

Lake Andes National Wildlife Refuge Complex

Lake Andes, South Dakota

Annual Narrative Report

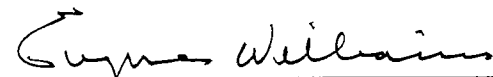
Calendar Year 1991

**U.S. Fish and Wildlife Service
Department of the Interior**

**LAKE ANDES NATIONAL WILDLIFE REFUGE
KARL MUNDT NATIONAL WILDLIFE REFUGE
LAKE ANDES WETLAND MANAGEMENT DISTRICT**

1991 ANNUAL NARRATIVE REPORT

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Refuge Manager

1-29-03

Date

Refuge Supervisor

Date

Regional Office Approval

Date

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Lake Andes NWR Complex

INTRODUCTIONS

Lake Andes National Wildlife Refuge

Lake Andes, a 4,700 acre meandered lake, whose water level depends entirely upon annual runoff, lies in the south central portion of Charles Mix County, South Dakota. The lake, historically used as a campsite by Sioux hunting parties pursuing migrant buffalo herds and waterfowl flocks, was actually named after a French trader whose nickname was Andy. "Andy's Lake" was given its present title following the establishment of a town and post office in 1900.

The Lake Andes National Wildlife Refuge was established in 1936 by a Presidential Executive Order that authorized the purchase of 365 acres of land at Owens Bay. Subsequent land purchases have been made on a continuing basis, to form the 832 acre Owens Bay Unit.

In 1939, the largest single easement ever granted by the state of South Dakota conveyed to the United States Fish and Wildlife Service the right to flood the 4700 acre Lake Andes meandered lake bed and maintain a closed Refuge for migratory birds and other wildlife.

Two dikes separate Lake Andes into three management units; however, the lack of a permanent water supply allows very little water level manipulation. The 240 acre Owens Bay marsh, fed by natural runoff and the waters from a free-flowing artesian well, is managed using a system of periodic water level draw downs to produce optimum waterfowl brood rearing conditions, plus the production of natural waterfowl food.

Lake Andes is infamously known for a January 1973 outbreak of Duck Virus Enteritis which killed 40,000 ducks and geese using the open water of Owens Bay. This unfortunate die-off prompted drastic changes in the Refuge's management, including the elimination of wintering waterfowl (using short periods of well shutdown and pyrotechnics) during the winter months and the elimination of food crops previously grown for the wintering flocks of ducks and geese. Nearly 300 acres of cropland were re-seeded to native grass nesting cover and the area is now managed primarily for the production of waterfowl and various species of water birds. A multitude of birds and animals, indigenous and introduced to the prairie ecosystem, also utilize the Refuge.

Karl Mundt National Wildlife Refuge

The Karl E. Mundt National Wildlife Refuge was purchased by the National Wildlife Federation in 1974. The \$250,000 purchase price was provided by the Seven-Eleven Food Stores (a division of the Southland Corporation) and was collected through a national "Save an Eagle" campaign. On December 19, 1974, at a ceremony in the National Wildlife Federation Headquarters in Washington, D.C., the administration of this refuge was turned over to the Fish and Wildlife Service.

Two tracts of fee title land totaling 780 acres were purchased from John and Mabel Cassidy. The "North Unit" contains 580 acres and lies entirely within the state of South Dakota. The "South Unit" consists of 200 acres, 20 of which are in Nebraska.

Separating the North and South Units is a 305 acre parcel owned by the Will Jonas estate. This tract is protected by a perpetual easement which states that the landowners "...will cooperate in the maintenance of the aforesaid lands as a roosting and nesting grounds for eagles by not changing existing timber, grasses, structures, or appurtenances...". The preservation of the mature cottonwoods, which currently provide eagle roosting habitat was the actual intent of the easement.

Another 300 acre tract (formerly owned by the G. R. Kirwan estate and recently purchased by Bill Jonas) lies between the Jonas property and the North Unit. Both the Jonas and Kirwan tracts have been identified as potential fee title purchases under the LWCF acquisition program.

The refuge is located 1½ miles down river from Fort Randall Dam. The water releases for hydroelectric generation create an open water area directly below the dam. The open water, plus an abundant supply of various fish species, provides a winter feeding area for the bald eagles. Waterfowl flocks, also attracted to the open water, provide a supplemental food source for the eagles.

Lake Andes Wetland Management District

The Lake Andes WMD is located in the extreme southwestern portion of the Prairie Pothole Region. The southern location results in the area having milder winters than the remainder of the eastern Dakotas and Minnesota; however, summers are longer and warmer. Annual evaporation can amount to 36 inches, while the rainfall varies from 17 inches to 24 inches across the District. These conditions result in more years of marginal and poor wetland conditions in comparison to areas farther north and east.

Three vegetative zones are found across the District. The true or tall grass prairie zone encompasses the four eastern counties with the dominant native grasses being big bluestem, Indian grass, switch grass, and other warm-season grasses. Very little native prairie remains in this area since it contains highly fertile soils and adequate rainfall conducive to maximized agri-business. Land use is extremely heavy and most private wetlands have been drained.

The tall grass/mixed prairie transition zone covers the central portion of the District. The dominant native grasses in this area are western wheatgrass, big bluestem, and porcupine grass. Lower annual precipitation limits row crops to some extent and land use is more diversified between small grains, row crops, hayland, and pasture. Shelter belts, farmsteads, and feedlot areas are also more common. Wetlands and associated vegetative cover on private land supports excellent populations of wildlife. The vast majority of the District's WPAs are located within this zone. Waterfowl and other wildlife populations are highest within this zone as compared to other zones.

The western portion of the District falls within the mixed grass prairie zone, with dominant native grasses being western wheatgrass, needle-and-thread, and blue grama. Annual rainfall averages 17 inches; therefore, small grain crops are predominant on agricultural lands. Native prairie, pastures, and hayland comprise a larger percentage of the land use than in the two zones to the east. Even though land use is less intense, the wetlands are less numerous and upland vegetation is shorter due to the drier climate. Wildlife populations reach good numbers in scattered areas, but overall this area is less productive than the transition zone.

A. Highlights

January

We received a letter from Bruce Schoonover, who is stationed in Saudi Arabia. It was written on January 3rd. He seems to be in good spirits, but of course this was before the attack. We recently heard from his wife, Pat, and she said his troop is moving closer to the front. Please....don't forget the crisis in your prayers.

Bill Wilson and John Jave flew to Marana, AZ for their annual Law Enforcement Refresher Course on January 22-30. They got back refreshed.

Norma Martin, Sandy Abraham and Chris Lousias worked the FWS booth at the Charles Mix County Mid- Winter Fair on January 15-16. Our display was the National Wildlife Refuge display with an eagle on it. The crowd was attentive. Door prizes consisting of two Peterson Field Guides and four Zoo Books were given away..

February

Chris Lousias was involved in a very minor collision while in Pierre. She was back-ended by a Ford sedan while at an intersection. No tickets were issued.

Ray Rauch visited briefly on February 15th.

March

Norma Martin received her 10 year length of service pin and certificate.

Wayne Henderson, Biological Aid, began an intermittent appointment on March 4th.

Karl Fleming, Biological Aid, has arrived from Michigan to begin his temporary appointment.

Richard Rolston, Biological Aid, is also back on board for the season. Both Karl and Rich have 180 day appointments and EOD on March 11th.

A reporter and a photographer from the Sioux Falls Argus Leader were at the Refuge on March 19th. They did an article on the waterfowl migration complete with a picture and an interview with John Jave. The article received front page spotlight in the life section of the March 24th Sunday paper.

Sandy Abraham left for a nine week Law Enforcement training session in Georgia.

On March 26th, one of John Jave's burn plans was implemented. Part of the south Owen's Bay "went up" without a hitch.

April

The Henry (Hank) Jacobson WPA, Beadle County, dedication ceremony took place on April 27. Approximately 200 people braved the cold, wind and rain to attend the event.

B. Climatic Conditions

Table I. Climate Statistics 1991

Month	High	Low	Precipitation
January	53° on 1/18	-5° on 1/4&6	.07 inches
February	64° on 2/2	0° on 2/15	.32 inches
March	70° on 3/26	4° on 3/2	.69 inches
April	89° on 4/6	31° on 4/23	2.41 inches
May	90° on 5/14	30° on 5/3	4.49 inches
June	98° on 6/25, 28 & 30	51° on 6/16	1.39 inches
July	106° on 7/5 & 20	55° on 7/24	1.30 inches
August	106° on 8/25	54° on 8/10	1.23 inches
September	96° on 9/6	28° on 9/19	1.06 inches
October	92° on 10/16	13° on 10/30	2.29 inches
November	63°	-4°	.95 inches
December	56°	0°	0 inches
Total Precip			16.2 inches

Another open mild winter was recorded in southeastern South Dakota during 1991. Only 1.08 inches of precipitation were received during the first three months of the year. There was growing concern that we were heading into the fourth straight year of a drought and the concerns were valid. Ice breakup on Lake Andes occurred on March 6.

It appeared that conditions were improving during April and May when 6.9 inches of rain were received, and temperatures in the 80s and 90s were common. There was sufficient moisture to get the crops growing, but no runoff to charge the wetlands.

June, July and August saw a total of 4.9 inches of precipitation, which was barely enough to keep some of the crops alive. High temperatures of 106° in both July and August, were accompanied by strong winds. Many corn and milo fields were totally wiped out. The high temperatures and strong winds caused the water level in Lake Andes to continue to drop.

There was a wide variety of weather in September. It was hot and uncomfortable the first week and then a new low temperature record of 28° was set on the 19th of the month. At the end of the month, and Indian summer set in and temperatures returned to normal.

October started out warm, but conditions soon changed. Lake Andes froze over on the 29th and by the end of the month there was at least four inches of ice covering the three units of the lake.

Temperatures moderated in the middle of November to the point that the ice all melted on Lake Andes. The heat was short-lived, however, with the lake being ice covered again by the 27th.

The year end cooled with relatively mild temperatures (mid 30s) and very little wind. Dense fog moved in the last week of the year and was with us both day and night.

Total precipitation for the year was 16.2 inches which is 5.17 inches below the normal of 21.37 inches and 3.49 inches below that received last year. The low temperature for the year was -5 °F and the high was 106 °F. **Table 1.** summarizes climatic conditions in the Lake Andes area.

C. Land Acquisition

1. Fee Title

January

The Kirwin Estate, landowner adjacent to the Mundt Refuge, sold the bottom land property that the Service was interested in acquiring. We did not know the land was up for sale and even if we had, the selling price was much higher than our appraisal.

There is a tract of land called Bass Beach on the North Unit of Lake Andes that is owned by the county and rumor has it that it will be put up for sale in the near future. We will consider trying to purchase it.

February

Bill Wilson and Jack Hise met with Bon Homme County Commissioners to discuss a tract purchase north of Tyndall, SD.

The Edelman WPA in Yankton County was surveyed by Gary Alrich and Chris Lousias.

April

Bill Wilson, Jack Hise of the Huron Realty office, and Conservation Officer Mary Clawson did a "look-see" on a possible fee title purchase on the Don Seiling property in Bon Homme County.

October

Negotiations and appraisals continued on a 121 acre tract located just north of Owens Bay with ½ mile of shoreline along the center unit of Lake Andes.

November

Bill Wilson attended a meeting with the Charles Mix County commissioners to discuss the purchase of a tract between the Center Unit of Lake Andes and Owens Bay.

December

Bill Wilson and Tona Hughes attended a Charles Mix County Commissioners meeting to discuss acquisition of the Black Thunder property near the refuge.

2. Easements

January

Bill Wilson approved a Sanborn County wetland easement.

Sandy Abraham met with Jack Hise in Huron concerning wetland restorations on proposed easement lands.

February

Bill Wilson met with Jim Monfore of Pheasant Acres in Charles Mix County. An easement proposal/extension agreement was discussed and if it flies, it will add up to 1700 acres of excellent wildlife habitat.

Easement files are still being put into the data base.

John Jave, Bill Wilson and Sandy Abraham have been doing ground checks. Hanson, Hyde, Douglas, Aurora and Beadle Counties are finished. John Jave has 9 more contacts to make.

March

Bill Wilson approved two grassland easements in Sanborn County.

John Jave worked with Special Agent Smoot on five wetland easement violations.

Bill Wilson met with Jack Hise, State Game, Fish & Parks, and Ducks Unlimited concerning a possible restoration/easement in Davison County. It is a big one that involves raising a county road, which is why DU and the State are involved.

April

One potential wetland easement was reviewed with the Huron WAO (Huber property)

July

One grassland easement was approved in Sanborn County.

August

One wetland easement was approved in Hand County.

September

Two wetland easements were approved in Sanborn County.

October

One grassland easement was rejected in Jerauld County and a 1,700 acre wetland/grassland easement was signed in Charles Mix County.

November

Les Lebahn, the DC for the SCS in Charles Mix County, was contacted and asked to change the classification of four wetlands. The wetlands are on land owned by James Monfore and are now under a wetland and grassland easement. The FWS wanted the classification changed from a "FW" to "W". Mr. Lebahn agreed to make the change as soon as they received the training to do so.

December

Two wetlands easements and one grassland easement were approved in Beadle County. Two wetland and one grassland easements were approved in Hutchinson County. The food plot on the Rubendahl grassland easement in Sanborn County was checked.

3. Other

FmHA Inventory Lands

January

One preliminary FmHA easement in Yankton County was worked.

Bill Wilson assisted Lonnie Schroeder in answering a congressional regarding easement boundaries on the former DenOuden property. A meeting was set up with the new owner but he didn't show up. We will try again later.

February

Huron Realty needed information on all the sold and recorded properties, which Sandy Abraham provided. The Stevens property was specifically asked about. It seems some information was missing on the printout we received.

Two preliminary easements were worked, one in Yankton County and one in Hutchinson County.

Sandy Abraham talked to Gary Denke, the Director of Equalization in Douglas County. She explained to him the differences in the B and B1 documents regarding the Laib property.

Sandy Abraham sent Jack Hise FmHA easements so he could do title searches on them.

March

Bill Wilson answered a Congressional inquiry from Senator Daschle's office concerning the Laib FmHA easement. Mr. Laib wanted to know why one of his neighbors could farm their easement area and he couldn't. The neighbor purchased his land after Laib and it hasn't yet been surveyed so we have continued cropping for weed control. Laib also wanted his easement changed from a B to a B1 and was told that this was not possible.

Sandy Abraham issued a special use permit for farming on the Scholten FmHA property (Laib's neighbor!)

Sandy Abraham discussed easement stipulations to a potential purchaser of the Ray Dewald FmHA property in Hutchinson County.

Bill Wilson handled calls from Laesinger and Wenzel concerning their FmHA tracts. Karl Fleming delivered fencing materials to the Merle Stevens FmHA tract.

April

Fencing the Gary Wenzel FmHA tract was discussed. Remaining corner posts were put in the O'Conner and DenOuden tracts.

Bob Laesinger's land was officially surveyed. The existing fence lines are incorrect, so he has to reconstruct the fence according to our survey. He wanted to know if we could change our lines so he would not have to reconstruct the fence. Our answer was NO.

The O'Conner tract was seeded with grasses.

May

Bill Wilson reviewed a FmHA property in Bon Homme County and a possible grassland easement in Charles Mix County. The Hopper FmHA tract in Sanborn County was reviewed and the easement document was prepared. There are 6.5 acres classified as C, 10 acres classified as B, and 82.5 acres classified as B1.

June

Two FmHA tracts were viewed and easement types recommended. The Harms tract located in Beadle County contained wetlands that were recommended for a B1 easement. The Schaffner tract in Hand County contained wetlands that were recommended for B, B1, and C easements, with portions of the tract being requested for transfer to the FWS.

July

Two FmHA properties were viewed; the Matousek tract in Tripp County and the Blasius tract in Brule County and were recommended for easements.

August

Three FmHA properties were viewed and two were recommended for easements. One tract is the Laber tract in Hutchinson and Douglas Counties. The Laber tract contained a total of 133.8 easement acres; 130 acres were B1 easement acres and 3.8 were C easement acres (36.9 wetland acres are protected). The Holforty tract in Beadle County was also inspected. This tract contained 90.9 acres that were recommended for easement; 83.8 acres were B1 easement acres and 7.1 acres were C easement acres (26.7 wetland acres are protected). The final tract that was viewed was the Jan Antonson property of which no land was recommended for easement.

September

Eighteen acres were seeded on the Mehlhaf property and thirty acres were seeded on the Bouza FmHA property 11c in Charles Mix County. A special use permit was issued to Jim Reimnitz, allowing him to plant winter wheat in a portion of the Douglas County 12c FmHA easement that has not been surveyed or seeded.

October

Shoemaker FmHA tract in Beadle County had 150 acres recommended for B1, C easement with a total of 35.5 wetland acres.

Linke FmHA tract in Sanborn County had 156.4 acres recommended for a B1, C easement with a total of 37.8 wetland acres.

November

Sandy Abraham Uecker talked to George Wiesler in Hand County and tried to explain to him that he could not forbid the U.S. Fish and Wildlife from coming on his land or having a surveyor survey an easement. The easement had been placed on the property when it came into government inventory through a FmHA loan. George Wiesler replied that "the Game, Fish and Parks had sneaked in while he was negotiating with the FmHA". He did not believe that the price he paid was below market value (\$53.00/acre) due to the easement placed upon it. When he informed Sandy that we would have to take him to court, a call was placed to Special Agent Cooper concerning the matter.

Sandy Uecker Abraham talked to Larry Kobriger, FmHA supervisor in Plankinton and informed him that the Georgen FmHA property in Jerauld County had not been surveyed properly.

December

The fencing on the Stevens FmHA property in Beadle County was checked and a purchase order for additional fencing was issued.

3. Other

Swampbuster and Minimal Effects

January

John Jave worked on seventeen minimal effect determinations, most of which were dugouts. All were agreed upon.

One swampbuster in Yankton County was discussed with Area Office SCS personnel. Mr. Nielsen (landowner) had buried trees in an abandoned wetland and recalled a non-functional tile line. Three acres of trees were cleared and an 8" tile line was installed in the wetland. We are calling for replacement of the trees, removal of the fill and destruction of the tile before granting a minimal effect. This violation is being appealed.

February

Three swampbuster violations were turned in to Douglas County.

John Jave met with Gary LaCompte, the District Conservationist in Bon Homme County, and they looked at a 100' long 5' deep swampbuster ditch.

This month Chris Lousias copied Hughes, Lincoln, and Union County slides. That leaves only one more, but we can't get to it just yet because the ASCS office is renovating and they don't want to be bothered.

March

John Jave worked on 20 minimal effect consultations. Eleven dugouts, two wetland restorations and one minimal effect were agreed to. Six dugouts were refused because they were dug in or proposed for too small of wetlands.

April

Consent was given to 23 agreed dugouts and 8 restorations.
Three minimal effect dugouts were denied due to the wetlands being too small.
One swamp buster was turned over to the County.
Nine easement violation letters were sent this month.

May

Consent was given for 23 dugouts, one ditch fill ditch on converted wetlands, one ag waste pond, one tree removal and one file for tree planting
No swampbusters were recorded for the month.

We provided consultation for removing three acres of fill from a converted Missouri River oxbow wetland and for tile line removal from a converted wetland.

June

Consent was given for seven minimal effect dugouts.
One minimal effect was refused for dugout in a Type 1 Wetland.

John Jave attended a meeting in Woonsocket that discussed the drainage of a 120 acre wetland in Sanborn County.

Bruce Schoonover inspected and approved a ditch plug constructed by Jim Kirwan in compliance with an extension agreement.

July

Five minimal effect agreements for dugouts were signed.
One restoration of a swampbuster violation in Union County was completed. It required sixteen hours for a scraper to remove the fill from a Missouri River oxbow on the LaFleur Farms, in Union County.

August

Several minimal effects were agreed upon during the month.
One swampbuster was restored in Charles Mix County.
Twelve new dugouts, three dugout clean outs, and an agricultural waste facility with approved mitigation were approved.

September

Minimal effect consent was given this month for fifteen dugouts. One was disapproved.
One swampbuster violation was turned in.

October

Minimal effect consultations for this month totaled eleven approved dugouts.
Two new FmHA tracts reviewed.

November

Consent was given to nine minimal effects.

Bill Wilson met with the SCS in Armour on the 21st to discuss the appeal by Ralph Shrewd concerning a converted wetland. The wetland had been drained by maintaining a legal ditch.

December

Three minimal effect consultations for dugouts were approved.

Several swampbusters violations seen while completing easement flights are being reviewed.

D. Planning

2. Management Plan

January

Re-organization of the Karl Mundt NWR was discussed by the staff.

March

On March 4-7, Bill Wilson and Sandy Abraham attended the Wildlife Society Meeting and State Game, Fish and Parks Coordination Meeting in Huron. In conjunction with these meetings, the South Dakota refuges met to discuss forming a new Wetland Management District, establishing the Mundt Refuge as a separate project and other items of interest.

November

Bill Wilson completed the Refuges 2003 questionnaire, the advanced procurement plan and the MMS for the three refuges.

3. Public Participation

January

A visit with Charles Mix County Weed Supervisor, Neil Von Eschen, was hosted by Refuge Manager Wilson. The discussion was, of course, noxious weeds.

February

Bill Wilson went to Huron for the planning of the April 27th dedication of the Mud Lake WPA to Hank Jacobson. The stone and engraving will cost this station approximately \$700.00.

On February 13, Bill Wilson and John Jave attended the SCS Area District Conservationist Meeting in Mitchell. John presented a slide show and talk pertaining to swampbuster and minimal effect determinations.

April

Bill Wilson attended a meeting in Huron on April 17-18 with acquisition personnel to discuss minimal effect determinations, grassland easements, and the private lands program.

John Jave attended an interagency meeting in Lake Andes on April 10.

4. Compliance with Environmental & Cultural Resource Mandates

October

The SD SHPO commented on a proposed water line on the Broken Arrow WPA and gave approval for the project to proceed as planned.

November

Bill Wilson completed the update on the underground storage tank data base.

5. Research and Investigation

February

Sandy Abraham responded and provided information to a graduate student at SDSU who is doing research on the use of wood duck boxes.

March

John Jave wrote to Norm Reese regarding Canada thistle patches. Norm is looking for areas to research various control methods and we have some very suitable tracts we are offering for his use. To date, no response has been received.

June

The second nest dragging survey was completed. The nests found while completing the first survey were inspected and a high percentage of predation had occurred. The Mayfield index has not been determined at this time.

August

The results of this years nest dragging were sent to Northern Prairie Science Center.

September

HRM transects were completed on Owens Bay, Mundt Refuge, and Broken Arrow WPA.

December

Sandy Abraham Uecker attended the 4-Square Mile, Mallard Modeling Workshop in Bismarck, ND on December 10.

E. Administration

1. Personnel

Permanent

1. Bill Wilson, GS 12 Refuge Manager
2. Bruce Schoonover GS 11 . . Transferred out 6/28 . . . Supervisory Refuge Manager
3. John Jave, GS 11 . . Promoted 8/25 . . . Supervisory Refuge Manager
4. Sandra Abraham Uecker , GS 7 Assistant Refuge Manager
5. Norma Martin, GS 6 Refuge Assistant
6. Eugene Slaba, WG 8 Promoted 7/28 Maintenance Worker Leader

Career Seasonal

7. John Eldridge, WG 6 Maintenance Worker
8. Leon Kirchhevel, WG 6 Maintenance Worker
9. Richard Rolston, WG 2 . . Promoted 12/2 Laborer

Temporary

10. Wayne Henderson, GS 3 Biological Science Aid
11. Karl Fleming, GS 4 . . EOD 3/10 Biological Science Aid
12. Jeff Dvorak, GS 4 . . EOD 5/20 Biological Science Aid
13. Chris Lousias, GS 5. . . Appt Terminated 5/5 . . . Biological Science Technician
14. Ejner Frandsen WG 6 Maintenance Worker

Table II. Lake Andes Complex Staffing Pattern, 1986-91

Year	Permanent		Coop Ed & Temporary	Total FTE
	Full Time	Career Seasonal		
1991	6	3	6	9.87
1990	6	3	5	10.46
1989	5	4	1	8.84
1988	5	4	2	8.60
1987	5	4	2	8.66
1986	5	4	4	8.98

January

Step increases were approved for the maintenance workers.

SF 52's were submitted for hiring three temporary seasonal biological aids.

Sandy Abraham is compiling photos for a scrapbook for Ejner Frandsen's retirement party.

February

Ejner Frandsen came in to discuss with Manager Wilson about coming back as a re-employment annuitant.

March

News from Bruce Schoonover:

Bruce called the office on March 4th to discuss spring work coming up. We were able to get out of him that he was back in Saudi Arabia. He had been in Iraq during the ground conflict. He had heard rumors that he will be home anywhere from 2 ½ weeks to 2 ½ months. He didn't think he would have time to write and it is questionable whether he will receive any letters before he comes home since he isn't sure about the date he will be shipped out.

Okay everyone –Spring is around the corner, so smile!

Manager Wilson (dis?!) oriented Karl Fleming, new Biological Aid to the Refuge.

John Eldridge, career-seasonal maintenance worker, returned to duty on March 26.

Bill Wilson has been recruiting summer help.

Bill Wilson wrote and submitted the position description and recruiting announcement for a Maintenance Worker/Leader position to fill the slot vacated by Ejner Frandsen's retirement.

The staff wrote functional statements concerning their positions to accomplish a work advice.

Letter from Bruce: (written March 2nd, 1991)

- 50 miles into Iraq (20 miles from Kuwait)
“God, what sh_tty country.”
- MP's told them about the cease fire.
- Thanks for the cards and letters.
- Heard about the jobs at Benton Lake or Kirwin
- He sent us some of those papers that someone dumped on the Iraqis to tell them to surrender (good souvenirs).
- “I hope to see you soon....”
- He thinks he's going to get out of writing the 1990 narrative, ha! ha!

Since receiving that letter, we have heard from him by phone and it sounds like he will be back in South Dakota no later than May 1. We certainly hope so!

April

Leon Kirchhevel, Career Seasonal Maintenance Worker returned to duty on April 15.

Bill Wilson is still recruiting for Biological Aids.

Bruce Schoonover is home - - April 29, 1991 after seven + months of service during the Desert Shield/Storm Operation.

May

Jeff Dvorak started work on May 20 as a Biological Aid. Wayne Henderson returned May 6 as a Biological Aid.

June

Ejner Frandsen was re-employed as a temporary intermittent with a NTE 1 year appointment.

SF171's were reviewed, and qualified candidates interviewed for the Maintenance Worker/Leader Position.

Bruce Schoonover completed his last day of work June 28, with his transfer to Kirwin NWR being effective July 1, 1991. His help and humor will be missed by everyone.

July

Gene Slaba was promoted to the Maintenance Worker/Leader WG-8 effective July 28th.

Performance evaluations were completed.

A job description for the GS-11 Assistant Manager position was completed and sent to Personnel.

August

John Jave was promoted to Supervisory Refuge Operations Specialist on August 25th.

October

Recruitment notice for the GS-11 Supervisory Refuge Operations Specialist was sent to personnel and interviews for the GS-9 position were conducted.

A tentative selection was made for our TAPER appointment and was relatively easy since there was only one applicant, and he was very well qualified.

November

Rich Rolston, who has been a temporary employee for the previous six years, received a much deserved permanent position. He was hired as a Laborer WG-2 through a TAPER appointment effective 12-2-91.

Five applicants were interviewed for the GS-9 Refuge Operations Specialist position.

Ejner Frandsen ended his duty for the season on November 1st and was given his performance evaluation at that time.

John Eldridge was placed on furlough November 29th.

December

Outreach activities for the GS-11 position were completed.

4. Volunteer Program

May

Christine Lousias stayed after her appointment ended and volunteered for a week to help conduct the 4-square mile pair count.

December

A report for the volunteer program was completed.

5. Funding

Funding for the Lake Andes WMD, the Lake Andes NWR and the Karl E. Mundt NWR is consolidated within a single annual appropriation for the complex. **See Table III.**

Table III. Annual Appropriations and Manpower Levels since 1986,
Lake Andes National Wildlife Refuge Complex

Fiscal Year	O&M Budget	Resource Problem	Large ARMM's Project
1991	374,000	--	80,000 (MMS)
1990	366,000	--	26,000 (MMS)
1989	307,500	--	--
1988	316,000	20,000	35,000
1987	301,000	--	27,000
1986	278,000	--	63,000

MS Funded projects this year included:

New Grass Seed Drill	\$12K
Rehab Office	\$17K
Grassland Rehab on New WPAs	\$11K
Replace Broken Arrow Water Control Structure	\$13K
Replace a Pickup	\$15K
Reshape gravel 7 riprap OB dikes	\$12K

May

Bill Wilson and Bruce Schoonover worked on the RONS exercise.

June

1991 Accomplishments Report was completed and the 2109's were sent to the Regional Office for the wish list.

Mitch King from the Regional Office visited June 25th and discussed possible improvements to the budgeting process.

December

As of this date, no budget has been received.

6. Safety

February

On February 15, the film "Tank Closure without Tears" bored the refuge staff.

Sandy Abraham made arrangements for Refuge personnel and Soil Conservation Service personnel to take an adult CPR class.

March

Cardio-Pulmonary Resuscitation training was held on March 7-8 in Lake Andes. Ten refuge employees attended along with employees of the Soil Conservation Service and Charles Mix County administrative offices.

The monthly safety meeting was held at the Soil Conservation Service office in Lake Andes with the topic being "Headaches and Stress".

Chris Lousias prepared updated accident packets for all the vehicles. (It was my penance!)

April

The monthly safety meeting was held at the Soil Conservation Service office in Lake Andes on April 29. Fire extinguishers were the topic.

June

The entire staff attended a safety meeting on June 24th at the Lake Andes SCS Office. A film titled "Just One Time" was watched; it discussed the dangers of taking short cuts while performing everyday duties.

Bruce Schoonover submitted a safety status report.

July

A joint safety meeting was presented for FWS and SCS employees at the Lake Andes Refuge. The topic of tractor safety was discussed in a film titled "It's Not Going to Happen to Me".

August

The monthly safety meeting was held with the Soil Conservation Service in Lake Andes on August 26th. The topic was second hand smoke, and it was discussed in a film titled "Second Hand Smoke".

September

The monthly joint safety meeting with the Lake Andes SCS office was held. The topic was carpel tunnel and it was discussed in a file entitled "The Finest Tools".

October

The October monthly safety meeting with SCS was held at the SCS office in Lake Andes and the topic was ATV safety.

November

The monthly joint safety meeting with the SCS was held at the refuge with the topic of drinking and driving being discussed in a movie entitled "Under the Influence 2...A Decade Later".

The entire staff with the exception of John Jave and Norma Martin attended the commercial drivers license class with everyone receiving their Class A or B licenses.

7. Technical Assistance

January

Bill Wilson provided technical assistance to the Douglas County ASCS regarding easement locations and provisions.

Technical assistance was provided to Brule County SCS concerning wetland typing for use in the waterbank program.

February

Bill Wilson sent comments to the Regional Office regarding the proposed grassland easement manual.

Manager Wilson took part in a phone interview with Laura Riley on updating information for her book entitled "Guide to the National Wildlife Refuges".

March

Manager Wilson received a call from Senator Daschle's office regarding an FmHA property. (see FmHA section).

John Jave wrote a letter to landowner Brad Magness concerning easements.

Bill Wilson talked to Judge Kern, who asked about the legality of hunting around the Lake Andes Refuge.

April

Bill Wilson edited Laura Riley's write-up about the Lake Andes Refuge, WMD and the Mundt Refuge for her book.

July

Milt Suthers from the Regional Office came down to discuss weed control on WPA's. Bob Ellis came to the refuge for a station inspection.

August

John Jave attended Law Enforcement Refresher Course in Aberdeen on August 20-21. Bill Wilson attended the same course in Valentine, NE on August 28-29. Both Wilson and Jave attended the annual Project Leader's Meeting at Lacreek NWR on August 13-15.

November

Bill Wilson attended a meeting of the Concerned Citizens of Lake Andes Committee on November 19th.

December

John Hollingsworth a private photographer came to the Mundt and Lake Andes Refuge to photograph the bald eagles and ring-necked pheasants. The photographs will be part of a calendar and a book detailing the refuge system.

8. Other

January

The following list of surveys, questionnaires, and forms were completed this month:

- Quarters Inventory Forms
- Wildlife Atlas Questionnaire
- Pesticide Proposals
- Water Management Report
- Questionnaire regarding the display used at the Mid Winter Fair
- Information needed to FLETC on Law Enforcement Training for Abraham
- Information on our predator control program

Two more counties of 1986 ASCS aerial slides have been duplicated.

February

Sandy Abraham has been working on the 1990 narrative.

March

Rich Rolston attended S-130 and S190 Fire Training at Fort Niobrara/Valentine Refuge on March 26-28th.

John Jave worked on the Management section of the narrative.

Union and Lincoln County slides are part of our county slide library this month.

April

Norma Martin attended WordPerfect: Beyond the Basics Seminar in Sioux Falls on April 26.

The annual property inventory was conducted.

As of now, we have a completed set of 1986 ASCS slides for the entire WMD.

June

Bob Karges, Deputy Assistant Regional Director came for an orientation of the WMD on June 13th.

August

Wayne Henderson, Biological Science Aid, and an ATV spray unit were loaned to the city of Wagner. He applied a herbicide to the vegetation surrounding Wagner Lake in preparation for the riprapping of the lake shore.

Wayne Henderson and Karl Fleming helped answer questions at the Fish & Wildlife Service booth at the South Dakota State Fair in Huron on August 30-31st.

October

Manager Wilson attended the 504 Accessibility training session October 30-31, and a coordination meeting October 23rd for the Wild and Scenic River designation, both in Valentine, NE.

Manager Wilson and John Jave attended a meeting September 30th in Mitchell with the SCS, ASCS and the Davison County drainage board for a discussion on legal drains.

Bill Wilson, John Jave, and Sandy Abraham Uecker attended the Grassland Easement meeting in Huron, October 16th.

Karl Fleming attended a Conservation for New Employees Workshop October 28th - November 1st in Huron. The workshop was put on by the SCS and it discussed various conservation practices, how they formulate a conservation plan, and various Federal regulations and acts including NEPA.

F. Habitat Management

1. General

January

John Jave and Sandy Abraham got in a couple of days of ground checking suspected easement violations.

October

A letter was sent to the Hanson County weed supervisor in response to an inquiry concerning which areas were sprayed for noxious weed control.

November

The high water mark was surveyed and marked for Virgil Bechen on the Center Unit of Lake Andes. He had been having problems with trespassing due to the low water level of the lake and had requested our help in determining the legal high water mark.

December

Ninety-four goose nesting structures were delivered to the refuge to be used in the extension program.

2. Wetlands

May

Sixty seven acres were planted with native grass seed on the Fousek WPA. Forty rods of fencing repairs were done on the Kraft WPA, and 40 rods of new fence were placed on the Gary Wenzel FmHA tract.

June

A complaint from a Hutterite Colony near the Whiting WPA concerning a flooding of their grain field was inspected and found not to be our fault. No tort claim is anticipated.

3. Forests

April

Approximately 2300 trees were replaced on the Jackson WPA and 200 trees were planted on the South Owens Bay Unit. These areas were cultivated before planting.

4. Croplands

March

John Jave issued a food plot permit on Broken Arrow WPA.

April

Food plots for Jackson WPA were staked out and a farming plan was issued by John Jave.

May

Field cultivation and corn planting were started on the refuge and various WPAs.

June

The Youngstrum and Huber WPA's and the Refuge were cultivated and the Jackson WPA was disced. The drought is severe and there won't be any crops if significant moisture is not received soon!

July

Cultivation of crops continued on the Mundt, Youngstrum, Hubers and Lake Andes.

August

The fields at the Mundt NWR were disced.

September

Winter wheat was planted on the Mundt Refuge.

5. Grasslands

January

Bill Wilson sent out a request for bids on native grass seed.

September

One hundred and fifty acres of DNC were planted on Jackson WPA. Putnam WPA was posted.

6. Other Habitats

January

Bill Wilson completed a cooperative farming agreement with cooperator Otto Fousek on the Fousek WPA.

March

Wayne Henderson and Chris Lousias cleaned out the wood duck boxes around the lake.

July

The tree belts on Jackson WPA were disced for weed control.

7. Grazing

January

Contacts were made with permittees on haying and grazing of WPA's. A cooperative farming agreement was completed for the Humphrey WPA.

February

Several contacts were made with permittees on haying and grazing of WPAs. A cooperative farming agreement was completed for the Humphrey WPA.

March

Bill Wilson and John Jave attended a grazing workshop on March 14 at the Sand Lake NWR. They discussed designing grazing and possible cost-share practices for the private lands program.

April

Grazing permits were issued on Schute, Humphrey, Broken Arrow and Maine WPAs.

May

Grazing permits were issued for Aurora County, Lindeman WPA, Coler WPA and Broken Arrow WPA.

8. Haying

July

Haying permits were issued for Plooster and Weiting WPA's.

9. Fire Management

January

John Jave worked on the prescribed burn plan for the New Holland WPA. We are also planning a burn on Owens Bay for mulch and weed control and native grass stimulation.

February

John Jave worked on the prescribed burn plan for the New Holland WPA for weed control. We are also planning a burn on Owens Bay for mulch control and native grass stimulation.

March

Owens Bay was burned as described in the highlights for mulch control and to stimulate native grasses.

April

All 400 acres of the New Holland WPA were burned this month. It relieved the town of New Holland of a wildfire hazard, aided in mulch control and will enable noxious weed control.

There was a five acre wildfire on the DeHaai WPA, Douglas County. A neighboring landowner's prescribed burn got away.

A burning permit was issued to Rokus Vandeminklis on an easement in Douglas County.

10. Pest Control

March

John Jave received a complaint about the Mayer WPA from the Hutchinson County Weed Supervisor.

John Jave handled a phone complaint on our Atkins WPA near Tea, SD. This WPA is within 10 miles of Sioux Falls and some intelligent folks like to use the area for target practice. John could hear the shooting in the background while he was talking to the informant on the phone. We plan to do away with the parking area and post a sign prohibiting target shooting. This problem has been apparent for years and something must be done. New fence posts are completely shot off within a year.

John Jave talked with the Jerauld County Weed Board regarding contracting weed control on some of the WPAs in that county.

John Jave attended the Charles Mix County weed meeting at Pickstown, SD and indicated it wasn't a very good party.

April

Approved pesticide proposals were received.

Hand chopping thistle in Douglas and Charles Mix Counties was discussed with Jean DeVries.

May

Three thousand Canada thistle weevils were ordered from a company in Bozeman, Montana at the price of \$.080 each. The weevils were released on Broken Arrow, New Holland, Kafka, Novotny, Humphrey, Bucholz WPAs, and Owens Bay at the refuge. Spraying for thistle control was also done on the following WPAs: Plucker, Coler, Miller, Peterson, Stanek, Schute, DeHaai unit of Somek, Varilek, Broken Arrow, Lutz and Maine WPA's.

June

The following WPA's received a herbicide application to help control noxious weeds: Althen, Boggs, portions of Broken Arrow, Coler, Cosby, Crystal Lake, Denning, Dubes, Dvorak, Green, Henke, Heib, Huber, Kafka, Krell, Kuil, Kurtenbacch, King, LeClaire, Roth, Marshall, Miller, portions Hew Holland, Miller, portions of New Holland, Novotny, Rogers, Plooster, Raysby, Ruppel, Schneider, Schute, Shoemaker, Somek, Sorenson, Soulek, Spring Lake, Star, Trout, Tucek, Vogel, White, Weiting, Zehnphfennig, and all of Jerauld County.

Owens Bay and portions of the Mundt Refuge were also sprayed, due to heavy infestations of thistle. Musk thistle was hand chopped and mowed on the Fousek, Green, Huber, Trout, Huizenga, Kafka, Koupal, Miller, New Holland, Putnam, Sherman, and Van Zee WPA's.

July

Thistles were mowed on Plooster, Bucholz, Althen and Foler WPA's. Canada thistles were sprayed on Ziebart, Dubes, and Bertels WPA's. Special use permits were issued for weed control on FmHA properties in Jerauld (12c) and Hand (11c) counties. Sow thistle was sprayed on the Mayer WPA.

September

Plucker, Coler, New Holland, Bucholz, Johnson and Stanek WPA's were sprayed for Canada thistle and spurge control. Prior to spraying, the thistle areas were mowed to remove excess vegetation and allow better contact of the herbicide.

13. Easement Monitoring

June

A compliance letter was sent to an easement violator near Varilek WPA.

August

The Jackson WPA was disced and seeded with intermediate wheat grass. Fousek, Atkins, Mud Lake, and Hieb WPA's were fenced. The permittee database files were also updated.

September

Charles Mix County easement violations were checked for compliance.

November

The yearly easement flights were delayed due to snow cover but they were later completed. A total of 45 hours were flown by John Jave and Sandy Abraham Uecker. The Region 6 pilot Dave Gilbert came down for two days which allowed two people to check easements. His help was greatly appreciated.

Four easement violations from last year were ground checked for compliance and three had been satisfactorily restored.

Maps showing the location of FWS easements were sent to all SCS offices in our district.

December

Easement flight photographs were viewed and 33 possible violations were sorted out for further review.

Two violators will be fined \$100 for repeat violations.

14. Private Lands Initiatives

A. Wetland Developments

A new program was initiated in 1991 by Carl Madsen, South Dakota Private Lands Coordinator. The programs primary focus was to create artificial wetlands by constructing or repairing dams. Tripp County was chosen as a pilot project area. Carl approached the conservation districts (CD's) in Tripp County with a plan detailing funding and what would be expected from them. The CD boards were receptive and Carl's plan was implemented.

The program was designed as a cooperative partnership between the U.S. Fish and Wildlife Service, Ducks Unlimited, Inc., Clearfield/Keyapapa CD, Hamill CD, U.S.D.A. Soil Conservation Service (SCS), and local landowners. The initial funding consisted of \$10,000 from the Fish and Wildlife Service, \$10,000 from Ducks Unlimited, and \$5,000 from the CD's. With 25% of the cost being paid by the landowner there was a total of \$33,333.33 available for construction activities. Fencing supplies, to fence off spillways and embankments, and trickle tubes were provided by the FWS at no cost to the landowner.

Tripp County was chosen because of the availability of large tracts of native prairie grassland, Conservation Reserve Program (CRP) acres and other grasslands. These areas had potential for further water development and a high probability of success for nesting waterfowl. Embankment ponds (dams) were chosen for creation or repair because with proper site selection they have been shown to be far more beneficial for waterfowl and other wildlife than conventional dugouts. Variables that influenced site selection included land use, soils, watershed size and topography. Land uses that would qualify as a potential site included pasture, CRP acres, or hayland.

Karl Fleming and Wayne Henderson, FWS Bio. Techs., received training from the U.S.D.A. Soil Conservation Service on site selection and dam surveying techniques. Some of the dams required the installation of a principle spillway pipe in conjunction with the construction of an earthen emergency spillway. A pipe was installed when dams were constructed in draws containing springs or watersheds capable of generating a substantial amount of runoff. The primary purpose of a principle spillway pipe was to prevent frequent use and degeneration of the earthen spillway. Plastic pipe was chosen over standard

corrugated metal pipe (cmp) by recommendation of the SCS because some soils contain slightly corrosive minerals and cmp can deteriorate quickly if damaged during installation. The Soil Conservation Service proved to be a valuable partner as their technicians had a great deal of experience with dam design and construction. Eleven wetland projects were completed in Tripp County in 1991 creating or restoring 65.9 surface acres of wetland.

Wildlife Extension Agreements:

Embankment Ponds (Tripp Co.) - 11 projects = 65.9 Wetland Acres

Wetland Restorations

Gregory Co. - 1 project = 3.5 Wetland Acres

Hanson Co. - 3 projects = 3.9 Wetland Acres

B. Upland Habitat Improvement Projects

A Wildlife Extension Agreement was developed with Reiersen's Inc. to delay haying on 227 acres of hayland in Davison and Hanson Counties. Reiersen's Inc. agreed to delay haying until after July 15 in exchange for a land use management payment of \$ 1590.00 or \$7/acre.

G. Wildlife

2. Endangered and/or Threatened Species

January

Chris Lousias transported an injured immature female bald eagle to a rehab center in Pierre on January 2.

On January 6, John Jave picked up an injured adult bald eagle on the Missouri River about 15 miles east of the Mundt NWR, that was reported by some Native American youth. The eagle later died.

An eagle survey at the beginning of the month reflected eleven eagles however, at month's end the count was nine.

John Jave was interviewed by a local newspaper, the Wagner Post, about bald eagles and the Mundt NWR. A full page article resulted.

February

Our peak eagle population remained steady at nine eagles throughout the month.

April

Bill Wilson received a call from Senator Daschle's office. John Westendorf, neighbor to North Unit of Lake Andes, was anxious about eagles bothering his livestock.

October

The winter population of bald eagles has begun to arrive and take up residence at the Mundt Refuge and around the lake.

November

An eagle survey was conducted the first week of the month on the Mundt Refuge and a total of 49 were counted. A second eagle census was conducted the last week of November with a decrease in the number of sightings, only 29 eagles being counted.

December

Three eagle surveys were conducted this month:

12-2-91	28 eagles
12-13-91	13 eagles
12-31-91	5 eagles

3. Waterfowl

January

January was very cold at the beginning of the month so no waterfowl were sighted during the survey. However, a warming trend during the last week enticed a peak Canada goose count of 750 birds. The Missouri River below Fort Randall Dam has been open all month and at times approximately 5,000 mallards and 1,000 Canadas have been sighted.

February

Two waterfowl surveys were done this month. There has been a steady increase in the waterfowl populations. Peak numbers were 33,000 Canadas and 9,000 mallards. Flights of snows and some white-fronted geese were seen in the District.

March

John Jave reported 20,000 snow geese on the lake on March 1. They left on March 2.

September

A sprinkling of new ducks were observed at months end indicating that the migration may be underway.

October

The first fall waterfowl survey was conducted and there was an estimated 13,000 ducks on October 1st. A large portion of the waterfowl were shovelers, green winged teal and widgeons with a few mallards and gadwall. There were only 12 Canada geese recorded with

the first census. Another census was not conducted at the end of the month, but there was a noticeable increase in the numbers of mallards and large flocks of Canada and white fronted geese had begun arriving.

November

A waterfowl census was also done during the last week of the month and the results were 4,620 geese and 8,170 ducks being observed.

December

Two waterfowl surveys were conducted this month;

12-13-91 - 3,500 Canada geese, 2,700 mallards

12-26-91 - 3,500 Canada geese, 1,200 mallards

4. Marsh and Water Birds

June

Black crowned night herons and common egrets were observed using the Zink WPA.

6. Raptors

October

The fall migration of hawks also occurred during this month. The increase in raptors is a favorite topic of the local people, especially when the discussion turns to pheasant populations and why the hawk population can not be thinned down a little. It seems to be okay if they shoot as many pheasants as the game laws allow, day in and day out, but let them see a hawk killing even one pheasant and you would think that it was the last pheasant in the world.

7. Other Migratory Birds

September

A greater part of the mourning dove population appeared to leave following a week long period of cold weather.

8. Game Mammals

January

Charles Mix County Conservation Officer Mary Clawson and Gregory County Conservation Office Denny Lengkeek started trapping and tagging deer on the Mundt NWR on January 13 in their continuing deer movement study. To date, 39 deer have been ear-tagged.

November

A white-tailed deer was hit and killed by a motorist near the refuge headquarters. It was removed from public sight and was observed as being used as a food source by bald eagles.

10. Other Resident Wildlife

January

A beaver in the Owens Bay prairie ponds keeps damning up the water control structures causing too much water to overflow into the lake. If he isn't discouraged soon, it will be removal time.

11. Fisheries Resources

January

John Jave received a report from an ice angler that dead carp and minnows were floating under the ice in Lake Andes.

CO Clawson finished trapping pheasants on Owens Bay. 117 pheasants were relocated to other areas of the state with good habitat but no breeding stock.

March

Karl Fleming did a winter-kill fish count on the North Unit of Lake Andes. Four hundred + carp were enumerated.

The commercial fisherman were here this month netting carp and bullheads from Lake Andes.

14. Scientific Collections

March

The annual white-fronted goose survey was completed on March 19 by Chris Lousias and Sandy Abraham. They counted 1,325 geese around the lake.

The annual sandhill crane survey was completed on March 26. None were seen then, but on March 25, Bill Wilson spotted 50 over his homestead.

The weekly waterfowl surveys have been fun. We have had a ton of diversity. Our peak was during the week of March 14 with 60,000 waterfowl.

Wayne Henderson and Karl Fleming have been working on the preliminary contacts for this year's four square mile surveys. Letters have been sent out and the responses have been slowly trickling back.

April

Six hundred twenty sand hill cranes were observed on April 6 and reported to Spencer Vaa, SD GF&P.

The last waterfowl survey was done on April 2. There were no geese and 1200 ducks on the lake.

May

The 4-square mile pair counts were completed and the data cards were sent to Bismarck. Nest dragging was conducted at the refuge on the north portion of Owens Bay. After the first drag, 86 nests were found; 50 blue winged teal, 27 gadwall, 8 mallard and 1 shoveler.

A dove coo count was also conducted this month.

July

The water levels in the three units of Lake Andes and in Owens Bay were recorded. The results showed a decrease in all four locations; North unit -0.60", Center Unit -0.34", South Unit -0.40", and Owens Bay had receded beyond measurement.

October

Gary Coleman from the Valentine Fisheries Office conducted a fish survey of the South and Center units in Lake Andes on October 15th and 16th.

15. Animal Control

January

This is a true story:

Sometime last summer a very small town in South Dakota (Mayfield, population varies depending on who stops at the gas station/café!) had a coyote hunt. Well, the animal activists showed up to keep things interesting. One of the activists says to a rancher, "Why don't you just sterilize the coyotes and then turn them loose again instead of killing them?" The rancher replied, "Lady, they are not #@?! (making love to) our sheep, they are eating them!!" Really that's is a true story.

March

Rich Rolston started our Owens Bay predator management program on March 11.

April

Predator management activities continue through the nesting season on Owens Bay.

May

Predator control continued on the refuge and as of this month 25 raccoons, 11 skunks and 9 opossums have been removed.

17. Disease Prevention and Control

July

Twenty dead pelicans were collected from Lake Andes. The die-off did not appear to affect any ducks and seems to be over. The pelicans were not sent to the Madison Health Lab.

H. Public Use

1. General

January

Three letters of information were sent to individuals inquiring about our refuges and WMD. 7,500 copies of the new Lake Andes NWR & WMD brochure arrived.

February

A lot of people are writing for information about the refuge. For the most part they are preparing for vacations. Sandy Abraham has responded to their requests.

April

A handful of tourists stopped in the office for information.

June

Lisa Langlier from the RO Public Use office visited the station on June 25th and 26th to discuss our public use area.

4. Interpretive Foot Trails

June

A tour was given to eight summer school students and four teachers from the Marty Indian School on June 27th, 1991.

6. Interpretive Exhibits/Demonstrations

January

Slides were sent to Kristi Nelson at Tewaukon NWR for a slide presentation she is compiling.

May

A tour was conducted for 75 first graders from the Wagner Community School.

July

A slide show and discussion about Lake Andes Refuge and the purpose of refuges was presented to 28 junior 4-H leaders.

7. Other Interpretive Programs

March

Chris Lousias and Sandy Abraham conducted a waterfowl tour on our nature trail for 22 people from the Great Plains Zoo in Sioux Falls. We had a great time - saw a few interesting things and laughed a little. Sometimes the public can be fun after all!

November

Sandy Abraham Uecker gave a presentation to 18 school children, grades 1-9 at the Lakeview Hutterite Colony.

9. Fishing

May

A kid's fishing derby was hosted in cooperation with the Lake Andes Fish Days annual celebration during National Fishing Week.

September

Low water levels and high populations of carp and bullheads have discouraged most fisherman from fishing Lake Andes. A common complaint from the few fisherman who have caught anything is that the bullheads are small and "wormy".

17. Law Enforcement

March

On March 8-9, John Jave and Conservation Officer Clawson attended a Law Enforcement Workshop for couples in Pierre.

June

Sandy Abraham attended FLETC and LE training for FWS authority.

October

Sandy Abraham Uecker received her State credentials for LE. Sandy patrolled the refuge during opening weekend of pheasant season on October 19th and 20th and apprehended one trespasser on the South unit.

Bill Wilson and John Jave met with Conservation Officers Paul Hulls and Dennis Lengkeek to discuss and coordinate law enforcement activities with them.

John Jave patrolled the Mundt Refuge during the opening weekend of west river deer season on November 2nd and 3rd.

November

Law enforcement was increased at the Mundt Refuge with the opening of the Nebraska deer season and at the Mundt and Lake Andes Refuges for the opening of the South Dakota east river deer season. A report of two deer being killed on the Mundt Refuge was investigated, but no evidence supporting this report was found.

December

John Jave completed his annual LE physical.

I. Equipment and Facilities

1. New Construction

January

The new office addition has been insulated and part of the dry wall has been installed.

February

The new addition and the old office are now one. The wall was torn down between them. Sheet rock is up. Wilson predicts by September all should be squared away.

Jave stained around the new windows in the Lake Andes Refuge house.

March

The new office addition has all the sheetrock up and is now ready to be taped and textured.

April

Wilson was busy getting bids for new cabinets, a microwave and a hot water heater for the new office addition.

The walls were taped, textured and painted. Carpet measurements were taken and carpet ordered. Cold and hot air ventilation was installed

A new refrigerator was ordered.

May

The construction continued on the new addition with the arrival of the kitchen cabinets, doors, trim and refrigerator.

July

The Fousek WPA was fenced.

The installation of steel siding and aluminum fascia and soffits began on the Lake Andes quarters.

Carpeting was installed in the new office addition.

August

The installation of the aluminum fascia and soffits on the Lake Andes quarters was completed. The external wood siding on the new office addition was primed and painted.

September

Construction continued on the office. More sheetrock was installed, siding was put up, new and more energy efficient windows were installed and the outside stained.

October

Fencing continued on WPAs with Millerdale having 160 rods constructed and Putnam had 80 rods installed.

The North Unit on Lake Andes also had 200 rods of interior fencing constructed for management and for public use control.

November

The installation of 220 rods of new fence on the Huber WPA was completed.

2. Rehabilitation

March

The boat ramp on the Center Unit was reinstalled for the season.

April

Kraft WPA received 1/4 mile of replacement fence.

The dedication site of the Henry Jacobsen WPA was fenced and new signs were put up.

October

The last piece of siding was placed and painted on the office.

Water level control gates were installed at Broken Arrow WPA, three old ditches were filled on Broken Arrow and a small dike was constructed to hold more water in a basin.

The dikes on Owens Bay were rehabbed by placing 640 cubic yards of riprap on the front slopes and the tops were leveled and top dressed with 920 cubic yards of screened gravel.

November

Two Refuge trailers received new brakes, lights, tires and paint jobs.

December

The air boat trailer had new rollers, lights and wiring installed.

The Mundt Refuge house was fixed in preparation for a new Assistant Refuge Manager. The utility room linoleum was replaced, tile ceiling was fixed, new tub surround was installed, a window was replaced in the living room, painted two rooms and drain repaired.

3. Major Maintenance

September

U.S. Fish and Wildlife emblems were put on the two new pickups. Brake and turn signal lights were installed on the new seed drill so that it could be safely towed on public roads behind a vehicle. One of the week trucks had a new power steering unit installed and the oil was changed in the John Deere tractor.

October

The boundaries of the North Unit were re-posted in preparation for the pheasant season.

4. Equipment Utilization and Replacement

January

Bob Vanderpol, a local citizen, bought our surplused club cab pickup for \$560.00.

The new Chevy S-10 got an oil change and a lube.

February

The Chevy blazer was cleaned and serviced.

The '89 S-10 got new sneakers.

The '90 Chevy 4x4 got an oil change.

One of the spray rigs was repaired by a local dealer.

The Dodge weed sprayer got a new battery and relay switches were remounted.

The riding mowers were serviced and repaired.

The jammed lock on the office back door was repaired.

March

Tires were rotated on the 1990 Chevy 4x4.

New tires were put on the weed sprayer truck.

The tiller, chain saws and fire pumper were serviced.

The implement truck had its hoist fixed at a cost of \$898.00 (mostly labor costs).

The fire fighting equipment was checked and prepared.

Posts were picked up from the Sand Lake NWR.

April

The following equipment received maintenance this month: tractor, jeep, road grader, S-10 pickup, Ford pickup and the mowers.

May

A new Haybuster grass drill was delivered on May 20th, it replaced an old and worn Truax drill. The drill was calibrated and was put into use that week.

June

Two 3/4 ton diesel pickups purchased with FY90 monies arrived June 21, 1991.

A 20 gallon sprayer for the four-wheelers and a 150 gallon nurse tank was purchased to help in the control of thistles.

July

The spray trucks were cleaned and repaired for weed control next year.

The artisan well casing was replaced with plastic pipe which will hopefully withstand the corrosive water.

Winches were also installed on the two new pickups.

October

All of the Refuge trailers had lights and brakes repaired and checked in preparation of the next seasons work.

The new 3/4 ton pickups had electronic brake hookups and hitches installed.

There were oil and filter changes on the bobcat, and 1990 Chevy pickup.

All of the refuge vehicles received a checkup for antifreeze levels and the condition of antifreeze.

5. Communication Systems

May

The office fax machine arrived, but is not on line.

June

The 410 Merlin system was replaced by AT&T after it was disabled by lightning.

6. Computer Systems

January

Our databases are continually being updated.
Sandy Abraham set up the Poly-com software package.

February

Jave now has his own functioning computer and is getting acquainted with it.

March

Map Info is now installed in the computer.

April

The easement database is still being loaded.

October

A new Dell PC was received with a 200 megabyte hard drive and 4 MB RAM.

The two old Dell computers were upgraded to 4 MB RAM.

December

A worksheet was written to be used in the Lotus program to calculate the cubic yards in the dam projects using the survey notes.

8. Other

September

The old windows, two stoves and a water heater were taken to a consignment auction and sold.

J. OTHER ITEMS

4. Credits

This report was compiled in 2002 by Diane Von Eschen, Admin Support Assistant and Steve Spawn, Private Lands Biologist. Since all employees from 1991 have left this station for greener pastures, this narrative was compiled from monthly activities, notes and photos found in the files from 1991.

Photos are credited as follows:

SKU Sandra K. Uecker

CL Chris Lousias

GS Gene Slaba

K. PHOTOS



Lake Andes NWR Staff Photo

Photographer - Unknown

Back Row left to right: John Jave, Rich Rolston, Leon Kirchhevel
Middle Row: John Eldridge, Bill Wilson, Gene Slaba, Ejner Frandsen, Norma Martin
Front Row: Wayne Henderson, Karl Fleming, Jeff Dvorak



**Canada geese rising
from the center unit
of Lake Andes behind
the Nielsen Farm**

Photo by CL, 3/4/91
Roll 91-6, exp 14

**A cloud of
waterfowl over
Owens Bay**



Photo by GS, 11/1/91
Roll 91-25, exp 11



**A sky full of
waterfowl over the
south unit of Lake
Andes**

Photo by CL 3/4/91
Roll 91-6, exp 18

The Maintenance crew begins work on an MMS project to reshape, gravel and riprap the dike road between the Owens Bay ponds on the Lake Andes NWR.



**John Eldridge on grader,
doing some prep work
on the north pond.**

Photo by GS, 9/30/91
Roll 91-26 exp5a

**Riprap is being placed on north pond
embankment**

Photo by GS, 10/1/91
Roll 91-26 exp14a





Riprap has been placed

Photo by GS 10/7/91
Roll 91-26 exp 25a



**Addition to
Headquarters Office.
Started in Fall of 1990
and completed in 1991**

Photographer - Unknown
9/30/90

Fall Scenes from the Karl Mundt NWR

Photo by GS, 10/2/91
?Roll 91-26



Photo by GS, 10/2/91
Roll 91-26 exp 22a

Photo by GS, 10/2/91
Roll 91-26



The quarters at he Mundt NWR received new linoleum in the laundry room, a new tub surround and a new window in the living room. Rooms were painted and ceiling tile repaired in preparation for a new assistant manager.



Rich Rolston is working on the wall where the new window was installed in the living room.

Photo by GS 12/12/91
Roll 91-25 exp 21

Bathroom at the Mundt quarters will receive a new tub surround.

Photo by GS, 12/12/91
Roll 91-225, exp 20



Mundt NWR milo field showing no seed heads
left at the end of December!



Photo by SKU, 12/31/91
Roll 91-27 exp 14



A new fence was constructed at Garden Creek

Photo by GS, 10/2/91
Roll 91-26 exp 16a

Ejner Frandsen works on the water gates at Broken Arrow WPA



Photo by GS,
10/22/91
Roll 91-25 exp 6

400 hundred acres of the New Holland WPA were burned for weed and mulch control. The burn also helped relieve the town New Holland of a wildfire hazard.



Photo by CL, 4/24/91
Roll 91-7, exp 15



Bill, John, John and Karl take a break from the fire for a quick lunch.

Photo by CL, 4/24/91
Roll 91-8, exp 14

More burning pictures:



Photo by CL, 4/24/91
Roll 91-8 exp 8

After Burn



Photo by CL, 4/24/91
Roll 91-8, exp 11

Private Lands Program Accomplishments

Photo by
Steve Spawn
5/19/94



Brad Bolton pond is in Tripp County pasture land. This project was one of the first dams cost-shared on private land in South Dakota.



Photo by
Steve Spawn
5/19/94

ent pond project on land owned by Leo Mansheim in Tripp cost-shared through the Partners for Wildlife program. This pond, created in CRP acres, helps produce a lot of ducks.

**Embankm
County,**

The Lake Andes Complex consists of the Lake Andes National Wildlife Refuge, the Karl E. Mundt National Wildlife Refuge and the Lake Andes Wetland Management District.

Lake Andes NWR is managed as a waterfowl production refuge and contains the 4,700 acre lake, plus the Owens Bay and Andes Creek Units, 832 and 410 acres respectively. The Karl E. Mundt NWR provides a sanctuary for a wintering bald eagle flock, protecting 780 acres of river bottomland roost sites with an additional 300 acres of woodlands protected by perpetual easement. Over 20,000 acres of waterfowl habitat are preserved and managed within the 20 county Lake Andes WMD. The District also contains 83,000 wetland acres protected from drainage by perpetual easements with the landowners.

The best opportunities for bird watching on the Lake Andes Refuge and District are between April 1 and October 15. The Karl E. Mundt Refuge is closed to the public to prevent disturbance of the wintering bald eagles. The bald eagles can be easily observed from adjacent Corps of Engineers land from November 1 to March 1.

BIRDS OF THE LAKE ANDES NWR COMPLEX

This bird list contains 213 species that have been recorded on or near the Lake Andes NWR Complex. The list is in accordance with the 6th A.O.U. Check-list. New names are used where applicable. Species known to nest on the Complex are marked with a •. Season and abundance are coded as follows:

S—Spring—March-May
S—Summer—June-August
F—Fall—September-November
W—Winter—December-February

a—abundant
c—common
u—uncommon
o—occasional
r—rare

	S	S	F	W
LOONS				
— Common Loon	o			
GREBES				
— • Pied-billed Grebe	c	u	a	
— Horned Grebe	u		u	
— Red-necked Grebe	o		o	
— • Eared Grebe	u	u	u	
— • Western Grebe	u		u	
PELICANS				
— American White Pelican	c	c	c	
CORMORANTS				
— Double-crested Cormorant	c	c	c	
HERONS AND BITTERNS				
— • American Bittern	u	u	u	
— Least Bittern	u	u	u	
— Great Blue Heron	c	u	c	
— Great Egret		o		
— Snowy Egret		o		
— Little Blue Heron		o		
— Green-backed Heron (Green Heron)	o	o	o	
— • Black-crowned Night-Heron	c	c	c	
— Yellow-crowned Night-Heron	r	r	r	
IBISES				
— White-faced Ibis	o	o	o	
WATERFOWL				
— Tundra Swan (Whistling Swan)	o		o	
— Greater White-fronted Goose	c		c	
— Snow Goose	u		u	
— Canada Goose	u	a	u	a
— • Wood Duck	o	r	o	r
— • Green-winged Teal	a	u	a	o
— American Black Duck	o		o	o
— • Mallard	a	u	a	a
— • Northern Pintail	a	u	a	o
— • Blue-winged Teal	a	a	a	
— Cinnamon Teal	o	o	o	
— • Northern Shoveler	c	c	c	
— • Gadwall	a	c	a	r
— • American Wigeon	a	o	a	o
— • Canvasback	c	o	c	
— • Redhead	c	o	c	
— • Ring-necked Duck	c		c	r
— Greater Scaup	o		o	
— • Lesser Scaup	a	o	a	r
— Oldsquaw		r		
— White-winged Scoter	o		o	
— Common Goldeneye	u	o	u	o
— Bufflehead	u		u	r
— Hooded Merganser	o		o	
— Common Merganser	u		c	
— Red-breasted Merganser	u		u	
— • Ruddy Duck	c	u	c	

	S	S	F	W
VULTURES				
— • Turkey Vulture	o	o	o	
HAWKS AND FALCONS				
— Osprey	o	r	o	
— Bald Eagle	o		o	a
— • Northern Harrier (Marsh Hawk)	c	c	c	r
— Sharp-shinned Hawk	o		o	
— Cooper's Hawk	o		o	
— Northern Goshawk	o		o	
— Red-shouldered Hawk	o	u	o	
— Broad-winged Hawk	o	u	o	
— • Swainson's Hawk	o	o	o	
— • Red-tailed Hawk	o	u	o	
— Ferruginous Hawk	o		o	o
— Rough-legged Hawk	o	r	o	c
— Golden Eagle				o
— • American Kestrel	c	c	c	
— Merlin	o		o	
— Peregrine Falcon	o		o	
— Prairie Falcon	o		o	
GALLINACEOUS BIRDS				
— • Gray Partridge	u	u	u	u
— • Ring-necked Pheasant	a	a	a	a
— • Greater Prairie-Chicken	o	o	o	o
— • Sharp-tailed Grouse	o	o	o	o
— • Wild Turkey	u	u	u	u
— • Northern Bobwhite (Common Bobwhite)	u	u	u	u
RAILS				
— Virginia Rail	o	o	o	
— • Sora	u	u	u	
— • American Coot	c	c	c	r
CRANES				
— Sandhill Crane	u		u	
SHOREBIRDS				
— Black-bellied Plover	o		o	
— Lesser Golden-Plover (American Golden Plover)	o		o	
— Semipalmated Plover	c	o	c	
— Piping Plover	o	o		
— • Killdeer	c	c	c	
— American Avocet	u	o	u	
— Greater Yellowlegs	c	o	c	
— Lesser Yellowlegs	c	o	c	
— Solitary Sandpiper	o		o	
— Willet	o	o	o	
— • Spotted Sandpiper	o	o	o	
— • Upland Sandpiper	o	o	o	
— Hudsonian Godwit	o		o	
— Marbled Godwit	u	u	u	
— Ruddy Turnstone	o		o	
— Sanderling	o		o	
— Semipalmated Sandpiper	o	o	o	
— Least Sandpiper	c	o	u	

— White-rumped Sandpiper	
— Baird's Sandpiper	
— Pectoral Sandpiper	
— Stilt Sandpiper	
— Buff-breasted Sandpiper	
— Long-billed Dowitcher	
— Common Snipe	
— Wilson's Phalarope	
— Red-necked Phalarope	

GULLS AND TERNS

— Franklin's Gull	
— Bonaparte's Gull	
— Ring-billed Gull	
— California Gull	
— Herring Gull	
— • Common Tern	
— • Forster's Tern	
— Least Tern	
— • Black Tern	

DOVES

— Rock Dove	
— • Mourning Dove	

CUCKOOS

— • Black-billed Cuckoo	
— • Yellow-billed Cuckoo	

OWLS

— • Eastern Screech-Owl	
— • Great Horned Owl	
— Snowy Owl	
— • Burrowing Owl	
— Long-eared Owl	
— Short-eared Owl	

GOATSUCKERS

— • Common Nighthawk	
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SWIFTS

— Chimney Swift	
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HUMMINGBIRDS

— Ruby-throated Hummingbird	
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KINGFISHERS

— Belted Kingfisher	
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WOODPECKERS

— • Red-headed Woodpecker	
— Red-bellied Woodpecker	
— Yellow-bellied Sapsucker	
— • Downy Woodpecker	
— • Hairy Woodpecker	
— • Northern Flicker (Common Flicker)	

FLYCATCHERS

— Olive-sided Flycatcher	
— Least Flycatcher	

	S	S	F	W
.....	O	O		
.....	C	C	C	
.....	C	C	C	
.....	C	O	C	A
.....	O	O	O	
.....	C	C	C	
winged Swallow	O	O	O	
.....	C	C	C	
.....	C	C	C	
.....	C	C	C	
.....	C	C	C	
.....	C	C	C	O
pie	C	C	C	C
.....	C	C	C	C
ickadee	O	O	O	O
Nuthatch	U	O	U	O
.....	U	U	U	U
.....	C	C		
ort-billed Marsh Wren)	C	C	U	
ng-billed Marsh Wren)	C	C	U	
SHES				
I Kinglet	r	r		
Kinglet	r	r		
i	O	U		
ush	O	U		
.....	C	C	O	r
D THRASHERS				
.....	U	C		
.....	U	C		
.....	U		U	
ewing	r	r	O	O
ig	r	r	O	O
strike	O	O	O	
ling	C	C	C	C
so	O	O		
Vireo	O	O		
so	U	U		

WOOD WARBLERS

— Tennessee Warbler	U		
• Yellow Warbler	C	C	
— Magnolia Warbler	r		r
— Yellow-rumped Warbler	C		C
— Blackpoll Warbler	C		C
— American Redstart	U		
— Black-and-white Warbler	r		r
— Ovenbird	r	r	
— Northern Waterthrush	O	O	
• Common Yellowthroat	C	C	O
— Yellow-breasted Chat	r	r	
GROSBEAKS AND SPARROWS			
— Northern Cardinal	r	r	r
— Rose-breasted Grosbeak	C	C	C
— Blue Grosbeak	r	r	
— Lazuli Bunting	r	r	
— Indigo Bunting	r	r	
— Dickcissel	C	C	U
— Rufous-sided Towhee	U	U	
— American Tree Sparrow	C		O r
• Chipping Sparrow	C	C	O
• Clay-colored Sparrow	U	U	
— Vesper Sparrow	O	O	
— Lark Sparrow	U	U	O
— Lark Bunting	U	U	
• Savannah Sparrow	C	C	
• Grasshopper Sparrow	U	U	
• Song Sparrow	C	a	O r
— Lincoln's Sparrow	O		
— White-throated Sparrow	U		O
— White-crowned Sparrow	U		O
— Harris' Sparrow	U		O
— Dark-eyed Junco	U		O C
— Lapland Longspur			C
• Chestnut-collared Longspur	C	U	U
— Snow Bunting			O
BLACKBIRDS AND ORIOLES			
• Bobolink	C	C	
• Red-winged Blackbird	C	C	O r
• Eastern Meadowlark	C	a	O O
• Western Meadowlark	C	a	O O
• Yellow-headed Blackbird	C	C	O
— Rusty Blackbird	U	U	U
— Brewer's Blackbird	U	U	U
• Common Grackle	C	C	O O
— Brown-headed Cowbird	C	C	O
• Orchard Oriole	C	C	
• Northern Oriole	U	U	
FINCHES			
• American Goldfinch	C	C	O O
— Evening Grosbeak	O		O U
WEAVER FINCHES			
• House Sparrow	C	C	C

For additional information, contact the Refuge Manager, Lake Andes National Wildlife Refuge Complex, R.R. #1, Box 77, Lake Andes, S. Dakota 57356. Telephone: (605) 487-7603.

Notes




Birds of the

Lake Andes

NATIONAL WILDLIFE REFUGE COMPLEX

LAKE ANDES, SOUTH DAKOTA



An adult bald eagle soars majestically above the Missouri River breaks, its white head and tail sparkling in the crisp December sun. It peers downward, searching for prey. Suddenly, the eagle folds its wings and swoops downward in a mind-blurring, 100 mile-per hour dive. Checking his descent, the eagle skims above the Missouri's ice-blue waters and deftly thrusts a talon into the waters. He pulls up and wings toward a tall cottonwood tree carrying his breakfast, a silvery shad.

The eagle flares his wings and lands upon a gnarled limb. A scream of defiance warns potential intruders that this woodland is the realm of a bird of strength and courage — the symbol of our Nation.

Will future generations enjoy similar wildlife spectacles? Possibly not because the bald eagle faces the threat of extinction. Karl E. Mundt Refuge, the first Federal eagle sanctuary, is helping assure the perpetuation of the species.

HISTORY

In early times, eagles perched in timber which was found along the Missouri River. The wild river and its surrounding habitats yielded fish, waterfowl, and other wildlife which were preyed upon by eagles. Construction of dams converted the wild river into open lakes and destroyed the eagles' habitat.

Forced from their traditional haunts, the eagles searched for alternate wintering areas and some found the tail waters below the Ft. Randall Dam to their liking. In this open water they found an abundance of their favorite food — fish such as goldeye, shad, and white bass plus a variety of ducks and geese.

The eagles found excellent stands of mature cottonwood trees adjacent to the open water. This combination of abundant food and ideal roosting habitat proved successful and wintering eagle populations began to increase below the Ft. Randall Dam. In 1967, a peak of 283 eagles was reached establishing the Ft. Randall population of wintering eagles as the largest in the lower 48 states.

Although a portion of the wintering eagle flock roosted in woodlands managed by the U.S. Corps of Engineers, the main roosting areas were on private lands below Ft. Randall Dam. In order to preserve this National treasure, a project was launched by the 7-Eleven Food Stores Division of the Southland Corporation and the National Wildlife Federation.

Receipts generated by the sale of endangered species drinking cups were set aside in the "Save A Living Thing Project." The Southland Corporation raised \$250,000 which was transferred to the National Wildlife Federation. With these funds, the Federation purchased 780 acres of river bottom and obtained a perpetual easement which guaranteed the preservation of an additional 300 acres of important woodlands. Administration of the land was turned over to the U.S. Fish & Wildlife Service on December 19, 1974. The new refuge was named after the late Karl E. Mundt, a South Dakota Senator who was a strong supporter of the Endangered Species Act of 1966.

WILDLIFE

The refuge contains one of the last stretches of truly natural Missouri River bottomland. A wide variety of wild species utilize this unique habitat.

Countless thousands of ducks and geese frequent the refuge during the annual migrations, while water birds such as the ring-billed and Franklin's gulls, common and least terns, double-crested cormorants and white pelicans rest and feed along the wide Missouri.

Both whitetail and mule deer slip secretly through the dense woodlands, often shadowed by coyotes or bobcats.



A greater prairie chicken performs his springtime courtship ritual.
Photos by Gary Zahn, U.S.F.W.S.

Rio Grande turkeys roost in the towering cottonwoods, while raccoons, mink, skunks, foxes, and cottontails meander through the underbrush.

Along the woodland margins, flocks of ring-necked pheasants and bob-whites scratch for wild and cultivated seeds, while occasional red-tailed and ferruginous hawks watch from above, waiting for a chance to strike.

Dozens of species of songbirds native to the cottonwood-willow-dogwood habitat zone can be found on the refuge. During the spring migration and nesting season, the woods seem ablaze with striking colors as warblers, orioles, cardinals, grosbeaks, and bluejays dart through the treetops. Each spring, well-known songsters such as brown thrashers, mockingbirds, meadowlarks, and song sparrows fill the woods with nature's harmony.

Large flocks of mallard ducks spend the winter months on the Missouri River.



MANAGEMENT FOR DIVERSITY

Food plots containing corn, sorghum, wheat, and millet are planted by refuge managers to attract both migratory waterfowl and resident wildlife. These birds and animals are an alternate food source to the wintering eagles.

Cottonwoods are planted periodically to provide future eagle roosting habitat. Shelterbelts are also planted for resident wildlife species.

Two-hundred acres of native grasslands are grazed periodically to maintain the vigor of the grass and to add diversity to the river-breaks ecosystem. These mixed grass prairies contain a variety of unique wildflowers.

EAGLE HABITS

Small numbers of eagles begin to move onto the refuge during late October, with peak populations occurring during December and January. Immature eagles outnumber the whitehead adults during November, however, the December-January flock contains 70-80 percent adults.

During their winter stay, most eagles perch within 50 feet of the river-bank, preferring tall cottonwood trees in close proximity to the source of food. There appear to be five major communal roosts located within the Ft. Randall-Karl Mundt wintering area. Communal roosting promotes efficient exploitation of the food resources in the wintering

Mule deer inhabit the refuge uplands.



area and allows a maximum number of eagles to roost at sites protected from the chilling winter winds.

The eagles feed mainly on fish in the Ft. Randall Dam tailwaters during the morning hours. Mallards, rabbits, and pheasants are also eaten as the fish supply declines.

During late January and early February, many of the eagles begin to follow the waterfowl flocks which feed in private cornfields. The refuge eagle population quickly declines as the feeding eagles shift to several roosts throughout Charles Mix County. This eagle dispersal continues and, by mid-March, bald eagles become a rare sight on the refuge.

EAGLE WATCHING

Eagles will abandon their roosts if disturbed too much by humans. Therefore, public use on the Karl Mundt National Wildlife Refuge is prohibited. An excellent eagle observation point is located on Corps of Engineers property directly below the Ft. Randall Dam. From this observation point above the tailwaters, visitors can get close-up views of the eagles as they deftly pluck fish from the fast-flowing waters. Visitors should refrain from disturbing eagles perched among the cottonwoods during the mid-day loafing period.

EAGLES AND THE GOVERNMENT

The U.S. Fish and Wildlife Service has programs which address each of the major threats to eagles.

Habitat Destruction - The Service coordinates with other Federal agencies to prevent habitat losses caused by Federal development projects and by private developments which require Federal permits. Shooting, Trapping and Commerce - Law enforcement agents employed by the Service protect eagles from being shot, trapped, and commercially traded.

Pesticides - The U.S. Fish and Wildlife Service has conducted extensive research on the negative impacts that pesticides have on reproduction of several predatory birds. The Service monitors pesticide levels in the environment on a nationwide basis.

Electrocution - The Service cooperates with power companies to design power poles which will prevent electrocution of eagles.

EAGLES AND YOU

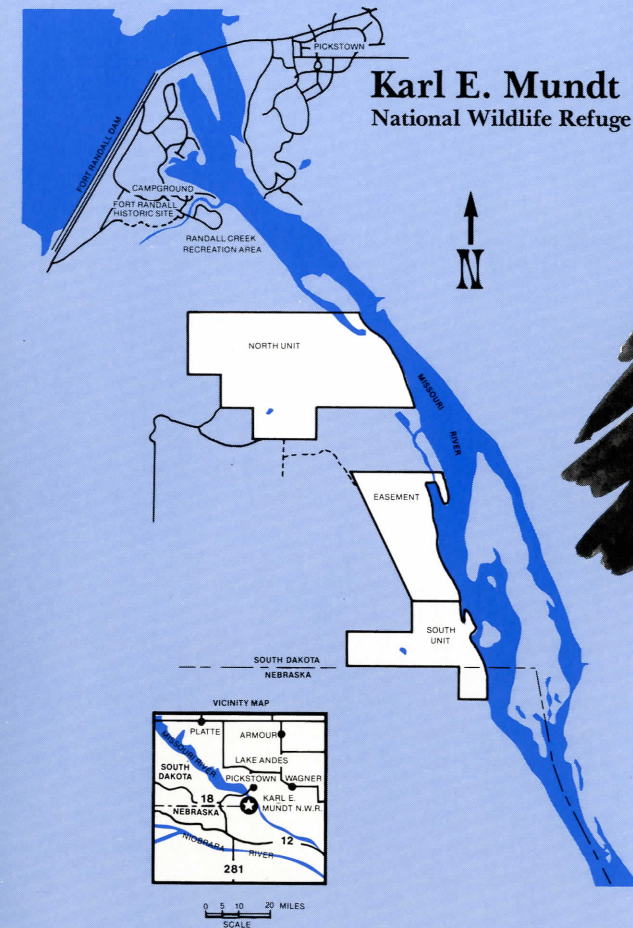
You can do a lot for eagles and other endangered wildlife by learning more about how they are protected. You can personally work to conserve endangered animals and plants by joining one of the many wildlife conservation organizations. You may also register your opinion when the Service makes proposals to add species to the endangered list and to designate critical habitat. You should report any violations of the laws protecting imperiled wildlife.



Bald eagle, U.S.F.W.S. photo by K. Kenyon.

EAGLE FACTS

- The bald eagle was officially listed as an endangered species in 1978.
- North America's bald eagle population is estimated at 90,000 to 136,000. Most of these are in Alaska.
- The male eagle is smaller than the female. The adult female has a wingspan of about 8 feet and weighs about 10 to 14 pounds. The male has a wingspan of about 7 feet and weighs about 8 to 10-1/2 pounds.
- The birds' scientific name, *Haliaeetus leucocephalus*, means "white-headed sea eagle".
- Eagles may live 30 years or more in the wild.
- Eagles have been clocked at speeds of over 100 miles-per hour while diving on their prey.
- Eagles mate for life, returning to the same nest year after year.
- One to three eggs are laid, hatching in about 35 days. Normally, only one chick survives.
- Young learn to fly at three months of age and leave the nest when they reach their fourth month.
- The white head and tail feathers develop during the fourth or fifth year. Young birds may be mistaken for large hawks.



U.S. FISH AND WILDLIFE SERVICE
Department of the Interior



RF6-64550-1



October, 1979

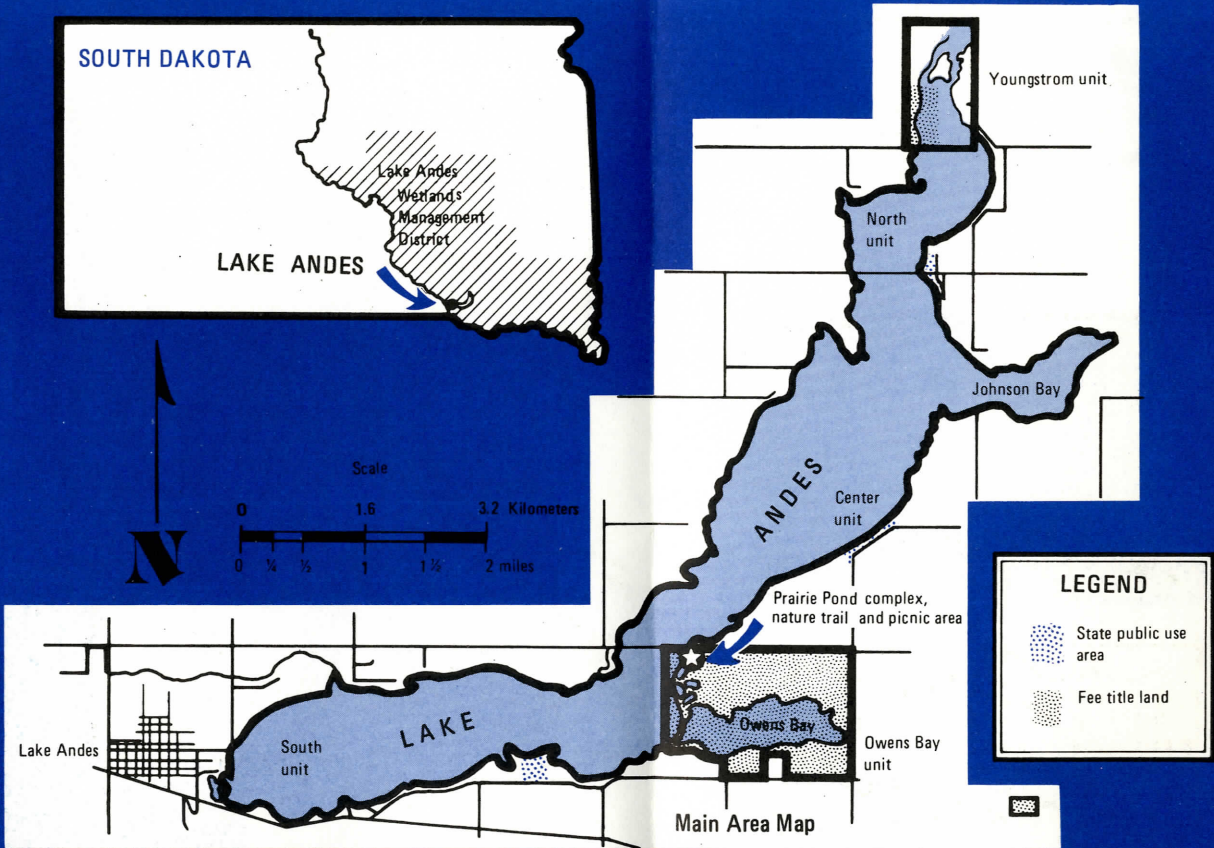
Karl E. Mundt National Wildlife Refuge



A GATHERING OF WATERBIRDS

Lake Andes — Owens Bay		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
GREBES	5 species			●	●	●	●	●	●	●	●		
PELICANS	white				●	●	●	●	●	●	●		
CORMORANTS	double-crested			●	●	●	●	●	●	●	●	●	
GEESE	canada	●	●	●	●	●				●	●	●	●
	snow			●	●	●				●	●		
	white-fronted			●	●	●				●	●		
DUCKS	mallard Δ *	●	●	●	●	●	●	●	●	●	●	●	●
	pintail Δ		●	●	●	●	●	●	●	●	●	●	
	gadwall Δ				●	●	●	●	●	●	●		
	shoveler Δ				●	●	●	●	●	●	●		
	blue-winged teal Δ *				●	●	●	●	●	●	●		
	redhead Δ		●	●	●	●	●	●	●	●	●	●	
	lesser scaup Δ		●	●	●	●	●	●	●	●	●	●	
	ruddy duck Δ				●	●	●	●	●	●	●	●	
HERONS	4 species				●	●	●	●	●	●	●		
RAILS	virginia Δ				●	●	●	●	●	●	●		
	sora Δ				●	●	●	●	●	●	●		
	coot Δ			●	●	●	●	●	●	●	●	●	
GULLS	5 species		●	●	●	●	●	●	●	●	●		

● period of occupancy
Δ refuge nester
* most common nesting duck
may peak at 100,000 during fall



A picnic area located at the northwest corner of the Owens Bay unit is open during daylight hours from April 15 through October 15. A mile-long nature trail originates at the picnic area and meanders along the wooded lake shore, across marshlands in the Prairie Pond complex, and returns via the native grass uplands. Early morning or late afternoon walks along the nature trail offer visitors views of elusive white-tailed deer, gaudy ring-necked pheasant, broods of blue-winged teal, or bobolinks singing from territorial perches in the grassland. Guided tours are available to organized groups, however prior arrangement must be made with the refuge manager.

The waterfowl production areas are open to the public on a year-round basis, although hunting is restricted to applicable South Dakota season dates and bag limits. Overnight camping and fires are prohibited on all waterfowl production areas.

Vanishing Prairies: Three distinct vegetative zones are found throughout the Wetland Management District. The tall grass prairie zone encompasses the four eastern counties, with dominant grasses being big bluestem, indiangrass, little bluestem, and switchgrass. The tall grass/mixed prairie transition zone covers the central portion of the District and hosts stands of western wheatgrass, big bluestem, side-oats grama, and porcupine grass. The western portion of the District falls within the mixed grass prairie zone, with dominant grasses being western wheatgrass, blue grama, and needle and thread grass.

As the trend toward increased agri-business continues, the destruction of the native prairie and its glacier-built potholes seems inevitable. The waterfowl production areas within the Lake Andes, Wetland District will serve as monuments to a forgotten era, where future generations can still reflect upon the uniqueness of the prairie environment. The sight of waist-high grasses waving in the wind, complemented by a beautiful array of prairie wildflowers, plus a ragged wedge of ducks passing over a cattail-lined pothole, will form indelible memories of that which once flourished across South Dakota.

For further information contact the Refuge Manager, Lake Andes NWR and Wetlands Management District, Lake Andes, South Dakota.

U.S. Fish and Wildlife Service
Department of the Interior

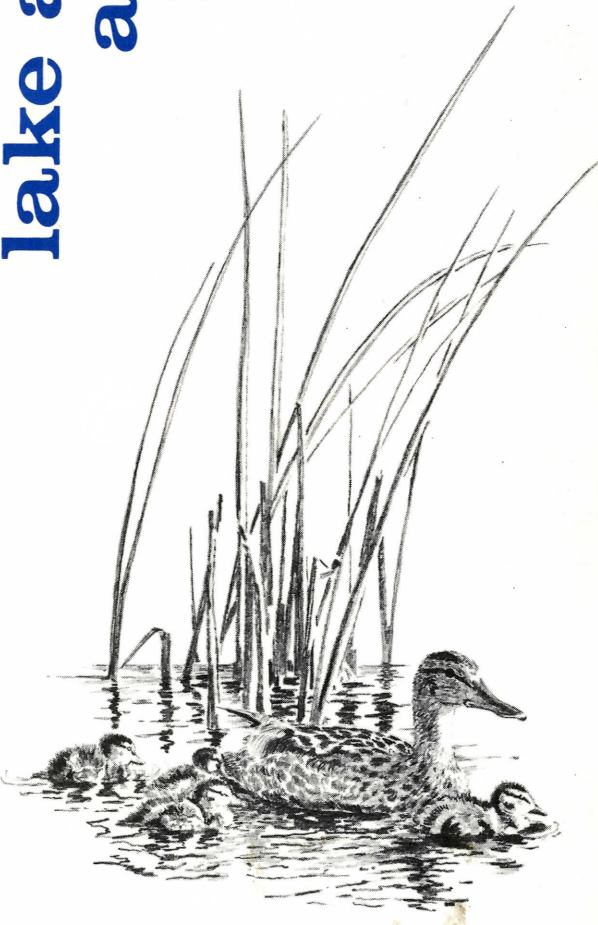


RF 6-64550-1



October, 1978

lake andes refuge
and wetlands
management
district



Uniqueness: Lake Andes, with its 4700 acres of open water interspersed with marsh vegetation, represents a unique piece of wetland preserved for the production of ducks and a variety of waterbirds. The lake's importance during migration seasons must also be noted, as countless thousands of waterfowl utilize the marshlands during wet years. The Owens Bay Unit, an 832-acre refuge containing a 240-acre marsh surrounded by over 450 acres of native grass cover, plus the 320-acre Youngstrom Unit provide additional wildlife habitat adjacent to Lake Andes.

Over 20,000 acres of waterfowl production areas, small potholes nestled amongst the native prairie grasses, are intensively managed and operated under the Lake Andes Wetlands Management District. This 20-county district is the largest of its kind in South Dakota. An additional 80,000 wetland acres within the District are also protected from drainage via perpetual landowner easements.



History: Lake Andes is a natural, intermittent prairie lake, whose water supply depends entirely upon annual run-off. Lake levels periodically rise and fall, with the entire lake going dry approximately once every 20 years.

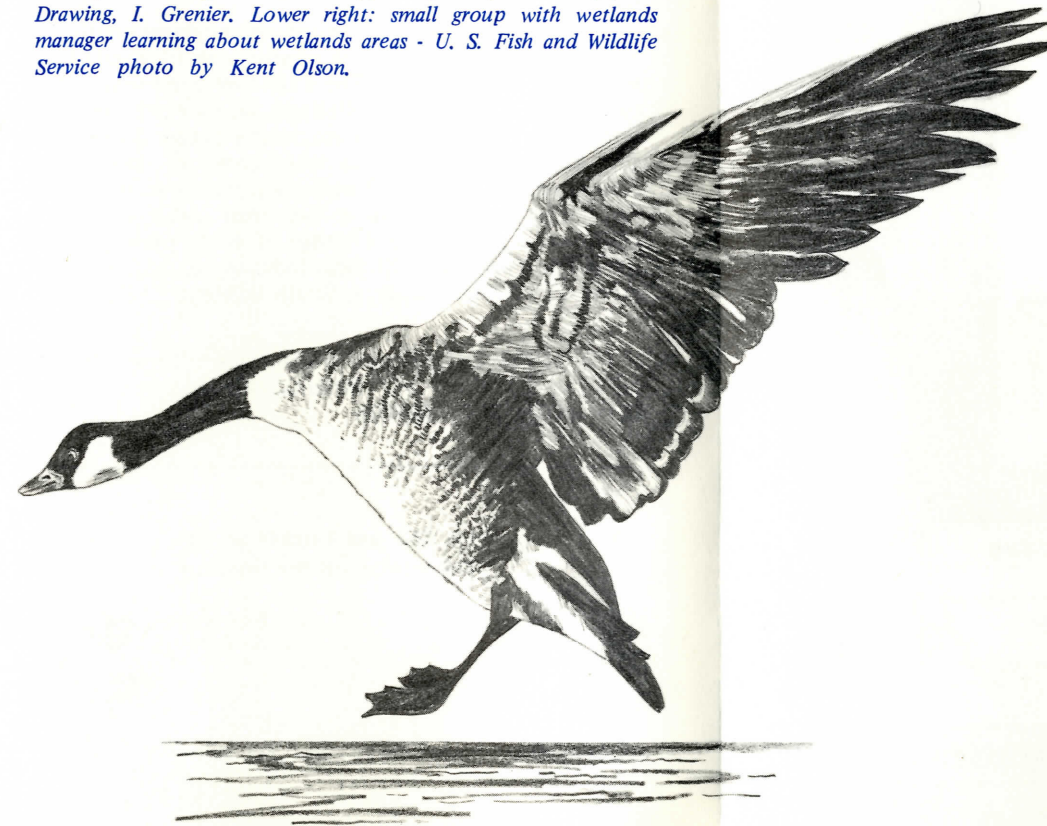
The lake, historically used as a campsite by Sioux hunting parties pursuing the migrant buffalo herds and waterfowl flocks, was actually named after a French trader whose nickname was Andy. "Andy's Lake" was given its present title following the establishment, in 1900, of a town and post office.

The refuge was established in 1936 by a Presidential Executive Order which authorized the purchase of 365 acres of land at Owens Bay. Subsequent land purchases have been made on a continuing basis.

In 1939, the largest single easement ever taken from the State of South Dakota conveyed to the United States Fish and Wildlife Service, the right to flood the meandered lake bed and maintain a closed refuge for migratory birds and other wildlife.

A 1958 Congressional Amendment to the Duck Stamp Act, plus additional authorization of funds in 1961 under the Wetlands Loan Act, provided the necessary legislation to carry on an accelerated wetlands habitat preservation program in South Dakota.

Cover: a mallard brood - Drawing, I. Grenier. Upper left: a young ruddy duck - U. S. Fish and Wildlife Service photo by C. J. Henry. Lower left: a pair of ring necked pheasants - U. S. Fish and Wildlife Service photo by Kent Olson. Center: Canado goose landing - Drawing, I. Grenier. Upper right: Upland sandpiper - Drawing, I. Grenier. Lower right: small group with wetlands manager learning about wetlands areas - U. S. Fish and Wildlife Service photo by Kent Olson.



Management: Two dikes separate Lake Andes into three management units, however the lack of a permanent water supply allows very little water level manipulation. The Owens Bay marsh, fed by the waters from a free flowing artesian well, is managed using a system of periodic water level drawdowns to produce optimum waterfowl brood rearing conditions, plus the production of natural waterfowl food.

A January, 1973 outbreak of Duck Virus Enteritis killed 40,000 ducks and geese using the open water of Owens Bay. This unfortunate die-off prompted drastic changes in the Unit's management program, including the shutdown of the artesian well during the winter months and the elimination of food crops previously grown for the wintering flocks of ducks and geese. Over 350 acres of cropland were re-seeded to native grass nesting cover and the area is now managed primarily for the production of waterfowl and various species of water birds.

Several small food plots and a series of shelterbelts have been planted at Owens Bay and received extensive use by resident white-tailed deer, ring-necked pheasants, plus a wide variety of small mammals and song birds.

Nesting cover on the waterfowl production areas is managed by periodic grazing, haying, or controlled burning programs. Annual surveys determine waterfowl response to the various management techniques. Small check dams are often constructed to create additional marshland, while food plots and shelterbelts are planted on many of the areas.

Public Opportunities: Wildlife observation, hunting and fishing are the major attractions of Lake Andes during the wet years. Visitors interested in wildlife observation can expect to find nearly any species of bird or mammal indigenous to the prairie pothole country. The spring and fall migrations offer the greatest diversity of species, however colony-nesting eared grebes, black terns, and Franklin's gulls create a summer spectacular for bird watchers. When suitable water depths are present, the entire lake offers good fishing for northern pike, perch, and bass. Although only the center unit of Lake Andes is open to hunting, duck and goose hunters find multitudes of waterfowl in the marshy habitat, while pheasant and deer hunters pursue their quarry along the wooded perimeter of the lake.

Continued on back.

