

**SAND LAKE NATIONAL WILDLIFE REFUGE**  
**Columbia, South Dakota**

**ANNUAL NARRATIVE REPORT**  
**Calendar Year 2005**

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

## REVIEW AND APPROVALS

### SAND LAKE NATIONAL WILDLIFE REFUGE Columbia, South Dakota

#### ANNUAL NARRATIVE REPORT Calendar Year 2005

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5-11-06

Date

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5/22/06

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## INTRODUCTION

Sand Lake National Wildlife Refuge, located in northeast South Dakota, was established in 1935 to preserve critical habitat for nesting and migrating waterfowl. The 21,498 acre Refuge consists of 11,000 acres of marsh and open water, 8,771 acres of grassland, 1,227 acres of cropland, 200 acres of woodland, and 300 acres of administrative land. The Refuge lies in the rich, rolling lowlands of the James River valley. The James River, running 600 miles north and south through the Dakotas, forms a natural flight path for migrating birds. Each spring and fall, thousands of ducks, geese, and other migratory birds stop at Sand Lake. The Refuge is an important nesting area for ducks, Canada geese, and many species of marsh and water birds. This unique area also provides excellent habitat for resident game species, such as white-tailed deer, ring-necked pheasant, and furbearers. Each year, large numbers of visitors come to the Refuge to observe, photograph, or hunt the abundant wildlife the Refuge provides.

An eight-county Wetland Management District is also managed out of the Sand Lake Headquarters. The Coop Agreement with the Corps of Engineers was terminated in mid-2001 thus removing Pocahontas as a national wildlife refuge.

The 12,000 square mile Sand Lake Wetland Management District, located in north-central South Dakota, encloses a rich diversity of wildlife habitat. The eight county district extends west to the Missouri River and includes part of the James River Basin to the east. The western portion of the district is part of the Coteau du Missouri and is composed of intermediate and short grass prairie. Tall grass prairie and agricultural lands comprise the eastern portion. The headquarters is located at Sand Lake National Wildlife Refuge.

Land is acquired by the Aberdeen Acquisition Office. Both fee and easement interests are being obtained.

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## **A. HIGHLIGHTS**

Sand Lake completes their CCP (D-1).

Special Agent moves to Sand Lake (D-6).

Sand Lake has first National Recreation Trail in South Dakota (H-4).

Various building projects present various challenges. (I-1).

## **B. CLIMATIC CONDITIONS**

The year started out warm and dry. We received only 12.3 inches of snow through April with a maximum of 6 inches on the ground during that period. Total precipitation during the first four months of the year totaled only 1.8 inches resulting in very little spring runoff. The skies opened up in May and June with 11.49 inches of rain falling during those two months. Rainfall amounts returned to near normal for the remainder of the summer with temperatures near normal throughout the summer. A winter storm moved through the area on the November 28 leaving the landscape covered with a thick layer of ice and 3 inches of snow. Temperatures during the last two months of the year were warmer than normal. Eight inches of snow remained on the ground at year's end.

**Table 1. Weather Summary, 2005**

<b>Month</b>	<b>Precipitation (inches)</b>	<b>Snowfall (inches)</b>	<b>Maximum Temperature(°F)</b>	<b>Minimum Temperature(°F)</b>
January	0.65	7.2	43	-31
February	0.47	4.1	54	-4
March	0.06	1.0	67	-6
April	0.62	0.0	80	19
May	3.44	0.2	83	18
June	8.05	0.0	93	48
July	3.56	0.0	93	50
August	2.58	0.0	92	46
September	1.69	0.0	95	36
October	1.05	T	88	19
November	1.50	3.0	68	7
December	1.07	13.9	44	-21
Total	24.74	29.4		
Extremes			95	-31

Mud Lake and Sand Lake were mostly frozen over on November 16.

## **C. LAND ACQUISITION**

### **1. Fee Title**

Nothing to report.

### **2. Easements**

Nothing to report.

### **3. Other**

Nothing to report.

## **D. PLANNING**

### **1. Master Plan**

In January and February work continued on the Sand Lake CCP during which time the refuge staff worked with planners in responding to comments on the document that were received during the internal review process. Additional photographs were selected.

The Regional Wildlife Manager, South Dakota Game, Fish, and Parks, visited with key Refuge staff on March 21. The purpose of his Refuge visit was to engage staff in additional deliberations on subjects of resident game management and Refuge farm program as addressed in the draft CCP. The meeting was a fruitful one. The State agency is now comfortable with Refuge plans to downsize its farming program while continuing to utilize farming as a habitat management tool that indirectly provides benefits to resident wildlife.

In June the next-to-final draft of the station's CCP was completed and mailed to all interested parties for comments.

Public meetings were held in Hecla on July 12, Columbia on July 13, and in Aberdeen on July 14. Attendance was light but local staff members of Representative Herseth, and Senators Johnson and Thune were in attendance in Aberdeen to discuss changes in Refuge operations.

The Sand Lake Refuge's Comprehensive Conservation Plan was presented to RD Morgenweck on September 21. Required signatures were obtained on September 26! It was a long, tortuous process that was started in January of 2001. At year's end the station was awaiting the final bound copies for distribution.

### **2. Management Plan**

In February habitat management plans for 2005 were completed for the Refuge and WMD and submitted to the RO. The new direction of the Service is to hold managers more accountable for set management goals/objectives.

Managers Jave and Peterson compiled and submitted FY 2004 grazing data for a GAO Data Collection exercise.

The 2005 Water Management Plan was submitted to the RO for approval in March.

**3. Public Participation**

The Sand Lake Refuge Deer Committee met on March 2 at the Community Room in the basement of the Brown County Courthouse in Aberdeen. Consensus was reached that there would be no changes needed in the hunting program structure. It was decided to keep the license quota the same at 55 any deer and 40 double doe tags per season. This was done to shift the harvest from yearling bucks to the antlerless segment of the population. It was decided to keep the youth-only license/season with 25 tags valid on the north portion of the Refuge in September. Only 5 tags were sold for this season in 2004. The Sand Lake Refuge Deer Committee membership consists of representatives from three local sportsmen groups, area landowners, Refuge staff, and SD GFP personnel.

**4. Compliance with Environmental and Cultural Resource Mandates**

Archaeologist Brant Loflin completed a report in January on 3 Sand Lake structures (barn at the north quarters, and the grain elevator and corn crib at the south site north of Weismantel Grade) that date back to the CCC days. The report was submitted to the SD SHIPO. The buildings are deteriorating and should be removed pending approval and MMS replacement.

An intra-service Section 7 Biological Evaluation for the spring prescribed burning program on Sand Lake NWR/WMD was completed with concurrence by the SD ES office.

**5. Research and Investigation**

Nothing to report.

**6. Other**

Frank Kartch, et. al., Ducks Unlimited, visited with station personnel on October 4. The nature of their program in South Dakota was discussed at length. The program is called the Revolving Land Program where DU purchases excellent waterfowl habitat, places perpetual easements, and then sells the property to conservation buyers.

Sand Lake will now host a Special Agent position after the decision was made to reposition a SA from Devils Lake to Sand Lake. Sand Lake will provide the Agent with office space as a cost saving measure for LE. Special Agent Ken Dulik moved his office furnishings from Devils Lake to Refuge Quarters 17 on November 29-30 which will be his temporary office until the headquarters office addition is completed.

WM Peterson attended a Fire Planning Analysis meeting in Aberdeen, SD, with members of the Bureau of Indian Affairs and other FWS personnel. Final boundary delineations were set for the Eastern Fire Planning Unit which includes all lands east of the Missouri River in South Dakota and portions of Nebraska. Also finalized at the meeting were the weights and attributes for inclusion into analysis computations that will ultimately determine where fire fighting resources are located.

## **E. ADMINISTRATION**

### **1. Personnel**

**Table 2** depicts the employees who were on duty in 2005.

**Table 2. Sand Lake Refuge Employees**

Employee Name and Title	EOD	Status
Eugene Williams, Refuge Manager	10/03	PFT
John Jave, Deputy Project Leader	1/92	PFT
Jay Peterson, Wetlands Manager	9/03	PFT
Marcia Haaland, Administrative Officer	8/88	PFT
William Schultze, Wildlife Biologist	5/76	PFT
Beth Ullenberg, Outdoor Rec Planner	12/99	PFT
Donald Soderlund, ROS	12/01	PFT
Allen Olson, Wildlife Biologist (Private Lands)	10/97	PFT
Berle Meyers, Heavy Equipment Operator	4/71	PFT
Ronald Frohling, Carpenter	5/77	PFT
Eric Hoggarth, Biological Technician	5/02	PFT
Tom Zick, Supervisory Range Technician (Fire)	9/04	CS
Joel Wilson, Biological Technician	5/05	Temp
Lisa Dennert, Biological Technician	5/05	Temp
Mitchell Johnson , Biological Technician	5/05	Temp
Sam Cahoy, Biological Technician	5/05	Temp





**Figure 1. 2005 Office Staff Photo**

SD-SDL-2673

Back row, left to right: Bill Schultze, Lisa Dennert, Tom Zick, John Jave, Eric Hoggarth, Ron Frohling, Joel Wilson. Second row: Mitch Johnson, Al Olson, Berle Meyers, Don Soderlund, Sam Cahoy. Front row: Jay Peterson, Beth Ullenberg, Marcia Haaland, Gene Williams.

Heavy Equipment Operator Berle Meyers had an extended bout with lung cancer that was discovered in early February. He returned to work during the week of March 7. It was good to have him back!

Mid year performance plans were completed in April and in October final performance evaluations were concluded for all staff and submitted to Denver.

Seasonal Biological Technicians Lisa Dennert and Joel Wilson entered on duty on 5/2. Biotechs Sam Cahoy and Mitchell Johnson started work on 5/9. Johnson and Dennert are new employees to the Refuge.

Last day for summer temporary employees, Dennert and Wilson, was October 14th.

In July, John Jave reached a milestone – 30 years with the Fish and Wildlife Service (Figure 2).



Figure 2. Gene Williams presents 30 year pin to John Jave. SN-SPL-2674

## **2. Youth Program**

Nothing to Report

## **3. Other Manpower Programs**

Nothing to Report

## **4. Volunteer Program**

Sand Lake's Volunteer Program supports a variety of programs including visitor services, special events, community outreach, biology, and maintenance. Volunteers are tremendously essential in supporting and promoting the Refuge to the local community especially through outreach efforts. Each year a core group of volunteers staff outreach booths at the Great Outdoors Show and the Brown County Fair, two large county events that draw over 250,000 people. This year volunteers covered the entire work schedule for the three day Great Outdoors Show. They also staff the Visitor Center on weekends



during peak spring migration activity and assist with special events such as Eagle Day, International Migratory Bird Day, Northern Prairie Water Festival and the Christmas Bird Count. Many of our outreach efforts would not take place without the support of our volunteers. Volunteers truly do make it happen!

## **5. Funding**

**Table 3** shows funding received for the complex in 2005.

**Table 3. Funding History for Sand Lake NWR**

FY	1121	1231	1261	1262	6860	Fire	Total
2005	78,815	3,500	799,460	1,035,719	3,800	44,055	1,965,349
2004	74,500	3,500	859,100	210,700	3,800	36,500	1,188,100
2003	64,800	3,500	870,300	186,100	3,800	7,600	1,136,100
2002	54,000	3,500	811,600	153,300	3,800	14,214	1,040,414
2001	107,100	4,900	698,420	116,000	3,800	48,100	978,320

MMS projects for the year included a new shop, a sprayer, a pickup, a radio package, and tower inspection,

## **6. Safety**

Sand Lake hosted an Environmental Audit by Jim Behrman, R-6 Environmental Compliance Coordinator, Charlie Fasano, Washington Office Division of Engineering, and Kurt Rausch and Sarah Wolff of PRIZIM Inc. during the week of March 7. This team prepared an Environmental Management Plan for the Sand Lake NWR Complex. Several recommendations were made to improve our operations. Environmental and safety items corrected throughout the year included draining the hydraulic fluid from the retired vehicle lift system in the old shop, the installation of containment under the parts cleaner and pickup fuel tanks, the disposal of old hydrochloric and battery acids, and the purchase of safety storage cabinets. New labeling for pesticide containers and the used oil storage tank were also purchased.

A review was completed of the status of equipment certification for each member of the Sand Lake Staff.

## **7. Technical Assistance**

Nothing to report.

## **8. Other**

Pesticide recertification training was attended by Frohling, Soderlund, Cahoy and Jave in Aberdeen on January 21. Bio Techs Dennert and Johnson completed their pesticide certification in May.

Schultze attended a meeting of the South Dakota Refuge Biologists in Huron on February 10.

Project Leader Williams visited the Aberdeen offices of Senators Thune and Johnson, and Representative Herseth on April 1.

AO Haaland attended the Administrative Officers Meeting in Denver on April 7. Most of the information relayed was concerning changes that will be taking place in practically every aspect of workload.

Williams and Schultze attended the interagency James River Coordination meeting at Jamestown, ND on April 7.

Williams and Jave attended a joint meeting of NGO's, ND Game and Fish, and SD Game Fish, and Parks at the ND Game and Fish in Bismarck to talk about potential funding sources for intensive (waterfowl) management in the Dakotas on April 12. Roger Hollevoet, Devils Lake WMD, was our host.

Jave, Peterson, Soderlund, Schultze, Hoggarth, and Zick attended the annual fire refresher training held at the Sand Lake shop on April 8.

Soderlund and Olson attended a partners meeting in Bismarck on April 11-12. The meeting was hosted by Ducks Unlimited in celebration of its 20<sup>th</sup> Anniversary in Bismarck. Presentations varied from the future of CRP to the latest research studies being conducted on waterfowl. Lots of emphasis was put on the importance of the USFWS easement program.

Williams and Peterson attended a Fire Program Analysis discussion held at the Huron WMD headquarters on April 20.

Soderlund attended a Refuge Compatibility training session in Devil's Lake. The course was lead by NCTC with various Project Leaders doing the instructing.

IT security training was completed by a majority of the staff members.

Williams and Jave attended the Project Leaders Meeting held in Rapid City on April 26-28.

Meyers attended a heavy equipment training class for trainers in Huron, SD, on May 10.

Hoggarth taught ATV securement training at Long Lake NWR on May 17.

Soderlund completed his online B-3 aviation training on May 20.

Meyers assisted with conducting heavy equipment certification at Huron WMD on May 24.

Dennert and Johnson had ATV Safety Training on May 24. Hoggarth and Neal Hornseth of Waubay NWR instructed the class.

Williams, Jave, Peterson, and Soderlund attended the Dakota Working Group meeting on June 21-22 at which the draft easement enforcement manual was discussed.

Staff members Williams, Soderlund, Jave, and Cahoy attended a meeting hosted by Game, Fish, and Parks as a retirement farewell for long-time Brown County Conservation Officer Bill Antonides on June 9. Bill provided the Refuge with a lot of help with the deer management/ law enforcement programs.

Meyers and Hoggarth attended SAMMS training at NCTC July 11-15.

Jave met with Refuge neighbors Bill Richter on July 20 and Dave North on July 21 to discuss complaints of deer depredation to their cropland adjacent to the Refuge. The State Game, Fish and Parks has also been involved. The true problem is that the deer population in Northeast South Dakota is very high because of the mild winters the last 4 years. The Refuge will allow January hunting in 2006 for antlerless deer for hunters with unfilled tags to run concurrent with the State's season to try to reduce numbers.

Jave, Soderlund, Frohling and Peterson attended SAMMS training in Mandan, ND, August 16 – 18.

The 2005 Real Property Database was updated and new records submitted for both the WMD and NWR.

The staff completed the required NO FEAR training and the supervisors completed their required 4 hours of supervisory training.

Williams met with representatives of South Dakota's three congressional offices on September 16. The discussion focused on FWS' ability to deal with weed issues under the FY06 paradigm.

Dave Porterfield was at Sand Lake during the week of October 3 to review all real property items over \$50K.

Williams attended the annual coordination/planning meeting of the South Dakota Cooperative Fish and Wildlife Research Unit at Brookings on October 12.

Jay Peterson, Marcia Haaland, and John Jave completed the required SMART Card training in December.

## **F. HABITAT MANAGEMENT**

### **1. General**

The winter of 2004-2005 was relatively open and little snow was received for the fourth winter in a row. Below normal runoff from snowmelt was recorded and overall wetland

conditions were somewhat dry. Upland birds had excellent dry nesting conditions. Crops grown on the Refuge did very well because of timely rains and area crop yields were some of the highest on record.

Bio Tech Hoggarth entered the last 10 years of refuge habitat management records into RLGIS in January.

Refuge staff collaborated in the development of habitat management plans for submission to the Regional Office.

## **2. Wetlands**

Water management plans for the year were to hold Mud Lake near full pool level and draw Sand Lake down, if conditions allowed, to continue the re-establishment of emergent vegetation in Sand Lake. There was very limited spring runoff from the snowfall we received this winter so the Sand Lake draw-down went as planned into May. But heavy rains in the Elm River and the James River watersheds in June caused refuge pools to rise drastically so draw-down plans were cancelled. Mud Lake rose about 1.75 feet, and Sand Lake rose over 3 feet during the month. Sand Lake was filling from both James River flows from the north and Elm River flows from the south. Levels dropped to near full pool level in July, but jumped back up above full pool level in August because of runoff from heavy rain in North Dakota. Water levels in both pools were dropped to our winter operating level of one foot below full pool level before freeze-up.

## **3. Forests**

During the year Meyers removed two thin shelterbelts and volunteer Russian olive trees south of the Hecla Grade and the southeast portion of the Refuge on the east side and also on the inside of the predator exclosure. This work is the beginning of a long term project to remove volunteer Russian olives and deteriorated shelterbelts from the Refuge to improve nesting conditions for migratory birds as identified in the station's CCP.

## **4. Croplands**

Sand Lake NWR has historically conducted a farming program to meet the food requirements of migrating waterfowl, to provide winter food for resident wildlife, and as a habitat management tool to prepare seedbeds for grass seeding. In 2005 the farm acreage remained at 1,127 acres. The future of the Sand Lake farming program on Sand Lake NWR was the source of much review and attention during the Comprehensive Conservation Planning effort. The plan calls for the continued downsizing of this program with more emphasis placed on using farming as a tool to establish seedbeds for grassland renovation/establishment and for weed control. Grassland in need of renovation will be farmed for 3 years or fallowed with roundup and then seeded. Grasslands to be renovated will be determined by the monitoring program. Excess cropland will be seeded to native and tame grassland.

The shares are based on a 75:25 cooperative farming agreement with the Refuge's share generally left in the field as standing corn for wintering wildlife. Cooperators are allowed to harvest what is left in the spring and it is divided 50:50 with the government.

**Table 4. Sand Lake Cooperative Farming Summary, 2005**

CROP	ACRES	COOP SHARE (ACRES)	FWS SHARE (ACRES)
Corn	424.75	155.5	269.25
Soybeans	530.25	530.25	0
Wheat	172	172	0
Millet	0		
Idle	0		
Total Acres	1127	857.75	269.25

## 5. Grasslands

Native grass seedings completed in June included 76.5 acres on the Refuge and 25 acres on the Jessen WPA in Spink County. Native seedings typically consist of six or seven species. Four forb species were added which included purple prairie clover, prairie cone flower, yarrow, and Maximilian sunflower. New seedings got a great start this year because of timely rains. Frohling and Wilson mowed the new Refuge grass seedings with a used 18 ft. swather that Frohling modified for such.

All grassland units on the Refuge were monitored in July for VOR readings (**Figure 3**).



**Figure 3.** Summer temps, Cahoy and Johnson, monitoring vegetation on grasslands.



Fall spraying was completed for Canada thistle on both the Refuge and WMD where mowing or grazing had been accomplished to better expose the thistle.

**6. Other Habitats**

Nothing to report.

**7. Grazing**

Three spring grazing units totaling 312 acres were offered for bid on the Refuge, but only two for 202 acres received a bid.

**8. Haying**

No haying except for 20 acres around the refuge headquarters was completed this year.

**9. Fire Management**

Due to inadequate moisture during the winter months, Brown County instituted a county wide burn ban in early March. This had a large impact on the prescribed fire program on the Refuge. Zick and Peterson met with the emergency manager for Brown County and also attended the Brown County Fire Chiefs Association meetings on several occasions to try and seek a resolution to this in regards to our program. Zick created a powerpoint presentation that explained the basics of our fire program such as the equipment we have, what we burn, why we burn, and how we burn. This was presented to the Chiefs Association on March 23. The powerpoint did have a positive impact on the Association in that it helped them to understand our program and what we were trying to accomplish. The Association is now developing a burn permit system to eliminate burn bans in all but the most extreme cases which would give Sand Lake more opportunities to conduct prescribed burns on the refuge. The permit system may be in effect by the spring of 2006.

The burn ban did stay in effect until May 10. We were able to conduct one spring prescribed burn on the refuge, the Hanson's Point unit (**Figure 4**), for 256 acres on May 20. No burn ban was issued for the fall burning season and two fall burns were conducted. The Diagonal unit was burned on October 20 for 250 acres and the Watermelon Patch unit (**Figure 5**) was burned on October 27 for 500 acres. No wildfires occurred on Sand Lake NWR during 2005.



**Figure 4:** Spring burn on Hanson's Point. 50-SOL-2676



**Figure 5:** Fall burn on the Watermelon Patch burn. 50-SOL-2677

Sand Lake NWR hosted the annual firefighter refresher on April 8 with personnel from Sand Lake NWR, Kulm WMD, Waubay NWR, and Tewaukon NWR in attendance. District FMO Dave Martin and Zick were instructors. Jave, Schultze, Peterson, Soderlund, and Hoggarth attended from Sand Lake. Zick attended S-336, Tactical Decision Making in Wildland Fire, during the week of March 7.

Sand Lake's fire fighting resources assisted other offices and agencies with wildfire suppression efforts and prescribed fire operations during the summer and fall. Sand Lake's Type IV fire engine traveled to the Lower Rio Grande NWR in Texas in April with a crew from the Huron WMD. It was stationed there for 30 days while assisting state and federal agencies in wildfire suppression activities. Zick traveled to Dinosaur National Monument for a 10 week detail during the months of June, July, and August. Here he assisted with wildfire suppression operations and one prescribed fire during his stay there. While stationed at Dinosaur, NM, he assisted the USFWS at Brown's Park and the BLM with wildfire suppression. Zick also traveled to Badlands National Park in Wall, SD, in October with the Type VI engine from Sand Lake and a firefighter from Tewaukon NWR to assist the National Park Service with an 800 acre prescribed fire. Zick and Hoggarth traveled to Arrowwood NWR to assist with two prescribed burns in October.

A flare gun and flares was purchased for the refuge to aid in prescribed fire efforts. A Floto-pump and a portable BB-4 high pressure pump were also purchased for our prescribed fire program. These pumps were purchased by the Tewaukon Fire District.

A regional review of the Tewaukon Fire District took place in June. Assistant Regional Fire Management Coordinator Dave Carter and Zone FMO Shane Del Grosso were in attendance when they visited Sand Lake on June 14. Their visit included a tour of Sand Lake's fire facilities and equipment and the fire program at Sand Lake was discussed including accomplishments, expectations for the future, and needs for the future.

#### **10. Pest Control**

Approximately 311 acres of Refuge grasslands infested with Canada thistles were mowed and fall sprayed in August. A total of 33 acres of leafy spurge were spring sprayed.

In November the Sand Lake Complex was allotted 11K to spend on herbicides for 2006. Milestone was the herbicide proposed to be purchased as part of a state-wide consolidated FWS order.

WM Peterson completed several new pesticide use proposals for herbicides (Tordon, Escort, Redeem and Telar). The new herbicides will be incorporated into the Complex Integrated Pest Management Plan.

#### **11. Water Rights**

Nothing to report.



**12. Wilderness and Special Areas**

Nothing to report.

**13. WPA-Easement Monitoring**

Nothing to report.

**G. WILDLIFE**

**1. Wildlife Diversity**

Sand Lake National Wildlife Refuge, with its vast expanses of emergent vegetation mixed with open water, illustrates the unequalled diversity of a prairie marsh ecosystem. The slow-moving James River is the key in providing this habitat to the diverse wildlife species on the Refuge.

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

Bald eagle numbers continue to increase in the area. They could be observed on the Refuge throughout the year. Sixty-one bald eagles could be observed on the ice on Sand Lake when the lake began freezing up this fall. There were eight active bald eagle nests in Brown County this year, which fledged a total of 12 young. Four of these are within several miles of the Refuge.

**3. Waterfowl**

**a. Production**

Pair habitat on the Refuge was limited this spring due to the lack of spring runoff. Some over-water nesting species were flooded out with the abrupt rise in water levels during June.

The headquarter's predator enclosure was not operated this year. This would have been the fifteenth year of operation. Grazing was conducted in the fall of 2004, and again this spring. All of the trees within the enclosure were also removed this fall.

**b. Migration**

Less than 100 mallards overwintered on the open water below the Mud Lake structure. Several hundred Canada geese moved into the Refuge near the end of February. On March 5, 100,000 snow geese and the first white-fronted geese showed up. Numbers of snow geese remained near that level, but dropped by March 12 due to colder temperatures. Snow geese numbers began building again on the 17<sup>th</sup>, and grew to 420,000 on the 23<sup>rd</sup>, and peaked at over 800,000 on the 26<sup>th</sup>. Numbers dropped to 30,000 by the end of March. Several of the duck species arrived on March 5 with most of the species here by April 5.

The first snow geese of the fall migration were seen on the Refuge on October 19. Snow goose numbers peaked at 230,000 on November 13, and remained above 150,000 through November 22. Less than 100 snow geese were using the Refuge by the end of November.

Canada goose numbers peaked at 5,000 on November 9.

Duck numbers peaked at 140,000 on November 9. One hundred fifty mallards remained on the refuge at year's end.

Tundra swan numbers peaked at 3200 on November 9.

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

We attempted another draw-down in Sand Lake this year to continue the regeneration of cattail begun with 2002's draw-down; however, heavy rains in June, combined with releases from the dams in North Dakota, prevented us from reaching our draw-down goals.

After the water level in Sand Lake rose in June, over-water nesting birds began nesting in some of the emergent vegetation. In July, approximately 600 cattle egrets, 200 white-face ibis and 1 pair of little blue herons were observed in a colony south of highway 10. The nests were in a relatively thin stand of cattail. The colony was mostly deserted later in the year with many of the nests tipped and many eggs predated.

Both western grebes and eared grebes nested in the marsh once the water rose. Newly hatched grebes of both species were observed in early August.

Nancy Drilling, with the Rocky Mountain Bird Observatory, and her crew, conducted a state-wide colonial nesting bird monitoring project. Sand Lake was included in their surveys.

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

Shorebird surveys were only conducted on the Refuge in April and May. The surveys were suspended for the rest of the year due to lack of time.

Cynthia Melcher, from USGS at Ft. Collins, CO, spent May 15-26 at Sand Lake and in the area conducting preliminary work on the use of weather radar images to determine location and numbers of shorebirds during their migration.

#### **6. Raptors**

Nothing to report.

#### **7. Other Migratory Birds**

Nothing to report.

## 8. Game Mammals

The white-tailed deer population in and near Sand Lake NWR continues to be healthy. A spotlight count was conducted on the Refuge on the night of October 25. A total of 255 deer were observed along the route compared to 239 in 2004.

Deer hunting seasons are discussed in Section H.8.

## 9. Marine Mammals

Nothing to report.

## 10. Other Resident Wildlife

Ring-necked pheasant numbers continue to be high in and around Sand Lake NWR.

We continued to work with the State Game, Fish & Parks in trapping ring-necked pheasants on the Refuge for transfer to Pennsylvania (**Figure 6**). The birds will be reintroduced within a habitat restoration area in Pike Run, Washington County, Pennsylvania. Trapping efforts were hindered by relatively warm weather and little snow. But personnel from the University of California in Pennsylvania made two trips out to Sand Lake to pick up 76 pheasants in February and March. Most of the 76 birds were trapped on Sand Lake. The rest were trapped by G,F&P personnel near Huron, SD.



**Figure 6:** Ring-necked pheasants were trapped on Sand Lake and transported to Pennsylvania. 50-50L-2677

## 11. Fisheries Resources

There was no fish winterkill in Mud Lake or Sand Lake during the 2004/2005 winter.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

16. Marking and Banding

A total of 3,229 ducks was banded during the pre-season duck banding at Sand Lake (Figure 7). Two nets were set up at the Mud Lake site, and one net each was used at the Highway 10 site and the Columbia Dam site. The nets were shot 6 times at the Highway 10 site, 5 times at the Mud Lake site, and 2 times at the Columbia Dam site from August 11 through September 16. Table 5 summarizes the species, sex, and age of the ducks banded.

**Table 5. Ducks Banded in 2005**

<b>Species</b>	<b>AHY-M</b>	<b>HY-M</b>	<b>AHY-F</b>	<b>HY-F</b>	<b>Total</b>
Mallard	857	667	840	638	3002
Pintail	26	25	86	49	186
BW Teal	11	1	3	3	18
Wood Duck	6	2	3	0	11
Wigeon	4	0	7	0	11
GW Teal	1	0	0	0	1
<b>Total</b>	<b>905</b>	<b>695</b>	<b>939</b>	<b>690</b>	<b>3229</b>



**Figure 7:** Refuge volunteers release some of the 3,002 mallards banded on Sand Lake this year. 50-50L-2678

#### 17. Disease Prevention and Control

No dead birds were found during botulism checks on the refuge pools.

### **H. PUBLIC USE**

#### 1. General

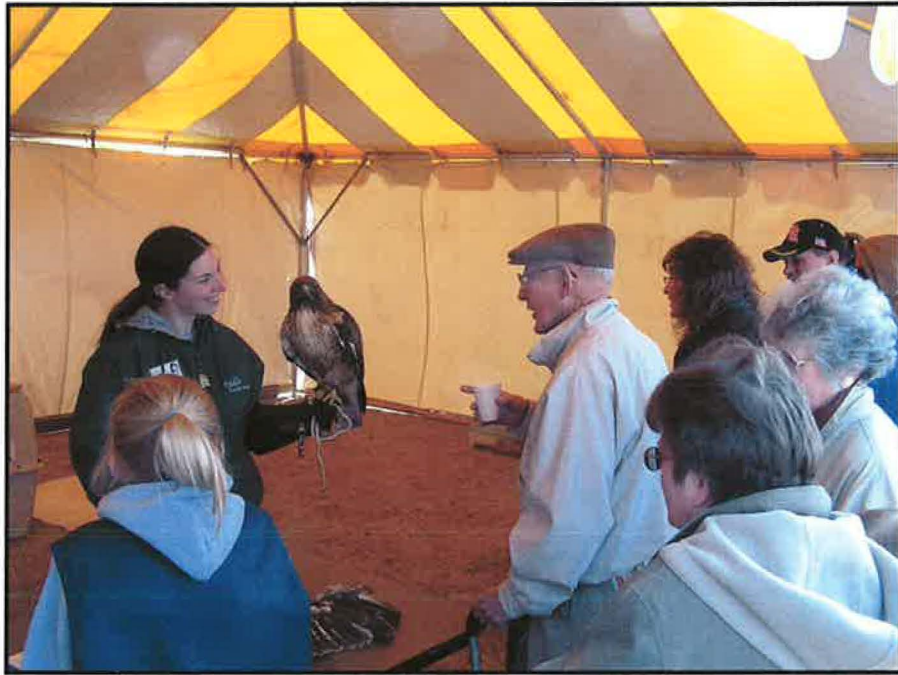
The Refuge hosts more than 50,000 visitors each year who participate in a variety of activities including wildlife observation, education, hunting, fishing, photography, hiking, and auto touring. The Refuge continues to draw visitors from all over the country as well as many foreign visitors.

The Refuge Visitor Center is open to the public year round Monday through Friday 8:00 am to 4:30 pm, except holidays. Through the support of volunteers it is open several weekends in March and April during the peak of the spring migration. Volunteers welcomed visitors from 11:00am to 4:00pm each weekend during the migration.

Eagle Day, the Refuge's annual open house event, took place March 20(Figure 8). Over 800 people attended the event. After dodging a predicted 14 inch snow storm/blizzard the day before the event, the weather and the birds cooperated. Carol Aron from USFWS in Pierre gave an informative program on bald eagles in South Dakota and Wildlife Experiences from Rapid City presented a kids program on prairie wildlife. They also brought several live birds of prey, including an adult bald eagle, for display throughout the day. Other activities included a Bird Banding Table, The Wildlife Wizard, Computer Biologist, The Mystery Marsh, Bird Feeder & House Display, Guided Wildlife Tours,



and a kids' activity table. It was another highly successful event that reached a large and diverse audience.



SD-SDL-2679  
**Figure 8:** Staff from Wildlife Experiences discusses raptors with Eagle Day visitors.

Outdoor Recreation Planner Beth Ullenberg was the main presenter at the Aberdeen School District's "Reading Is Fundamental" program. Over 300 third graders attended. The theme this year was "Go Wild About Reading". Ullenberg also arranged for "Ithaca", a captive golden eagle from the Chahinkapa Zoo in Wahpeton, ND, to be part of the program. It was a perfect event to reach a large audience to promote Sand Lake Refuge and wildlife conservation. And the students were awed by the magnificent eagle. It was a program they won't soon forget!!

Ullenberg judged several science fairs for local schools and judged the Conservation 4-H entries for the Brown County Fair.

The Northern Prairie Water Festival was a huge success this year. Unfortunately, the committee said goodbye to Sandy Ullrich, a elementary teacher who has been the backbone of the Festival since it's conception. Doug Farrand from NRCS agreed to join the committee. Even with the loss of Sandy Ullrich, the Festival saw its highest attendance to date with over 670 fourth grade students!

Sand Lake is also involved with many multi-agency and multi-organizational community events. These are vitally important in building partnerships, promoting the Refuge to the local and regional community, and promoting wildlife and habitat conservation. The events include Youth Sport Fishing Day, Hunt SAFE, Youth Sport Fest, Becoming An Outdoors Woman, and the Northern Prairie Water Festival.

ORP Ullenberg became the official Junior Duck Stamp Coordinator for South Dakota after Karrie Schmidt from the Huron office left her position. She picked up all of Karrie's files and program materials. Ullenberg also participated in several conference calls regarding the Program.

Another huge accomplishment was the finalization and printing of the station's new main brochure leaflet now in the national standards format. This project was four years in the making! ORP Ullenberg wrote new text, picked out photos, and worked with the Regional Office to finalize the project. Brochures were printed and finally delivered to the Refuge.

National Wildlife Refuge Week was celebrated with a variety of events including in-classroom programs, on-site school field trips, boy scout field trips, and a Conservation Career Awareness Booth at Northern State University during their Career Awareness Week.

## 2. Outdoor Classrooms – Students

Sand Lake continues to be a favorite spot for class field trips and outdoor classrooms for schools, scout troops, 4-H clubs, church groups, day camps, clubs and other groups to conduct environmental education programs and outdoor learning. Again facing tight budgets and lack of busing for field trips, a variety of school field trips took place at the Refuge. ORP Ullenberg facilitates most groups, but staff members do assist with larger groups (up to 80 students) (**Figure 9**). In-classroom programs and off-site educational programs also continue to increase. OPR Ullenberg facilitates many of the programs. Teachers also use Refuge resources for programs including several learning trunks. ORP Ullenberg worked with several special groups that used the Refuge for field trips, including Girls in Science Program and 150 eighth grade science students.

Other educational programs ORP Ullenberg facilitated included Youth Sportfishing Day, the Northern Prairie Water Festival, 1,2,3 To The Refuge (at Waubay NWR), and Youth SportFest. ORP Ullenberg also serves on the Planning Committee for the South Dakota Becoming an Outdoors Woman program. She and ROS Uecker from Huron WMD co-instructed two classes at the weekend workshop that included over 100 women. The two sessions were Backyard Wildlife and Wildlife Identification. Both sessions were full.



SD-504-2680

**Figure 9:** Don Soderlund assists with environmental education activities.

### 3. Outdoor Classrooms – Teachers

No teacher workshops were held this year.

### 4. Interpretive Foot Trails

ORP Ullenberg, along with the Regional Office, nominated the Prairie Winds Trail at the Columbia Day Use Area to the National Recreation Trails Program. The designation was accepted! On June 4, 2005, Interior Secretary Gale Norton designated the trail as a National Recreation Trail, the first NRT designation on a national wildlife refuge in South Dakota! The Trail is a 3/4 mile interpretive hiking trail, located at the Columbia Day Use Area, that has become very popular with the visiting public. The trail traverses a variety of habitats including woodlands, wetlands, an open lake and grasslands. Signs explain the various habitats and the different inhabitants of these habitats. Many visitors hike the trail while birding at the Day Use Area. It has also become an important educational area. School groups use the trail to learn the different habitats and their importance to the wildlife of Sand Lake.

The new Education Trail at Refuge headquarters also saw its first full year of use! Although ORP Ullenberg had many school field trips planned to use the trail, rain forced several field trip classes to do indoor activities. However, several groups successfully used the Trail including 150 eighth grade science students! The general public will also invited to hike the trail as well.

### 5. Interpretive Tour Routes

Sand Lake Refuge maintains a 15-mile, self-guided auto tour route called Wildlife Drive. The tour route starts at Headquarters and winds through a portion of the south half of the



Refuge with 12 numbered stops. The accompanying tour leaflet gives visitors an insight into Refuge history and management. Wildlife Drive is extremely popular because it takes visitors through the heart of the Refuge and gets them up close and personal with the wildlife. The route is generally open from April 1 through mid October weather dependant. The North Loop Road also offers an additional 20 miles of wildlife and habitat viewing in the northern section of the Refuge. This road, however, does not have any interpretive information or signing along the route.

ORP Ullenberg began scripting new text and looking for the latest graphics to update the auto tour route brochure. This will be done in-house in the Regional Office. ORP Ullenberg will be working with RO personnel on this project.

#### 6. Interpretive Exhibits/Demonstrations

The Sand Lake Visitor Center offers interpretive exhibits and displays depicting the history and wildlife use of the Refuge. Although these displays are older and could be upgraded, they still provide accurate and interesting information to visitors.

Sand Lake also has four other sites that have interpretive kiosks that provide information to visitors. These include an information kiosk pull-out at Refuge Headquarters, an interpretive kiosk at the Columbia Day Use Area, two new interpretive panels on Hwy 10, and interpretive panels below the observation tower at Refuge Headquarters. All provide information on the Refuge and wildlife conservation.

Sand Lake also creates large outreach displays to promote special events on the Refuge that are put up in the local communities. Displays for the Northern Prairie Water Festival, National Wildlife Refuge Week, National Night Out and Eagle Day were created and displayed.

Throughout the year the Refuge contributes staffed exhibits or outreach booths at several special events. The Brown County Fair was a definite highlight with the booth being staffed by volunteers and employees the entire Fair. The Fair drew over 200,000 people and set attendance and revenue records. The Great Outdoors Show is another great outreach event for the Refuge. This three day event highlights outdoor activities and recreation. Sand Lake also provides staff to work at the State Fair booth each year.

#### 7. Other Interpretive Programs

The Refuge Corner, a weekly Refuge update in the Aberdeen American News, keeps the public informed of Refuge issues and goings on. The station's website is also updated weekly to reflect changes in wildlife populations, regulations, and special events.

It was another good year for promoting Sand Lake and wildlife conservation to the public through interpretive or informational programs. A variety of staff members presented programs to the following: Brown County Sportsman's Club; Marshall County Sportsmen Club, Beverly Health Care & Living Center, Groton Kiwanis Club, Alexander Mitchell Library, National Night Out, Northern Prairie Water Festival, 1,2,3 To The Refuge, and Kids Free Fishing Day.

Several unique programs also included Biologist Schultze presenting "The Fish and Wildlife Service in South Dakota" program to 120 high school students at the SD Wildlife Federation Conservation Camp near Custer, SD. ROS Soderlund assisted the local Fraternal Order of Police chapter with airboat rides for the Aberdeen Camp Courage campers. These campers are physically handicapped and truly enjoyed the ride! National Night Out was a huge success for Sand Lake. It was the first year the Refuge participated in this event which drew over 1,000 people! Sand Lake provided an outreach booth, had fire equipment on display, and created a fun kids' wildlife game that drew a continuous crowd! ORP Ullenberg assisted with Refuge Day at the Bramble Park Zoo in Watertown. Over 500 people attended the event.

Sand Lake also presented a wildlife education booth at the first Youth Sportfest Event in Aberdeen. Two hundred local youth attended the all day event.

## **8. Hunting**

### **a. Waterfowl**

Waterfowl hunting on Sand Lake is restricted to approximately 200 public blinds with adjacent retrieval zones located along the Refuge boundary. No interior waterfowl hunting is allowed. Hunters are allowed unarmed retrieval for waterfowl along the Refuge boundary up to 100 yards.

Sand Lake offers both Canada goose and light goose seasons, including a special spring conservation order hunt for light geese. An early Canada goose season ran from September 3-11 with a 5 goose bag limit. The regular Canada goose season opened on September 24 and closed on December 25 with a daily limit of 3 geese. The white-fronted and light goose season ran from September 24 to December 18 with a daily limit of 1 white-front and 20 light geese.

The duck season opened on September 24 and closed on December 6, except for pintails and canvasbacks which closed on November 1. Bag limits included 6 ducks with no more than 5 mallards (of which 2 may be hens), 2 scaup, 2 redheads, 2 wood ducks, 1 pintail and 1 canvasback. Five mergansers were legal with only one being hooded. Coot limit was 15.

A special Resident Youth Waterfowl season was held September 17 and 18 to give local youth a chance to try their hand at waterfowl hunting.

Hunters applying for a special Tundra Swan license through a lottery system were able to hunt swans from October 2 to December 18. The season limit was one.

Several public road right-of-ways around the Refuge (where Refuge spaced blinds are located) are open to bird hunting by the SD Game, Fish, and Parks Commission. The blinds were removed to allow hunters to hunt the right-of-way with a 100 yard retrieval zone permitted into the Refuge.

#### **b. Deer**

Sand Lake offers archery and 5 firearms seasons for white-tailed deer. The Sand Lake Archery Deer season was open from November 1-11 and December 12-31. Hunters with a South Dakota archery license may hunt the Refuge as no special Refuge permits are required. The Refuge also participated in the January extension of the rifle season from January 1-8, 2006, in which all unfilled Refuge tags were valid for antlerless deer. Sand Lake again offered a Youth Deer season September 10-18. Twenty-five tags were available for youth hunters who were required to be accompanied by an adult. Only two tags were sold. This will be the last year for the youth season because of the lack of interest and also because of the extra effort needed to close down the Refuge for the short season.

Permanent tree stands are not allowed on the Refuge. Portable tree stands and climbing devices that do not use nails, wire or bolts for attachment are allowed. Stands must be removed by February 15. In 2005 we saw a big increase in commercial ground blinds for deer hunting. These are legal if labeled the same as tree stands.

A hunter orange requirement was added to Refuge regulations in 1991. Firearm deer hunters must wear a minimum of 400 square inches of fluorescent orange on their head, chest, and back when hunting on the Refuge. This is much more restrictive than the State's regulation requiring at least one exterior garment of fluorescent orange. Hunters have responded well to this regulation and no hunter orange violations were written this year.

Hunters also have opportunities during five fall firearm deer seasons on Sand Lake. In 2005 there were 5 seasons with 110 tags per season. These include one muzzleloading rifles only with the remaining 4 seasons available to center fire rifles.

In 2005 the Refuge offered 55 any deer and 40 "double doe" tags. This is in an effort to shift pressure to the antlerless segment for management purposes. A total of 420 of 547 tags were sold. Hunters bagged 73 bucks and 75 does for a total harvest of 148 deer. The total success was 28 % which is low. We believe that there were so many tags available for Brown County that it lessened the demand for hunting opportunities.

#### **c. Upland Game**

Upland game season on the Refuge begins the day following the close of the last deer season. This year the season was open December 12 to 31. Ring-necked pheasants, sharp-tailed grouse, and gray partridge are huntable species. Refuge habitat provided excellent cover during a severe ice storm the Sunday after Thanksgiving that could have been devastating to the pheasant population. The cattails which provide excellent winter cover helped many birds survive. This year, hunters from Washington, Texas, Ohio, and Wisconsin along with many

other states came to South Dakota specifically for the Sand Lake upland game season.

**9. Fishing**

Sport fishing is allowed year round at five locations on the Refuge: the Hecla Day Use Area; the bridge crossings areas on Highway 10, 117<sup>th</sup> Street/Weismantel Grade and Brown County Hwy 16, and one mile north of Hecla Day Use Area and Brown County 5. Boating is not allowed and during open water anglers must fish from the shoreline or bank. The most sought after fish is the Northern pike, with occasional catches of yellow perch, bullheads or walleye. Fishing pressure on the Refuge varies with water levels and the weather.

**10. Trapping**

Trapping is not considered a Big 6 recreational use on national wildlife refuges and is not offered as a recreational opportunity on the Refuge. Trapping on Sand Lake Refuge is for management purposes only.

**11. Wildlife/Wildlands Observation**

Sand Lake Refuge is famed for its spectacular concentrations of wildlife. Spring and fall migrations can be staggering with numbers of individual birds in the millions. Snow geese and other waterfowl continue to be the first rite of spring and draw visitors from all over the midwest. Up to ½ million snow geese are common on the Refuge in spring along with a wide variety of other bird life. This year the snow migration peaked at one million birds the last weekend in March!

Summers are also a wonderful time to observe wildlife on the Refuge. Over 266 species of birds use the Refuge and 134 species nest and raise young on Sand Lake. Wildlife Drive, a guided 15 mile auto tour route, offers visitors a chance to view wildlife up close and in their habitats. Wildlife photography is also gaining popularity. Several nationally renowned photographers photograph on the Refuge and many of these photos often end up on the covers of such magazines as DU, Birders World, and more.

**12. Other Wildlife Oriented Recreation**

Nothing to report.

**13. Camping**

Camping is not allowed on the Refuge. Several campgrounds are available in nearby communities including Columbia, Houghton, Hecla, and Aberdeen.

**14. Picnicking**

There are no specified picnic areas on the Refuge. However, school groups and at times the general public enjoy lunch at the Columbia Day Use Area education shelter. Visitors will also often use the table outside the Visitor Center for lunch as well.

**15. Off-Road Vehicling**

Nothing to report.

**16. Other Non-Wildlife Oriented Recreation**

Nothing to report.

**17. Law Enforcement**

Law enforcement activities on the Refuge and the WMD consist mainly of patrolling and checking hunters, in addition to the countless hours on LE related to easement enforcement. Last fall, at least one of the four Refuge Officers was on duty each weekend from opening day of the waterfowl season through mid-December. Officers patrolled the Refuge and the WMD depending on where activity was occurring. In total, Refuge Officers had approximately 450 hunter contacts on the WMD and the Refuge. A small number of violations were turned over to state officers. Refuge Officers wrote a couple of citations to hunters throughout the hunting season. Also issued were a few verbal warnings.

Officers Peterson, Soderlund, Jave and Schultze attended the annual law enforcement in-service at Marana, AZ.

Soderlund attended a Field Training Evaluation Program (FTEP) training session at FLETC which certified him as a Field Training Officer (FTO). Once completing FLETC, Refuge Officers must go through a 2-week ROBS course at NCTC and then the 10-week FTEP. The FTEP consists of two different training officers and a total of 50 days between both of them. The trainee trains with his primary FTO for the first 20 and last 10 days and trains with the secondary FTO for the 21st-40th day of the FTEP. In 2005, Chad Zorn (Des Lacs) and Shawn Tripp (Upper Souris) trained under Soderlund for part of their Field Training. Soderlund was Zorn's Secondary FTO and Tripp was just at the Refuge for some additional easement training.

After a 2-year hiatus from law enforcement, John Jave accomplished the necessary "catch-up" work and was given his credentials back in early 2005. Jave initially gave up his LE authority because of urging from the Regional Office, but because of a shorthandedness of officers at Sand Lake, he was allowed to get his LE authority back. He attended a Glock transition training course at Marana along with some required paperwork.

**18. Cooperating Associations**

The Sand Lake Wildlife Refuge Association is a DBA(doen business as) of the Booth Society Inc. An agreement was signed with the Booth Society and the Regional Office allowing Sand Lake to sell items purchased by the Booth Society out of a space in the Visitor Center. The Sand Lake Wildlife Refuge Association receives a portion of the profits made from the sale of items to support the Refuge's outreach, volunteer, and education programs. The Booth Society Board of Directors is the governing board. This has proven to be a vital partnership with helping the Refuge fund outreach and educational programs. The Association also receives grants for outreach and education materials.

**19. Concessions**

Nothing to report.

**I. EQUIPMENT AND FACILITIES**

**1. New Construction**

A new 30' x 36' Butler building was completed by Hanson Construction at the north shop in February (**Figure 10**). The building was an MMS project to replace a barn used for storage. The barn will be burned. Construction was slowed during the month by a period of sub-zero temperatures. In addition, the contractor's work trailer which contained construction tools and a heated break area burned to the ground on the night of January 27. It's believed that a heater left on in the building was the source of the fire. The fire was not discovered until the construction workers returned the next day. The refuge staff member that lives at the site was on annual leave and not at home that night. Luckily the wind was from the south and did not spread to a wood barn just south of the building. The final inspection with Hanson Construction was on February 24.





**Figure 10.** The new Butler building and the barn it replaced.

SO-504-2681

The new Sand Lake shop was planned in January and February. The building was downsized from 110' x 80' to 110' x 60' during the planning stage to stay within budget. As a result of the downsizing, several changes had to be made to the interior design.

- Scott Engineering of Watertown completed a geotechnical investigation in March. The completed soil borings were completed on March 4.
- A pre-construction conference was held July 20 via telephone link with R6 Engineer Richard Blankman, CGS, and K-Con Building Systems.
- Trees were removed from the site and power lines rerouted in July.
- Williams, Haaland, and Jave met with representatives from the local phone company to discuss communications options for the new shop on August 11. It was decided that the telephone company will place fiberoptic lines in conduit at the same time the trenching is completed between station buildings for the new radio lines. This will give us high speed internet capability to our shop, fire facilities, and potentially our temporary quarters buildings.
- A notice to proceed was given to K-Con Building Systems for August 15.
- The contractor, K-CON Building Systems of Charleston, South Carolina, made no progress on the new Sand Lake Shop in September and October. A subcontractor finally

poured the foundation on November 23 (**Figure 11**). The quality of the work was called into question because the company did not use a vibrator to settle the cement. The temperatures also got down to 9 degrees that night and the cement was left uncovered.



**Figure 11.** Cement being pumped for the foundation of the new Sand Lake Shop

SD-SOL-2682

- The Sand Lake shop project ground to a halt in mid-December. Station personnel elevated concerns to RO Engineers about the nature of the work accomplished to date; poor workmanship and lack of integrity in the recently poured building foundation (**Figure 12**). The contractor's site superintendent was subsequently replaced. Core testing of the cement by an independent lab yielded PSI strengths below contract requirements. Upon providing pictorial evidence to the contractor's home office, they agreed, without argument, to start over without additional expense to the government. Eighty yards of cement with reinforcing steel will be torn out in the spring of 2006 to make way for new! The company asked for and was granted a time extension.





**Figure 12.** Tests of the cement foundation indicated the strength was well below what was required in the specifications. The contractor agreed to remove and pour the foundation again. SD-504-2683

An addition is planned for the Sand Lake Headquarters and a floor plan was agreed upon with R-6 Engineering with plans for bid letting in FY06. The plan is to add 7 new offices and a conference room, part of which will house the FWS Realty Office from Aberdeen and a Special Agent.

## 2. Rehabilitation

Horsley Specialists, Inc. of Rapid City, SD, completed a contract to remove vermiculite and fiberglass insulation from the attic in Refuge Quarters 17 in March. AMI Group of Omaha, NE, received the industrial hygienist contract for the project. Vermiculite insulation may contain asbestos and removal was recommended. The cost of the contracts was \$9,335. Re-insulation of the Quarters was accomplished in July.

A single stall wood garage located at Refuge Qtrs.196 was sold at a small lot sale and moved. A 30 x 36 foot cement pad was poured in preparation for construction of a steel-sided garage to be constructed force account in 2006.

New oak interior doors and woodwork were purchased for Qtrs.196 to be installed as an FY06 winter project for Carpenter Frohling.

Carpenter Frohling and other staff rebuilt a southeast section the basement wall in Refuge Quarters 194. The basement walls in 3 Refuge quarters are made of wood and after 25 years are starting to collapse inward.

A brick chimney that was starting to fall apart was removed from the roof of Refuge Qtrs. 17 and the roof repaired.

Four abandoned wells (two on the Refuge at Quarters 195 and two on the WMD on the Proud and Hanson WPAs) were sealed with refuge cleanup funding at a cost of \$15,855. Melvin Nickell was the contractor who started the project on 10/27 and finished in early November.

Fence materials were provided to Refuge neighbor Mahlon Spurr who hired a contractor to repair a .5 mile section of refuge boundary fence along his property adjacent to the Refuge in December.

### **3. Major Maintenance**

Nothing to report.

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

A new Ford F250 diesel pickup truck, an MMS replacement vehicle for a 1993 Chevy 4x4, was received on January 27.

A new 4x4 ½ ton pickup extended cab was received to replace a 1993 4x4 Chevy pickup with over 100K miles.

A John Deere 4720 self propelled sprayer was ordered from RDO Equipment in Aberdeen at a cost of \$160,000. The machine arrived in May and has a GPS system that has been a big help in our record keeping. The John Deere 4720 sprayer proved to be a huge asset in safely conducting noxious weed control by herbicide application. The machine is handling our rough and rocky ground well due to the design of the machine and judicious operation by Operator Hoggarth.

Frohling located and purchased for the Refuge a used 18 ft. swather to speed up the mowing of the refuge native grass seedings for weed control.

Quotes were obtained and submitted to RO in December for a trailer to haul our sprayer. The project is an MMS small equipment replacement project to replace an implement truck.

### **5. Communications Systems**

Planning for the Sand Lake MMS project to replace the radio system began and an outline of needs and locations was submitted to the communications office in August. A contract to install new radios in refuge vehicles and radio cable between buildings was awarded to Milbank Communications. The underground cable will be placed next spring (2006) along with radio installation. At year's end we were waiting for the initial radio programming.

## **6. Computer Systems**

A new Dell OptiPlex GX280 computer was received in March to replace an older model being used by the Private Lands Biologist.

Wayne Daub spent the week of April 18-21 converting our older Windows 98 computers to Windows XP. Fortunately for us, while he was here one of our newly purchased computers had the hard drive fail. Dell shipped us a new drive which was received the very next afternoon. Wayne then extracted all data from the failed drive and installed it on the new.

Grand Slam Computers of Groton, SD, was here on October 4 to offer consultation in regard to providing high speed internet to the new shop, Refuge quarters, and the Realty addition. Most likely a server will be needed to maintain the integrity of the system.

## **7. Energy Conservation**

The dismantling of the Refuge's outdated solar system in the headquarters building was begun this year. Several of the glycol re-circulating pumps were removed. The plans are to totally remove this system as part of the contract to add a new addition to headquarters. We hope to get a new geothermal heating/cooling system to service the entire building.

## **8. Other**

Refuge Carpenter Frohling constructed 2 shooting benches for the Hecla Sportsmen's Club Range. The wood was donated by a local citizen. The project was completed in partnership with the sportsmen's club because Refuge Officers often use the facility for LE related firearms practice and hunter safety instruction.

Eclipse Engineering of Missoula, MT, inspected the Sand Lake observation tower on October 17 for structural defects. The engineer said the tower was in very good condition and that they would be providing a report listing items that need to be brought up to code. We await his report.

## **J. OTHER ITEMS**

### **1. Cooperative Programs**

Nothing to report.

### **2. Other Economic Uses**

Nothing to report.

### **3. Items of Interest**

Several staff members attended the retirement party for Bob VandenBerge at Kulm, ND, on January 3.

Schultze was interviewed by Dave Carlson, Northland Adventures, from Eau Claire, Wisconsin, about the snow goose migration.

Sand Lake staff honored AO Haaland for Administrative Professionals Day in April.

Brown County Sportsmen' Board of Directors hosted an appreciation dinner for Sand Lake Refuge Staff on August 10. Great steaks. Cold beer!

Schultze assisted South Dakota Game, Fish & Parks personnel with duck banding and rocket net demonstrations at the Northern Great Plains Capturing, Marking and Removal of Birds and Mammals Workshop in Brookings from August 17<sup>th</sup> to the 19<sup>th</sup>.

Heavy Equipment Trainer Meyers completed heavy equipment certification for two Madison WMD staff members on 10/12.

Schultze was interviewed weekly throughout October on the waterfowl migration progress by a Watertown radio station.

Williams was interviewed by KELO and KSFY television stations on Nov 2 and 3, respectively about avian bird flu and its relevance to fall waterfowl hunters.

Steve Nichols and Kevin Flay, with Burning Gold Productions, out of the United Kingdom, were here November 3-5 filming the snow goose migration for a documentary on the Missouri River drainage.

Several employees attended a retirement party for Bruce Schoonover held on December 9.

The Sand Lake NWR Christmas Bird Count was conducted on December 16. Fourteen observers identified 35 different species and 1,585 individuals during the day.

#### **4. Credits**

Marcia Haaland wrote sections E5, I6, J3.

Bill Schultze wrote sections B, D1, D5, F2, G1-G27, J1.

Beth Ullenberg wrote sections E4, H1-H16, H18-H19.

Don Soderlund wrote section H17.

John Jave wrote section A, D4, E1, E6-E8, F1, F3-F13, I1-I5.

Jay Peterson and Tom Zick wrote F9.

Marcia Haaland reviewed the report for formatting and content and assembled the completed report.

#### **K. FEEDBACK**