Nuthatch .....	u	o	o	o
<b>Creepers</b>				
— Brown Creeper .....			o	o
<b>Wrens</b>				
— Carolina Wren .....	o			o
— • Bewick's Wren .....	o	o		
— • House Wren .....	c	c	u	
— Sedge Wren .....	o		o	
— Marsh Wren .....	u		u	u
<b>Kinglets</b>				
— Golden-crowned Kinglet .....	o			o
— Ruby-crowned Kinglet .....	u		u	o
<b>Gnatcatchers</b>				
— • Blue-gray Gnatcatcher .....	u	u	r	
<b>Thrushes, Bluebirds</b>				
— • 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
<b>Thrashers</b>				
— • Gray Catbird .....	c	u	o	
— • Northern Mockingbird .....	u	u	u	o
— • Brown Thrasher .....	c	c	o	r
<b>Starlings</b>				
— • European Starling .....	c	c	c	c
<b>Pipits</b>				
— American Pipit .....	u		u	
<b>Waxwings</b>				
— Cedar Waxwing .....	r	o	o	o



	Sp	Su	F	W
<b>Warblers</b>				
— 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	

### 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**  
**RR 3, Box 48A**  
**Stafford, KS 67578**  
**620 / 486 2393**  
**quivira@fws.gov**  
**<http://quivira.fws.gov>**

**For State transfer relay service**  
**TTY / Voice: 711**

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

**For Refuge Information**  
**1 800 / 344 WILD**

**September 2003**

